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# Analysis of the Policy Implications of Regional MSW Disposal

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# EPA REGION 10

# ANALYSIS OF THE POLICY IMPLICATIONS OF REGIONAL MUNICIPAL SOLID WASTE DISPOSAL

## FINAL REPORT

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***regional landfill services. It is intended to prompt discussion throughout the region of the implications that these regional changes will have on each community.***

Stepping back somewhat, it is important to understand that there are two fundamental approaches to the subject of how MSW should be managed. The first approach views waste management as a public responsibility which should be equitably apportioned among local jurisdictions, so that each manages its own waste stream. At a minimum, this approach would call for self-sufficiency at a state level in MSW disposal capacity. The second approach sees waste management, in large part, as a commercial activity which has public policy ramifications, in which the location and size of MSW disposal facilities are guided by economic principles. In this scenario, government's responsibility is to mitigate any ensuing negative impacts and capture as much of the economic benefit as appropriate. It is the issues raised by this second approach which form the focus of this paper. This analysis of the changes underway in the Pacific Northwest has led to the following conclusions and observations.

**Regionalization & Sound Environmental Policy** Regional MSW landfills can provide significant environmental benefits for the Pacific Northwest, if the facilities are designed and operated for maximum environmental protection. As well, regional MSW landfills can represent an economically-efficient opportunity for environmentally-sound waste disposal because of their economies of scale. Using regional options is not necessarily a "cheap" alternative given the combined costs of preparing the waste for shipment (e.g., compacting), shipping the waste, and then disposing of it properly. However, for many communities, the regional option may be "cheaper" than paying for compliance with environmental standards on the basis of revenues generated from local waste flows alone. The local jurisdictions benefit from these cost savings and the region as a whole benefits by greater efficiency in the delivery of this public service.

**Regionalization of MSW Disposal in the Pacific Northwest** Private vendors have opened or are planning to open private regional landfills representing approximately 300 million tons of lifetime disposal capacity. Depending on how much of the municipal solid waste moves from existing municipal facilities to these landfills, this represents between 34 and 167 years of capacity. These estimates are clearly subject to numerous assumptions. What is evident, however, is that major change is taking place in how this region manages its wastes which is

## EXECUTIVE SUMMARY

The Pacific Northwest is in the midst of a dramatic change in the way municipal solid waste (MSW) disposal services are provided to residents of the region. In the past, communities provided garbage disposal primarily in local, publicly-owned landfills. The future of solid waste management, however, will find some jurisdictions using regional disposal options designed to serve the needs of multiple adjacent jurisdictions. As well, some jurisdictions may use private sector vendors that move waste significant distances to very large (by historic standards) privately-owned and operated landfills. For example, Portland is shipping its wastes out of its jurisdictional boundaries to a private landfill in eastern Oregon, Seattle and other Washington jurisdictions are looking at regional alternatives in both Washington and Oregon, and Idaho's health districts are looking at smaller scale regional alternatives to serve their needs. This trend towards using regional landfills is being prompted by increasing environmental regulation of MSW landfills which is, in turn, increasing costs beyond the point where many communities will choose to operate local solid waste landfills.

The regionalization of MSW disposal sets up new challenges both for the jurisdictions hosting these facilities and those jurisdictions which rely on them: How are the costs and benefits of regionalization to be shared by local importing and exporting jurisdictions, the states involved, and any communities that may be affected along transportation corridors? How can the policy issues raised by regionalization be addressed, particularly when they involve more than one state? Who is tracking the development of the system, to provide an "early warning" notice of potential regional issues or problems? Further complicating the decision-making arena is the reality that public policy decisions to address these costs and benefits are not made in an economic vacuum: state and local policymakers need to be cognizant of the interplay between their decisions and the larger economic forces at work in an increasingly privatized market for MSW disposal.

***This paper lays out the framework for addressing these issues in a "briefing book" format. It is intended for an audience of state and local policymakers who, through the choices they are making now, are shaping the way in which MSW will be managed for the next several decades in the Pacific Northwest. It is not a guide to implementing regionalization, nor a how-to manual for local decisionmakers as they conduct negotiations with private vendors for***

a smaller local facility. It is no longer safe to assume that capacity to manage waste locally offers the best solution - either environmentally or economically.

In this new world of MSW management, the eventual economic equilibrium between the supply of waste and the supply of disposal capacity may be achieved on a local, multi-city/county, statewide, multi-state or even national basis. Whereas, in the past, the market boundaries for a solid waste disposal facility were clearly related to the cost of transportation, now the market boundaries for a facility are determined by tradeoffs between transportation costs and the economies of scale for operating a facility in an environmentally-sound manner.

Regionalization of MSW disposal in the Pacific Northwest raises issues relating to the absolute amount of capacity available as well as the appropriate distribution of capacity between the public sector and the private sector. The region appears to be moving in the direction of an equilibrium, with enough capacity to satisfy regional demand provided by enough landfills to maintain a competitive market environment. However, achieving and sustaining an equilibrium based only on Pacific Northwest waste is not guaranteed.

If all the proposed major regional landfills are sited and developed, potential exporting communities in the Pacific Northwest may benefit from a buyers' market for MSW disposal - where vendors are anxious to fill their facilities by bidding competitively for community garbage disposal contracts. However, competitive disposal rates may attract the attention of communities outside the region. Imports into the Pacific Northwest from other states may reduce the availability of capacity to meet in-region needs.

Such potential out-of-region inflows set up issues for both the local importing jurisdiction and the host state. Should they encourage waste imports? Should they restrict these imports, even though that might set up competitive repercussions in neighboring states? Should they maximize their public profit from hosting these landfills? How should the public cost of permitting any capacity in excess of regional needs be addressed?

If only some of the proposed landfills are sited, the potential exists for a sellers' market, where landfill capacity is in short supply relative to demand, and the landfill operators have greater leverage to set disposal prices to

being driven by private sector investment in MSW landfill capacity. Whatever the final shape of this transformation, regionalization sets up important new policy issues for the region as a whole, as well as for individual exporting, importing, and transit jurisdictions.

**Costs and Benefits of Regionalization of MSW Disposal** While regionalization may provide economic and environmental benefits to the region, individual jurisdictions may see this trend from different perspectives, depending primarily on whether they are exporting waste somewhere else or importing someone else's waste. An exporting jurisdiction may benefit from not having to site a new facility, while at the same time become vulnerable to possible fees and charges levied by the receiving jurisdiction. The importing jurisdiction, on the other hand, bears the cost of having a regional facility in its midst and may seek to compensate for those costs (or reap the benefits) through host fees, free local disposal, etc. The jurisdictions on the routes to/from the landfill may see an increase in traffic and may or may not have mechanisms available to mitigate any impacts or capture any benefit from the traffic.

Most large development projects have costs and benefits similar to those of major regional landfills. Generally, it is left up to the parties involved to find a way to balance any competing interests. The situation is somewhat more complex with regional landfills, in that the product is "waste" and, as such, has negative political connotations. Also, a number of public jurisdictions are involved in regionalization of waste management, each with different interests. Thus, some of the costs and benefits associated with regionalization can only be valued and allocated by some type of political process which, by and large, does not exist for MSW in the Pacific Northwest at this time.

**Policy Issues raised by Regional MSW Flows** In the past, equilibrium between the supply of waste and the supply of disposal capacity was always achieved locally because the cost of transportation limited disposal to local sites. Now, the higher costs of achieving environmentally-sound disposal have become more important than the cost of transportation in many cases. Thus, it may make economic sense for a community to incur shipping costs and use a larger, multi-jurisdictional facility rather than shoulder the whole cost of environmental protection for

## Table 1. Major Regional MSW Landfill Capacity: Policy Implications of Two Possible Scenarios

| Potential for Major Regional Landfill Capacity in Excess of Regional Needs (Buyers' Market) | Potential for Major Regional Landfill Capacity Short of Regional Needs (Sellers' Market) |
|---|---|
| ***Possible Causes:***<br>– Optimistic overbuilding – "Yes, there are too many landfills, but mine is closer, cheaper, better, etc."<br>– Overbuilding because of poor market analysis: more local landfills stay open than expected and/or more waste reduction occurs to decrease need for facilities<br>– Permitting process is open to all applicants, with no local or regional "need" criterion<br>– Facilities constructed to serve out–of–region needs | ***Possible Causes:***<br>– Difficulty in siting, permit approval<br>– Closure of more existing public facilities than anticipated<br>– Insufficient waste reduction/recycling efforts<br>– Aggressive marketing to out–of–region communities |
| ***Likely Effects:***<br>– In the short term, competitive rates<br>– In the longer term, one or more landfills might go out of business, or wastes would be imported from out–of–region to supply necessary volume | ***Likely Effects:***<br>– In the short run, higher rates<br>– In the long run, exporting communities lose bargaining leverage when contracts are periodically renegotiated<br>– Host states/communities might charge higher host fees |
| ***Proactive Policy Options (to prevent the impacts):***<br>– Factor need for capacity into permitting process<br>– Create a way to monitor supply/demand | ***Proactive Policy Options (to prevent the impacts):***<br>– Siting/construction/availability of publicly–owned backup facilities<br>– Limits on transfers of landfill ownership to limit concentration of market power |
| ***Reactive Policy Options (to mitigate the impacts):***<br>– Limit imports, let market decide which landfills survive/close, and/or<br>– Limit imports, let disposal costs rise as economies of scale diminish | ***Reactive Policy Options (to mitigate the impacts):***<br>– Economic regulation of disposal charges and return on investment<br>– Construction of publicly–owned facilities |
| ***Opportunities for Regional Coordination:***<br>– Establish concept of regional need<br>– Create a parity in taxing policies<br>– Create a system of linked planning/analysis of supply and demand | ***Opportunities for Regional Coordination:***<br>– Regional coordination on economic regulation<br>– Regional coordination on public facility planning |

the exporting jurisdictions in the Pacific Northwest. Also, if many communities choose to rely on only a limited number of private regional facilities, then all communities may feel the impact of physical disruptions in the solid waste disposal or transportation system (such as an earthquake or avalanche destroying rail lines, etc.), as the displaced waste seeks alternative disposal outlets. Several issues arise under this scenario: Should each state become involved to make sure that alternatives exist to private options, to prevent concentrating capacity and market power in the private sector? Should the Pacific Northwest states work together to promote a competitive environment and/or to guarantee backup alternatives in the case of system disruption?

Table 1 summarizes these two opposing capacity scenarios: how they might arise, the likely impacts, and the policy options that might be used to prevent the situation (proactive options) and those that might be used to mitigate the impacts once they begin to occur (reactive options). The table concludes by suggesting potential opportunities for regional cooperation. The region currently enjoys a window of opportunity to take action to shape the transformation of the system as it deems appropriate, for once the "holes in the ground" are dug and waste is flowing into them, modifications to the system will be more difficult.

