BEFORE THE COUNCIL OF THE
METROPOLITAN SERVICE DISTRICT

FOR THE PURPOSE OF AMENDING ORDINANCE NO. 88-266B ADOPTING THE REGIONAL SOLID WASTE MANAGEMENT PLAN TO INCORPORATE THE METRO WEST TRANSFER AND MATERIAL RECOVERY SYSTEM CHAPTER	))))))	ORDINANCE NO. 91-416 Introduced by Rena Cusma, Executive Officer

WHEREAS, Ordinance No. 88-266B adopted the Regional Solid Waste Management Plan as a functional plan; and,

WHEREAS, The Regional Solid Waste Management Plan, Policy 16.0, gives priority to local government solid waste management solutions; and

WHEREAS, Resolution No. 89-1156 identifying a process, timeline and minimum standards for development of the Washington County Solid Waste System as a local government solution, was adopted in October 1989; and,

WHEREAS, Washington County and the cities therein developed a local government solution in accordance with Resolution No. 89-1156 for Metro Council consideration; and,

WHEREAS, Resolution No. 90-1358B recognizing and giving priority to Washington County's local government solution provided it is determined to be consistent with all Regional Solid Waste Management Plan provisions, was adopted in December 1990; and,

WHEREAS, Resolution No. 91-1437B establishing policy for the development Metro West Transfer and Material Recovery System Chapter, was adopted in June 1990; now therefore,

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THE COUNCIL OF THE METROPOLITAN SERVICE DISTRICT HEREBY ORDAINS:

That the Regional Solid Waste Management Plan is amended as shown in Exhibit "A" to this Ordinance.

ADOPTED by the Council of the Metropolitan Service District this 10th day of October, 1991.

Tanya Collier, Presiding Officer

ATTEST:

Clerk of the Council

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09/19/91

CHAPTER 5 (FACILITIES)
REGIONAL SOLID WASTE MANAGEMENT PLAN

Metro West Transfer and Material Recovery System

EXHIBIT "A"
to Ordinance No. 91-416

September 19, 1991
Planning and Development Department

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METRO WEST TRANSFER AND MATERIAL RECOVERY SYSTEM

Purpose:

The purpose of this chapter is to identify a facility configuration to expand the waste transferring and post-collection material recovery capacity of the general purpose waste stream for the western portion of the region.

Background:

The west wasteshed encompasses incorporated and unincorporated Washington County. The wasteshed needs expanded transfer and post-collection material recovery capacity so that waste generated in the wasteshed that is destined for disposal at the Columbia Ridge or the Riverbend Landfills can be processed locally within the wasteshed prior to transfer. Transfer facilities developed to serve the wasteshed will also need to be sized to manage some waste generated in the south wasteshed in order to reduce the flow of waste to the Metro South Transfer Station.

This Plan chapter is based on a system plan developed by local governments in Washington County and the "Policy and Technical Analysis for The Washington County System Plan", completed in April of 1991. The Policy and Technical Analysis is an Appendix to the Regional Solid Waste Management Plan (RSWMP). It contains the detailed evaluation of issues related to the Metro west transfer and material recovery system. The process used to developed this chapter is consistent with Policy 16.0 (Local Government Solution) of the RSWMP.

Summary:

The following is a summary of the issues addressed for the west wasteshed transfer and material recovery system. A more detailed analysis follows the summary.

1. **System Configuration and Tonnage Projections**

   The planning area for the west wasteshed and corresponding waste tonnage projections is based on the Washington County boundary delineation with minor adjustments to account for established hauler activities. Facility site proposals located in the eastern portion of the wasteshed will include some waste tonnages from the southwestern portion of the south wasteshed. The regional system will allow for flexibility by initially constructing facilities for the west wasteshed based on 10-year tonnage projections (2003).

2. **Number of Transfer/Material Recovery Facilities**

   The wasteshed will be served by two transfer/material recovery facilities. The facility serving the eastern portion of the wasteshed plus the southwestern portion of the south wasteshed will have a capacity of approximately 196,000 tons per-year and the facility serving the western portion of the wasteshed will have a capacity of approximately 120,000 tons per-year (based on the 2003 tonnage projection for the wasteshed).

3. **Transfer/Material Recovery Facility Service Areas**

   Two facility service areas for the west wasteshed will be established during the procurement process in order to provide certainty about the allocation of general-purpose waste to transfer stations. The service areas designated will have tonnage capacities that are consistent with the facility configuration and tonnage projections contained in this chapter. The actual assignment of franchised haulers to service areas will be completed in accordance with Metro Code Chapter 5.05 (Flow Control).

4. **Transfer/Material Recovery Facility Level of Service**

   Transfer facilities in the west wasteshed shall meet minimum operational standards related to: equipment redundancy, accommodation of "self-haul" waste, incidental hazardous waste management and source-separated recyclables collection. The minimum standards are based on operational standards in place at other regional transfer facilities.

5. **Post Collection Material Recovery**

Transfer facilities in the west wasteshed will include post-collection material recovery capacity based on a combination of economic incentives, market factors, facility design requirements and analysis of impacts on existing programs and facilities. The requirements for the material recovery rate will be established by Metro and vendors through the procurement process. The expected material recovery rate at transfer facilities is an estimated average of 16-percent. A specific term and condition of the franchise shall be that the facility operator(s) shall adjust to changing circumstances which may require capital improvements, new methods of operation or similar factors in order to ensure continued compliance with the RSWMP as it may be amended.

6. **High Grade Processing**

A high grade facility will be procured as a component of the solid waste system for the west wasteshed. Facility ownership, financing and operation will be private. The decision as to whether or not the high grade function should take place at a separate facility or at a transfer station will be made during the procurement process. The procurement process will be initiated either as a result of private sector initiative in submitting a franchise application or after procurement of transfer facilities begins, whichever occurs first. This should be completed within two years of the completion of the procurement process for transfer facilities in the wasteshed.

7. **Transfer/Material Recovery Facility Financing**

Transfer facilities in the west wasteshed will most likely be financed through a public/private arrangement. The most favorable means of financing will likely have Metro as the sponsor of project private activity bonds with a limited Metro pledge of system revenues to pay debt service.

8. **Rates**

Costs associated with the local government solution for the west wasteshed should not obligate citizens within the wasteshed to pay more for solid waste disposal than citizens in other parts of the region.

9. **Transfer/Material Recovery Facility Ownership**

Transfer facilities in the west wasteshed will be privately owned if a private ownership proposal that meets criteria established through the procurement process is received.

Public assistance for bond allocation is necessary to decrease financing costs.

The transfer facilities shall be classified as major disposal system components and franchised as such in accordance with section 5.01.085 of the Metro Code. A specific term and condition of the franchise shall be that the facility operator(s) shall adjust to changing circumstances which may require capital improvements, new methods of operation or similar factors in order to ensure continued compliance with the RSWMP as it may be amended.

10. Vertical Integration

Vertical integration will be allowed within the west wasteshed, with the requirement that Metro operate the transfer station gate-houses.

11. Transfer Material/Recovery Facility Procurement

The procurement of transfer facilities in the west wasteshed will be through a competitive long-term franchise process. A separate request for franchise will be circulated for the appropriately sized facility for each service area. The procurement criteria shall include a cost which is no greater than the cost of a publicly financed facility using the assumptions and methodology in the technical analysis. If the private sector is unable to obtain facility financing and meet other criteria established for the franchise, Metro has the option to circulate a Request for Proposals (RFP).

12. Land Use Siting

Potential sites for solid waste facilities in the west wasteshed will be identified by private facility vendors. Facility vendors must have the local land use permit in hand prior to the procurement process. This does not include site design review or the mitigation agreement, which will be subject to the procurement process.

13. Flow Control

Waste destined for a transfer/material recovery facility or a general purpose landfill will be allocated to the transfer/material recovery facility within a designated service area. Until each facility reaches its designed capacity, Metro may allow or direct additional flows of waste to the facility to promote overall system efficiency consistent with Metro Code Chapter 5.05. Notwithstanding; the designation of service areas, Metro may reserve the right to direct flow away from a facility to prevent it from exceeding its designed capacity.

1. SYSTEM CONFIGURATION AND TONNAGE PROJECTIONS

Background:

The first step in developing a system plan for the west wasteshed is to determine the appropriate planning area and the corresponding projected waste tonnages that comprise the wasteshed's system. In order to accomplish this task, four questions were analyzed and answered:

1. What is the total amount of waste from the west wasteshed that is expected to enter the regional solid waste system?

2. Should Metro Central, Metro South and/or the Riedel Composter handle some portions of the waste generated in the west wasteshed long-term?

3. Should transfer stations in the west wasteshed handle some portions of east or south wasteshed's waste long-term?

4. Given the potential for variation in waste projection data, for what projected capacity should transfer facilities in the west wasteshed be constructed?

