June 1994

Regional Research Update

1993 Abatement Progress Report

for the
Twin Cities
Metropolitan Area

Metropolitan Council

1993 Abatement Progress Report

for the Twin Cities Metropolitan Area

A report to the
Legislative Commission on Waste Management

June 1994

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The Metropolitan Council coordinates the planning and development of the seven-county Metropolitan Area. The Council strives to improve the region by strengthening the economic, societal and environmental health and vitality of the metropolitan area. The Council is authorized by state and federal laws to plan for solid waste management, highways and transit, sewers, parks and open spaces, airports, land use, air and water quality, health, housing and aging.

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ABOUT THIS REPORT

This *Abatement Progress Report* to the Legislative Commission on Waste Management indicates the progress the seven metropolitan counties have made toward the objectives contained in the Council's *Solid Waste Development Guide/Policy Plan* and the state's recycling goals. This information is required by Minn. Stat. 473.149, Subd. 6 and Minn. Stat. 115A.551, Subd. 4. (Information on city level abatement required by statute is contained in Appendix B.)

The report also includes an accounting of the quantity of unprocessed waste sent to landfills during 1993, along with the reasons the waste was not processed, and the counties' plans for reducing the amount of unprocessed waste, as required by Minn. Stat. 473.848, Subd. 4. This information is contained in Appendix A: County Waste Certification Reports.

Minn. Stat. 473.149, Subd. 6, requires that in even-numbered years the report must include data on the operating, capital and debt service costs of solid waste facilities, how those costs have changed, and how payment of those costs is allocated throughout the system. That information is contained in Chapter Two, Facilities Cost and Finance. Information is also provided on regional, county and local government solid waste program implementation costs for such activities as source reduction, recycling and household hazardous waste collection.

In addition, the report describes the activities funded by monies from the landfill abatement account and contingency action trust fund during the previous fiscal year, as required by Minn. Stat. 473.846. Referred to as FY93 Expenditures and Activities, that information is provided in Chapter Three. Chapter Four contains the Metropolitan Council Landfill Abatement Account FY95 portion of the Work Program and Budget presented to the LCWM in July, 1993. This budget will serve as guidance to the Office of Environmental Assistance as it develops its own work program and budget for the Metropolitan Landfill Abatement Account.

This is the Metropolitan Council's tenth, and final, report. During the 1994 legislative session, Minn. Stat. 115A.055 was amended to transfer the solid and hazardous waste management powers and duties of the Metropolitan Council to the Office of Environmental Assistance (formerly the Office of Waste Management) effective July 1, 1994.

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SOLID WASTE MANAGEMENT SYSTEM: PERSPECTIVE AND RECOMMENDATIONS

This tenth *Abatement Progress Report* to the Legislative Commission on Waste Management contains legislatively mandated information on the status of various waste management methodologies in 1993. This final report from the Council also puts the evolution of the region's solid waste system into perspective and offers recommendations for the future.

HISTORICAL PERSPECTIVE

Solid waste management in the metropolitan area from 1985 through 1993 was a period of rapid change, of challenges met and barriers encountered. In 1980, virtually all of the region's waste was landfilled. Recycling was an activity undertaken--often sporadically--by a few individuals and non-profit groups. The amount of waste generated appeared to be growing and landfill capacity was rapidly being used up. The region faced long-term environmental clean-up problems at existing landfill sites.

In response, the legislature passed the 1980 Waste Management Act and subsequent amendments setting forth a waste management hierarchy favoring waste reduction and recycling and ordering the elimination (abatement) of unprocessed waste entering landfills. Among other requirements, the act strengthened Metropolitan Council planning and oversight responsibility for solid waste management in the metropolitan area. Metropolitan counties were assigned the task of developing solid waste master plans to implement the Council's plan. Together, by 1990, the Council and the counties were directed to move the region from a management system depending almost entirely on landfills to a system in which no unprocessed waste was landfilled. That goal proved to be a major influence on the development of the region's waste management system.

Tools, funding and knowledge were needed to accomplish this task. Working in partnership with the legislature, the region acquired all three.

TOOLS:

Along with the landfill abatement goal and the assignment of responsibilities, the authority to achieve the goal came with the Waste Management Act and other specific solid waste legislation. The counties could plan a separate management system or form waste management districts to work together. They could designate waste to facilities they developed if attempts to contract with haulers for delivery failed. They were required to site landfills to ensure that sufficient capacity was available to meet system needs--and given power to override local zoning and controls if necessary. The Council was to develop a plan setting specific recycling and processing goals for each county and city, monitor progress, and report annually to the LCWM with any recommendations for changes to improve system performance.

One recommended change that the legislature enacted was the landfill certification process established when it became clear that, in spite of great effort on the part of the counties, the region was not going to reach the goal of landfilling no unprocessed waste by 1990. The legislation established an annual review process to ensure that the counties would continue to move toward the goal, with Council intervention if the Council determined sufficient progress was not being made.

Waste processing facilities were another "tool" the region used to achieve landfill abatement. Four of the counties and several private sector firms developed facilities that shifted the region from processing almost none of its waste before 1985 to processing 44 percent of the waste managed in 1993. The region was very successful in establishing recycling programs, attaining recycling rates that helped make Minnesota a national leader. The region was not successful in siting new landfills despite years of effort and millions of dollars in expense. However, existing landfills in the region received several permits to expand between 1980 and today and nearby nonmetropolitan landfills improved their facilities in order to take metropolitan waste. This provided sufficient capacity to meet the region's projected landfill needs through the end of the century.

FUNDING:

Requiring such a major effort on the part of counties and cities without providing financial assistance would impose an undue burden. The Metropolitan Landfill Abatement Account (MLAA) was created by legislation in 1984. Between July 1, 1985 and June 30, 1992, the account provided $13,032,750 to counties, cities and other public and private sector entities to assist with implementation. An additional $2.9 million was distributed in 1993. The Council also issued solid waste bonds that provided $9,000,000 to counties responsible for siting landfills. The legislature passed recycling legislation in 1989, setting recycling goals for all the state's counties, establishing program requirements, and providing funding to counties to accomplish the work. The Office of Waste Management administered several grants programs including capital assistance funding, market development and solid waste education. Some counties and cities also established service fees and surcharges to help fund waste abatement programs.

KNOWLEDGE:

When the Council established its initial goals for the counties in the 1985 *Solid Waste Development Guide/Policy Plan*, hopes and expectations were high, but little was known about the waste stream or the new technologies being developed to manage it. Through partnerships with the Office of Waste Management, the Minnesota Pollution Control Agency, the Minnesota Extension Service, solid waste haulers, and others the region used a portion of the funding available to conduct research and pilot programs to develop a clearer understanding of the possibilities and limitations of solid waste management technologies and methodologies. The region also became a solid waste education provider, again working in partnership on education campaigns that made recycling, yard waste mulching, backyard composting and source reduction the norm for the region's residents rather than the exception.

Table One summarizes the region's progress toward meeting the goal of landfilling no unprocessed waste. It also looks forward to the year 2010, forecasting management results assuming current processing capacity and the attainment of a 50 percent recycling goal by 2000.

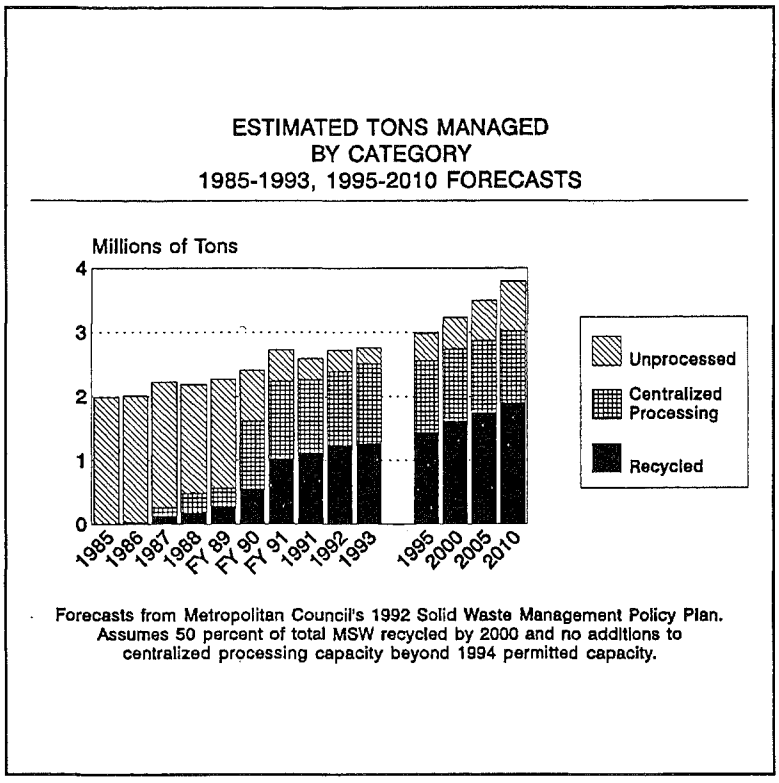

Figure 1

Today the region faces additional challenges because the system has reached a management "plateau". Recycling rates that grew rapidly at the end of the last decade appear to be leveling off in the '90's. Even with millions of dollars of investment and continued education and program enhancement efforts, reaching the goal of 45 percent recycling by 1996, when yard waste cannot be counted toward attainment, will be extremely difficult.