**Legal Framework** While the movement of MSW to disposal sites has become a political issue, this movement currently enjoys constitutional protection. MSW is seen as a commercial product; therefore, states have limited ability to interfere with interstate movements of MSW. When states have tried to restrict the importation of either hazardous or solid waste from other jurisdictions, these measures have been legally challenged. A number of lawsuits are pending, including one involving the State of Alabama which is expected to reach the U.S. Supreme Court. As well, proposals exist in Congress to provide states with greater authority to regulate MSW flows. Because the legal situation is uncertain, the issues have been framed in this paper as if states had free rein to regulate interstate movements of waste, so that attention would be focused on looking at the full range of options, not simply at those that are legally available now.

**Concluding Observations** As the "host" states for the major regional landfills, Washington and Oregon are major players in the evolution and operation of this dynamic system. They are bound together in a marriage of necessity. Potential actions by either state could affect the balance of the system and, hence, coordination on

solid waste policy issues which have regional implications appears to be necessary. Local decisionmakers throughout the region need to be aware of how solid waste is changing so that they can gauge how they might be affected and incorporate those risks into their decisionmaking.

# PART 1
# INTRODUCTION

Managing the disposal of municipal solid waste (MSW) is no longer exclusively, or even primarily, a local activity. It is an activity increasingly taking place on a multi-county or interstate basis because of the following situation:

- Environmental regulations are substantially increasing the costs (primarily the fixed costs) of operating MSW management facilities.

- Larger facilities can spread higher fixed costs over larger volumes of waste, for lower disposal costs per unit.

- To obtain these larger volumes, solid waste facilities must extend their geographical service areas.

Policymakers at the city, county and state level are facing a new set of management issues relating to who bears the costs and receives the benefits of these emerging regional MSW facilities. As well, new policy issues are emerging that have regional implications. For example, communities in the region may need to consider how to preserve a competitive environment for private disposal services, an issue that did not arise when each community had its own municipally-owned facility. In addition, while traffic impacts associated with moving waste to landfills were a local phenomenon in the past, traffic impacts associated with regional landfills will be experienced over hundreds of miles of roadway or track, travelling through numerous jurisdictions.

## PART 2
## REGIONALIZATION AND SOUND ENVIRONMENTAL POLICY

All policymakers are well aware of the environmental damage caused by past MSW disposal practices. Now, environmental regulations are making the cost of preventing or cleaning up future damage (should preventive systems fail) a part of the current cost of operating these MSW systems, especially disposal facilities. This, in turn, is setting in motion a series of economic forces which will significantly change how waste is managed in the future:

- **High Cost of Prevention** Complying with many environmental regulations requires significant investment of resources. For landfills, these investments include the cost of installing and operating liners, monitoring systems, monitoring wells, leachate collection and treatment systems, and methane gas collection systems. For incinerators, these include the costs of installing air pollution controls and monitoring systems as well as ash management facilities.

- **Economies of Scale** The costs of environmental compliance are relatively fixed; thus, the annual cost of monitoring groundwater quality may be the same whether the facility is handling 50,000 tons of waste or 500,000 tons. While the overall cost might be the same, the cost per ton would clearly fall as waste volume increases. This economic reality has been driving the move to larger landfills, in order to spread environmental compliance costs over more tonnage so that the cost to the consumer for MSW disposal is as affordable as feasible. *(The economics of the business are discussed in more detail in Part 3.4.)*

- **Longer Shipping Distances** Because operating small landfills in compliance with the full range of environmental regulation might result in prohibitively high disposal charges on a per ton basis, communities are evaluating how far they can send their wastes to take advantage of significant economies of scale at larger, regional facilities. The per ton savings between a local facility and a regional facility sets up the maximum amount that jurisdiction can afford to spend on transportation and, thus, how far waste can be shipped.

EPA Region 10's objective for this project has been to establish a framework for responding to these issues, by:

- assessing the current trend toward regional MSW disposal in the Pacific Northwest;
- defining the types of costs and benefits associated with regional MSW disposal, from the perspective of the "key jurisdictional players" and to identify mechanisms that may be used to mitigate negative impacts and to capture benefits;
- identifying the policy issues that regionalization may create; and
- reviewing the legal framework which influences possible policy responses.

**Table 2. Summary of Selected Smaller Movements of MSW to MINOR Regional Landfills in the Pacific Northwest***

| | Location of Facility | Receiving MSW from | Expected Annual Volume (Tons) | Import Total (Tons) |
|---|---|---|---|---|
| **Washington** | Franklin County *(Privately–Owned Landfill)* | Whatcom County (WA) | 38,000 | 38,000 |
| | Asotin County *(Owned by 5 Jurisdictions)* | Lewiston (ID) | Quantity not available | |
| | Pacific County *(Privately–Owned Landfill)* | Clatsop County (OR) | 8,800 | 8,800 |
| **Oregon** | Coffin Butte Landfill | Tillamook County (OR) | 10,000 | |
| | Benton County | Polk County (OR) | 15,000 | |
| | *(Privately–Owned Landfill)* | Linn County (OR) | 75,000 | 100,000 |
| | River Bend Landfill | Columbia County (OR) | 12,000 | |
| | Yamhill County | Portland METRO (OR) | 60,000 | |
| | *(Privately–Owned Landfill)* | Washington County (OR) | 72,000 | 144,000 |
| | Northern Wasco Landfill | Portland METRO (OR) | 25,000 | |
| | Wasco County | Hood River (OR) | 15,000 | |
| | *(Privately–Owned Landfill)* | Skamania (WA) | Quantity not available | 40,000 |
| **Idaho** | Counties are being encouraged by the state and by its 7 Health Districts to analyze and plan for solid waste capacity on a multi–county basis. Whether the resulting facilities will be privately or publicly owned is not clear at this time. Most current activity is focusing on MINOR regional landfills serving two or more counties. | | | |

** A comprehensive survey of waste flows throughout the region has NOT been conducted for this analysis, thus this list is meant to provide a sample of the types and volumes of waste flows moving throughout the region to smaller regional facilities.*

Thus, the need for environmentally-sound, cost-efficient MSW disposal is moving us to a system of larger, well-capitalized facilities. They are replacing smaller ones which may not be large enough to afford to meet new environmental standards. Because many of the larger facilities would, of necessity, draw waste from more than one jurisdiction, they are termed REGIONAL facilities.

Two types of regional landfills appear to be developing:

- those operations oriented to meeting the needs of adjacent local communities - termed MINOR regional landfills in this analysis, including Idaho's proposed multi-jurisdictional landfills; and

- those operations designed to offer - and to market - services throughout a broad geographical area - termed MAJOR regional landfills in this analysis.

**PNW Minor Regional Landfills** In the Pacific Northwest, some regionalization is occurring on a smaller scale, with both publicly and privately-owned MINOR regional landfills. Table 2 lists some of these landfills.

**PNW Major Regional Landfills** The difficulty of finding environmentally-sound and politically acceptable sites, particularly in the larger urban areas west of the Cascades, has created an opportunity for private vendors to offer disposal services at rural locations selected in part for their environmental qualities (i.e., dry climates, depth to groundwater, etc.). Private companies have developed one operating MAJOR regional landfill to date and have proposed an additional four facilities:

**Open and Receiving Waste**

- Oregon Waste Systems, Gilliam County, Oregon

**Actively Negotiating for a Site and/or in the Permit Process**

- Tidewater Barge, Morrow County, Oregon
- Rabanco Regional Landfill Company, Klickitat, Washington
- WIDCO, Thurston County, Washington
- Washington Waste Systems, Adams County, Washington

***Note: Burlington Environmental of Seattle, Washington, is also considering possible sites for a regional landfill. However, because Burlington is not in active negotiation for a site, it has not been factored into this analysis. In addition, it is likely that significant additional land area in both Washington and Oregon would have similar physical characteristics suitable for use as MSW landfill space. We have chosen not to speculate on the potential for interest in additional landfill sites to serve regional or national markets.***

How the Pacific Northwest manages its waste in the future will largely be driven by the activities of these major regional landfills. Thus, the remaining parts of this analysis will focus solely on these major facilities - the capacity they represent in relation to potential demand, the prospect that they will result in major interstate flows of waste within the region and between this region and the rest of the country, and the issues that these flows might create for the region's policymakers. However, much of the analysis of costs and benefits, as well as the discussion of options available to decision makers applies equally well, with minor modifications, to the issues arising as jurisdictions consider using or developing minor regional landfills designed to serve several counties.

## PART 3
## REGIONALIZATION OF MSW DISPOSAL IN THE PACIFIC NORTHWEST

The issues raised by regionalization in the Pacific Northwest result from the interplay of five factors listed below and described more fully in this section:

1. The potential balance, or imbalance, between the supply of and the demand for MSW disposal capacity in the region - and how that might change over time.

2. Current trends in the supply of and demand for MSW disposal capacity outside the region - and how that might change in the future.

3. The economics of long-distance transport, which influences how far waste might travel to access capacity in the Pacific Northwest.

4. The economics of regional landfill operations in terms of their ability to offer a competitively-priced service to the public.

5. The implications of the uncertainties surrounding these estimates for the Pacific Northwest.

## Table 3. Estimate of Demand for Disposal Capacity, in the year 2000

| | Projected Annual Disposal Volumes (Tons) |
|---|---|
| Projected Pacific Northwest Population in 2000 - 9.5 million* | |
| Estimate of MSW from Residential, Industrial (non-process wastes) and Commercial Sources | |
| Scenario 1. Current Waste Generation Rates<br>*-- Estimated using 5.0 lbs. of waste/person/day* | 8.7 million |
| Scenario 2. Current Waste Generation - Lower End Estimate<br>*-- Estimated using 3.5 lbs. of waste/person/day* | 6.1 million |
| Scenario 3. Assuming Significant Waste Reduction and Recycling<br>*-- Estimated using 2.0 lbs. of waste/person/day* | 3.5 million |

** Washington State Office of Financial Management, 1989 population 4.7 million, projected 2000 population 5.3 million. Oregon Center for Population Research & Census, 1989 population 2.8 million, projected 2000 population 3.0 million. Idaho Power Company Economic Forecast 1989-2009, 1989 population 1.0 million, projected 2000 population 1.2 million.*

***Assumptions***

*Scenario 1:* *Waste estimates are derived in many ways, including pounds per capita for household waste and pounds per employee for commercial and industrial waste. Often these estimates are aggregated into a single lbs./person estimate, as is done here. The estimate of 5 lbs./person/day is a mid-range estimate based on current experience in Washington and Oregon. Washington's Best Management Practices Study (1/89) found that Washington residents generated about 2.1 lbs./person/day of household waste and that commercial and industrial waste is generated at the rate of 2.7 lbs./person/day, for a total of 4.8 lbs./person/day. Oregon's Portland METRO reports that it received, in 1989, 1,080,700 tons of MSW for disposal, from all sources; METRO serves a population of about 1,090,000, for an aggregate waste generation rate of 5.4 lbs./person/day.*

*Scenario 2:* *EPA's Agenda for Action defines MSW as waste from households, with some contribution from commercial, industrial and institutional sources that goes to MSW disposal capacity. It used a Franklin Associates' estimate of total waste generation at 3.5 lbs./person/day.*

*Scenario 3:* *It is not clear how much impact waste reduction and recycling activities might have on future waste disposal volumes. For this scenario, we assumed a 60 percent reduction over current generation rates.*

## 1. Balance between supply and demand

**Total Annual Demand for MSW Disposal Capacity** A broad estimate of annual demand in Washington, Oregon and Idaho for MSW disposal capacity is between 3.1 million and 8.7 million tons, depending on recycling rates and assuming some population growth by the year 2000 as shown on Table 3. This demand will be met by some combination of public and private facilities located throughout the region.