Analysis:

A 20-year waste disposal projection for the west wasteshed was calculated through 2013. The major variables that affect this projection are regional population growth and growth in the annual per capita waste disposal rate (pounds-per-person per-day). In order to determine the volume of waste that would be expected to flow to transfer stations in the wasteshed, diversions that result from the implementation of alternative management practices for the yard debris, special waste, household hazardous waste and high grade waste streams were calculated and excluded from the projection for waste delivered to transfer facilities.

Of primary importance in allocating projected tonnages to new planned facilities in the west wasteshed, is assessing potential tonnage allocation impacts on existing facilities in the regional system. Waste disposal projections need to be analyzed in the context of capacity needs and limitations of existing facilities as well as logical hauler transport routes to existing and planned facilities.

An analysis was conducted to determine if waste from the west wasteshed is needed to efficiently run other facilities within the system, specifically, Metro Central, Metro South and the Composter. The analysis shows that the system capacity contained in these

three facilities would be utilized by the wastes originating in the east and south waste sheds. The analysis also focused on the potential traffic safety impacts of directing collection vehicles from the west wasteshed to Metro Central. Such a practice would conflict with adopted City of Portland Transportation Policies because loaded collection vehicles would in most cases have to use traffic routes that are not designated truck routes, or, would have to travel congested roads with high accident ratios on a daily basis.

While waste projections for the east and south waste sheds indicate there are sufficient tons generated in those areas to efficiently operate the Composter and Metro Central, Metro South is in need of serious tonnage reductions to achieve efficient operations. Evaluation of capacity issues for Metro South indicate that the facility is operating over-capacity and lacks adequate material recovery capabilities. Therefore, reducing the flow of waste to Metro South through expansion of the west wasteshed transfer system is a priority.

Another important element of the tonnage projection analysis was to survey haulers who have collection routes near or across wasteshed boundaries. Ordinance No. 91-388 (Flow Control) states that waste haulers should be allowed to utilize designated facilities of their choice, to the extent they are consistent with Metro contract obligations and the efficient use of Metro facilities. The survey indicated that haulers operating on or near the south wasteshed boundary are collecting very small amounts of waste from that area and probably would utilize new transfer stations in the west wasteshed. These tons have been included in the waste projections used to design facility alternatives for the west wasteshed transfer/material recovery system.

The procurement of new and expanded transfer facilities in the west wasteshed represents the last major component of the region's solid waste system. Therefore, there is merit to a conservative approach in allocating projected tons to facilities in the west wasteshed. This conservative approach will take the form of planning for facilities based on a 10-year tonnage projection (1993-2003) with a contingency for additional or alternative types of facility capacity if necessary in the west wasteshed after 10 years.

Conclusions:

1. Based on the system configuration analysis, the projected tonnage available from the west wasteshed for new transfer/material recovery facilities is as follows:

Annual Waste to be Handled at Transfer/Material Recovery Facilities
(From the West Wasteshed)

Year	Residential Tons	Non-Residential Tons	TOTAL TONS
1993	82,149	143,599	225,748
2003	101,852	194,943	296,794
2013	134,299	258,328	392,538

2. Of the haulers surveyed in the south wasteshed, two indicated they would like to use a new transfer station in the west wasteshed, if it were located in southeast Washington County. The corresponding tons that have been added to the projections for the west wasteshed from these haulers are as follows:

Annual Waste That Could Be Handled at Transfer/Material Recovery Facilities
(From the South Wasteshed)

Year	Residential Tons	Non-Residential Tons	TOTAL TONS
1993	4,087	10,029	14,116
2003	5,565	14,927	20,492
2013	7,425	18,926	26,351

3. The design and operational capacities of other major facilities in the region (Metro South, Metro Central and the Riedel Mixed-Waste Composter), are not adequate to provide long-term transfer service to the west wasteshed. Continuation of this practice would result in operational inefficiencies in the form of over-capacity at Metro South and potential traffic safety impacts associated with directing loaded collection vehicles to Metro Central or the Riedel Composter.

4. Transfer facilities in the wasteshed should be designed to meet the projected 10-year (2003) tonnage projection in order to maintain the flexibility to respond to changes in waste management technology.

2. NUMBER OF TRANSFER/MATERIAL RECOVERY FACILITIES

Background:

In order to meet the region's objective of maintaining a cost-effective, regionally balanced solid waste system that supports a uniform level of service, an analysis was conducted to determine how many transfer/material recovery facilities the west wasteshed should have. The analysis also focussed on determining the individual capacity of facilities and whether or not the procurement of these facilities should be phased. A single transfer/material recovery system was not evaluated.

Analysis:

An analysis was conducted to determine the cost-effectiveness of a system of 2 vs. 3 transfer/material recovery facilities. The analysis focussed on:

- the capital costs of facilities for the two different systems;
- the on-site operation & maintenance costs;
- the impact of haul costs from the collection route to the facility;
- the impact of transport costs from the facility to final disposal; and,
- the impact of facility location on cost.

The analysis showed that a system of two transfer/material recovery facilities is a more cost-effective system than a three-facility system. Both the capital and operational costs for a three facility system are higher than the capital and operational costs for a two-facility system. While the cost increases of a three facility system are partially offset by decreased haul-costs from the collection routes to facilities, the cost savings are small compared to the savings gained by having two larger facilities.

An analysis was also conducted on varying sizes of two-facility systems. A system of two unequally sized transfer/material recovery facilities, where the relatively smaller facility was located in the western portion of the wasteshed and the relatively larger facility was located in the eastern portion of the wasteshed, was more cost-effective than a configuration of two equally sized facilities designed to handle the same volume of waste. Locating the smaller of the two facilities in the western portion of the wasteshed and the larger of the two facilities in

the east reduces the transport to disposal costs for wastes destined for disposal at both the Riverbend Landfill and the Columbia Ridge Landfill because travel times and distances are decreased.

The cost per-ton savings for the unequally sized system is approximately $2.00 per ton or $600,000 per year when compared to a system of two equally sized facilities where the facilities are centrally located within the wasteshed.

It should be noted that haul costs to the transfer facilities have an incidental impact on overall system costs, while transport costs to disposal are more significant. The reason for this is that cost savings from short hauls to transfer facilities only affect a few franchise areas at the margins of service areas while transport cost savings affect all waste that is transported from the transfer system to disposal.

Conclusions:

1. A two-transfer station system is less expensive to build and operate than a system of three or more transfer stations. Therefore, the wasteshed will be served by two transfer/material recovery facilities.

2. Due to both capital and operational cost savings, a system of two unequally sized facilities, where the smaller of the two facilities is located in the west and the larger of the two in the eastern portion of the wasteshed, is the most cost-effective configuration evaluated.

3. The facility that serves the western portion of the wasteshed will have a capacity of 120,000 tons per year; and, the facility that serves the eastern portion of the wasteshed will have a capacity of 196,000 tons per year.

4. Due to the capacities of the two transfer stations, neither facility alone would be large enough to handle all of the wasteshed's general purpose waste. Therefore, the phasing of facility procurement in order to avoid constructing facilities before they are needed is not warranted.

3. TRANSFER/MATERIAL RECOVERY FACILITY SERVICE AREAS

Background:

In order to ensure that facilities within a multiple transfer/material recovery system will actually receive waste volumes in proportion to their capacities, it is necessary to develop a mechanism for managing the flow of waste to the two facilities. Such a mechanism will ensure that both facilities operate efficiently.

Analysis:

Metro could use its "Flow Control" authority to direct waste to facilities. However in practice, the Metro Council has not guaranteed a tonnage volume (flow of waste) to any part of the disposal system. This position of not guaranteeing waste volumes to disposal facilities has been taken to ensure that Metro maintains its ability to respond to innovations in operating procedures or advances in technology that can lead to increased waste reduction. Therefore, guarantees of actual volumes of waste have been reserved only for facilities where the primary purpose is waste reduction/recovery, such as the Riedel Mixed Waste Composter.

Given this practice, the concept of "facility service areas" was developed for the wasteshed. The Policy and Technical Analysis assumed service areas based on collections of hauler franchise areas; thus service area boundaries follow franchise boundaries. Hauler franchise operators will be required to deliver the waste they collect that is destined for disposal at a general purpose landfill to the transfer facility located within the service area that the hauler is assigned to. Therefore, the transfer facility operator is guaranteed a service territory and all of the general purpose waste destined for disposal at a general purpose landfill within that territory. However, if a method is identified for managing a portion of the general purpose waste stream at a higher level on the state's hierarchy (reduce, reuse, recycle, recover and landfill), then Metro is free to either allow or direct that portion of the general purpose waste stream to flow to a new facility or expanded existing facility. Additionally, source reduction programs can also be implemented without conflicting with tonnage guarantees for transfer facilities.

This Plan chapter does not specify exact service areas for the two transfer facilities for the wasteshed. However, it was necessary to test the feasibility of the service area concept. Therefore, theoretical service areas were developed for the wasteshed in the following manner.