While the region has done an outstanding job of establishing waste processing facilities, uncertainty about the counties' ability to ensure waste is delivered to facilities, coupled with public reluctance to site waste processing facilities, makes it unlikely that any additional facilities will be constructed in the region in the near future.

Despite ever increasing efforts to encourage residents and the commercial/industrial/institutional sector to reduce the amount of waste they generate, the waste stream continues to grow--in part because the region's population and job base continue to grow. While a healthy economy is desired, the effect on solid waste management will be an ever widening gap between the waste management system's ability to recycle or process waste to avoid landfilling and the volumes of waste requiring such processing. This will be especially apparent if percentage goals continue to be used as the measure of system success. Even though the number of tons managed by a particular technology may, in fact, increase from year to year, that tonnage as a percentage of the total amount generated may hold steady or even decline. Table Two illustrates this possibility as it projects percentage share by technology through the year 2010.

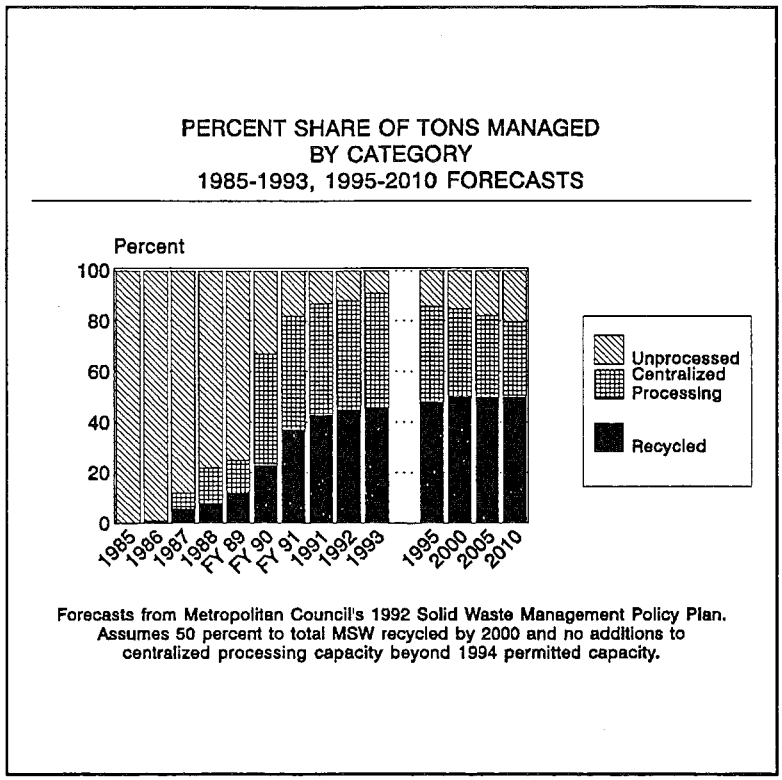

Figure 2

RECOMMENDATIONS

The 1994 legislature passed legislation that transfers the powers and duties of the Metropolitan Council to a new state Office of Environmental Assistance (OEA) effective July 1, 1994. The Council stands ready to assist the OEA as it assumes oversight of a region facing significant challenges. While a cause for concern, these challenges also provide opportunities as the region looks toward the future together with the new Office of Environmental Assistance. Opportunities include:

- improving system performance through greater regional effort and the establishment of an integrated waste management system.
- expanding cooperative effort outside the region, as counties throughout the state struggle with the same issues.
- increasing partnerships with the private sector to conduct research, develop new technologies and improve markets.
- reassessing the region's goals to determine whether they are attainable and at what cost before reaffirming current goals or setting new ones.
- developing the next regional policy plan within the broader context of a statewide perspective.

The Council makes the following recommendations in the *Abatement Progress Report* for consideration by both the legislature and the OEA as they plan the future of the region's waste management system.

SOURCE REDUCTION

- Counties should continue their efforts to implement weight-based fees for solid waste collection services. Weight-based fees, if technologically feasible, are preferred to volume-based fees because container size limits may simply encourage compaction of the waste rather than a real reduction in the amount of waste generated.

- Counties should discourage the provision of unlimited service options by haulers. Such service provides no incentive to reduce the amount of waste.

- The legislature should impose a tax or fee on materials determined by the MPCA to cause negative environmental impacts. Revenues from the fee should be placed in a dedicated fund used to help reduce the toxicity of the waste stream.

- The Office of Environmental Assistance should continue its leadership role in providing source reduction information and public education.

- Current collaborative efforts among the counties to target source reduction technical assistance at the commercial and industrial sector and to jointly develop source reduction public education programs should be increased.

RECYCLING

- Cities and counties should enhance existing recycling programs by:

  - developing a single, uniform list of recyclable materials to be collected throughout the region;

  - requiring that recyclables and MSW are collected on the same day;

  - expanding the number of materials to be recycled as markets and/or sorting technology permit.

- As more materials are added to the collection system, commingled collection (mixing recyclables collected in one or two groups rather than requiring discrete separation of each type of material) should be considered where such a collection system might increase participation, reduce collection costs and still provide the quality of recycled materials required by the markets.

- Cities and counties should continue their efforts to gather data on commercial/industrial recycling tonnages to improve the region's understanding of solid waste management progress and waste management system needs.

- Markets for recycled materials collected should be monitored and market development efforts should be targeted to ensure sufficient capacity for the types and volumes of materials that must be collected to reach recycling goals.

CENTRALIZED PROCESSING

- The counties may continue to lose waste from their solid waste management system while issues of designation are resolved. However, they should continue their efforts to improve the processing of wastes over which they have control.
- The Solid Waste Management Coordinating Board could move to address the lack of waste processing by three of the counties by developing a region-wide waste sharing agreement.
- The counties, through the Solid Waste Management Coordinating Board, should consider acquisition of the Eden Prairie Recycling (EPR) facility, operating it as part of their waste processing system.
- The Office of Environmental Assistance should work with the counties, through the Solid Waste Management Coordinating Board, to develop a strong regionally integrated waste management system.
- The counties, through the Solid Waste Management Coordinating Board, should encourage facility operators to make facility improvements and expand operating schedules as needed to increase processing at existing waste processing facilities and reduce the amount of unprocessed waste being landfilled.
- The counties, through the SWMCB, could seek to have the statutory limit of 1,000 tons per day removed from the Hennepin Energy Resource Corporation (HERC) facility. Enabling HERC to process additional tonnage would add to the region's processing capacity without requiring further major capital expenditures.
- The counties, through the SWMCB, should consider additional secondary processing to further reduce the amount of rejects, residuals and ash being landfilled from the region's resource recovery facilities.
- The OEA and the counties should continue to explore all the ramifications of shifting solid waste costs as they relate to the provision of an economical and efficient solid waste management system.

LAND DISPOSAL

- The counties should develop contingency plans for landfilling their unprocessed wastes, rejects, residuals and ash in case one or more metropolitan landfills closes due to loss of revenue caused by waste leaving the region for disposal in other landfills, in case available capacity outside the region is reduced, or in case the management options for incinerator ash must be changed.

- If metropolitan area landfills close, the surcharge revenues from those landfills that currently fund the Local Recycling Development Grants and other activities through the Metropolitan Landfill Abatement Fund will be lost. Landfill rates and issues should be carefully monitored to anticipate not only capacity needs, but also changes in revenues available to operate programs.

CHAPTER ONE

ABATEMENT PROGRESS

CHAPTER ONE

ABOUT THIS CHAPTER

This chapter provides data on the management of solid waste in the metropolitan area for each management option. The data covers the period January 1 - December 31, 1993. The chapter also includes an overview of eight years of change in the region's solid waste management system, and summarizes the conclusions and recommendations presented for each management option in the 1992 report--which remain, largely, as apropos today as they were when the 1992 report was presented in November, 1993. This part of the report satisfies requirements imposed by the following legislation: Minn. Stat. 473.149, Subd. 6 (progress toward the Council's landfill abatement goals); Minn. Stat. 115A.551, Subd. 4 (progress toward the legislature's recycling goals) ; and Minn. Stat. 473.848, Subd. 4. (waste certification reports).

The major parts of this chapter include: 1) Transfer of Metropolitan Council Solid Waste Management Responsibilities; 2) Waste Generation; 3) Waste Composition; 4) Source Reduction; 5) Recycling; 6) Centralized Processing; and 7) Land Disposal. Appendix A contains the 1993 County Certification Report Summary and Appendix B reports total tonnages recycled by each community in the region as well as by each county. Appendix B also includes space for a description of each county's waste management program provided by that county. The information offers the Office of Environmental Assistance an introductory overview of the counties whose waste management programs it will now oversee.

CHAPTER SUMMARY

This is the final Metropolitan Council abatement progress report. Recent legislation transferred all of the Council's solid waste management "powers and duties" to a new state Office of Environmental Assistance. This consolidation of solid waste management planning and oversight into one statewide organization is consistent with the increasing interdependence between the metropolitan region's solid waste system and the waste management system in Greater Minnesota. The Council supports this transfer and stands ready to assist in every way possible.

In 1993, the counties reported managing about 2,767,000 tons of mixed municipal solid waste (MSW), a 1.6 percent increase over what they reported managing in 1992. The Council's 1991 policy plan projected an annual growth rate of 1.6 percent during the 1990's, so the amount of solid waste reported as managed is increasing at the generation rate the Council forecasted. There is growing concern, however, that the proportion of the waste stream being managed through the counties' system is decreasing as waste leaves the region for disposal. This "escaping" waste is not accounted for in the counties' total. To the extent that estimates of total waste generated are accurate, the rate of growth of the waste stream appears to be about 2.5 percent between 1992 and 1993.