These estimates were derived from regional and national averages, as noted on the table. This range of estimates was created to reflect possible demand originating from residential and commercial waste streams. It is difficult to get an overall waste generation estimate for the region because, even today, some larger facilities (such as that serving Washington's capital city) are only now installing scales to accurately determine the amount of waste they are managing.

*NOTE: No effort was made to quantify the potential volumes of construction debris and other specialized waste streams that might also go to these landfills.*

**Likely Users of Regional Landfills** Many of the region's larger communities are running out of local landfill capacity. As well, all communities are anticipating the impact that proposed federal Subtitle D landfill criteria will have on the cost of operating existing local facilities. As a result, many communities are coping with solid waste management policy questions. Should the local facility be upgraded and at what cost? Should the community consider waste-to-energy options? Should the community plan with other communities for a regional municipal facility? Are there private sector disposal options?

There are three circumstances that make a Pacific Northwest jurisdiction (either a municipality or a county) a likely user of a major regional landfill:

- Rising fixed costs for operating local facilities are driving less populous counties to consider regional options. For instance, Island County, Washington, has indicated that it is looking at contracting with a regional landfill to meet its waste disposal needs.

- Several jurisdictions that have populations large enough to finance environmentally-sound landfills, such as Seattle and Portland METRO, are choosing to rely on regional landfills because of the difficulty of finding acceptable (both politically and physically) sites for new landfills in their more densely populated jurisdictions.

- Some jurisdictions, such as King and Snohomish Counties in Washington, are looking at private regional landfills to extend the life of existing in-county landfills, recognizing that new in-jurisdiction landfill space may be hard to find as the counties become more urbanized.

At this time, the major jurisdictions in the region have expressed an interest in shipping between 1.5 and 1.8 million tons a year to major private regional landfills, as shown on Table 4. However, it is difficult to capture a complete picture of the likely waste flows in the region for two reasons:

- Many counties are still in the midst of their solid waste management planning processes. In Washington, for instance, state law has established staggered dates (depending on county size and location) for the completion of county solid waste plans, such that by 1994 all counties will have completed their planning processes. Since some counties may decide to utilize regional facilities as they get into their planning processes in more detail, the volume of waste which might go to regional landfills is likely to increase (beyond current projected volumes) over the next 5 years.

- Right now, county planners are less likely to plan their waste disposal strategies around facilities which have not been built and whose existence is out of their control. However, as major regional landfill facilities actually receive permits and begin operations, municipal and county planners are more likely to perceive these operating facilities as viable alternatives. For instance, at least two counties interviewed for the *EPA Region 10 Solid Waste Needs Assessment* during the summer of 1989 - prior to the opening of the Oregon Waste Systems facility - have now indicated that they are considering regional options, while less than a year ago they were considering in-county options.

## Table 4. Summary of Current Interest in Major Regional Landfill Capacity among Region's Largest Counties & Municipalities

| | | 1988 Population | MSW Disposal Option Currently Being Pursued | Estimated Annual Flow to Major Regional Landfills (Tons) |
|---|---|---|---|---|
| *Actively Pursuing Major Regional Landfill Option* | | | | |
| Washington | Seattle | 500,000 | *Major Regional Landfill – Negotiation Stage* | 300,000 |
| | Snohomish County | 410,000 | *Major Regional Landfill – Negotiation Stage* | 380,000 |
| | Clark County | 210,000 | *Contract w/Major Regional Landfill* | 120,000 |
| Oregon | Portland METRO* | 1,090,000 | *Going to Major Regional Landfill* | 700,000–1,000,000 |
| | | 2,210,000 | | 1,500,000 – 1,800,000 |
| *Considering Major Regional Landfill Capacity*** | | | | |
| Washington | King County, except Seattle | 920,000 | *Local LF, May Access a Major Reg. Landfill to Preserve Life of Its Own Landfill* | ??? |
| | Pierce County | 550,000 | *Local Incin./Landfill, May Consider Major Regional Landfill* | ??? |
| | Spokane | 350,000 | *Incineration, Possible Major Reg. Landfill for Ash* | ??? |
| | | 1,820,000 | | ??? |
| Pop. Potentially Served by Major Regional Landfills | | 4,030,000 | | ??? |

** Portland METRO provides solid waste disposal services for Multnomah, Washington, and Clackamas counties.*

*** None of the other larger communities in either Oregon or Idaho was reported to be actively considering the use of one of the major regional landfills at this time.*

## Table 5. Summary of Existing and Proposed MAJOR Regional Landfills*

| | Ownership | Location | Status | Est. Lifetime Capacity (Tons) |
|---|---|---|---|---|
| Washington | Rabanco Regional Landfill Co. | Klickitat County, 40 mi. from Goldendale | In permitting process. Expected opening 1991. | 40,000,000** |
| | Washington Irrigation & Land Development Co. – Waste Services (WIDCO) | Thurston County, 2 mi. south of Bucoda | In permitting process. Expected opening 10/91. | 100,000,000 |
| | Washington Waste Systems | Adams County | Site acquisition process. Expected opening 1994–1996. | 60,000,000 |
| Oregon | Oregon Waste Systems | Gilliam County | Open | 60,000,000** |
| | Tidewater Barge | Morrow County | Expected opening 1990/91. | 40,000,000 |
| **Pacific Northwest Total** | | | | 300,000,000 |

** Burlington Environmental is still seeking a suitable site to develop as a regional landfill; this capacity would be in addition to the capacity shown above. To date, Idaho activities have focussed on MINOR regional landfills.*

*** Indicates that facility has additional acreage over which to expand.*

**Projected Total Lifetime Capacity in Regional Landfills** A conservative estimate of cumulative lifetime capacity for the 5 existing and proposed major regional landfills is 300 million tons as shown in Table 5. A MSW landfill is designed for a total cumulative capacity to be distributed among a number of discrete cells. The landfill is then developed and filled cell by cell. Most of the major regional landfills projected for this region have total lifetime capacities of 40,000,000 tons or more. It has been estimated that each of the five landfills needs to receive a minimum of between 150,000 and 300,000 tons a year. It is not clear what limits exist on a facility's ability to accept waste; for instance, the one facility currently operating expects to receive over a million tons a year from Portland METRO and is negotiating to receive at least another 300,000 tons from Seattle.

The useful life of a landfill is a function of how quickly it is filled. If the landfill is not filled as quickly, its useful life is extended; if more waste is managed than projected, cells can be filled more quickly and new cells opened. This is a distinctly different operating environment from MSW incinerators which must burn at a steady rate and which cannot compensate for burning at less than capacity one day by burning at more than capacity the next.

*NOTE: The overall disposal capacity available in the region in the future is likely to exceed 300 million tons because of existing public capacity. However, for this analysis, no attempt was made to inventory the additional capacity in local landfills (e.g., King County's Cedar Hills in Washington or Lane County's landfill in Oregon), incinerators (e.g. the Marion County facility in Oregon) or minor regional landfills (as are being discussed to meet the needs of Idaho's communities).*

**Proposed Capacity in Terms of PNW Demand** It is informative to combine projected lifetime capacity estimates with projected annual regional demand estimates to see how many years of disposal capacity are being proposed for this region. Assuming that all proposed facilities are sited, permitted, and developed, and assuming some population growth, the Pacific Northwest may have:

- 34 years of capacity at major regional landfills ALONE, if they receive ALL waste from Washington, Oregon, and Idaho, and waste is generated at roughly the current rate of 5 lbs. of waste per person.

- **Impact of tangible alternatives** Just as the existence of regional options appears to be changing community decisions in the Pacific Northwest about the need to site local capacity, the existence of regional capacity in the Pacific Northwest might prove an attractive alternative and change decision-making by some out-of-region communities about their need to site new local capacity.

- **The tipping fee differential** The economics of long-distance transport are governed by the difference between out-of-region disposal cost and disposal cost in the Pacific Northwest. As long as the differential is enough to "pay the freight," long-distance shipping is an alternative. And, the greater the differential, the longer the distance waste might be shipped.

- **Cost of transport** Currently, most MSW is moved by truck. However, if oil prices remain at current higher levels or increase again, more waste might move by rail as the more energy efficient alternative and, once waste is on a rail car, the cost of shipping it longer distances is marginal. *(See the next section for more information on transport costs.)*

- **Siting of new landfills east of Rockies** A number of observers have noted that there is ample land area in which to site new landfills lying between the Pacific Northwest and the major Eastern and Midwestern waste generating areas. Under this scenario, if such sites were developed, they would intercept waste before it reached the Pacific Northwest. On the other hand, some of the states in-between have placed moratoria on the siting of new regional landfills. As well, waste might bypass these facilities if waste is being moved between two subsidiaries of the same firm, or if waste is moving on a railroad which also owns a landfill farther on.

The private landfill companies control the marketing of their capacity, thus they are the best source of market information on what wastes might be induced to move, and where.

## 3. The economics of long-distance transport

**Rail for Long Distance, Low Value** Long-distance transport of relatively low-value, high-volume commodities, such as MSW, typically is handled by rail. For rail transport, the major cost of shipping is found in the upfront handling of the waste - compacting and loading the rail cars - and the cost of off-loading at the landfill.

> *"When cities ship their garbage longer distances, rails make sense. That's because once the garbage is loaded on a railcar, it costs very little to ship it a few hundred or even a thousand miles more."*
> *"Urban Ore", Forbes August 21, 1989*

**3-4 Pennies a Ton/Mile** One railroad source indicated that it costs about $2.20 a rail mile to move a 75 ton boxcar of waste - 2.9 cents a ton mile. Upgrading the form of transport to a compacted system increases the cost about 25 percent - to 3.7 cents a ton mile. Thus, moving waste from Chicago to Seattle would cost from $52 - $60 a ton for a boxcar system and $60 - $75 a ton for an upgraded system. Depending on the proximity of the landfill to the rail line, there may be an additional $2 - $3 a ton for the spur line. As well, an exporting community may incur other costs associated with long-haul, including the possible construction of a compacting and transfer facility.