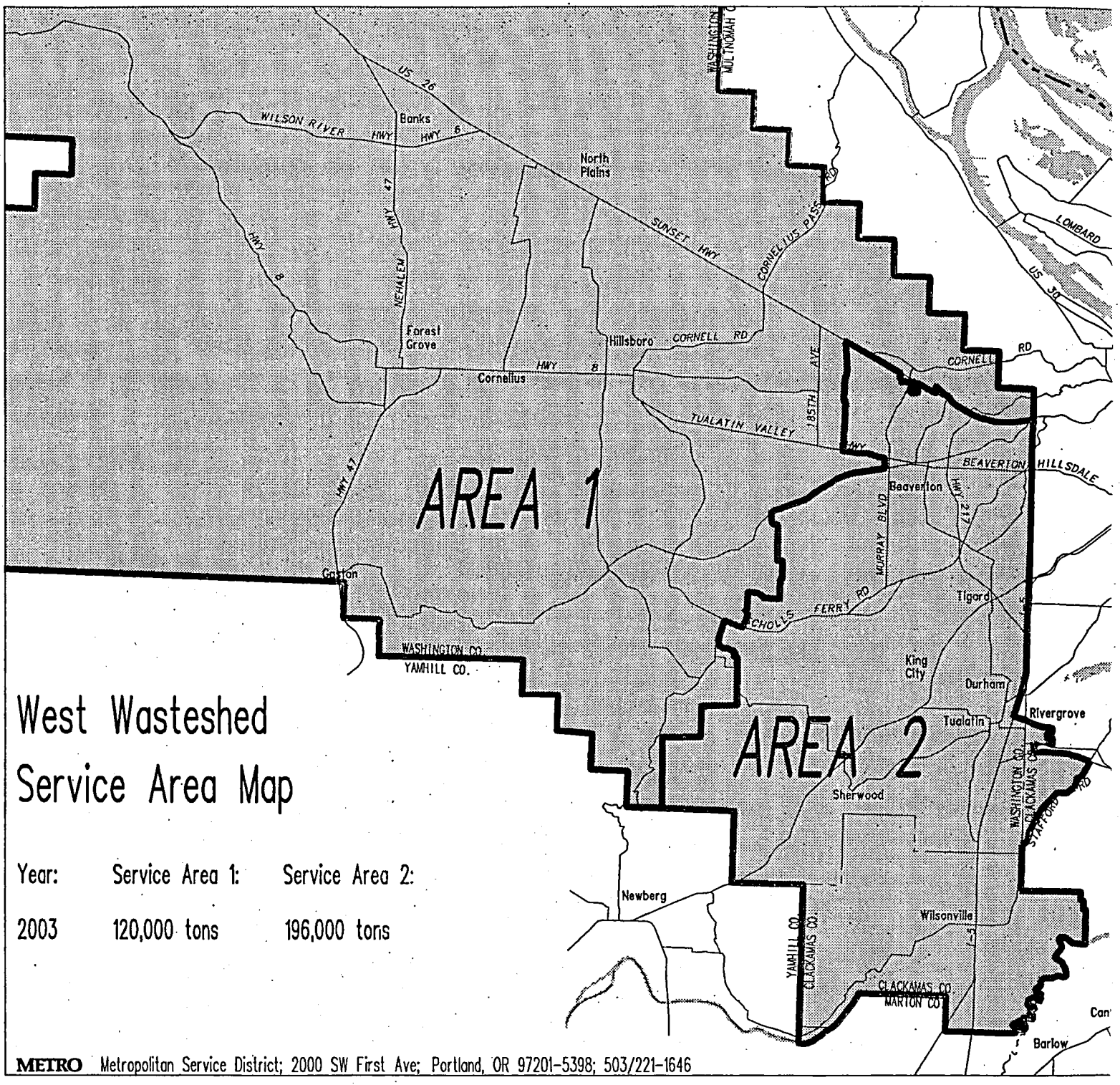
The geographic size of the two service areas was based on the facility capacity for each of the two transfer material recovery facilities. Each service area was made just large enough to contain the amount of waste projected to be delivered to each of the two transfer stations in 2003. The actual service area boundaries were based on an analysis of transportation data. The premise used in defining specific boundaries was to minimize the haul time and distance from the collection route to the facilities; and, from the facility to either the Riverbend or Columbia Ridge Landfills. The results of the service area analysis are illustrated by the Service Area Map on page 12. The example provided is only one of several methods of designating service areas for the wasteshed. The actual service area assignments will be made after consulting with the local waste haulers; and, consistent with the provisions of Metro Code Chapter 5.05 (Flow Control) as well as the facility configuration and tonnage projections contained in this chapter.

Conclusion:

1. Two facility service areas (one for each facility) for the west wasteshed will be established during the procurement process in order to provide certainty about the allocation of general-purpose waste to transfer stations.

2. The service areas designated will have tonnage capacities that are consistent with the facility configuration and tonnage projections contained in this chapter. The 2003 tonnage projections for the two transfer facilities are 120,000 projected tons per year for the western portion of the wasteshed and 196,000 projected tons per year for the eastern portion of the wasteshed.

3. The actual assignment of franchised haulers to service areas will be completed in accordance with Metro Code Chapter 5.05 (Flow Control). The service area boundaries will establish which haulers, whose franchise areas are determined by local government, will be directed to which facility.



West Wasteshed Service Area Map

Year:	Service Area 1:	Service Area 2:
2003	120,000 tons	196,000 tons

METRO Metropolitan Service District; 2000 SW First Ave; Portland, OR 97201-5398; 503/221-1646

4. TRANSFER/MATERIAL RECOVERY FACILITY LEVEL OF SERVICE

Background:

The design and operation of transfer facilities within the west wasteshed must comply with standards related to equipment redundancy, accommodation of "self-haul" waste, hazardous waste management, source-separated recyclables collection and other operational standards already in place at other transfer facilities within the region. This is necessary in order to provide a uniform level of service to the users of the system; and, to ensure that new facilities comply with the operational standards established by the region's long term waste transfer and landfilling contracts with Jack Gray Trucking and Oregon Waste Management Systems.

Analysis:

The region's transfer system requires compaction equipment in order to load waste transfer trucks destined for the Columbia Ridge Landfill in Arlington. Each transfer facility within the system must be able to process the waste it receives on any given day of operation prior to the start of operations the following day. The standard was developed in order to ensure that waste would not be stored at transfer facility sites.

Like any other equipment, compaction equipment is subject to mechanical breakdowns. Therefore, it is necessary to have adequate equipment redundancy at each transfer facility in order to ensure that a facility can process the waste it receives in a given day, even when equipment is temporarily off-line. Metro's experience with the type of compaction equipment being used within the region indicates that most compactor breakdowns can be repaired in a twelve-hour period, or one day's waste acceptance period. Therefore, the standard for equipment redundancy for the region, and new transfer facilities in the west wasteshed, is that each transfer facility must have the capability to store an entire peak day's amount of waste on its tip-floor. After the compaction equipment returns to service, the compaction equipment must have the capacity to compact and prepare the peak day's waste for transfer prior to the start of operations the following day.

In order to provide a uniform level of service throughout the region, it is necessary for the west wasteshed transfer system to provide service to self-haulers, as defined in the Metro Code, at a level consistent with the rest of the region. The facilities that provide major self haul service to the east and south wastesheds are the Metro Central and Metro South transfer stations. Both putrescible and non-putrescible wastes are accepted at these two facilities. Self-haul service in the west wasteshed is provided largely by the Hillsboro Landfill, which accepts only non-

putrescible wastes. The existing Forest Grove transfer station also provides self-haul service for both putrescible and non-putrescible wastes seven days a week.

The provision of self-haul service at transfer stations for all days of operation causes many of the problems associated with congestion, traffic and littering. As a result, capital and O&M costs at these facilities are higher in order to provide some separation between self-haul and commercial collection vehicles. This is typically accomplished through the installation of additional scale houses and queuing areas.

An analysis of commercial and self-haul patronage at regional facilities has found that the vast majority of commercial traffic occurs on weekdays while the majority of self-haul traffic occurs on weekends. An example of this condition is contained in the bidding documents for the Metro East (now Metro Central) transfer station. The weekday traffic requirements indicate that the peak arrival rate for commercial haulers is 90 vehicles per hour and 29 vehicles per hour for self haulers on weekdays. On weekends, the peak arrival rate for commercial haulers is three. For self haulers, the peak is 121. In total, the number of self haul vehicles and commercial haulers expected to use the transfer facility is approximately equal. However, the example illustrates that the bulk of the self-haul trips occur on weekends while the bulk of commercial-haul trips will occur on weekdays.

Transfer facilities that serve self-haul customers on weekends only, require less queuing space, fewer stall spaces, half as many scale houses and less personnel but are still able to serve self-haulers in the wasteshed. The Technical Analysis found that the capital cost savings for facilities designed to manage self-haulers on weekends only would be approximately $2,400,000. The annual operational cost savings would be approximately $150,000. Therefore, a cost effective method to serve self-haulers at transfer facilities in the west wasteshed would be to limit self-haul service to weekends and holidays.