All of the counties met and exceeded the legislature's goal of recycling 35 percent of the waste stream by 1993. However, the region's recyclables collection system is now established and mature. Annual improvements in the rate of recycling have slowed from the rapid annual increase experienced in the early years of monitoring to about 1 percent per year for the past three years. Meeting the higher recycling goals set for the future (50 percent by the year 2000) will be a challenge and will require both the addition of more materials to those already collected and higher levels of participation.

Waste composition studies indicate that a sizable portion of the waste stream remaining after current recycling efforts, 49 percent, is potentially recyclable. Efforts to capture these additional materials from the waste stream will have to be undertaken if the counties are to reach the region's goal.

The counties have continued their efforts to reduce the amount and toxicity of the waste stream through public education and research. These efforts appear to have contributed to the fact that the amount reported managed is consistent with the Council's projection for waste stream growth. That projection was made based on the policy assumption that source reduction efforts would slow the rate of growth in the waste stream to 1.6 percent annually from the growth rate of 2.3 percent annually experienced during the 1980's. However, the rate of growth in total MSW generated based on estimates for 1992 and 1993 yields a growth rate of 2.5 percent. Neither the Council nor the counties have collected data on the success of toxicity reduction efforts. Clearly, continued attention to source reduction opportunities will be necessary to maintain or improve upon success.

After recycling, about 1,482,000 tons of waste remained in the county waste management system. Approximately 1,212,000 tons of that waste (82 percent) was processed in the region's five major resource recovery facilities. The counties reported landfilling 266,000 tons of MSW without processing--almost all of it coming from Carver, Dakota and Scott Counties. One of the region's five waste processing facilities closed at the end of 1993, reducing the region's permitted MSW processing capacity by 12 percent.

Currently there are no additional processing facilities planned. The result is a processing shortfall--i.e. an apparent inability to meet the region's need to process the 50 percent of the waste stream not being recycled in the year 2,000 in order to meet the legislature's requirement that no unprocessed waste from the metropolitan area should be landfilled. A joint effort by a strong regional solid waste management organization will be needed to address this concern.

Landfills continue to be an essential element of the solid waste management system. Only two operating landfills remain within the metropolitan area and the system is relying increasingly on disposal outside the region. The counties reported landfilling a total of approximately 375,000 tons of MSW (including excess waste and processing rejects and residuals, but not including about 249,000 tons of incinerator ash landfilled outside the region). This represents about a 24 percent reduction from the amount reported for 1992. However, with tonnages reported recycled or processed remaining about the same as they were in 1992 and with the total waste stream somewhat larger than in 1992, it is questionable whether this reported reduction is an accurate picture of the regional system's performance as a whole. Nearby non-metropolitan landfills are receiving more MSW than can be reasonably accounted for as generated by non-metropolitan counties. What appears to be happening is that metropolitan area waste is being landfilled without passing through the counties' management system and is not counted in the county totals. Better documentation of this trend and the performance of the entire system within the region will require more careful monitoring in the future.

TRANSFER OF
METROPOLITAN COUNCIL SOLID WASTE MANAGEMENT RESPONSIBILITIES

The 1994 legislature passed landfill clean-up legislation that includes the transfer of the Council's solid waste management "powers and duties" to a newly created Office of Environmental Assistance (OEA). The responsibilities transferred by this legislation include regional solid waste planning, policy making, grant administration and oversight/reporting activities. The law requires the preparation of a regional solid waste management policy plan that must be followed in the metropolitan area. The seven metropolitan counties must prepare solid waste management master plans that implement the source reduction, recycling, waste processing and landfill abatement objectives of the policy plan. This planning authority is further strengthened by a number of required regional oversight and implementation responsibilities including:

- administration of the Landfill Abatement Account grants, research and technical assistance;
- review and approval of facility permits, processing and waste supply contracts, and county ordinances;
- review and approval of plans for siting and developing land disposal facilities; and,
- annual reporting to the legislature regarding the performance of the solid waste management system.

The Council supports this transfer of regional planning responsibilities to the OEA, finding it consistent with the increasing interdependence between the metropolitan region's solid waste management system and the waste management system in Greater Minnesota. The Council stands ready to assist in this transition of authority. Issues requiring greater statewide planning and implementation efforts include:

- enforcement of waste flow designation or the implementation of alternatives to designation;
- increasing use of landfills outside the metropolitan area for disposal of metropolitan area waste;
- export of Minnesota waste to other states;
- impact of any differences between the costs of solid waste management system components in Greater Minnesota and those in the metropolitan area; and,
- opportunities for cooperative development of additional MSW processing capacity statewide.

Placing solid waste management powers and duties in one organization provides for stronger state-wide solid waste planning and policy making. The OEA has the opportunity to develop and communicate clear and consistent solid waste policy to all of the state's counties, cities and operating industries.

Implementing the recommendations made in this report will require a strong regional solid waste management organization, particularly in light of current challenges to the operation of the waste management system. The Council's 1991 *Solid Waste Policy Plan* requires the counties to develop such an organization. The Council approved the counties' solid waste management master plans with the understanding that the Solid Waste Management Coordinating Board in place at the time of plan approval would proceed to establish a regional solid waste authority to move the counties from the county-by-county systems developed under the Council's 1985 policy plan toward an integrated regional solid waste management system. The Council deemed this effort critical to the success of the counties in meeting the goals set forth in the Council's 1991 policy plan.

The Regional Operations Plan, adopted in 1992 by a majority of the counties, stated that the counties would create a regional solid waste management authority empowered to:

- apply for permits and approvals required to construct facilities;
- incur debt, liabilities or obligations to develop programs and facilities;
- acquire property through eminent domain; and
- lease, acquire, construct, manage, sell or otherwise convey and maintain any lands, buildings and improvements.

The Council provided the SWMCB with $150,000 to underwrite the costs of developing and implementing the regional authority. After reviewing alternatives for a regional authority and selecting a preferred alternative in 1992, the SWMCB was expected to implement the authority in 1993.

However, the region has not yet arrived at the kind of integrated system envisioned by the Council's plan. A strong joint entity is essential to deal efficiently with complex solid waste management issues and to achieve the region's goals of 50 percent recycling and 50 percent processing (i.e. no unprocessed waste should be landfilled). Establishing the organization is recommended as a priority for the Office of Environmental Assistance as it assumes oversight of the metropolitan region's solid waste management system.

WASTE GENERATION

1993 DATA

The seven metropolitan counties reported managing 2,766,930 tons of mixed municipal solid waste (MSW) in 1993. The Council's 1991 *Solid Waste Development Guide/Policy Plan* forecasted that the region would generate 2,891,000 tons in 1993--about 4 percent more than reported. However, the counties' reports do not include an estimate of the amount of unprocessed waste that was disposed of without moving through the counties' waste management systems, suggesting that the difference between forecasted and actual generation is probably less than 4 percent. Figure 3 presents a summary of how the counties reported managing MSW in 1993.

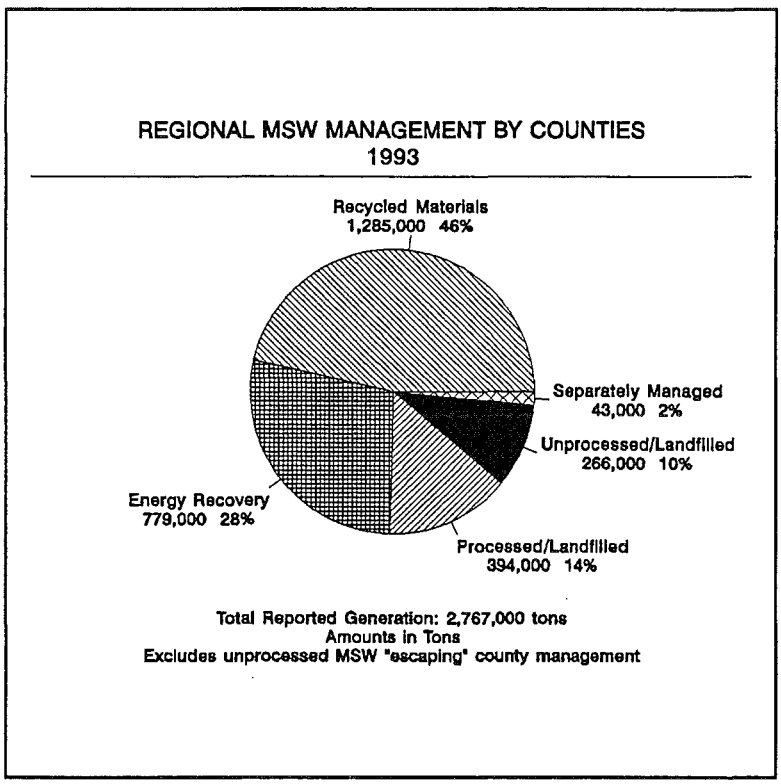

Figure 3

The counties estimate that in 1994, 148,000 tons is leaving the metropolitan solid waste management system. This figure is consistent with the Council's rough estimate of 145,000 tons leaving the system in 1993, based upon the assumption that 50 percent of waste disposed at nearby non-metropolitan landfills is from the metropolitan system. Since the two figures are so close, the Council used the counties' estimate as the amount of waste leaving the system in 1993 as well. This makes the total estimated MSW waste generation figure for the region 2,915,000 tons in 1993. This total generation figure is very close to the Council's forecasted generation. In addition, the Council is currently funding a "solid waste reconnaissance study" that attempts to quantify the amount of MSW leaving the region, with specific focus on out-of-state disposal. The final study will be received by the OEA on July 15, 1994. The study results will be reported to the LCWM at the same time the *Abatement Progress Report* is presented.