**Factors Affecting Long-Distance Movement** As noted earlier, capacity trends in other parts of the country might affect the Pacific Northwest if:

- disposal costs are significantly less in the Pacific Northwest than they are elsewhere, and
- the disposal cost savings are greater than the cost of transportation.

**Tipping Fees** With the exception of New York City and its environs, there is currently not much, if any, tipping fee differential between major waste generating areas and this region. Tipping fees in the Pacific Northwest range from the $21.37 disposal fee that Oregon Waste Systems charges Portland Metro; to $36 a ton at King

County's Cedar Hills facility, and to a high of $98 a ton at the incinerator in Bellingham (WA). On the other hand, outside the region, the fees range from $17 a ton at public landfills in Los Angeles County, to $37 a ton in Chicago, and to a high of $120 a ton in New York City. However, it should also be noted that long-term contracts for MSW disposal often involve hundreds of millions of dollars, thus what might appear small differentials in cost may add up to large savings over the life of a contract.

Fee Spread At this time, the largest differential exists between the Pacific Northwest and New York. Currently, New York uses disposal options that are much closer than the Pacific Northwest - sites in Kentucky, Ohio, Pennsylvania, etc. However, it is likely that the spread between out-of-region disposal costs and Pacific Northwest disposal costs will increase over time: out-of-region costs may continue to go up while those in the Pacific Northwest are more likely to remain stable given the competition which currently exists between the regional landfills. It would seem important to regional policymakers that this spread be tracked over time to monitor the relative attractiveness of Pacific Northwest disposal options to other areas.

New Landfills - Closer to Markets - on Rail Lines In addition to those in the Pacific Northwest, landfills are being issued permits near rail lines in Utah and South Dakota, for example:

- A Utah facility would cover 2,000 acres (for comparison, Rabanco's 40 million ton facility would cover about 400 acres) and is reported to be marketing its potential capacity (permit expected in 1990) to Minnesota for MSW incinerator ash.

- South Dakota has permitted a landfill adjacent to a rail line that would be allowed to take 7.5 million tons over the 5 year life of its permit, with room for expansion during additional permit renewal periods. This proposed capacity is reportedly being marketed to solid waste firms and communities in 13 states including Chicago and Atlanta. Following the issuance of this permit, South Dakota placed a two-year moratorium on the siting of other large landfills within the state.

## 4. The economics of major regional landfill operations

**Minimum Tonnage Required to Cover Costs** Any landfill has significant upfront costs for site development as well as environmental costs that do not vary with landfill volume. To achieve the economies of scale necessary for competitive operations in the Pacific Northwest, it is estimated that each of the five landfills needs to receive a minimum of between 150,000 and 300,000 tons a year, or, in total, between 750,000 and 1.5 million tons of waste a year - or from 9 to 43 percent of the total potential waste flow in the Pacific Northwest (under the scenarios outlined in Table 3).

**Fixed Cost Structure Encourages Volume** Landfills have relatively high fixed costs, thus their profitability is sensitive to volume. Some of these fixed costs are incurred in the design, construction, and initial permitting (the cost of EIS statements, etc.) of the facility. Other fixed costs relate to the annual costs of monitoring groundwater, etc. These costs can easily be similar for facilities receiving 100,000 tons a year and those receiving 1,000,000, tons a year, but clearly the costs per unit would be much lower for the larger facility.

Other fixed costs are associated with the development of each specific cell. As cells are designed to hold a particular amount of waste, increasing annual volumes does not affect the per unit cost of cell development. However, it does allow the vendor to recoup its investment in that cell sooner. Similarly, the sooner that cells are developed and filled, the sooner the overall investment in a landfill is recouped.

**Desire for Financial Returns Sooner** Business operates on the time value of money - a dollar received today is worth more than a dollar tomorrow. Thus, investors in private landfills may want landfills to fill up sooner, rather than later, and thereby generate financial returns sooner.

*Note: There is one exception to this. If landfill operators believe that their capacity will be worth significantly more in the future, they may choose to limit the amount that is sold today, just as some oil-exporting countries regulate the flow of crude oil from their enormous reserves. A landfill operator's decision to do this would depend on an evaluation of future landfill demand, the future ability to expand, and whether the landfill's owners prefer more certain returns now versus more risky - although perhaps higher - returns later.*

**Capturing the PNW Market** The marketing strategies of the regional landfill operators appear to target the vast majority of the region's wastes for management at their facilities; if these strategies are successful, this would mean that, over time, eventually little waste would be going to local community landfills or incinerators.

**What Ifs** However, if all facilities are permitted, these regional landfills may have an incentive to seek out-of-region waste volumes if:

- recycling and reduction efforts significantly reduce the amount of Pacific Northwest waste going to these facilities; or

- a significant portion of the region's waste is handled by other disposal options: existing county landfills, minor regional facilities, etc.

## 5. What do these trends and uncertainties mean for the Pacific Northwest?

**Significant Amounts of Capacity** The region may have anywhere from 34 to 167 years of capacity in the 5 major regional landfills alone (assuming all are permitted) to meet the disposal needs of Pacific Northwest waste streams. The amount of capacity actually needed will depend on both the success of waste reduction and recycling efforts, how many local or minor regional facilities remain or come into operation, and population growth.

**More Movement of Smaller Volumes** There is likely to be more long distance movement of smaller volumes, or the need for sub-regional transfer stations, if smaller counties sign contracts to use regional landfills. It is likely that the smaller counties will be the target of private marketing efforts after the region's largest communities have made their long-term MSW management decisions.

**Potential for Competitive Environment** Counties currently looking for a landfill vendor will find an extremely competitive environment in the Pacific Northwest because of the potential number of facilities and because of each facility's need, first, to capture breakeven volumes, and then, to improve financial performance by handling additional volumes.

**Interconnected Policies** If, as is now expected, major facilities will exist in Washington and Oregon, the impacts of the policies developed in one state could be felt in another. Thus, attempts to levy fees on waste imports may restrict interstate flow and may redirect potential out-of-region flows to the state with the lowest fees. The same effect would likely be seen if one state had significantly different regulatory compliance costs or required higher rates of recycling than the other. If, however, either state does not, for whatever reason, site enough major facilities within its borders to ensure the benefits of competition for in-state flows, it faces a different dilemma. Without the benefit of sufficient in-state competition it may see price increases over the long term. Thus, it may need to choose between higher prices for its consumers versus ensuring that a level playing field exists to promote competition with landfills in other states.

**Landfill Impact on Recycling** Recycling rates may benefit if communities move from their own publicly-owned and operated disposal to the use of regional landfills. Communities with their own municipally-owned landfills or incinerators may be impacted negatively by recycling success, in that they may no longer be receiving enough tipping fee revenues to cover fixed costs. In contrast, a community which pays "by the ton" for disposal at private regional landfills has an incentive to encourage recycling because every dollar not spent at the landfill is a dollar that might be saved or used to support recycling.

*Note: While competitive disposal costs may increase the overall economic efficiency of the region's solid waste disposal system, they could also have the potential side effect of discouraging economically-driven recycling. Generally, recycling is economical as long as its overall cost is less than or equal to the cost of disposal. If the cost of disposal should, for any reason, be cheaper than the cost of recycling, then fewer recycling efforts may prove to be economical. However, should this occur, policymakers might find alternate ways of supporting recycling activities, such as direct subsidies or mandated programs.*

**Recycling Impact on Landfills** In turn, the impact of successful recycling programs on regional landfills may be mixed:

- smaller disposal volumes may extend the life of these landfills; or
- smaller in-region disposal volumes may lead to pressure for out-of-region imports as the regional landfills seek volume to achieve desired financial performance.

**Valuing In-Region Capacity** It may also be possible, at some point in the future, that PNW capacity is worth "more" to out-of-region MSW generators than it is to in-region generators, depending on the cost of the next best alternative for out-of-region generators and the cost of shipping.

**Out-of-Region Waste** While it is a given that the Pacific Northwest lies a great distance away from potential markets for the region's capacity, out-of-region marketing cannot be ruled out as an option for regional landfills in the future. One source indicated that it may take ten years to change the economics to the point where waste might be attracted to PNW facilities.

## PART 4
## THE COSTS AND BENEFITS OF REGIONALIZATION

The changing environmental regulation of MSW landfill facilities has provided the momentum for the evolution of the MSW disposal system in the region. While this system is likely to provide overall greater environmental benefit, the process of change affects the various people, communities and states involved in different ways. To ease the process of change requires both an understanding of the costs and benefits, or the positive and negative impacts, that may be associated with this evolution to regional facilities, and an understanding about how existing public policy mechanisms might address these costs and benefits. This section will consider:

1. What are the positive and negative impacts of regionalization for the various players, including the exporting jurisdiction(s)? the importing jurisdiction(s)? and the transit jurisdiction(s)? How might they be quantified or otherwise valued? How can these costs and benefits be mitigated and/or captured by mechanisms such as contracts, taxes, permit conditions, fees, siting processes, etc.?

2. What issues might be raised by these costs and benefits?

3. What options do the states, or the local governments, have to respond to these costs?

## 1. Types of Costs and Benefits

**Different Perspectives** The costs and benefits of regionalization - or its positive and negative impacts - are experienced differently by a jurisdiction depending on whether it is: the importing jurisdiction(s) - i.e. city, county and state, if applicable; the exporting jurisdiction(s); the transit jurisdiction(s); or the region as a whole.

**Valuation** Some costs and benefits can be:

- quantified - e.g., the increase in traffic due to the facility;
- stated in monetary terms - the increased payroll in a local community hosting a regional landfill; or
- neither quantified, nor stated easily in dollar terms - such as the possible cost to an exporting jurisdiction of generating interjurisdictional political tension through MSW exports.

Cost and benefits would be calculated in comparison to the cost of an alternative. Thus, an exporting jurisdiction would likely weigh the cost of using a regional landfill against the cost of maintaining or siting a new landfill locally. An importing jurisdiction would compare its existing tax base with what it might expect if a landfill were developed.

Regardless of how valuation might occur, the actual task of calculating costs and benefits resulting from a specific project is highly complex and project specific. In those cases where there are no readily apparent and acceptable methods to quantify an impact in monetary or other terms, it is likely that the value of those costs and benefits would be determined by the political process and factored into a jurisdiction's policy decisions.