The Hillsboro Landfill would continue its practice of accepting self-hauled waste on weekdays and weekends. This alternative would reduce traffic congestion at transfer facilities and avoid the need for additional capital and operational costs to separate commercial and self haul vehicles.

Other regional transfer facilities provide space and receptacles for receiving source separated principal recyclables, including yard debris. They also contain storage areas for incidental hazardous materials that are recovered from mixed solid waste delivered to the facilities. Transfer facilities in the west wasteshed must also provide these services in order to provide a uniform level of service at all facilities within the regional transfer system. Specific design standards for these features will

be dependent upon the expected waste volume at each facility and the specific characteristics of each proposed site.

Conclusions:

1. Transfer facilities in the west wasteshed shall have adequate equipment redundancy to manage the 2003 projected peak day of waste for each facility.

2. Transfer facilities in the west wasteshed shall at a minimum, provide self-haul service on weekends and holidays.

3. Transfer facilities shall include adequate space for the storage of incidental hazardous materials recovered at the site; and, source-separated principal recyclables delivered to the site.

4. Specific design requirements to meet these functional standards shall be determined during the procurement process.

5. POST-COLLECTION MATERIAL RECOVERY

Background:

The region has an established waste reduction goal of 50 percent by 2000. The practice, in support of the waste reduction goal related to facility development, is to procure facilities that offer the maximum feasible material recovery rates based on the use of Best Available Technology (BAT)[1]. Past analyses conducted for the Metro Central transfer station have shown that this strategy augments existing recovery programs, such as curbside collection, by providing additional opportunities for materials recovery within the region.

In order to continue progress toward the region's waste reduction goal, it is necessary for transfer/material recovery facilities in the west wasteshed to have post-collection material recovery processing capacity.

Analysis:

The determination of what material recovery rate would be feasible at transfer facilities in the wasteshed is dependent on several factors:

1. What current or proposed material recovery activities would be a part of the material recovery system in the wasteshed?

2. Given the presence of other means of material recovery in the wasteshed, what would be the projected composition of the general purpose waste stream entering transfer facilities?

3. Given the projected composition of the waste stream entering transfer facilities in the wasteshed, what would be the economically feasible level of material recovery at the facilities?

An analysis was conducted to address these factors. Briefly, the results of the analysis are as follows.

A waste composition analysis of the waste stream projected to enter transfer facilities within the wasteshed was conducted. This analysis excluded high grade wastes, recyclables collected via

[1] Best Available Technology (BAT) as applied to mixed waste material recovery facilities is defined as the most economically feasible combination of proven equipment or process technologies which will result in the highest overall recyclable material recovery rate. This includes material recovery processing technologies or equipment such as manually sorted linear or circular material processing and recovery lines, air classifiers, ballistic classifiers, density or buoyancy classifiers, size classifiers and optical classifiers. Other types of equipment or processing technology may also comply. Because mixed waste material recovery reduces both the volume and weight of material which must be delivered for landfilling, the concept of avoided cost should be applied in the economic analysis.

curbside collection, recoverable yard debris, special waste and household hazardous waste. The waste composition analysis indicates that recoverable levels of recyclables such as paper products, glass, and plastics are available for recovery at transfer facilities. The estimated recovery rate is between 3 percent and 23 percent of the waste they receive over the twenty year planning horizon.

The determination of the expected average level of material recovery at transfer facilities was based on the results of the waste composition analysis plus an analysis of the capital and operational & maintenance cost of material recovery equipment and a review of the impact of market prices of recovered materials and the avoided cost of transport and landfilling (approximately $35/ton) on recovery rates. Based on the results of these analyses, the expected average rate of material recovery for transfer facilities serving the wasteshed is projected to be 16 percent.

A similar analysis was conducted prior to procurement of the Metro Central transfer station, which now services the east wasteshed. The results of that material recovery analysis were not used to mandate a specified level of material recovery. Rather, the material recovery requirements were established through a combination of economic incentives, market factors and facility design requirements. There are no circumstances unique to the west wasteshed or additional information obtained through experiences elsewhere in the region that would warrant a change in how material recovery levels should be established for transfer facilities in the west wasteshed.

Conclusions:

1. Transfer facilities in the west wasteshed will include post-collection material recovery capacity.

2. Transfer facilities in the west wasteshed will include post-collection material recovery capacity based on a combination of economic incentives, market factors, facility design requirements and analysis of impacts on existing programs and facilities. The requirements for the material recovery rate will be established by Metro and vendors through the procurement process. The expected material recovery rate at transfer facilities is an estimated average of 16-percent. A specific term and condition of the franchise shall be that the facility operator(s) shall adjust to changing circumstances which may require capital improvements, new methods of operation or similar factors in order to ensure continued compliance with the RSWMP as it may be amended.

6. HIGH GRADE PROCESSING

Background:

High-grade waste is defined as substantially uncontaminated loads of dry mixed waste which contain recyclable materials that could be recovered economically. Based on this definition, it is estimated that high grade facilities will accept loads which contain, on average, at least 70 percent recyclable materials.

The recoverable material expected to be processed at a high-grade facility consists largely of paper products, including corrugated cardboard, mixed office paper, newspaper and magazine stock. Some plastics, glass and metals are also recovered in small amounts. High-grade waste is derived almost exclusively from non-residential generators that have large percentages of the materials described above in proportion to the rest of the wastes they generate.

High grade processing capacity is provided by privately owned and operated facilities in the region. These types of facilities gain a niche in the marketplace when they are able to charge lower tip-fees than transfer stations or other disposal facilities for substantially uncontaminated loads of recyclable materials, recover the materials, then sell them for reuse. High grade facilities are also not eligible for the avoided cost of disposal rebate paid to transfer facilities that process mixed waste.

Analysis

Operationally, it is desirable to manage high grade waste separate from the rest of the general purpose waste stream. Separate high grade facilities recover more materials efficiently because recoverable materials are less contaminated, thus more marketable. They also provide an economic incentive to waste generators, in the form of lower disposal costs, to recycle more of the wastes generated. As a result, the volume of waste that goes to transfer facilities and landfills is reduced.

An analysis was conducted to determine if there is a sufficient volume of high grade waste within the west wasteshed to support a high grade processing facility.

Briefly, the determination of the economic feasibility of a high grade facility in the west wasteshed was based on the estimated high grade waste volumes that would be directed to a high grade facility, market prices for recyclables and the projected tip-fee revenues at a high grade facility.

The estimated volume of high grade waste that would be managed at a high grade facility is as follows:

Projected High-Grade Waste Volumes
(From the West Wasteshed)

Year	Total Recoverable High Grade Waste	Total Residual High Grade Waste	Total Projected High Grade Waste
1993	25,663	10,986	36,619
2003	35,271	15,116	50,386
2013	46,472	19,917	66,389

The projection is based on the volume of recyclables within the waste stream and an estimate of the percentage of those materials that could be captured in high grade loads (capture rate). The capture rate is dependent upon assumptions about the market prices for recovered materials and the expected average tip-fee at the high grade facility. The market price estimates used in the analysis are conservative.

The tip-fee is an important factor in determining the economic feasibility of a high grade facility because it represents the major revenue stream for the facility, and, because it must contain an adequate cost differential between the high grade facility and a transfer/material recovery facility in order to induce haulers to work with their customer base to create high grade loads. Tip-fees at high grade facilities typically are on a sliding scale, the higher the recyclable content - the lower the tip fee. For the analysis, an average tip-fee for the high grade facility that reflected the effect of a sliding scale tip-fee was calculated. Supported by information obtained from local haulers and high-grade facility operators, the average high grade tip-fee for a given year is 75 percent of the projected transfer/material recovery facility tip-fee for the same year.

Based on the projected high grade waste volumes for the west wasteshed, and assumptions about the facility revenue stream from tip-fees and the sale of recovered materials, the analysis found that a high grade processing facility would be economically feasible in the west wasteshed. Revenues were clearly greater than the capital and operational costs of a high grade facility large enough to manage the wasteshed's expected high grade waste volume.

The analysis related to facility costs modelled both the cost of constructing and operating a high grade facility on its own independent site and as a separate component of a transfer/material recovery facility. The results of the analysis showed that there

were potential cost savings from co-locating at a transfer facility. However, these savings could be eliminated if co-location made the combined facility size too difficult to site. The feasibility of co-location will most appropriately be decided during the procurement process due to the site-specific nature of the potential positive and negative impacts of this type of facility configuration.

The high-grade facilities that serve other portions of the region are privately owned, financed and operated facilities. A Metro franchise is required before operation of a facility is authorized. The procurement process for a high-grade facility to serve the west wasteshed must result in a similar ownership, financing and operational arrangement. The use of public funds or public financing options for a high grade facility in the wasteshed would give that facility an unfair competitive advantage over other high grade facilities in the region.

The procurement process for the high-grade facility will be initiated either as a result of private sector initiative in submitting a franchise application or after procurement of transfer facilities begins, whichever occurs first. In order to ensure that there is efficient management of the waste stream, procurement of the high-grade facility will be completed within two years of the completion of the procurement process for transfer facilities in the wasteshed.