The result of increasing generation is that without further changes in the solid waste management system, unprocessed waste generated in the metropolitan area will continue to be landfilled. The Council has forecast that about 3,200,000 tons of MSW will be generated in the year 2000. Even if the region meets the 50 percent recycling goal set for that year, and assuming capacity at resource recovery facilities in 2000 is available at today's levels, about 1,600,000 tons of waste would be left after recycling--500,000 tons more than the processing capacity available. This is a concern given that increases in recycling rates have slowed significantly indicating that reaching the 50 percent rate will be challenging. In addition, the region lost about 12 percent of its processing capacity in 1993 when the EPR facility closed. It appears that no additional processing capacity will be developed in the near future.

TRENDS IN WASTE GENERATION

Figure 4 illustrates the growth in the waste stream between 1985 and the present, comparing the Council's forecasts with the tonnages reported managed by the counties.

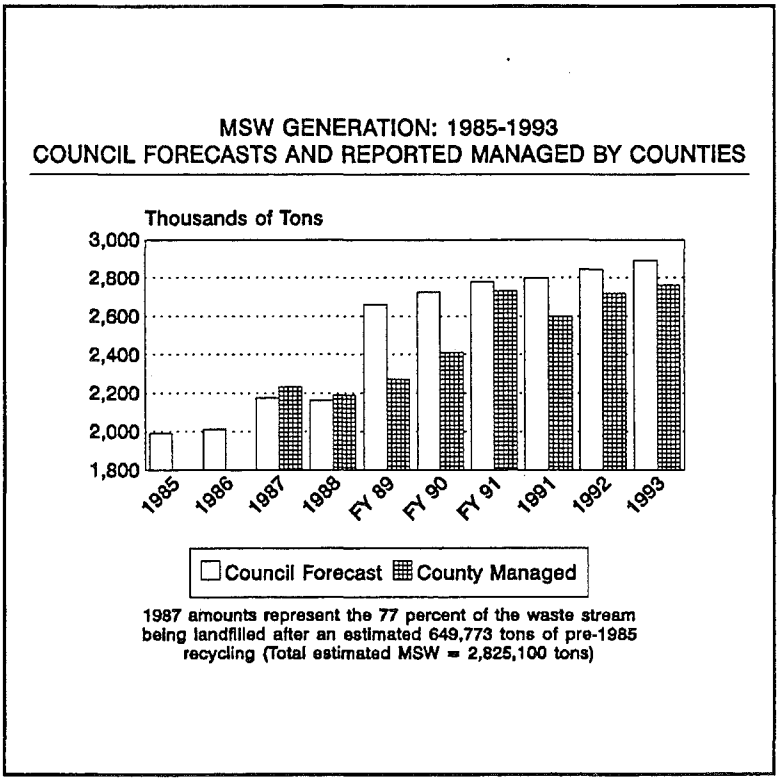

Figure 4

The difference between what the Council forecasted and what the counties reported managing has generally been 1-2 percent, giving the Council confidence in the accuracy of its numbers as a basis for planning to meet waste management system needs. However, since 1991, the difference between the Council's and counties' numbers has increased to about 4-7 percent. At least a portion of this difference likely comes from an increase in the amount of waste leaving the region and not entering the counties' waste management systems.

WASTE COMPOSITION

1993 DATA

The most recent waste composition study completed in the metropolitan area was performed in 1991 through a joint effort of the Council and the Minnesota Pollution Control Agency. Results, reported to the LCWM in early 1993 and summarized in Table 1, reflect the composition of the waste stream remaining after current recycling efforts. They indicate that a large portion of the remaining waste stream consists of potentially recyclable materials. Potentially recyclable food and beverage containers, corrugated cardboard, magazines, high grade paper, newsprint, food waste, wood waste, and plastic film comprised 49 percent of the sampled waste. If all of these materials could be recycled from the current waste stream arriving at resource recovery facilities and landfills, the amount of MSW requiring processing would be significantly reduced.

TABLE 1
1991 MSW COMPOSITION STUDY - METROPOLITAN DATA
Percentage of Materials Found at Research Sites

SORTING CATEGORIES	AVERAGE PERCENTAGE	SORTING CATEGORIES	AVERAGE PERCENTAGE
Newsprint	4.0	Aluminum Containers	0.5
High Grade Paper	4.5	Other Aluminum	0.4
Corrugated/Kraft	8.7	Ferrous Food Cans	0.9
Magazines	2.9	Other Ferrous	2.8
Other Paper	20.0	Other Non-Ferrous	0.5
Total Paper	**40.1**	**Total Metal**	**5.0**
HDPE	0.7	Yard Waste Total	2.8
Plastic Film	4.7	Food Waste	13.2
PET	0.3	Wood/Demo/Const. Debris	9.4
Polystyrene	1.1	Adult & Infant Diapers	2.4
Other Plastic	4.8	Textiles	3.0
Total Plastic	**11.6**	Tires	0.1
Glass Food/Beverage Cans	2.0	Major/Small Appliances	0.8
Other Glass	0.1	Oil Filters/Hazardous Waste	0.9
Total Glass	**3.1**	Other Organic Waste	3.8
		Other Inorganic Waste	3.8

The amount of recyclables remaining in the waste stream is important for another reason as well. Minn. Stat. 115A.551, Subd. 2a., sets a supplementary recycling goal for metropolitan counties of recycling 45 percent by weight of total generation by 1996. The legislation states that in measuring attainment of this goal neither the recycling tonnages nor the total generation can include yard waste. Yard waste composting makes a significant contribution to the high recycling rates reported by the counties for 1993. Additional materials will have to be added to those currently collected and/or participation rates will have to increase in order to compensate for the removal of yard waste from the calculation.

TRENDS IN WASTE COMPOSITION

When virtually all waste generated went into landfills, the composition of the waste stream was not a major concern, except to the extent that attempts were made to consider the relationship of the wastes being landfilled to potential groundwater pollution. However, as recycling goals were set and as the region began to plan and build resource recovery facilities, an understanding of the various components of the waste stream became essential. Many waste composition studies were done--sometimes to identify potential recycling volumes, sometimes to determine the moisture content of the waste in order to estimate BTU during combustion, sometimes to determine the organic portion of the waste stream in order to assess waste composting opportunities, ... In the early 1990's the state directed the Minnesota Pollution Control Agency to conduct annual waste composition studies in order to track changes in the waste stream. This would also provide some indication of the success of programs to separate recyclables and yard waste from waste arriving at facilities.

The most significant change in the composition of the waste stream during the past decade has resulted from legislative actions to ban specific materials from the waste stream and shift them to alternative management. Examples include yard waste, appliances, tires, and lead acid batteries. When the amount of these banned materials is reduced significantly in the waste stream one result is to alter the relative proportion of remaining materials. But, more importantly, the removal of these materials from the waste stream reduces the amount of waste requiring processing at resource recovery facilities and provides more appropriate management alternatives for materials such as lead acid batteries and appliances that could cause problems if received at processing facilities.

SOURCE REDUCTION

1993 DATA

During 1993, public education and technical assistance efforts to encourage source reduction continued to be the major focus of this highest ranked solid waste management option. As noted in the cost and finance report contained in Chapter 2, the region spent 7 percent of its total 1993 program expenditures ($1.74 million) on source reduction and toxicity reduction efforts. The amount of waste reported managed by the counties increased approximately 1.6 percent over the amount reported managed in 1992, a figure consistent with the Council's waste stream growth forecasts. The Council's waste generation forecasts were based on the policy assumption that waste reduction efforts would be successful in cutting the rate of growth in the waste stream to about half of what it was during the 1980's. Total waste generation estimated for 1993 (including an estimate of waste managed outside the counties' system) is about 1 percent more than the 2.9 million tons forecasted. These efforts at promoting source reduction may be a factor in slowing the rate of growth of the waste stream.

Source reduction efforts in 1993 included:

- Continuation of the award winning SMART Shopping campaign targeted at consumer awareness of waste reduction options for grocery shopping, back-to-school and school lunch shopping, and holiday shopping.
- Continuation of the waste reduction hotline providing callers with a menu of waste reduction information choices through The Connection®.
- Technical assistance to the region's businesses and institutions through the Commercial and Industrial Source Reduction and Recycling (CISRR) Project, a joint effort of the counties, the Council, the OWM, the MPCA, and the Minnesota Technical Assistance Project; promotion of waste exchanges for businesses.
- Completion of the Solid Waste Management Coordinating Board's paint toxicity and alternative management study (funded by the Council).
- Updating and distribution of *Resourceful Waste Management--A Guide for Minnesota/Metropolitan Area Businesses and Industries*, a successful how-to manual for businesses interested in implementing source reduction activities (funded by a Council grant and led by Anoka County).
- Completion of the Council funded City of Blaine source reduction pilot project testing the effectiveness of various source reduction techniques among the city's residents.
- Continuation of public education campaigns urging backyard composting and mulching as the preferred management option for yardwaste and requirements that compostable yard waste bags be used (reducing plastic wastes).
- Provision of household hazardous waste product exchanges.
- Promotion of a Waste Reduction Week to raise public awareness of waste reduction issues and options.
- Commitment by counties to always connect waste reduction and recycling in public information campaigns, to be sure that those speaking about waste management always talk about source reduction, and to include source reduction information in articles placed in county and city newsletters and inserts.
- Modeling of source reduction practices by counties and cities in their day-to-day work.