Some costs will be assessed in absolute terms, while others will be assessed on the margin. For example, for a rural agricultural importing jurisdiction, the development of new roads would be an absolute impact. However,

for a transit jurisdiction along the I-5 Corridor, for instance, the traffic impact would be assessed in terms of the marginal impact that 10 additional trucks have on top of existing traffic of 1,000 trucks a day.

*Note: While this analysis lays out what might be included as costs and benefits, and how they might be quantified, valued or captured, this is not a cost/benefit analysis. It is not intended to generate a conclusion about the net benefit or the net cost of regionalization in general, or of any specific regional landfill project.*

**Mechanisms** Many mechanisms exist to address the concerns and impacts associated with large-scale regional MSW landfills:

- **Contract for service** The contract between the exporting jurisdiction and the landfill operator can include provisions to ensure, for example, that alternative disposal sites or transportation options are available as backup facilities or that incentives to recycling are maximized by setting no minimum volume of waste that must be shipped to the facility by the exporting jurisdiction.

- **Local/state permit mechanisms/fees** The host state and/or community and the landfill operator can establish, through permit conditions, measures to minimize the negative impacts the importing community might experience, such as setting hours of operation to keep trucks off the road at night or setting a fee to support facility regulation.

- **Local/state fees levied on a per ton basis** The local/state host jurisdiction(s) might also levy fees on a per ton basis to recoup the costs of road repairs or to provide general revenues to support other governmental infrastructure affected by the facility.

- **Local/state sales taxes** Instead of - or in addition to - other mechanisms, the local and/or state governments may choose to levy sales taxes on the gross receipts of the facility to support general fund or specialized programs.

- **Local/state road use taxes, etc.** Road use taxes might be levied to compensate for the added repair and maintenance costs that might be associated with additional traffic destined for the regional disposal facility.

- **State or local economic regulation of disposal facilities** Because MSW landfills provide a needed public service, and because policy choices and/or economies of scale may create a situation where the benefits of competition do not provide a natural mechanism for protecting the public interest against the possibility of market concentration, states and/or local jurisdictions may choose to regulate landfills as public utilities, setting standards for service, performance, and fees, and thus, maintaining a balance on the economic power of the facility.

Some of the "costs" not addressed by existing mechanisms are not readily quantified and require a valuation that is derived through the political process - such as the cost of interjurisdictional tension sometimes felt by both the exporting and importing jurisdictions.

Some costs can only be mitigated by two or more jurisdictions, whether counties or states, working together, i.e. mitigating the potential cost of physical disruption by establishing a framework to ensure backup facilities, etc.

The types of costs and benefits that may be associated with regionalization are found on the following tables, which also indicate how a particular cost or benefit might be quantified or otherwise valued, and how it might be captured or mitigated through various policy and contractual mechanisms.

## Table 6A. MSW Exporting Jurisdiction (local jurisdiction and/or state): Summary of Possible Negative Impacts Associated with Export

| *Possible* <u>*Negative Impacts*</u> | *How to* <u>*Quantify?*</u> | *State/Local* <u>*Potential Mitigation Measures*</u> |
|---|---|---|
| **Economic Vulnerability** | | |
| — If regional landfill becomes a monopoly | Cost of developing backup facilities | Contract provisions for siting multiple facilities<br>Public utility regulation for intrastate waste flows |
| — If importing state imposes high import fees | Expected value of such fees over the life of the contract | Contract provision has vendor paying all fees (likely to work until contract renegotiation) |
| **Physical Vulnerability** | | Contract provisions, alternate disposal plans, |
| — Transportation disruption | Cost of developing/accessing local | including other routes and modes of transportation, |
| — Natural calamity at the site | options; cost of temporary dislocation | provisions for siting multiple disposal facilities |
| **Future CERCLA Liability** | | |
| — No control over regional facility operations | Cost of overseeing facility compliance (prevention) or expected value of non-compliance cost (remediation) | Contract calling for periodic independent environmental audits; segregation of jurisdiction's waste into single cells, etc. |
| **Financial Impacts on Existing System** | | |
| — Reduced bonding capacity & ability to fund closure reserve, etc. | Loss of revenues, as a result of waste export, needed to support local facilities, local reserve funds, bond issues, etc. | Contract, specifying amounts - presumably this would be factored into what community could afford to pay |
| **Neg. Impact on Recycling -** | | |
| — Out of sight, out of mind | Political valuation | Policy decisions to promote recycling |
| **Interjurisdiction Political Tension** | To the extent that retaliatory measures are | Policy decisions |
| — Loss of cooperation on other issues | taken, the cost of retaliation; political valuation | |

*Note: This table provides a checklist of the types of impacts that an exporting jurisdiction might experience. These impacts would be assessed in light of the jurisdiction's most likely alternative which, for many communities, would be a locally-owned and operated facility: thus, policymakers would evaluate whether export would offer more or less economic vulnerability than a local landfill, more or less physical vulnerability, etc. In some cases, an impact is directly related to the export decision or an impact may be felt "on the margin" - for instance, in some cases there may be no political tension created because of waste exports while, in other cases, waste exports might be the "straw that breaks the camel's back" and exacerbates existing tensions.*

## Table 6B. MSW Exporting Jurisdiction (local jurisdiction and/or state): Summary of Possible Positive Impacts Associated with Export

| *Possible* <u>*Positive Impacts*</u> | *How to* <u>*Quantify?*</u> | *State/Local* <u>*Potential Ways to Capture Benefits*</u> |
|---|---|---|
| **MSW Disposal as a variable cost** | | |
| — In many cases, moving to a private regional vendor makes MSW disposal a variable cost; thus it is easier to see savings with reduction and recycling | Variable costing of each part of integrated MSW system | Contract, specifying tipping fee per ton, with no minimum tonnage required |
| **Cost Savings** | | |
| — Economies of scale | Direct cost comparison between regional and next best alternative | Contract, specifying tipping fee per ton |
| — Extended life of existing local facility | Avoided cost of building facility now | Contract, specifying how much volume would be sent to major regional landfill over what term |
| — Reduced regulatory burden | Calculation of staff savings | Benefit realized through budget process |
| — Reduced long-term liability for environmental damage | Comparison of expected liability between being sole operator of a local landfill being a contributor to a large, private landfill | Benefit realized through contracting process |
| **Avoided NIMBY Battles** | Calculating cost of next best alternative | No mechanism needed |
| **Lessened Environmental Risk** | Reduced liability for risks because of more favorable climate, geology, etc. (quantifying would have to be done with a site specific comparison) | No mechanism needed |

*Note: This table provides a checklist of the types of impacts that an exporting jurisdiction might experience. These impacts would be assessed in light of the jurisdiction's most likely alternative which, for many communities, would be a locally-owned and operated facility: thus, policymakers would evaluate whether export would provide more or less environmental risk than a local landfill, a greater or lesser regulatory burden, etc.*

## Table 7A. MSW Importing Jurisdiction (local jurisdiction and/or state): Summary of Possible Negative Impacts Associated with Import

| *Possible Negative Impacts* | *How to Quantify?* | *State/Local Potential Mitigation Measures* |
|---|---|---|
| **Quality of Life** | | |
| — Local quality of life impacts - noise, litter | Lowered property values | Conditions in siting, permitting processes |
| — Scenic impacts from facility | Lowered property values | Permitting and siting criteria |
| **Physical Impacts** | | |
| — Additional traffic, wear & tear on roads, additional volume at waste treatment | Cost of additional repairs, accelerated replacement | Local siting process, local taxes, state taxes/fees |
| — Potential additional demand on wastewater treatment (if local facility receives leachate from landfill) | Cost of additional capacity, or sooner replacement of existing facilities | |
| **Environmental Risk if systems fail** | Cost of alternate water supply, cleanup, etc. | Permit mechanism, bonding requirements |
| **Financial Impacts** | | |
| — Additional regulatory burden | Cost of additional inspectors | Permit fees |
| — Use of tax credits & other business programs by out-of-state waste generators | Allocation of tax credits, other state program costs to that portion of capacity used by out-of-jurisdiction waste | Fees to recoup costs, restrictions on use of credits/business programs if beneficiaries are out-of-jurisdiction waste generators |
| **Public Perception** | | |
| — Public perception of state as a "waste state," hurting business development & tourism | Difficult to quantify, given multiplicity of factors; political valuation | Policy decision regarding receipt of waste |

*Note: This table provides a checklist of the types of impacts that an importing jurisdiction might experience hosting a regional facility. These impacts would be assessed in light of the jurisdiction's most likely alternative which, for many communities, would be a locally-owned and operated facility: thus, policymakers would evaluate whether hosting a regional facility would mean greater or less regulatory responsibility than a local landfill, etc. In some cases, an impact is directly related to the import decision, while in others, an impact is felt "on the margin" - for instance, the incremental regulatory burden of a major private landfill if others are already located in the area.*

## Table 7B. MSW Importing Jurisdiction (local jurisdiction and/or state): Summary of Possible Positive Impacts Associated with Import

| *Possible* <u>*Positive Impacts*</u> | *How to* <u>*Quantify?*</u> | *State/Local* <u>*Potential Ways to Capture Benefits*</u> |
|---|---|---|
| **Lower Cost of Disposal** | | |
| — Lower cost of disposal than without a regional facility | Cost comparison v. next best alternative (Once in-place, other in-state communities may also benefit from its economies of scale.) | Siting process, local permit mechanism - to ensure local access |
| **Economic Benefits** | | |
| — Expanded tax base due to facility | Comparison of current v. past tax base | Assuming local property tax is in place, no other mechanism needed to capture benefit |
| — Expanded employment opportunities (assuming local hires) | Number of jobs, dollar value of payroll, multiplier effect | Benefit captured through existing local taxes |
| — Attraction of ancillary development | Number of jobs, dollar value of payroll, multiplier effect | Benefit captured through existing local taxes |

*Note: This table provides a checklist of positive impacts that an importing jurisdiction might experience hosting a regional facility. These impacts would be assessed in light of the jurisdiction's most likely alternative which, for many communities, would be a locally-owned and operated facility: thus, policymakers would evaluate whether hosting a regional landfill would provide more or less economic development than a local landfill, etc.*