Conclusions:

1. A high grade facility will be procured as a component of the solid waste system for the west wasteshed.

2. The decision as to whether or not the high-grade function should take place at a separate facility or at a transfer station will be made during the procurement process. The procurement process will be initiated either as a result of private sector initiative in submitting a franchise application or after procurement of transfer facilities begins, whichever occurs first. This should be completed within two years of the completion of the procurement process for transfer facilities in the wasteshed.

3. Facility ownership, financing and operation will be private. A Metro franchise shall be required prior to commencement of facility construction and operation. The length of the franchise shall be negotiated through the procurement process.

7. TRANSFER/MATERIAL RECOVERY FACILITY FINANCING

Background:

Transfer/material recovery facilities in the west waste shed will be major components of the regional solid waste system. Other existing major solid waste facilities in the region have been financed publicly (Metro Central and Metro South) or jointly between the public through flow guarantees and private sector backing (Riedel Composter) in accordance with Metro's Master Bond Ordinance.

These arrangements are indicative of the need to raise significant amounts of capital to pay for the types of technologies that are conducive to efficient solid waste management. New facilities need to focus on material recovery, be environmentally safe, operationally efficient and fit into the regional solid waste system (i.e., need for compactors and staging areas for long-haul transport).

The major questions related to facility financing for the west wasteshed are:

1. What is the cost differential between public, private or joint public/private methods of financing?

2. Which method of financing best serves the needs of the wasteshed and the rest of the region?

Analysis:

Metro's Master Bond Ordinance provides Metro with the ability to use the system's net revenues for issuing senior lien debt for system bonds or to incur subordinated lien debt through the issuance of private activity bonds in order to provide a funding mechanism for specific projects. Ownership of facilities financed through either method could be public or private. However, it is Metro's practice to issue senior lien debt for publicly owned facilities and subordinated lien debt for privately owned facilities. Facilities could also potentially be financed through private means, or with the assistance of public entities other than Metro.

A detailed analysis of the costs and benefits of different methods of facility financing was conducted to determine what the best method of financing transfer facilities would be for the wasteshed. The methods described above were all included in the analysis.

One of the first conclusions was that private financing was probably not feasible. It was found that it would be extremely

difficult for small privately held firms to obtain financing for a completely private facility without a pledge from Metro to pay for debt service. A private financing structure would very likely require a firm with a substantial balance sheet that would be willing and able to guarantee the debt and make a substantial equity commitment. Reliance on such a financing method by Metro would limit the type and number of potential vendors during the procurement process.

The remaining viable financing options for transfer facilities in the wasteshed were either a public or a public/private arrangement.

A public financing arrangement would follow past practice where Metro issues system bonds to finance procurement and is the owner of the facilities. This option requires Metro to make a pledge of all system net revenues to bondholders, both current and future, or what has been referred to in this analysis as senior lien debt.

In determining the "type" of public/private financing method that would be most viable for the wasteshed, issues related to providing bondholders' security for private activity bonds and their potential affect on both the financial and operational portion of the system were examined. There are two likely means of public/private financing; private activity bonds issued by an entity other than Metro, and, private activity bonds where Metro is the issuer. The results of the analysis are as follows:

Private Activity Bonds (Metro is not the Issuer)

If Metro is not the issuer of the private activity bonds, the rating agencies will rely on the credit of the transfer station owner/operator to establish its rating. In order to secure an investment grade rating (BBB or better) on the bonds and an ensuing favorable interest rate, it will be necessary for the owner/operator to secure a very favorable service agreement with Metro whereby Metro would likely have to guarantee operation and maintenance costs, debt service, and debt service coverage as part of its payment for processing the solid waste delivered to the station. This type of long-term obligation would not be in Metro's best interest. Such an arrangement may require Metro to guarantee sufficient tonnages to cover costs, which is inconsistent with Metro practice because it would limit Metro's flexibility to respond to future changes in technology that may afford an opportunity for significant waste reduction. Alternatively, the owner/operator may need to negotiate a franchise territory sufficiently large enough to guarantee that operating and debt service costs would be met. It is likely that rating agencies would require assurances that the franchise territory could provide waste in sufficient amounts to produce net revenue at least equal to 130 percent of the actual costs of the transfer station. These types of financing conditions make it impossible to develop a two-transfer station system in the wasteshed because the service areas

for a two-facility system would overlap, which would make the system non-functional.

Private Activity Bonds (Metro as Issuer)

If Metro is the issuer of the private activity bonds, the rating agencies would rely on Metro's credit worthiness as the primary security for the bonds. Metro's system revenue bonds have an "A" rating from Moody's, and an A- rating from Standard and Poor's. Although, as a subordinate issue, Metro's private activity bonds are unlikely to attain such high ratings, though it can be assumed that an investment grade rating would be possible.

Metro's issuance of the bonds would allow debt service coverage to be calculated on a system-wide basis, relieving Metro of the necessity of paying coverage to the station owner and, thus, reducing system costs. It would also allow the granting of franchise territories to be on a more rational and flexible basis.

The discussion above illustrates that the two most viable choices for Metro to secure financing for solid waste facilities are; public financing with a pledge of senior lien debt or public/private financing with a limited pledge of subordinated lien debt. The next step in determining an appropriate finance structure for the facilities was to assess cost differences between the likely public finance option and the likely public/private finance option.

The cost differences between the public and public/private finance options, using an interest rate of 7.9 percent for senior lien debt (market rate plus a 1 percent contingency at the time of analysis), equates to $ .46 per ton in 1993 when averaged over the total tonnage projected to enter the west wasteshed. If averaged over the total waste tonnage managed by the regional transfer system, the cost difference equates to $ .11 per ton in 1993.

The analysis did find that while Metro's senior lien debt, because of the broad pledge offered to bondholders, will generally receive higher credit ratings and thus lower interest costs than subordinated lien debt issued by Metro, the cost difference is small. This is particularly true when interest cost differences between bond rating grades are small, as they are in today's credit markets. Furthermore, use of the senior debt option consumes a portion of the available senior lien debt capacity for future projects, capacity that is largely determined by the Metro Council's willingness to raise the tip-fee rate.

In comparison, use of Metro's subordinated lien debt capability makes good sense for project oriented financing. In fact, issuance of subordinate lien debt actually enhances the credit strength of Metro's senior lien debt because net revenues first available to the senior lien bondholders are increased. By effectively

utilizing subordinate lien debt to finance elements of the solid waste disposal system, Metro can improve senior lien debt financial performance, minimize impacts on rates and charges by more closely equating revenue requirements to cash requirements, and, maintain senior lien debt capacity for projects providing system-wide services and benefits. All of these factors should combine to reduce overall long-term borrowing costs, thus reducing Metro's solid waste program costs.

The analysis above is not intended to exclude any forms of private or public/private facility financing from consideration during procurement. It is intended only to identify the means of facility financing that appeared most feasible, given the market conditions at the time of the analysis.

Conclusions:

1. Metro should not rely on private financing for transfer facilities because it would limit potential vendors to only a few large companies. The costs associated with private financing are also likely to be much higher than public or public/private alternatives.

2. Transfer facilities in the west wasteshed will most likely be financed through a public/private arrangement because the cost differential between this method and the least-cost public method is small and other benefits are realized.

3. The most favorable means of financing will likely have Metro as the issuer of project private activity bonds with a limited pledge for subordinated lien debt.

8. RATES

Background:

Metro's rate setting practice is to allocate the costs of management and operation of the system to the users of various parts of that system. This results in a rate structure comprised of four separate fee components:

The regional user fee (covers cost of planning, waste reduction and administration);

The Metro user fee (covers cost of debt service and fixed contractual costs);

The regional transfer charge (covers cost of transfer station operating contracts); and,

The disposal fee (covers variable costs of transport and disposal contracts and landfill closure).

All four of these fee components will be charged on waste that enters transfer/material recovery facilities in the wasteshed.

Policy 11.1 of the RSWMP states that:

> "While the base rate will remain uniform throughout the region, local solid waste management options may affect local rates."

The locally preferred method of facility ownership within the wasteshed is private ownership which in some cases depending on financing arrangements, can be more expensive than public ownership. Given this finding and the direction given by the RSWMP, a major policy issue is; should the rate payers that use the transfer facilities in the wasteshed pay different rates for solid waste management than rate payers in other parts of the region in order to accommodate the local government solution preferences?

Analysis:

The cost components significant for comparative purposes are the cost of operations and maintenance (O&M) and the cost of financing.

The analysis evaluated the local government solution as a two-transfer station system, privately owned with public assistance for bond allocation. The financing mechanism, described in the discussion of facility financing, is tax-exempt, private activity bonds with a limited Metro pledge (limit on payment obligations by

Metro, subordinated debt or service fee payment) with a bond rating of Baa/BBB and an interest rate of 8.5 percent.