TRENDS IN SOURCE REDUCTION

The 1985 policy plan set specific source reduction goals for each county that began at 1 percent in 1985 and ended at a 3-5 percent level in 1990 and thereafter. The plan noted the difficulty of measuring waste reduction and the lack of data on its potential, indicating that the goals in the plan were assumed to be achieved "solely due to mulching and backyard composting."

Annual reports provided narratives describing the counties' efforts rather than specific tonnage amounts. By 1987 counties were including two additional strategies with their continued emphasis on education about yard waste management alternatives: reducing the amount of waste paper generated through double-sided copying; and changing the buying habits of consumers.

In 1990 the legislature required the establishment of household hazardous waste collection programs by June 30, 1992, and the emphasis of waste reduction programs began expanding to include toxicity reduction in addition to the volume reduction that had been the focus of early management efforts. During the early 1990's the legislature acted to reduce the level of toxicity in the waste stream as well, by lowering the level of mercury acceptable in batteries, requiring separate management of fluorescent lights, and regulating the level of toxics in packaging and some new products.

The Council's 1991 policy plan included specific policies and recommendations targeted at source reduction. The abatement grants program followed suit with public education funds devoted to regional source reduction messages to supplement the counties' information programs. The Minnesota Extension Service developed additional educational materials with a source reduction theme. The counties worked with the Minnesota Pollution Control agency to develop household hazardous waste reduction fact sheets.

Still, as the region's population and job base continues to grow, the waste stream continues to grow, albeit at a slower rate. Continued efforts to encourage reduction in both the toxicity and volume of waste generated will be critical to ensure that there is sufficient capacity in the planned management system to meet the region's needs.

SOURCE REDUCTION RECOMMENDATIONS

- Counties should continue their efforts to implement weight-based fees for solid waste collection services. Weight-based fees, if technologically feasible, are preferred to volume-based fees because container size limits may simply encourage compaction of the waste rather than a real reduction in the amount of waste generated.

- Counties should discourage the provision of unlimited service options by haulers. Such service provides no incentive to reduce the amount of waste.

- The legislature should impose a tax or fee on materials determined by the MPCA to cause negative environmental impacts. Revenues from the fee should be placed in a dedicated fund used to help reduce the toxicity of the waste stream.

- The Office of Environmental Assistance should continue its leadership role in providing source reduction information and public education.

- Current collaborative efforts among the counties to target source reduction technical assistance at the commercial and industrial sector and to jointly develop source reduction public education programs should be increased.

RECYCLING

1993 DATA

Minn. Stat. 115A.551, subd. 2, sets a goal for each metropolitan county of recycling a minimum of 35 percent by weight of total solid waste generation by December 31, 1993. The Council's 1991 policy plan established regional recycling goals rather than county-by-county goals. The plan set a 35 percent recycling goal for the region for 1993, consistent with the legislative goal. All seven metropolitan counties reported exceeding the recycling goal, with rates ranging from 39 - 50 percent (including yard waste). Figure 5 provides total recycling tonnages reported by each county while illustrating the relative contribution of each type of recycling to the whole.

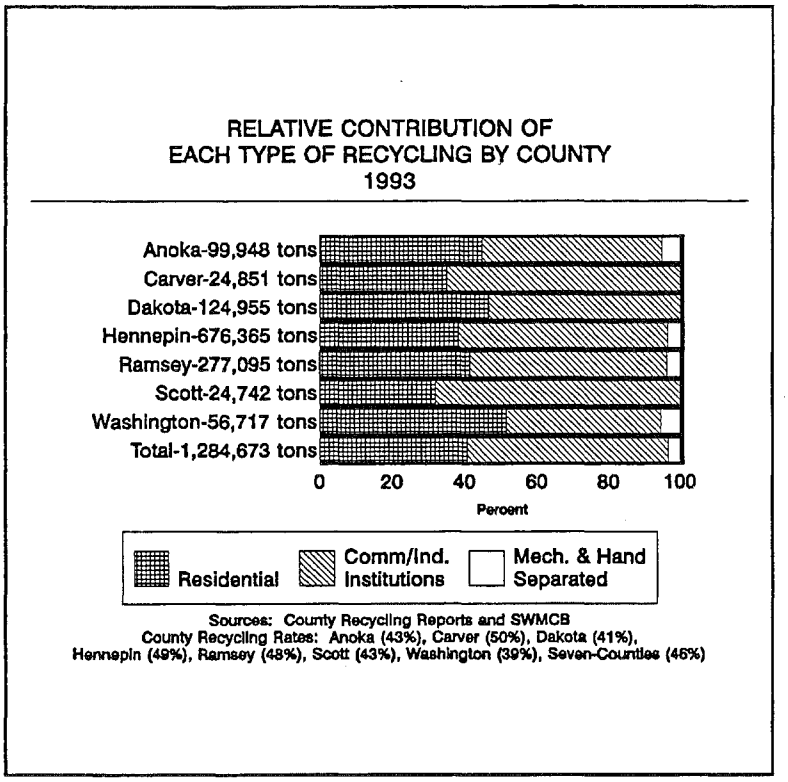

Figure 5

Curbside collection of recyclables is available to more than 90 percent of the region's cities and townships. Opportunities for residents of multi-tenant buildings to recycle continue to grow. With residential recyclables collection programs well established, the counties need to continue to work with commercial/industrial waste generators to improve their opportunities to recycle. Assistance is especially needed for small businesses.

TRENDS IN RECYCLING

The 1985 policy plan assumed that approximately 23 percent of the waste generated was being recycled when regional planning for solid waste management began. The plan focused on establishing

source separation programs to remove yard waste, recyclables and household hazardous waste from the remaining waste stream that was then being sent to landfills. Source separation goals were set beginning at 2 or 3 percent in 1985 and increasing to 13 to 19 percent by 1990 and thereafter. It took outstanding efforts on the part of the counties before the goals established in the plan were attained--and then surpassed.

Yard waste composting programs were established first, with counties providing a number of drop-off sites throughout the region. Meanwhile the counties continued to rely primarily on the private sector to provide source separated recycling services, supporting the collectors with grants and tonnage payments. As market fluctuations forced several private providers out of business, the counties increased their involvement in source separation by requiring cities to provide recycling opportunities to their residents. The number of curbside recycling programs grew from 8 in 1985 to 176 by 1991. The Council reported that by 1991, 92 percent of the region's cities and virtually all its single family homes had curbside recycling available.

Once the counties had ensured that curbside recycling was available to almost all of the region's citizens and that businesses and industries were aware of the need, recycling rates rose sharply for several consecutive years. Some of this increase was due to legislatively set recycling goals which produced a shift in 1990 from reporting only source separated recycling to reporting total recycling. Other factors contributing to increased recycling included the increase in disposal fees in conjunction with higher surcharges, and the implementation of county flow controls to support new waste processing facilities also charging higher tipping fees than previously charged at landfills, i.e. a cost incentive to recycle. Figure 6 documents the annual recycling rates for the region from 1986 through 1993, compared to the Council's recycling rate goals for each of those years.

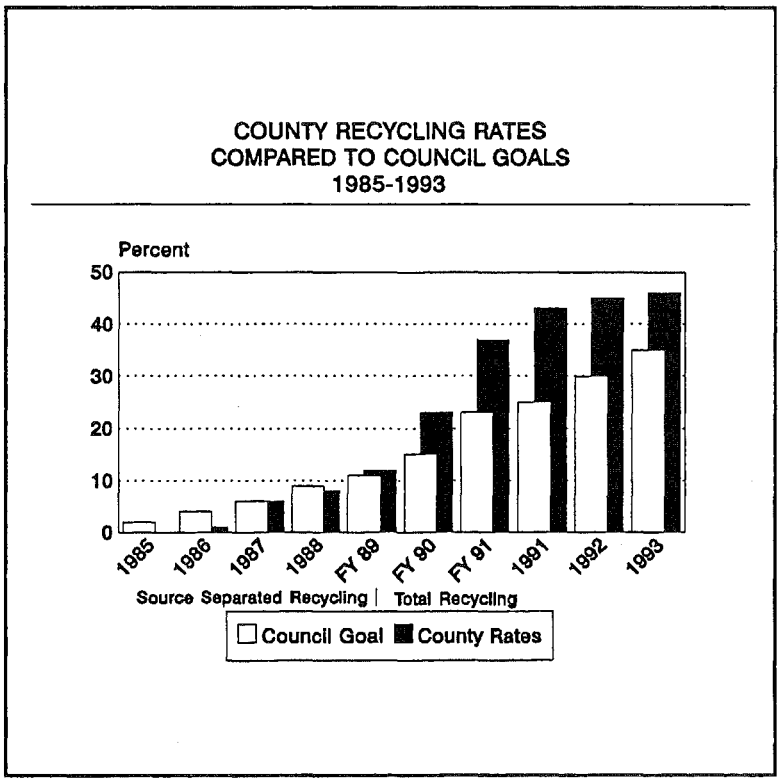

Figure 6

It is important to note that the increase in recycling rates has slowed significantly as the region's recyclables management system has matured. The 3 percent credit added to county recycling percentages in those counties with approved solid waste reduction programs (by January 1, 1995) will help move recycling rates up. However, actually reaching the 50 percent recycling goal set for the year 2000 (or the 45 percent-without-yardwaste goal set for December 31, 1996) will not be possible without the addition of more kinds of materials to those already collected and without increased participation in recycling efforts by the region's residents, businesses and industries. Attention to providing recycling opportunities for small businesses could significantly increase participation from the commercial/industrial sector. As the number of materials collected increases, modifications of the recyclables collection and processing system, such as commingled collection, may be needed to maintain participation rates.