## Table 8. Summary of the Types of Costs & Benefits as seen by the Transit Jurisdiction (Local Jurisdiction and/or State)

| *Possible* *Negative Impacts* | *How to* *Quantify?* | *State/Local* *Potential Mitigation Measures* |
|---|---|---|
| **Physical Impacts** | | |
| — More wear & tear on roadways | Cost of repairs, accelerated replacement | Increased local share of state transit taxes |
| **Accidents** | | |
| — Possible impacts if an accident occurs | Cost of impact avoidance – i.e. trucking regulations, community response teams, or use Probability of an accident times the likely cost of accident damage | Appropriate trucking/rail regulations; emergency response teams |
| **Economic Impact** | | |
| — Possible harm to industry relying on scenic enjoyment | Political valuation | Policy decisions |
| **Quality of Life** | | |
| — Additional traffic, etc. | Political valuation | Policy decisions |

| *Possible* *Positive Impacts* | *How to* *Quantify?* | *State/Local* *to Capture Benefits* |
|---|---|---|
| **Economic Benefits** | | |
| — More business at on-route businesses (one more cup of coffee) | Money spent on each stop of trucks heading to regional landfill multiplied by the number of truck trips; business associated with en-route layovers, etc. | Benefit captured through existing local taxes |

## Table 9. Summary of the Types of Costs & Benefits as seen from a Regional Perspective

| *Possible* <u>*Negative Impacts*</u> | *How to* <u>*Quantify?*</u> | *Ways to Mitigate* <u>*Regional Negative Impacts*</u> |
|---|---|---|
| – Impact of Transit on Scenic, Other Values | Political valuation | Regional planning process |
| – Increased Vulnerability to Physical Economic Disruption | In part valued by the cost of mitigation in the form of additional capacity to ensure diversity; in part by political valuation process | Regional planning process, multiple landfills, free market between jurisdictions/states to ensure competitive alternatives |
| – Risk of Economic Concentration | Potential for monopoly/oligopoly behavior in pricing | State economic regulation, assuring access to facilities in other jurisdictions to preserve competition; regulating disposal rates and rates of return |

| *Possible* <u>*Positive Impacts*</u> | *How to* <u>*Quantify?*</u> | *Ways to Capture* <u>*Regional Benefits*</u> |
|---|---|---|
| – Economically Efficient MSW Disposal | Cost for the state/region of using regional facilities versus each community meeting Subtitle D standards alone | Captured automatically in lower disposal costs to households and businesses, hence more disposable income, etc. |
| – Environmentally Optimal Solutions (particularly, dry–side landfilling) | Cost to clean up existing landfills, cost of mitigation | Captured by existing processes and systems |

## 2. What issues might be raised by these costs and benefits?

**How might different perceptions on the costs and benefits of regionalization be reconciled?** Each jurisdiction involved in regionalization may assess its costs and benefits differently. For instance, residents of an exporting community may perceive a substantial benefit since they do not have to site a disposal facility in their community. On the other hand, a state hosting a landfill receiving interstate shipments of waste may also perceive a substantial benefit because its smaller communities would have access to a regional facility that might not otherwise be economical to locate in the state.

Even within a state, the assessment as to the overall costs and benefits of receiving interstate waste streams may differ by jurisdiction. Thus, the importing state's perspective on the costs and benefits may well be different from that of its major urban areas which may also export wastes to the regional landfill and, hence, benefit from the economies of scale provided by a large facility serving a broader market area. These perspectives, in turn, may well vary from the perspective of the importing county.

Reconciling these different perceptions is a matter of identifying costs and designing ways to balance those costs with benefits or to mitigate the costs through negotiations with other parties. Central to balancing the costs and benefits between jurisdictions is that all sides have available to them mechanisms - contracting ability, siting authority, taxing authority, etc, - which enable them to effectively capture benefits and mitigate costs.

**Do Mechanisms Work?** Because the costs and benefits of regionalization may be perceived differently, and a jurisdiction may feel a need to capture its benefits and mitigate its impacts, it is important to assess whether the mechanisms available to meet this need do, indeed, work: Does the jurisdiction have sufficient authority in the permitting process for a new facility to mitigate negative impacts? Is a jurisdiction able - through permit fees, per ton disposal fees, etc. - to recoup the costs it attributes to the facility? Is the environmental benefit of the facility considered in any fees established by the host state?

Not every cost associated with a facility need be, or necessarily can be, recouped directly. Ultimate decisions about facilities should be the result of weighing the overall benefits against the overall costs, including those which have been mitigated and those which have not.

Who Looks After the Whole System? Importing jurisdictions have tools at their disposal to address many of the issues associated with hosting a regional facility, as do exporting jurisdictions. However, no single jurisdiction can deal with issues that cross political borders. If all importing/exporting to regional MSW landfills happens within the confines of a state, then the state may have the ability to make the trade-offs necessary to address issues such as market concentration and protecting the interests of its transit jurisdictions. Where there is interstate waste flow, there is no political body to address issues of a regional nature. One of the issues raised by regionalization is whether there needs to be a way of assessing costs and benefits that encompasses all of the relevant jurisdictions, that looks at the "whole" system and not just the parts of the system.

### 3. What can the state or the local government do to mitigate the costs and capture the benefits?

**State Authority** For intrastate movements of waste to major regional landfills, the states have the authorities given to them by their legislatures.

**Federal Authority** For interstate movements of waste, the legal framework is governed by the Constitution, specifically, Article I, Section 8 - the Commerce Clause:

> *"The Congress shall have power . . . to regulate commerce with foreign nations, and among the several states and with the Indian Tribes"*

While the Constitution does not explicitly limit what the states can do with respect to interstate commerce, it reserves the right to regulate such commerce to Congress. This means that attempts by states to regulate interstate commerce often end up in the courts, which then decide whether state action is impinging on the federal prerogative.

In past tests of the Commerce Clause regarding the movement of wastes and other commodities, a legal framework has been established to allow states to capture "reasonable" costs as long as they are tied to impacts and there is no undue interference with interstate commerce.

**Congressional Initiatives** There are currently numerous bills in Congress in which Congress would delegate, in some manner, the power to regulate, or restrict, the movement of wastes to the states. Should such legislation be passed, the rules of the game would change.

*The legal framework is discussed in more detail in Part 6.*

## 2. Trends in capacity outside the region

Capacity Crunch A "capacity crunch" has hit many communities on the East Coast, in the Midwest, and in California as both population and per person waste generation rates grow. As well, the supply of local disposal capacity is shrinking as local landfills are closing for a variety of reasons:

- Some have become Superfund sites as a result of poor design and management practices in the past.
- Some have reached capacity with no room to expand.
- Some are closing prior to the imposition of revised federal Subtitle D landfill regulations to avoid being subject to their costly closure provisions.
- Finally, some will close when the federal regulations are issued and jurisdictions no longer have the option of operating facilities that are too small to afford full environmental compliance.

Replacement disposal facilities may be difficult to site either because suitable land may be unavailable in densely populated urban areas or because of NIMBY (Not-in-my-Backyard) and its cousins NIMEY (Not-in-my-Election-Year) and NIMTO (Not-in-my-Term-of-Office), among others. Many jurisdictions have less than 10 years of capacity remaining; thus, since it can take years to site new facilities, this crunch is likely to get worse. As a result of this shrinking capacity, tipping fees are rising and waste is moving longer distances to suitable disposal sites. Below is a brief summary of the waste management situations in three large waste generating areas: Los Angeles County, Chicago, and New York City.

Los Angeles County Los Angeles County generates about 18 million tons of waste a year - two to three times the volume of the Pacific Northwest states. County policy is to have 50 years' disposal capacity within the County. Currently, however, it is estimated to have only 1 to 10 years of capacity. In the last 2 to 3 years, tipping fees have almost doubled - fees are now ranging from $17 a ton at county landfills to $31 a ton at private

- 86 years of capacity at major regional landfills ALONE, again, if ALL waste moves to major regional landfills, but recycling programs cut waste disposal to 2 lbs. of waste per person.

- 167 years of capacity at major regional landfills ALONE, if ONLY those jurisdictions currently in negotiations with regional landfill operators send their waste to these regional facilities, in the upper bound of volumes currently being negotiated.

**Uncertainty of the Estimates** This range of estimates is based on many assumptions, and it is too early in the evolution of the waste management system to know which assumptions will be borne out and which will not. As noted earlier, and reiterated on Table 3, the scope of this study did not allow either a full inventory of all waste disposal capacity in the region or a full accounting of all possible waste streams and associated volumes which might be attracted to a regional facility. These estimates should, therefore, be assessed in light of two factors:

- The approach used here does underestimate, probably by a significant amount, the amount of disposal capacity available in the region, because we have made the gross simplifying assumption that all existing capacity would be closed or mothballed. This is not likely for facilities such as King County's Cedar Hills landfill, the new Marion County incinerator, the Boise landfill or new Kootenai County landfill in Idaho.

- This approach may underestimate the amount of waste requiring disposal in the region. We have used a per person waste generation rate slightly higher than the estimate derived for Washington and somewhat lower than for Portland METRO. We do not know if the rest of Oregon and Idaho conform to this range, or whether additional waste volumes might move to a regional facility that are currently out of the MSW system - i.e. agricultural wastes which might now be handled on-site, demolition debris, etc.

However, the data are sufficient to provide insight into how the management of solid waste is changing in the region, to identify the key variables affecting the future balance between supply and demand, and to discuss the policy implications of either too "much" capacity (relative to regional demand) or too "little" capacity.

commercial landfills. The administrators of the four county-operated landfills (out of 13 total landfills) are looking at rail haul alternatives east of the mountains, including the use of a former copper mine as a waste disposal site. To address its waste disposal problems, Los Angeles now requires that generators reduce waste volumes requiring disposal by 50 percent by 2000 (AB 939, 1989).

**Chicago** Residents and businesses in the city of Chicago generate about 3.1 million tons of waste a year: 1.1 million tons is handled through City franchises and the remaining 2.0 million tons is collected privately. Of the 1.1 million tons, some are landfilled in City landfills or incinerated; however, the bulk of the waste is collected by private vendors that have received contracts to operate transfer stations. Each vendor negotiates separate agreements for waste disposal services. For the other 2.0 million tons, the private haulers are responsible for negotiating for disposal services independently. Chicago is required to produce a solid waste management plan by March 1991. It is reported to have 5 to 6 years of capacity remaining in its local landfills. The region surrounding and including Chicago is estimated to have from 7 to 12 years of capacity. The average tipping fee is currently $37.50 and has gone up markedly in the last few years.

**New York City** New York City currently exports a portion of its wastes to Pennsylvania, New Jersey and Ohio, among others. Concern is growing in those states about the "ripple" effect - New York exhausts its capacity, and, in turn, fills up the landfills of its near neighbors. Concern is also growing about the expected closure of Fresh Kills, New York City's major landfill (and highest point on the central eastern seaboard) which receives about 10 million tons of waste a year. When federal Subtitle D landfill regulations come into effect, it is expected to be found out-of-compliance. The impact of a Fresh Kills closure is uncertain; on one hand it might result in additional waste exports, but on the other hand, its impact on export volumes may be slight if New York is successful in siting 5 incinerators to reduce its waste volumes.