To assess the rate differential, the local government solution described above was compared to a two-transfer station system with public ownership and public financing. The public financing mechanism is tax-exempt bonds with a Metro system pledge, bond rating of A/A- and an interest rate of 7.9 percent.

It was concluded that O&M costs would be the same (with the exception of the payment of property taxes) as that which would be expected if transfer facilities would be publicly owned. Actual O&M costs cannot be determined accurately until procurement, as they are unique to the operational practices of individual companies. The cost per-ton of paying property taxes was estimated to be $.51 in fiscal year 1993/94, the projected first full year of operation.

The differences in the cost of financing between public financing and private financing with a limited Metro pledge would be $.11 per-ton, given the assumptions about interest rates discussed above.

The table below summarizes the projected impact to the regional tip-fee of the private ownership option (the preferred local government option) and the public ownership option for fiscal year 1993/94, the projected first full year of operation.

FY 93/94 Metro System Rate

	Regional User Fee	Metro System User Fee	Regional Transfer Charge	Disposal Fee	**TOTAL RATE**
Public Ownership	$13.11	$9.76	$12.16	$36.40	$71.44
Private Ownership	$13.11	$9.87	$12.67	$36.40	$72.06

The spread between financing and O&M costs for publicly owned facilities and privately owned facilities (the preferred local government solution option) would be $0.62/ton in FY 93/94, or less than 1 percent of the total tip-fee. The total cost differential between financing and O&M costs for the year was calculated to be $613,103. While this total cost differential would remain constant over time, the annual per-ton cost will actually decline due to projected annual increases in the amount of tons the transfer system will manage.

Conclusions:

1. Rate payers within the west wasteshed are subsidizing rate payers in both the east and south wastesheds through taxes paid for the Riedel Composter and Metro South. Along with the rest of the region, they are also subsidizing the payment of taxes for the Columbia Ridge Landfill.

2. The inclusion of property tax payments for transfer facilities that serve the west wasteshed within the regional rate is consistent with tax payment practices for other facilities in the regional system. The projected costs will have a minimal impact on the regional tip-fee.

3. The cost differential between the local government solution and a public ownership option is not great enough to warrant additional fees needing to be collected from citizens in the west wasteshed to pay for the locally desired system.

9. TRANSFER/MATERIAL RECOVERY FACILITY OWNERSHIP

Background:

The regional solid waste system contains a mix of ownership arrangements for major facilities.

- Metro South was publicly sited and is publicly owned.
- Metro Central was privately sited, but is publicly financed and owned.
- The Riedel mixed-waste composter was privately sited, privately financed with Metro flow guarantees, and will continue in private ownership with a 20-year contract with Metro.
- The Columbia Ridge Landfill was privately sited, is privately financed in part by a Metro allocation of waste destined for a general purpose landfill and is privately owned with a 20-year contract with Metro.
- The Forest Grove transfer station was privately sited, is financed and owned by a private company and operates under a Metro franchise.

Policy 13.0 of the RSWMP states:

"Solid waste facilities may be publicly or privately owned depending on which best serves the public interest. A decision shall be made by Metro, case-by-case, and based upon established criteria."

Analysis:

The criteria used for determining what form of facility ownership best serves the public interest are contained in Chapter 13 of the RSWMP.

Public ownership of a solid waste facility typically implies that responsibility for and control over siting, permitting, design, financing, and construction management would rest directly with Metro. Private ownership, on the other hand, implies that the development tasks which include siting, permitting, design, construction and financing would rest with the private sector. In-between these two ownership options, there exists options which are a mix of responsibilities and development tasks.

The Facility Financing portion of this chapter concludes that establishing facilities in the west wasteshed should be a joint

public/private venture. The facilities can be privately owned, with a long-term franchise agreement, but financing will require some form of public assistance.

In applying all of the ownership criteria contained in Chapter 13 of the RSWMP, the primary issues of importance were cost, the ability to adjust to changing circumstances which may require improvements to transfer facilities over time and the adherence to the "local government solution" policy in the RSWMP. It was determined that all the other criteria could effectively be managed or mitigated under either a public or private ownership situation through appropriate regulatory controls.

In conducting an evaluation of ownership costs, the cost of financing facility capital and the payment of local property taxes were the significant determinants in assessing potential cost differentials between ownership options. It was concluded that the cost differential between public and private ownership would not have a significant impact on the total overall budget and rate structure of Metro. Depending on the accuracy of the analysis, the impact could be less than a 1 percent increase on the regional rate. It was further concluded that Metro should consider the non-financing differences between the ownership structure in order to assess the overall advantages and disadvantages of public versus private ownership.

For example, the local government solution developed for the west wasteshed strongly favors a private ownership structure. Substantial savings of time and money may be realized if the ownership decision can be used to streamline and facilitate siting, and that this could offset any financing structure savings. A significant portion of the cost differential between public and private ownership can also be eliminated if Metro obtains project private activity bond allocation for the total amount of the two facility bond issues.

Transfer facilities within the regional system, including the west wasteshed, must be able to adjust to changes in technology or management practices in order to continue to provide efficient service to the region. This is especially true with regard to enhancing the waste recovery capabilities of transfer facilities. An analysis was conducted to determine if facility ownership would impact the ability of transfer facilities to adjust to changing circumstances. It was found that ownership has no impact. The transfer facilities in the wasteshed will be classified as major system components and franchised as such in accordance with section 5.01.085 of the Metro Code. The Code section allows the Metro Council to require appropriate substantive terms and agreements to be included in the franchise agreement between Metro and the facility operator. A specific term and condition of the franchise agreement should include language that addresses the RSWMP

ownership criteria related to the ability to adjust to changing circumstances.

The analysis above illustrates that the preferred form of facility ownership of transfer facilities in the west wasteshed is private. However, if the private sector is unable to meet criteria established during the procurement process, public ownership of the facilities is an option.

Conclusions:

1. Private ownership and operation of transfer facilities in the west wasteshed best serves the public interest because it is consistent with the local government solution developed for the wasteshed, the capital and operational cost differential is small and facility siting will be more efficient, which will likely offset any cost differential between public and private ownership.

2. Metro will assist with the bond allocation.

3. A specific term and condition of the franchise shall be that the facility operator(s) shall adjust to changing circumstances which may require capital improvements, new methods of operation, or similar factors in order to ensure continued compliance with the RSWMP as it may be amended.

4. The local government solution recognizes that public ownership is an alternative if private ownership proposals do not meet the criteria established in the procurement process. If no private ownership proposal is received that meets the procurement criteria, public ownership is an alternative.

10. VERTICAL INTEGRATION

Background:

Vertical integration or monopoly within the solid waste system is an issue of concern because of the potential negative impacts caused by a monopoly, including the ability to control access to facilities, control rates and limit competition and innovation within the solid waste industry.

Methods and procedures have been developed for mitigating the potential negative impacts of vertical integration within the regional solid waste system, including Metro operation of facility gatehouses. These methods and procedures have been employed in recent planning and procurement processes for new facilities.

The two main questions related to vertical integration in the west wasteshed are:

- To what extent is vertical integration problematic?; and,
- How can potential vertical integration impacts in the west wasteshed be mitigated?.

Analysis:

A detailed analysis of how vertical integration is managed within the regional system, and, how it can be managed within the west wasteshed's portion of the regional system found that there are four categories of vertical integration in the Metro waste disposal system: collection, transfer/processing, hauling and landfill. Rates are regulated at each stage.

The Metro Solid Waste System offers at least two examples of vertical integration if the owner/operator of the transfer site is operating at some level within the existing structure. There is downstream vertical integration if a collector or a group of collectors is chosen to own or operate a transfer facility. There is upstream vertical integration if a landfill operator is selected. The key question is, could either type of vertical integration have an adverse anti-competitive effect on the performance of the waste disposal system?

The analysis supports the conclusion that neither downstream nor upstream vertical integration would present adverse effects. In order for a firm to profit from vertical integration (monopoly) it must be able to control either the price it charges or the amount of service it provides; and, control the entry of possible rivals. Within the solid waste system, existing franchise authority for facilities by Metro and for haulers by the local governments in

Washington County greatly restricts the ability of firms to either control the prices they charge or limit the service they provide. Further, Metro's ability to control the gate-house and therefore regulate access and fee collection at the facility eliminates the potential for unfair practice or pricing differences between haulers using the facility.

It should be noted that upstream vertical integration (landfill operator selected) might increase Metro's dependency on the landfill operator to such an extent that Metro's bargaining position with respect to that operator would be reduced. In this instance it is the potentially adverse effects on the bargaining relationship rather than adverse effects of a monopoly that are of concern.

Conclusions:

1. Vertical integration within the regional solid waste system is not a significant concern as long as Metro and local government continue to regulate rates and service quality at facilities; and, within the hauling industry.

2. Vertical integration will be allowed within the west wasteshed's portion of the regional system, with the requirement that Metro operate transfer station gate-houses.