Collecting additional kinds of materials and greater volumes of materials will require continued attention to markets for the recyclables collected. The City of Chicago intends to implement a curbside recycling program in September of 1995. That action could add a large infusion of materials to Midwest recycling markets that could affect the availability of markets for the seven county region's recyclable materials, and increase the need for market development efforts.

RECYCLING RECOMMENDATIONS

- Cities and counties should enhance existing recycling programs by:
  - developing a single, uniform list of recyclable materials to be collected throughout the region;
  - requiring that recyclables and MSW are collected on the same day;
  - expanding the number of materials to be recycled as markets and/or sorting technology permit.
- As more materials are added to the collection system, commingled collection (mixing recyclables collected in one or two groups rather than requiring discrete separation of each type of material) should be considered where such a collection system might increase participation, reduce collection costs and still provide the quality of recycled materials required by the markets.
- Cities and counties should continue their efforts to gather data on commercial/industrial recycling tonnages to improve the region's understanding of solid waste management progress and waste management system needs.
- Markets for recycled materials collected should be monitored and market development efforts should be targeted to ensure sufficient capacity for the types and volumes of materials that must be collected to reach recycling goals.

CENTRALIZED PROCESSING

1993 DATA

The MSW waste stream remaining after recycling, as reported in 1993, totaled approximately 1,482,000 tons. This figure does not include 55,000 tons of banned wastes estimated to have been removed from the waste stream and managed outside the counties' system. The MSW waste was sent primarily to five resource recovery facilities for processing. County reports indicate that the five facilities processed 1,212,000 tons of MSW in 1993. Virtually all of the waste generated in three of the region's counties--Carver, Dakota and Scott--that was not recycled was sent to landfills without processing. Table 2 provides details on waste managed at the region's five processing facilities during 1993. Total processing throughput is virtually unchanged from 1992 results, showing an increase in processing of 45,000 tons.

Table ___
PRIMARY PROCESSING
AT MAJOR REGIONAL RESOURCE RECOVERY FACILITIES, 1993

Facility	Tons Processed[1]	Tons Rejects[2]	Tons Residuals[3]	Tons Recycled[4]	Tons Ash (wet)[5]	Tonnage Abated[6]
HERC[7]	348,000	1,000	0	10,000	101,000	236,000
Richards	24,000	0	0	0	8,000	16,000
Elk River	360,000	10,000	39,000	13,000	71,000	227,000
EPR	90,000	4,000	22,000	4,000	4,000	56,000
Newport	390,000	51,000	18,000	12,000	65,000	244,000
TOTAL	1,212,000	66,000	79,000	39,000	249,000	779,000
Percentage of MSW Processed	1,212,000	5%	7%	3%	21%	64%

All numbers rounded to the nearest 1,000.
[1]Tons shown are "primary" waste processed at each facility and do not include waste received from other facilities for additional ("secondary") processing. HERC and Elk River received an additional 32,000 tons for "secondary processing.
[2]Rejects are those wastes that the facility is incapable of processing with its existing technology. Includes 51,000 tons of excess waste delivered to Newport plant but transferred out to landfill without further processing.
[3]Residuals are materials left over from processing, but also include RDF and recyclables that were landfilled.
[4]Recycled materials from processing plants are counted in the 1,284,674 tons of total recycling done in the region.
[5]At this time, only HERC and Richard's Asphalt produce ash from burning MSW within the metropolitan area; this ash is landfilled outside the region. The NRG plants in Elk River and Newport, and Green Isle's EPR plant produce RDF, but do not actually burn it themselves. NRG sells its RDF to United Power and NSP which burn the RDF in power plants to produce electricity; Green Isle has similar types of markets. The tonnages shown are for "wet" ash still damp from quenching. No ash from RDF is landfilled in the metropolitan area.
[6]The figure represents the net reduction of MSW tonnage abated through conversion to fuel.
[7]Excludes 18,000 tons of waste diverted from Hennepin County transfer facilities in 1993.

NOTE: THE TOTALS PRESENTED IN THIS TABLE DO NOT INCLUDE AN ESTIMATED 55,000 TONS OF BANNED WASTE (OILS AND TIRES) BURNED FOR ENERGY RECOVERY AT OTHER FACILITIES, ESTIMATED BY OWM, OR APPROXIMATELY 1600 TONS OF WASTE DELIVERED TO OTHER FACILITIES FOR PROCESSING (RECOMP, BFI RECYCLERY, WRIGHT COUNTY).

SOURCES: Metropolitan Area Solid Waste Certification Reports and OWM

The processing capacity described in Table 2 decreased at the end of 1993 when the Eden Prairie Recycling facility ceased operations. The plant was unable to compete when other facilities lowered their tipping fees in an effort to keep waste from leaving the region's processing system for less expensive management outside the region. The closure reduced the region's permitted processing capacity by 475 tons per day, or about 12 percent (the plant actually accounted for about 7 percent of the waste processed in the region in 1993). Additional details are provided in the Cost and Finance Report in Chapter 2.

The processing rejects, residuals, ash and unprocessed MSW that the counties reported landfilling in 1993 totaled 664,221 tons (or 416,217 tons without ash). Unprocessed waste, primarily from the three counties without designated facilities, totaled 265,551 tons. Total unprocessed waste was 414,000 tons, which includes an estimated 148,000 tons of unprocessed waste managed outside the counties' system. In addition, at least a portion of the rejects and residuals from current resource recovery facilities (150,666 tons) might have been processed further to reduce landfilling. The Council's policy plan directs the counties to seek alternatives to landfilling for these wastes.

The implementation section of the Council's policy plan called for additional processing capacity to come on line in 1992 (Scott & Carver Counties -- 53,850 tons), 1993 (Dakota County -- 234,000 tons), and another 275,150 tons in 1995. It indicated that a significant amount of that new capacity should be MSW composting, in order to add another technology to the region's menu of management options. The additional planned capacity would be sufficient for primary processing of all non-recycled waste and would also allow for further processing of some rejects and residuals (i.e. "secondary processing"). There are currently no plans to construct any additional capacity. The result is a processing shortfall--i.e. waste is going to landfills unprocessed. The amount of such waste being landfilled is expected to increase annually if the waste stream continues to grow as forecasted.

Counties are currently examining the need for additional resource recovery capacity. At this time it is uncertain when new projects will be brought on line. Carver, Dakota and Scott Counties will submit revised solid waste master plans to the Office of Environmental Assistance (OEA) during 1994. The plans will describe the counties' efforts to ensure that their waste is processed in the context of the facility development schedule contained in the Council's 1991 policy plan. Council staff had intended to begin a revision of the Council's *Solid Waste Development Guide/Policy Plan* in 1994 that would have included an assessment of facility capacity needs. That activity has now been transferred to the OEA.

As noted in the 1992 abatement report, there are several alternatives the counties might pursue to reduce or eliminate this processing shortfall. They include:

- greater source reduction efforts to reduce the volume of the waste stream requiring management,
- increased recycling rates to manage a larger portion of the waste stream before energy recovery,
- improved waste sharing agreements among the counties to ensure that all processing capacity is used as effectively as possible before waste is sent to landfills,
- improved facility efficiency gained by modifying processing equipment or adding additional processing lines,
- amended legislation to remove the legislative limit on processing capacity at the Hennepin County Resource Recovery facility,
- contracts with non-metro processing facilities to use more of their capacity,
- joint county efforts to plan and develop additional processing capacity.

One increasing solid waste management concern during 1993 invites additional comment: designation. The metropolitan counties, as a result of recent court decisions, have less ability to designate waste to processing facilities, if the waste is destined for out-of-state facilities. This has affected not only the current metropolitan area waste processing system, but also the ability of the counties to plan for future processing facilities.

In 1994, the legislature, concerned about the future liability of the disposal of wastes in facilities other than those selected as part of carefully developed county solid waste plans, acted to ensure that the state's citizens would be protected from paying potential future cleanup costs. It required persons managing solid waste to establish a trust fund to cover potential future remediation costs for cleaning up contamination caused by the use of "inferior facilities" below those selected by a county in the waste management hierarchy or not meeting the disposal facility standards required of disposal facilities selected by a county. A specific dollar amount must be paid into the trust fund for each cubic yard or ton of waste disposed of in such a facility.

Counties are also searching for alternative methods to ensure the delivery of waste supplies to the processing facilities they have included in their waste management plans, such as licensing conditions for haulers or organized collection. Options currently being employed include lowering facility tip fees to make processing facilities competitive with nondesignated landfills, and replacing the revenues lost through lowered tipping fees by other methods, such as service charges attached to hauler bills and special property assessments.

These methods may make the actual costs of various components of solid waste services less apparent to waste generators. The Council's policy plan says that generators should pay the actual costs of solid waste management to maintain incentives for waste reduction and recycling, and to promote equity in allocating waste management costs. Solid waste management should continue to be largely financed by user fees, since they are directly passed on to the generator. General tax revenues generally should be avoided.

The Council recommends that the OEA and counties continue to explore all the ramifications of shifting solid waste costs as they relate to the provision of an economical and efficient solid waste management system.