**Difficult to Forecast** There are many factors that might affect the flow of waste into EPA Region 10 landfills from sources outside the region. The following factors are all likely to interact and have an impact on waste flows. However, the "unknown" in this equation is which factor will be more important than the others in determining future waste flows on a national basis.

- **Success of local siting efforts** If communities in other areas are successful in siting sufficient MSW landfill and/or incinerator capacity to meet their needs, then it would be unlikely for wastes to flow into this region. However, if out-of-region areas are not able to site capacity, then waste may flow to where capacity is available.

  A major part of the siting process is finding a community willing to host a disposal facility. More communities may be willing to be hosts as landfill vendors increase the amount of money flowing to the community. For instance, after four years of unsuccessfully trying to locate a landfill in New York, one national MSW disposal firm has indicated that it is willing to "negotiate a benefits package" with any community which volunteers to host a landfill. (New York Times, July 20, 1990)

- **Impact of rising tipping fees on incentives to recycle** Just as energy conservation measures reduced the demand for oil in the 1970's, it is likely that concerted efforts to reduce waste volumes and increase recycling may reduce the demand for MSW disposal capacity, and hence, reduce the pressure to site new capacity or access capacity in other areas such as the Pacific Northwest. However, as in the 1970's, there is not enough data yet to forecast the elasticity of demand for garbage disposal - how much the rising cost of disposal across the country will spur the demand for recycling services and, thus, affect overall demand for disposal capacity.

- **Impact of Subtitle D on landfill closures** EPA is expected to issue later this year new regulations governing the design and operation of new MSW landfills, as well as the environmental monitoring and closure of existing landfills. It is expected that many smaller landfills will close prior to the issuance of Subtitle D regulations (to avoid having to comply with new closure regulations) or will close because they cannot afford to meet the new operating standards. These closures may affect demand for Pacific Northwest capacity from out-of region communities depending on how many of these facilities close, how quickly they close, and how much replacement capacity is provided locally.

are accruing to the benefit of out-of-state users) might be considered unreasonable if the facility received only 5 percent of its waste from out-of-state.

**Proposed Congressional Legislation** The law surrounding the interstate movement of municipal solid waste is evolving, in part because of the recent spate of state legislative and executive action attempting to restrict municipal and hazardous waste which has prompted these court challenges. Apart from the ongoing judicial reckoning on these issues, Congress is also considering legislation to increase state authority to restrict waste flows. A number of bills have been introduced in Congress as part of the Resource Conservation and Recovery Act (RCRA) reauthorization process. One of the key RCRA reauthorization vehicles is H.R. 3735 introduced by Rep. Thomas Luken (D-Ohio). In that legislation, states would be required to develop municipal solid waste management plans and submit them to EPA for approval. Those states with approved plans, and in compliance with them, would be able to prohibit the importation of waste and or to "levy fees . . that differentiate . . on the basis of waste origin." For states without approved plans, the export of wastes to other states would be prohibited.

## 2. State and County Framework

Regionalization of MSW landfill services within a state is governed by state and county law. It is beyond the scope of this study to determine what legal mechanisms are available to counties in Washington, Oregon, and Idaho to address the costs and benefits of regionalization or to implement various policy options as outlined earlier. However, it is possible to list generically the types of authorities state and local jurisdictions may want to investigate as a means of addressing issues posed by regionalization:

**State Jurisdictions**

- Are private waste disposal firms regulated by the utility commissions?
- Is need for a facility - whether it be county, state or regional need - a factor in the permitting process?
- Can (does) the state regulate annual disposal volumes moving to a facility? Are the volumes capped?
- Can the state own disposal facilities?
- Can the state restrict ownership of landfills, to prevent several regional landfills from operating under one firm?
- Can the state establish waste districts which have control on the wastes moving in and out of the district and which can regulate capacity on the basis of need?

**For Either State or Local Jurisdictions**

- How far can the state/local jurisdiction go in assessing fees on waste coming from out-of-jurisdiction?
- Can the state/local jurisdiction restrict intrastate waste flows?
- Can it restrict siting on the basis of local or statewide need for capacity?
- Can it own disposal facilities? Can it own facilities jointly with other jurisdictions?
- Can it regulate waste flows to ensure consistency with the recycling requirements of the host jurisdiction for the regional landfill?

## 1. Federal Framework

**Commerce Clause** The Constitution provides the legal framework for regulating interstate movement of municipal solid waste. As noted earlier, there is a constitutional provision - the Commerce Clause - that reserves to Congress the right to regulate interstate commerce. A body of law has developed as states attempt to find out how far they can impinge on the federal prerogative. That body of law consists of numerous cases involving the movement of solid waste.

**Key Case** Philadelphia v. New Jersey is the key case to date which has formed the foundation of the Court's recent rulings in this area. In that 1978 case, the Supreme Court had to decide on the constitutionality of a New Jersey provision banning the importation of waste from other states. The Court found the provision unconstitutional:

> *" . . .it does not matter whether the ultimate aim of [the New Jersey law] is to reduce the waste disposal costs of New Jersey residents or to save remaining open lands from pollution, for we assume New Jersey has every right to protect its residents' pocketbooks as well as their environment. And it may be assumed as well that New Jersey may pursue those ends by slowing the flow of all [emphasis in original] waste into the State's remaining landfills, even though interstate commerce may incidentally be affected. But whatever New Jersey's ultimate purpose, it may not be accomplished by discriminating against articles of commerce coming from outside the State unless there is some reason, apart from their origin [emphasis added] to treat them differently." Philadelphia v. New Jersey 1978*

In that case as well, the Supreme Court ruled that a state could not protect its natural resources - in this instance landfill capacity - for the use of only its residents because it imposed the full burden of conserving the state's landfill space on out-of-state interests.

**Balancing Act** Generally, the Court looks to see if a state action imposes greater economic burdens on those outside the state than those within. In another key case, *Pike v. Bruce Church, Inc. (1970)*, the Court established

a balancing test to determine whether the burden on interstate commerce is excessive in relation to the local benefit derived from restricting waste flows. For instance, earlier this decade Portland restricted waste flows into its municipal landfill to those coming from a three-county area. It took this action because it was running out of landfill space and needed to conserve landfill capacity in order to have time to site a new landfill. The action was challenged by a Washington waste hauler as a violation of the Commerce Clause. However, Portland's action was upheld because the burden on interstate commerce was not deemed excessive in relation to the local concern.

**Various Challenges** A whole range of state actions involving restrictions on municipal solid waste movement have been litigated, including:

- attempts at outright bans on the movement of waste;
- requirements that exporting states impose waste management requirements similar to those of the importing state;
- restrictions on the acceptance of out-of-state waste by publicly-owned facilities;
- restrictions on the use of public or private facilities in the face of a public health threat;
- development of waste flow plans;
- siting policies that use a needs-based criterion; and
- imposition of disposal fees that are related to the governmental cost of accommodating disposal.

*from "Legal Issues Affecting Interstate Disposal," National Governors' Association, 1989*

**Differential Fees** The Court has upheld the notion of differential fees on out-of-state wastes, to the extent that they are reasonably related to the regulatory or enforcement burden imposed on the state as a result of receiving out-of-state wastes. The Court has also upheld requiring out-of-state users to pay a share of the tax credits or other benefits accorded to the facility by the host state. Thus, it would seem that the size of the reasonable differential may vary with the portion of out-of-state waste received. What might be a reasonable differential at a facility where 95 percent of its waste came from out-of-state (where essentially all of the regulatory costs

## PART 6
## LEGAL FRAMEWORK

For ease of presentation, the foregoing discussion assumed that local jurisdictions and states had free rein and could pursue various strategies relating to mitigating the costs or capturing the benefits of regionalization. However, the actions of governments to regulate the flow of municipal solid waste are subject to the nation's prevailing legal framework governing commerce. Municipal solid waste is viewed as an item of commerce. As such, the movement of waste across state borders is protected from undue state interference by the Constitution, unless expressly authorized by Congress. This section will briefly review the current status of regulation and law regarding waste movement. It should be noted, however, that this area of law is changing, particularly as the public is becoming more aware of the flow of various wastes (including hazardous, medical, and nuclear) across state borders.

**3.2 How can the overall supply and demand for landfill capacity be monitored to assess potential impacts on price of landfill disposal and to track the possibility of out-of-region waste importation?**

The siting of regional capacity sets up a number of scenarios, each with different potential implications for the Pacific Northwest:

- if not all proposed commercial capacity is actually sited and developed, conditions conducive to anti-competitive behavior may develop, particularly if barriers have been erected to the movement of waste within the region; or

- if all commercial capacity proposed is actually permitted and developed, the possibility may arise that some of this capacity will be attractive to communities out-of-region.

Either of these scenarios may warrant consideration on a multi-state basis.

**Mechanisms** Informal discussions, including such mechanisms as advisory boards, task forces, etc. might be provided to discuss these issues.

### 3.3 How can consistent policies and fees be developed over time across jurisdictions that serve the interests of all participants and jurisdictions in the system?

Given that actions by either of the states hosting major regional landfill facilities will affect the other, there should be some mechanism assessing policies and, over time, ensuring as much consistency between the states as possible.

**Mechanisms** The potentially affected jurisdictions might create joint task forces to track this issue.

The potentially affected states might form interstate compacts to monitor and regulate out-of-region flows.

### 3. Policy issues raised for the REGION as a whole

As the changing economics of MSW transport and disposal sever the historical tie between where waste is generated and where it is managed, the public policy issues associated with MSW disposal will inevitably involve a greater number of jurisdictions. This is clearly the case in the Pacific Northwest, where the potential for interstate movement of waste, coupled with the potential for a concentration of MSW disposal capacity in a handful of private firms, sets up issues which both may affect each of the three Pacific Northwest states and can best be addressed through a coordinated regional effort. Regionalization, particularly where two or more states are involved, also raises regional policy issues:

1. How can exporting jurisdictions, and others with an interest in environmental compliance, be assured of the quality of environmental regulation by the host jurisdiction?

2. How can the overall supply and demand for landfill capacity be monitored to assess potential impacts on price of landfill disposal and to track the possibility of out-of--region waste importation?

3. How can consistent policies and fees be developed over time <u>across</u> jurisdictions that serve the interests of all participants and jurisdictions in the system?

### 3.1 How can exporting jurisdictions, and others with an interest in environmental compliance, be assured of the quality of environmental regulation by the host jurisdiction?

With the potential flows of waste from throughout the region to a relatively small number of sites, many jurisdictions will have an interest in environmentally-sound operations, but it will be the official responsibility of the host jurisdiction - county or state - to oversee them. Thus, the various exporting jurisdictions need to ensure that the enforcement mechanisms meet their interests, particularly as potential "deep pockets" in a remedial action. *(A reverse situation also occurs: How can the host regulatory authority ensure that an out-of-state jurisdiction can be made to pay its share of remedial action costs, should such action be needed at a regional facility?)*

An issue may also arise about the independence of an importing jurisdiction's regulatory activity if host fees or other payments are supporting programs for the regulatory agency.