11. TRANSFER/MATERIAL RECOVERY FACILITY PROCUREMENT

Background:

The preceding portions of this chapter support the procurement of two transfer/material recovery facilities to serve two service areas within the west wasteshed. The recommended capacities of the two facilities are 120,000 tons per year and 196,000 tons per year respectively; with capacity to be reached in 2003. The recommended form of facility ownership and financing is private ownership with Metro as the issuer of private activity bonds along with a limited pledge from Metro to pay debt service.

Analysis:

"Procurement," as used in this chapter includes any process that results in Metro entering into a commitment to build and operate transfer facilities in the west wasteshed.

Three basic procurement options were considered as potential method of facility procurement for the west wasteshed; the competitive RFP process, the short-term (five-year) franchise and the long-term (up to 20-years) franchise.

Competitive RFP process. The competitive RFP process is an alternative to the franchise procedures contained in the Metro Code. The process was used to procure the Metro Central transfer facility. It was a useful method for obtaining a facility for the east waste shed because it aided in the identification of suitable sites where a solid waste facility would be a permitted land use.

Short-term franchise. This franchise is for five years or for the facility's longevity, whichever is less. This type of procurement process is not practical for major solid waste facilities, such as the transfer facilities for the west wasteshed, because of the short duration of the franchise agreement. Under these conditions, it is not possible for private sector vendors to obtain facility financing.

Long-term franchise. This franchise process is contained in Section 5.01.085 of the Metro Code. It was developed so the Metro Council could enter into long-term (up to 20-years) franchise agreements for major solid waste system components, such as transfer facilities. The long-term franchise process allows the Metro Council to identify needed major system components and develop the specific procedures for receiving franchise applications. It is the most efficient means of facility procurement for the west wasteshed because it allows Metro to identify the needed facilities and specific functional standards, then allows vendors with permitted sites to apply for a franchise

to procure a facility that meets the standards established by Metro. It is likely that significant changes or advancements in methods of waste management will be made during the length of the franchise agreement. Therefore, as has been previously concluded, a specific term and condition of the franchise shall be that the facility operator(s) shall adjust to changing circumstances which may require capital improvements, new methods of operation, or similar factors in order to ensure continued compliance with the RSWMP as it may be amended.

Conclusions:

The procurement process for transfer/material recovery facilities to serve the west wasteshed is based on the Metro Code and the Policy and Technical Analysis, which supports the chapter conclusions.

1. The preferred method of facility procurement for transfer facilities in the west wasteshed will be through the issuance of a request for long-term franchises. A separate request for franchise will be circulated for the appropriately sized facility for each service area.

2. The recommended form of facility ownership is private. Therefore, applications for long-term franchises will be for privately owned facilities only.

3. The most likely form of facility financing is a public/private partnership where Metro is the issuer of project private activity bonds and pledges payment of debt service only.

4. Metro will seek proposals for privately owned facilities that meet the procurement standards and criteria established for each service area. The procurement criteria shall include a cost which is no greater than the cost of a publicly financed facility using the assumptions and methodology in the technical analysis. If the private sector is unable to obtain facility financing and/or no franchise applications are received that meet the procurement standards and criteria established for each service area, then a competitive RFP with the option for public ownership through a turn-key arrangement will be circulated for each proposed facility service area.

5. Other specific procurement criteria and standards related to the procurement schedule, facility design, operational standards, material recovery rates, compatibility with the regional transfer system and other issues will be developed separately and contained in the procurement documents circulated for each transfer facility.

12. LAND USE SITING

Background:

For past facility siting exercises, Metro has developed and utilized land use siting criteria to guide the selection of sites for solid waste facilities. In order to guide the site selection process for transfer facilities in the west wasteshed, it is necessary to develop land use siting criteria so that transfer facilities can be procured in a timely manner; and, with a minimum impact to communities within the wasteshed.

An additional issue related to facility siting is; who should take the lead in identifying potential sites - the public or private sector.

The following analysis establishes land use siting criteria for evaluating potential sites in the west wasteshed; and, identifies the appropriate roles of the public and private sectors in the siting process.

Analysis:

Throughout the planning process for the west wasteshed an analysis was conducted to determine the appropriate land use siting criteria for transfer facilities in the wasteshed. At the completion of the analysis it was concluded that the criteria developed for the east wasteshed, and used for the Metro Central siting process are appropriate for the west wasteshed. The land use siting criteria are as follows:

> Fatal Flaw - In order to be considered, potential transfer station projects must have local land use approval.
>
> Rationale: Sites requiring lengthy land use approvals (e.g., zone changes) may not meet time requirements for design and construction and therefore should not be considered.
>
> On-site Characteristics - Characteristics of the site make it well suited for the use. The site plan does not create on-site conflicts with wetlands, 100-year flood plain, geotechnical conditions, or other physical characteristics of the site. Mitigation measures which are shown to effectively reduce or eliminate any potential on-site conflicts will be credited.

Rationale: The criterion encourages sites and site plans which do not affect hazardous environmental conditions or sensitive resources.

Utilities - Utilities needed by the transfer stations (sewer, water, power) are available and of adequate capacity.

Rationale: Utilities requiring major improvements to serve the site are not encouraged.

Traffic Capacity of Primary Access Routes - Primary access routes to the site have adequate built or planned capacity for the traffic type and load. Planned capacity will be credited when programmed and fully funded. The determination of adequate capacity will be made by local governments.

Rationale: Traffic is a major impact of transfer and recycling centers. Such facilities should be encouraged where road capacity is adequate or financial commitments are in place to make necessary improvements.

Transportation Access for Collection Vehicles and Self-Haulers - Access to the site allows commercial haulers and the public to travel primarily on interstate highways and arterials.

Rationale: Proximity and accessibility provides convenience, reduces travel time and cost, and minimizes impacts to land uses adjacent to the route.

Land Use Impacts along Access Routes - Adverse land use impacts are minimal along the primary access route(s) between the closest interstate highway and the site. Other primary access routes which do not directly connect to an interstate highway will be considered.

Rationale: Truck traffic is the most commonly cited and most visible impact of transfer and recycling centers.

The land use siting criteria listed above are not intended to be rigid standards for judging potential sites. Rather, they are to be used as guidelines to assist in the evaluation of potential sites during the procurement process. Past experience with other facility siting processes has illustrated that it is important to focus on identifying the most feasible or workable site, both from a technical and political perspective.

During the development of the west wasteshed plan, an analysis was also conducted to determine who is best suited to identify potential sites for facilities; the public or private sector. The analysis consisted largely of a review of past siting experiences within the region. The results are as follows.

The public sector experience in siting solid waste facilities has been difficult within the region. The private sector has had much better results in obtaining land use approvals. Some siting examples include:

- Landfill: Private sector siting after Metro and DEQ could not.
- Metro South: Metro sited;
- Metro Central: Metro negotiated mitigation agreements for outright use status consistent with the RSWMP policy; private sector met mitigation requirements to obtain land use permit. Metro required land use permits for vendors to enter procurement process;
- Composter: Private sector siting.

Given these past experiences, reliance on the private sector to identify sites for transfer facilities is the most efficient method for siting transfer facilities in the west wasteshed.

Conclusions:

1. The land use siting criteria established for the east wasteshed are appropriate for guiding the site selection process within the west wasteshed.
2. Potential sites for solid waste facilities in the west wasteshed will be identified by potential vendors.
3. Facility vendors must have the local land use permit in hand prior to the procurement process. This does not include site design review or the mitigation agreement which will be subject to the procurement process.

13. FLOW CONTROL

Background/Analysis:

Transfer/material recovery facilities are a part of the "disposal" component of the regional solid waste system. They are classified as such because even with post-collection material recovery processing, the majority of waste that enters the facility is ultimately landfilled and the waste entering the facility is mixed solid waste.

Policy 10.1 of the RSWMP states that:

> "Metro may assist in the financing of solid waste facilities in part by allocating waste volumes to various facilities."

However, in practice, guarantees of actual volumes of waste have been reserved only for facilities where their primary purpose is waste reduction/recovery, such as the Riedel mixed waste composter.

Short of guaranteeing tonnages, Metro does assist in financing disposal facilities. Metro Central is guaranteed revenue if certain tonnage volumes are not met and the Columbia Ridge Landfill is guaranteed 90 percent of the region's waste requiring disposal at a general purpose landfill. Assisting in the financial viability of transfer facilities to serve the west wasteshed would be consistent with Metro practice.

As was described earlier in the chapter, the method of managing waste flows and therefore the flow of revenue to a system of multiple facilities in the west wasteshed is to designate exclusive service areas for commercial haulers for both facilities. Within each service area, all of the waste collected by haulers and destined for disposal at a general purpose landfill will be allocated to a transfer facility. Service areas will provide a predictable flow of waste to a transfer facility without guaranteeing actual waste tonnages to transfer facilities. They can also serve to increase system efficiency by allocating waste to facilities in proportion to their capacities, and reduce cross-hauls in collection and disposal.

Conclusions:

1. Transfer facility service areas will be established for the wasteshed as the means of managing waste flows to facilities. Each service area will be served by a single transfer facility.