TRENDS IN CENTRALIZED PROCESSING

In 1985, virtually all of the region's non-recycled waste went to landfills. At the direction of the legislature, the Council's policy plan called for landfill abatement through a combination of methods including centralized processing. The Council set a goal that by 1990 the region would be processing 80 percent of the waste stream going to landfills in 1985, while recycling and waste reduction would manage the other 20 percent--meeting the mandate that no unprocessed waste should be landfilled after that year.

While the region made very substantial progress toward the Council's goal, the goal was not attained. In fact, as facilities were developed and more was learned about the capabilities of processing technology, the goal was modified. Processing capacity expectations were changed in the Council's 1991 policy plan and, when it became clear that reaching the legislature's goal for 1990 was not possible, a change in legislation provided for a certification process that would enable unprocessed waste to be landfilled under specific conditions.

The progress the region made toward the establishment of waste processing facilities and the

subsequent abatement of landfills helped to establish it as a national leader in integrated solid waste management. Figure 7 indicates the annual gains in processing rates achieved as the counties developed increasing amounts of processing capacity throughout the decade. It is important to note that the processing rate peaked in 1991 and had begun slowly decreasing annually since then as the total amount of waste generated continued to rise with no new resource recovery facilities added to the system. Indeed, unless the Eden Prairie Recycling facility reopens, the region will have lost a portion of the capacity available in 1993, creating an even greater gap between the amount of waste requiring processing and the capacity available to manage it.

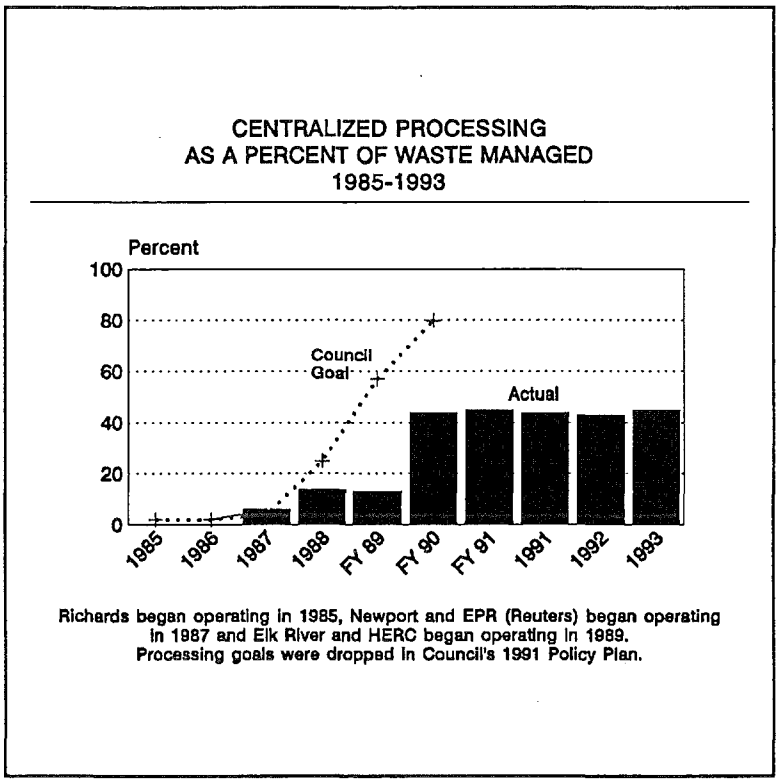

Figure 7

CENTRALIZED PROCESSING RECOMMENDATIONS

- The counties may continue to lose waste from their solid waste management system while issues of designation are resolved. However, they should continue their efforts to improve the processing of wastes over which they have control.
- The Solid Waste Management Coordinating Board could move to address the lack of waste processing by three of the counties by developing a region-wide waste sharing agreement.
- The counties, through the Solid Waste Management Coordinating Board, should consider acquisition of the EPR facility, operating it as part of their waste processing system.
- The Office of Environmental Assistance should work with the counties, through the Solid Waste Management Coordinating Board, to develop a strong regionally integrated waste management system.
- The counties, through the Solid Waste Management Coordinating Board, should encourage facility operators to make facility improvements and expand operating schedules as needed to increase processing at existing waste processing facilities and reduce the amount of unprocessed waste being landfilled.

- The counties, through the SWMCB could seek to have the statutory limit of 1,000 tons per day removed from the Hennepin Energy Resource Corporation (HERC) facility. Enabling HERC to process additional tonnage would add to the region's processing capacity without requiring further major capital expenditures.
- The counties, through the SWMCB, should consider additional secondary processing to further reduce the amount of rejects, residuals and ash being landfilled from the region's resource recovery facilities.
- The OEA and the counties should continue to explore all the ramifications of shifting solid waste costs as they relate to the provision of an economical and efficient solid waste management system.

LAND DISPOSAL

1993 DATA

In 1993, the metropolitan area generated the following types of MSW that were landfilled: unprocessible waste; rejects and residuals from centralized processing facilities; and unprocessed waste. The counties estimated that approximately 623,000 tons of the region's solid waste were disposed of at landfills, including approximately 266,000 tons of unprocessed MSW and 249,000 tons of ash. This represented a 16 percent decrease from 1992 in the total amount of waste being disposed of in landfills, but little change in the amount of unprocessed waste disposed of in landfills.

Based upon landfill annual reports to the MPCA, it is estimated that 14 percent of the metropolitan area waste that was disposed of in landfills went to landfills outside the region, including both nearby mon-metropolitan landfills (in Sherburne, Wright, McLeod and Rice Counties) and out-of-state facilities (in Wisconsin, Iowa, Illinois and North Dakota). This is an increase over the 11 percent reported in 1992. The landfills outside the region are able to attract waste away from metropolitan area landfills, at least in part, because they do not have to collect the level of city and county surcharges that metropolitan landfills must collect (to help fund city/county solid waste abatement programs)--nor do they all meet Subtitle D standards. Their lower tipping fees make it possible for haulers to transport waste over long distances and still achieve overall cost savings for disposal.

Table 3 provides 1993 disposal rates and existing and proposed capacity information on all landfills known to be used for disposal of metropolitan area waste.

TABLE THREE
LANDFILLS USED FOR THE DISPOSAL OF METROPOLITAN AREA SOLID WASTES

LANDFILL/ COUNTY/STATE	1993 Metro Wastes Landfilled (tons)	Available (Unlined)/Lined Capacity (acre-feet) Jan. 1994	Proposed or Possible Lined Expansion (acre-feet)
Anoka Landfill/Anoka County	60,600	closed	--
Burnsville Landfill/ Dakota County	70,000	(164)/328	4,108
Pine Bend Landfill/ Dakota County	135,000	(2,622)/1,519	none
Woodlake Landfill/ Hennepin County	87,200	closed	--
Subtotal - Metro Area Landfills	352,800	(2,786)/1,847	4,108
Greater Minnesota and Out-of-State Landfills[1]	58,200	2,124	6,059
Total All Landfills	411,000	(2,786)/3,971	10,167

[1].Landfills located in nearby Greater Minnesota Counties and in Illinois, Iowa, North Dakota, and Wisconsin.
Source: Metropolitan Council and Minnesota Pollution Control Agency files.

TRENDS IN LAND DISPOSAL

The rate at which the region is consuming landfill capacity has decreased significantly as recycling rates have increased and processing facilities have come on line (See Figure 6). Still, landfills continue to be an essential component of the region's waste management system, receiving both the "left-overs" from the region's processing facilities and unprocessed waste for which the region lacks processing capacity.

Over the past decade, the thinking about landfills has changed. Throughout the 1980's the counties were involved in a legislatively mandated landfill siting process to develop additional landfill capacity within the metropolitan area so that the region could manage all of its waste within its borders. Figure 8 illustrates the annual consumption of landfill capacity from 1985 - 1993. Almost all of this capacity came from metropolitan area landfills. One of the Council's primary roles was monitoring the supply of available landfill capacity and ensuring that sufficient capacity would always be available to handle the region's needs. Predictions of impending exhaustion of capacity were mitigated by expansions of existing landfills--four such expansions occurred between 1980 and 1988. The Burnsville Landfill is currently proposing a 4,108 acre-feet expansion that would add another five years of capacity to the region's supply.

Other landfills closed, as predicted--seven of them over the past five years, including Anoka and Woodlake Landfills which closed in early 1993. Currently only two metropolitan landfills remain--Burnsville and Pine Bend, both located in Dakota County.