**Mechanisms** The exporting jurisdiction might impose contractual obligations which would allow it also to monitor environmental compliance.

The potentially affected jurisdictions and/or state might establish some form of interstate regulatory cooperation.

## 2.4 Should an IMPORTING jurisdiction preserve some portion of in-jurisdiction (county/state) capacity for its own future use?

Given that solid waste disposal is a necessary public service, similar to sewer and water, and given that MSW facilities are becoming increasingly difficult to site in some areas, there are those that regard landfill capacity (whether privately or publicly developed) as a resource that should be preserved for the use of those in the jurisdiction.

**Mechanisms** Jurisdictions might impose outright bans on interjurisdictional flows.

Fees might be set to prohibitive levels for imported wastes.

Reciprocal fees might be established, such that fees are set at the level that the exporting jurisdiction would have otherwise paid in its own jurisdiction.

The jurisdiction might set limits on the amount of waste the facility is permitted to accept each year.

The jurisdiction might set convenience fees that discourage selected waste flows or sources.

The jurisdiction might choose to own the facility, thus gaining (under current legal interpretations) more authority to regulate flows.

**Risks** Fees that effectively discourage the importation of wastes also likely would effect the economics of the existing landfills - some may choose to go out of business rather than compete for a limited amount of waste.

As with the prior option, fees that are set too high may inhibit in-region waste movements and result in a situation where only out-of-region wastes could afford to - or would choose to - pay the fee; this may set up political tensions in the region which may result in:

- inability to cooperate on solid waste issues of mutual concern - cumulative environmental impacts, reciprocity in provision of backup facilities in the event of regional disruptions, etc.

- retaliation in the form of fees on other issues, e.g., State A has been priced out of using State B's landfill capacity, so State A may impose charges for State B's recyclables entering State A for processing.

The ability to levy such fees may be contested unless the jurisdiction establishes a prevailing rationale for why the jurisdiction is entitled to profit from private sector transactions. Should the fee be levied on interstate commerce, and should it be sufficiently high to interfere with interstate commerce, it may also be contested on Commerce Clause grounds.

## 2.2 Should an IMPORTING jurisdiction regulate flows as to source, quality of material, etc.?

If the importing jurisdiction (state or county), is asking its citizens to take responsibility for reducing their generation of wastes - through recycling, etc. - a sense of political fairness to its citizens may dictate that out-of-jurisdiction wastes be expected to meet the same standards or pay a premium for disposing of raw, rather than residual, waste streams.

**Mechanisms** The jurisdictions could regulate what landfills receive by type of material or source.

Gentlepersons' agreements could be established between jurisdictions and their private landfills regarding where, and under what conditions, wastes come from.

States in the region might form interstate compacts, subject to Congressional approval.

The state or local jurisdiction could participate in the market (i.e. by owning the landfill capacity), thus increasing its legal ability to regulate waste flows.

**Risks** The state and/or county may not have sufficient authority to regulate the flow of wastes into the state or to monitor their composition.

It may be difficult to set up interstate compacts, and possible Commerce Clause conflicts may arise if out-of-state flow control is deemed to restrict interstate commerce.

## 2.3 Should an IMPORTING jurisdiction maximize revenues from imported MSW?

An importing jurisdiction may perceive that it should be compensated for selling a non-renewable resource (landfill capacity) within its borders. Thus, it might choose to maximize revenues by levying a fee on the out-of-jurisdiction use of its landfill capacity, as part of the "going rate."

**Mechanisms** Fees may be set on the basis of some analysis of the sensitivity of volumes to costs to determine the fee which generates maximum revenues.

**Risks** Fees that are set too high may inhibit in-region waste movements and result in a situation where only out-of-region wastes could afford to - or would choose to - pay the fee; this may set up political tensions in the region which may result in:

- inability to cooperate on solid waste issues of mutual concern - cumulative environmental impacts, reciprocity in provision of backup facilities in the event of regional disruptions, etc.

- retaliation in the form of fees on other materials, e.g., State A has been priced out of using State B's landfill capacity, so State A may impose charges for State B's recyclables entering State A for processing.

The ability to levy such fees may be contested unless the jurisdiction establishes a prevailing rationale for why the jurisdiction is entitled to profit from private sector transactions. Should the fee be levied on interstate commerce, and should it be sufficiently high to interfere with interstate commerce, it may also be contested on Commerce Clause grounds.

## 2. Policy issues raised for the IMPORTING jurisdiction.

Movement of waste into a jurisdiction typically prompts questions as to the conditions under which such imports will/should occur. Generally, a jurisdiction has four choices; it might adopt policies to:

1. maintain a free market for access to disposal capacity, while recouping direct costs;

2. maximize revenues to the host jurisdiction from imported MSW;

3. regulate flows, as to source, quality of material, etc.; or

4. preserve some portion of in-jurisdiction capacity for future in-jurisdiction use.

It is possible that a jurisdiction might attempt to achieve more than one of the foregoing objectives.

### 2.1 Should an IMPORTING jurisdiction maintain a free market for access to disposal capacity, while recouping through a per ton fee or other mechanisms, direct costs to the jurisdiction?

Maintaining a competitive free market for disposal capacity is likely to provide lowest cost service and the greatest flexibility for jurisdictions in choosing management options. From a state perspective, it also ensures that disposal options exist that may benefit those counties that could not provide similar environmentally-sound services for themselves at the same cost as the MSW regional facility.

In addition, it does not impose additional costs on consumers already facing rising solid waste costs. A competitive free market posture may help preclude retaliation from other jurisdictions on other border issues.

**Mechanisms** None Required

**Risks** The lack of flow control by the jurisdictions could result in capacity being consumed sooner than anticipated, with repercussions for in-jurisdiction users.

### 1.2 How can the EXPORTING jurisdictions ensure that the regional alternative does not become overpriced if each affected jurisdiction places some type of fees on the movement of its wastes?

An exporting jurisdiction may find itself subject to various fees - for instance, fees levied on collection by its own state, fees levied on disposal by the importing jurisdiction (county and/or state), and possibly some transit fees. While each fee may be justified by its support of programs designed to mitigate impacts, these fees may, in aggregate, discourage regional options, especially if only some waste flows are subject to the full gamut of potential fees. What process might be established to ensure that the overall benefit associated with the use of large regional landfills is weighed appropriately against the aggregated perceived costs in each jurisdiction?

**Mechanisms** Face-to-face discussions between the jurisdictions, especially the exporting local jurisdiction with the importing jurisdiction and/or state, could be conducted.

Contracts could place the cost of new fees, etc. on the vendor (possibly only a short-term solution until the contract is renegotiated).

At the state level, there could be regulation or limits on all fees and/or taxes placed on the industry.

At the regional level, there could be coordination between states so that wastes are taxed once, or at least consistently, either at generation or disposal.

### 1.3 How can the EXPORTING jurisdiction ensure an ability to react to system disruptions?

While an exporting jurisdiction is likely to protect itself against contingencies in its contract with a landfill, the state has an interest as well in ensuring that these protective clauses are adequate, particularly if the process of regionalization leaves much of the population of the state dependent on a few facilities.

**Mechanisms** At the state level, a permit requirement could be created to give the state authority to divert waste from one facility to another if necessary to avert a public health emergency.

At the state and local level, there could be assistance in the establishment of geographically-disperse landfill capacity.

At the state level, criteria by which to evaluate protective clauses could be developed to assess, for instance, whether a vendor's commitment to build a backup facility is adequate, whether a backup facility that is farther away than the prime facility is adequate, or whether a backup facility using the same transportation methods/routes is adequate.

At the multi-state level, the states could create similar mechanisms for reciprocal access to landfills in the event of emergencies.

**Risks** If a state is not a sufficiently large market in and of itself to support enough landfills to address system vulnerability issues:

- it might choose to encourage the import of wastes to support additional landfills; or
- it might establish agreements with neighboring states to ensure access, under specified conditions, to private or public landfills in those states.

## 1. Policy issues raised for the EXPORTING jurisdiction.

Regionalization raises three policy issues for the exporting jurisdiction:

1. How can it support the development of a competitive market environment, by which its interests in lower disposal costs are protected?

2. How can it ensure that the regional alternative does not become overpriced if each affected jurisdiction places some type of fees on the movement of its wastes?

3. How can it develop an ability to react to system disruptions?

On the following pages, each policy issue is discussed, as well as possible mechanisms for implementing a policy direction. In some cases, implementing certain policy positions may pose risks for the jurisdiction; where applicable, those are noted as well.

### 1.1 How can the EXPORTING jurisdiction support the development of a competitive market environment, by which its interests in lower disposal costs are protected?

Generally long-term contracts are subject to periodic renewal and repricing. If a competitive market for disposal services does not exist at the time of renewal, the exporting jurisdiction may find itself at a disadvantage during contract negotiations. As well, clauses in contracts that allow for dissolution for non-performance are much less meaningful if the exporting jurisdiction does not have tangible alternatives. Because of barriers to entry, including the difficulty in siting facilities and the cost required to operate competitively, it may be that the MSW disposal industry - if left to develop in a totally free market - will tend to have relatively few players and take on the characteristics of an oligopoly. Thus, it may be important for jurisdictions to consider ways of achieving competitive outcomes, even though in doing so, the market is less "free" in a philosophical sense. *(This debate over the virtues and vices of consolidation has a long tradition of debate in this country and is not confined to the waste management industry.)*

**Mechanisms** At the local level, a jurisdiction could divide its waste volumes among several separately owned landfills, possibly including a publicly-owned facility.

At the state level, there could be some form of economic regulation of the landfill operations.

At the state level, there could be some restrictions on the ownership of landfills to ensure that a state's regional landfills are not all owned by one or two entities.

At the state level, there could be policies to encourage siting numerous public and private facilities. This might also involve encouraging imported wastes to support the number of facilities required for a competitive market.

At the state level, there could be policies to encourage publicly-owned minor or major regional landfills.

## PART 5
## ISSUES RAISED BY POTENTIAL INTERJURISDICTIONAL WASTE FLOWS

Regionalization, by definition, implies that waste is moving across jurisdictional boundaries. In many cases, that simply means across local boundaries within a state. However, as the major landfills in the Pacific Northwest compete for access to waste flows, the region is also likely to see more interstate waste movement. Just as regionalization provides different costs and benefits depending on the jurisdiction, it also sets up different policy issues depending on the jurisdiction involved. This section discusses the policy issues facing:

1. the exporting jurisdiction(s) - i.e. county and state, if applicable;

2. the importing jurisdiction(s); and

3. the region as a whole.