2. Waste collected by haulers destined for a transfer/material recovery facility or a general purpose landfill will be allocated to the transfer/material recovery facility within a designated service area.

3. Metro may use flow control pursuant to Metro Code Chapter 5.05 consistent with the service area concept to augment system efficiencies and to protect facilities from overuse. In exercising flow control, an important factor will be to follow existing route patterns of collection vehicles and territories served by haulers consistent with the criteria in Metro Code Chapter 5.05.

STAFF REPORT

CONSIDERATION OF ORDINANCE NO. 91-416 FOR THE PURPOSE OF AMENDING ORDINANCE NO. 88-266B ADOPTING THE REGIONAL SOLID WASTE MANAGEMENT PLAN TO INCORPORATE THE METRO WEST TRANSFER AND MATERIAL RECOVERY SYSTEM CHAPTER

Date: September 19, 1991 Presented by: Richard Carson
Becky Crockett
Mark Buscher

PROPOSED ACTION

Ordinance No. 91-416 amends the Regional Solid Waste Management Plan to incorporate the Metro West Transfer and Material Recovery System Chapter. The Chapter provides the direction necessary to expand the regional transfer and material recovery system to serve the west wasteshed.

FACTUAL BACKGROUND AND ANALYSIS

The west wasteshed encompasses incorporated and unincorporated Washington County. The Metro West Transfer and Material Recovery System Chapter provides the necessary direction for fulfilling the need for expanded transfer and material recovery capabilities in the west wasteshed. Currently, the wasteshed is served by the Metro South transfer station, located in Clackamas County, and the Forest Grove transfer station. Neither have material recovery processing capacity, and, the Metro South Station is operating over capacity.

The Metro West Chapter was developed as a local government solution. It's development is consistent with Policy 16.0 of the Regional Solid Waste Management Plan, which states:

> "The implementation of the Solid Waste Management Plan shall give priority to solutions developed at the local level that are consistent with all plan policies.".

The Chapter is also consistent with the planning process and minimum standards for the local government solution established by the Metro Council.

Using these guidelines, local governments in Washington County worked collectively to develop their local government solution plan. The local plan contained recommendations on eleven issues including; facility configurations and sizes, facility functions, ownership and procurement. Consistent, with the planning process established by Council, the local government solution was submitted to Metro so that a detailed policy and technical analysis of the local plan could be conducted. The policy and technical analysis determined that the local government solution was consistent with the goal and policies of

the Regional Solid Waste Management Plan and the standards for local government solutions developed by the Council.

Based on the findings of the policy and technical analysis, the Council established policy for the development of the Metro West Transfer and Material Recovery System Chapter. Staff has followed these policies and the findings of the Technical Analysis in developing the Chapter.

The Chapter provides direction on the following issues:

- System Configuration and Tonnage Projections - The planning area for the west wasteshed and corresponding waste tonnage projections is based on the Washington County boundary delineation with minor adjustments to account for established hauler activities.

- Number of Transfer/Material Recovery Facilities - The wasteshed will be served by two transfer/material recovery facilities.

- Transfer/Material Recovery Facility Service Areas - Two facility service areas for the west wasteshed will be established during the procurement process in order to provide certainty about the allocation of general-purpose waste to transfer stations.

- Transfer/Material Recovery Facility Level of Service - Transfer facilities in the west wasteshed must meet minimum operational standards in place elsewhere in the region.

- Post Collection Material Recovery - Transfer facilities in the west wasteshed will include post-collection material recovery capacity.

- High Grade Processing - A high grade facility will be procured as a component of the solid waste system for the west wasteshed.

- Transfer/Material Recovery Facility Financing - Transfer facilities in the west wasteshed will most likely be financed through a public/private arrangement.

- Rates - Costs associated with the local government solution for the west wasteshed should not obligate citizens within the wasteshed to pay more for solid waste disposal than citizens in other parts of the region.

- Transfer/Material Recovery Facility Ownership - Transfer facilities in the west wasteshed will be privately owned if a

private ownership proposal that meets criteria established through the procurement process is received.

- Vertical Integration - Vertical integration will be allowed within the west wasteshed's portion of the regional system, with the requirement that Metro operate the transfer station gatehouses.

- Transfer Material/Recovery Facility Procurement - The primary method for the procurement of transfer facilities in the west wasteshed will be through a competitive long-term franchise process.

- Land Use Siting - Potential sites for solid waste facilities in the west wasteshed will be identified by private facility vendors.

- Flow Control - Waste destined for a transfer/material recovery facility or a general purpose landfill will be allocated to the transfer/material recovery facility within a designated service area.

DECISION PROCESS

The draft Metro West Chapter has been reviewed and approved by the Technical and Policy Committees of the Regional Solid Waste Management Plan project and the Washington County Solid Waste Steering Committee. The Committees recommended no amendments. However, amendments were made by Metro staff during the committee review process. These amendments did not result in substantive changes to the draft Chapter reviewed by the committees.

SUPPORTING DOCUMENT

Accompanying the Metro West Material Recovery System Chapter is the Policy and Technical Analysis for the Washington County System, completed in April of 1991. The Analysis contains the results of specific studies that support the recommendations in the Chapter. The Metro West Transfer and Material Recovery System Chapter takes precedence over the supporting document.

EXECUTIVE OFFICER'S RECOMMENDATION

The Executive Officer recommends approval of Ordinance No. 91-416 adopting the Metro West Transfer and Material Recovery System Chapter of the Regional Solid Waste Management Plan.

SOLID WASTE COMMITTEE REPORT

CONSIDERATION OF ORDINANCE NO. 91-416, FOR THE PURPOSE OF AMENDING ORDINANCE NO. 88-266B ADOPTING THE REGIONAL SOLID WASTE MANAGEMENT PLAN TO INCORPORATE THE METRO WEST TRANSFER AND MATERIAL RECOVERY SYSTEM CHAPTER

Date: October 2, 1991 Presented by: Councilor DeJardin

Committee Recommendation: At the October 1 meeting, the committee voted unanimously to recommend Council adoption of Ordinance 91-416. Voting in favor: Councilors DeJardin, Gardner, McFarland, and Wyers.

Committee Issues/Discussion: The purpose of the proposed ordinance is to adopt the Metro West Transfer and Material Recovery System Chapter of the Regional Solid Waste Management Plan (RSWMP).

Rich Carson and Becky Crockett, Planning and Development Department discussed the staff report and briefly reviewed the history of the development of the proposed chapter. The chapter represents the combination of the local government solution plan developed by Washington County local government officials and Resolution No. 91-1437B setting Council direction for the development of the Chapter. The chapter addresses several issues relating to the expansion of the solid waste disposal system in Washington County. These include: transfer facility configurations, sizes, functions, ownership and financing; and the process for procuring the two proposed transfer stations.

Crockett noted that the chapter had been revised to address several issues raised by Committee members and Council staff. She then reviewed two issues raised in the Council staff analysis relating to self-haulers and development of material recovery rates for the transfer facilities. She noted that the cost of providing self-haul services was weighed against the additional cost of providing these services. Based on this analysis, it was recommended that self-hauling be limited to weekends. She also noted that the Hillsboro Landfill would be available to self-haulers on weekdays. Crockett explained that the process used to determine material recovery rates at Metro Central could be used for the Washington County facilities because it involved assessing a broad spectrum of factors including markets, feasibility, and cost avoidance.

Councilor Wyers questioned about what will happen to the facilities at the end of the initial franchise period and whether this issue should be addressed in either the RSWMP chapter or the procurement documents. Councilor McFarland noted that it is likely that the facilities will built using revenue from bonds issued by Metro and therefore the public has an interest in the facilities. Councilor

Gardner contended that the issue must be addressed in a concrete manner. Following additional discussion, it was agreed that the issue should be addressed as part of the process for approving the franchise agreement with the successful vendor.

Delyn Kies, representing the Washington County Steering Committee testified that the committee had reviewed the proposed chapter and supported it's adoption.

METRO

2000 S.W. First Avenue
Portland, OR 97201-5398
503/221-1646

Memorandum

DATE: October 14, 1991

TO: Rena Cusma, Executive Officer

FROM: Paulette Allen, Clerk of the Council PA

RE: TRANSMITTAL OF ORDINANCE NOS. 91-427, 91-428, 91-429B, 91-422B, 91-406A AND 91-416

Attached for your consideration are true copies of the ordinances referenced above adopted by the Council on October 10, 1991.

If you wish to veto any of the ordinances referenced above, I must receive a signed and dated written veto message from you no later than 5:00 p.m., Thursday, October 17, 1991. The veto message, if submitted, will become part of the permanent record. If no veto message is received by the time and date stated above, these ordinances will be considered finally adopted.

I, Lisa St Helen, received this memo and true copies of Ordinance Nos. 91-427, 91-428, 91-429B, 91-422B, 91-406A and 91-416 from the Clerk of the Council on 10-14-91.

ORD.MEM