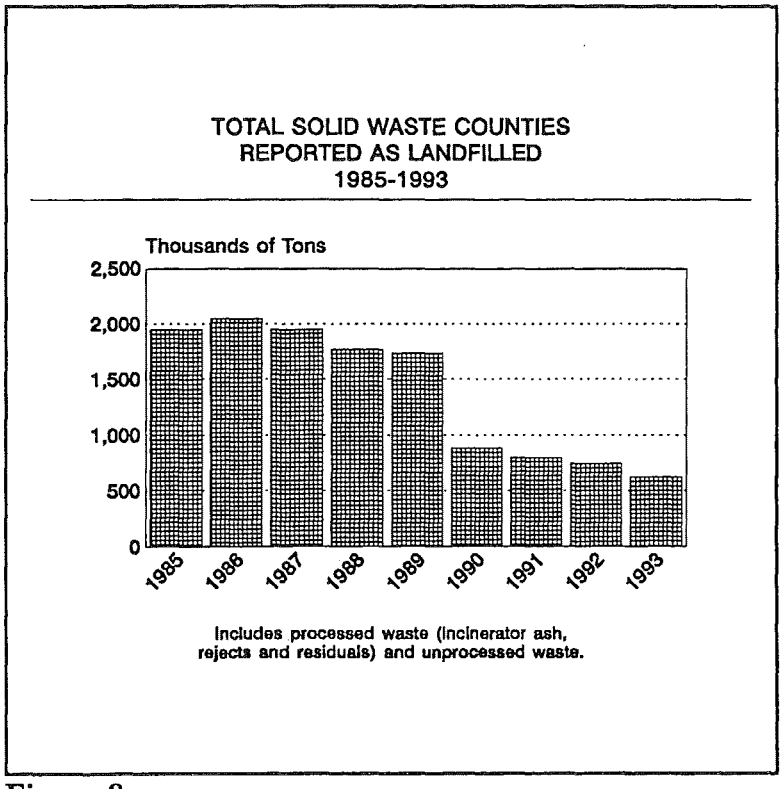

Figure 8

As the 1990's approached, several changes occurred that affected landfill capacity. The landfill siting process continued to move slowly, with no new landfills being sited. Hennepin County and the facilities contracted for the management of ash from energy recovery facilities outside the region. The Council's 1991 policy plan accepted the disposal of waste outside the region, provided that disposal facilities were at least as protective of the environment as those that would be acceptable inside the region. Haulers began to challenge the right of the counties to direct where waste should go. Landfills outside the region installed liners and leacheate collection systems and actively sought metropolitan area wastes for disposal. In 1991 the legislature placed a moratorium on the landfill siting process and, in 1992, dropped the landfill siting process altogether.

The result of all these changes has been an increase in the amount of waste leaving the region for disposal elsewhere. Figure 9 indicates the potential utilization of existing metropolitan and non-metropolitan landfill capacity that is currently available to the region. The scenarios assume that recycling rates will increase to meet regional objectives and that existing resource recovery capacity will continue to operate. Given those conditions, existing capacity will be exhausted in seven years (by 2001) without the Burnsville expansion, and in twelve years (by 2006) with the expansion.

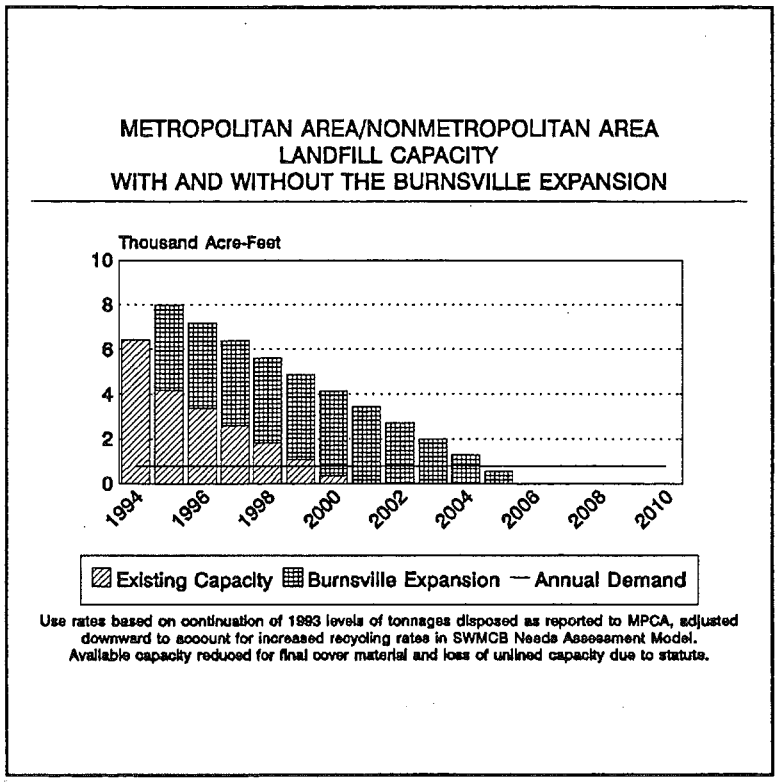

Figure 9

Many factors could affect the region's need for landfill capacity. They include:

- more efficient utilization of existing resource recovery capacity or the development of new capacity. Counties are currently examining the need for resource recovery capacity but, if new capacity is determined to be needed, it is uncertain when that capacity will be brought on line. If the capacity originally planned by Carver, Dakota and Scott Counties were brought on line during the next three years, the life of the landfill system would be extended approximately three years.

- expansions at one or more of the greater Minnesota or out-of-state landfills. There are proposals for expansion at several landfills in various stages of development and permitting. A total of an additional 6,059 acre-feet might be added if all planned expansions were developed, but results are currently uncertain and it is unknown how much of any additional capacity that is developed will be available to the metropolitan area.

- challenges to the counties right to designate that waste be delivered to resource recovery facilities. It is possible that the amount of waste going to landfills could increase if the courts restrict the counties' ability to require that waste be delivered to resource recovery facilities and haulers choose to deliver to landfills instead. The result would be a more rapid decline in available capacity than is currently anticipated.

- restrictions on the waste stream imposed by other states. For example, effective January 1, 1995, Wisconsin will prohibit the landfilling of aluminum containers, glass, corrugated cardboard, newsprint, plastics, steel, office paper, waste tires, foam polystyrene packaging and magazines. Communities that use Wisconsin landfills must apply for "effective program status", demonstrating that they have an effective recycling program to manage these banned materials or have an authorized landfill siting program. This could serve to limit the flow of metropolitan area waste into Wisconsin landfills.

- disposal of incinerator ash at MSW landfills. Currently there is a proposal to dispose of incinerator ash at Pine Bend. However, a recent supreme court decision declared that incinerator ash from one community's MSW incinerator had to be tested and, if indicated, treated as a hazardous waste. This could have implications for the disposal of incinerator ash in MSW landfills.

- shifts in disposal choices resulting from changes in the amount of surcharges assessed at various facilities. Currently the tip fees at non-metropolitan and out-of-state landfills average 19 percent less than the tip fees at metropolitan landfills due to the higher state, county and local surcharges the metropolitan landfills must charge. If other Minnesota communities or other states impose surcharges, the result could be the shifting of waste disposal back to metropolitan area landfills.

LAND DISPOSAL RECOMMENDATIONS

- The counties should develop contingency plans for landfilling their unprocessed wastes, rejects, residuals and ash in case one or more metropolitan landfills closes due to loss of revenue caused by waste leaving the region for disposal in other landfills, in case available capacity outside the region is reduced, or in case the management options for incinerator ash must be changed.

- If metropolitan area landfills close, the surcharge revenues from those landfills that currently fund the Local Recycling Development Grants and other activities through the Metropolitan Landfill Abatement Fund will be lost. Landfill rates and issues should be carefully monitored to anticipate not only capacity needs, but also changes in revenues available to operate programs.

APPENDIX A
COUNTY WASTE CERTIFICATION REPORTS
SUMMARY

COUNTY CERTIFICATION REPORTS SUMMARY

In 1985, the Waste Management Act placed a prohibition on the landfilling of unprocessed waste in the Metropolitan Area after 1990. Subsequent amendments to the Act limited the disposal of unprocessed waste to material that was not able to be processed at existing facilities.

Counties must report annually to the Council, certifying that during the previous year only waste that was not able to be processed was landfilled as unprocessed. The Council must approve or disapprove the county waste certification reports. Approval of a county certification report reflects a Council determination that the county is reducing and will continue to reduce the amount of unprocessed waste needing to be landfilled in the future. Disapproval of a county report means that the Council is not satisfied with the county's abatement efforts.

If a county certification report is disapproved by the Council, the Council is required to negotiate with the county to develop and implement specific techniques to reduce unprocessed waste. If the Council does not approve two or more consecutive reports from a county, the Council is required to develop specific implementation measures which the county is required to implement.

Data and Issues – County Certification Reports

The county annual waste certification reports to the Council must detail the quantity of unprocessed waste that was landfilled; reasons the waste was not processed; strategies and a specific timeline for development of techniques to ensure processing; and progress made by the county in reducing the amount of unprocessed waste.

The Council established criteria to evaluate the efforts of the counties to abate the disposal of waste from landfills. The criteria compare the quantity of county waste landfilled to the previous reporting periods, efforts by the county to seek alternate processing capacity for the waste that was landfilled and commitment by the county to reduce the quantity of waste landfilled.

Criteria - Comparison of Waste Disposed with Previous Periods

Table 4 summarizes the reported information. The tonnages shown are based on waste reported as "managed" by the counties. The reported amount of unprocessed waste disposal in landfills declined only slightly in 1993, whereas previous reporting periods showed significant reductions. This reflects the fact that no new regional processing capacity was established and only slight increases occurred in recycling levels.

TABLE 4 LAND DISPOSAL AS REPORTED BY THE COUNTIES 1989-1993					
Disposal Type	1989	1990	1991	1992	1993
Processed Disposal	366,183	517,122	490,839	490,839	357,223
Unprocessed Disposal	1,370,212	364,764	308,521	289,705	265,551
Total	1,736,395	881,886	799,360	745,098	622,774

Criteria 2 - Efforts to Seek Alternate Processing Capacity

The counties are required by state law to plan for the management of all types of solid waste. The Council's policy plan includes that same requirement. Although much of that solid waste could be processed at a resource recovery facility, the counties are only required to develop processing capacity for the portion defined as mixed municipal solid waste (MSW). They are not currently required to manage the processing of other solid waste.

Waste processing includes mass burn, refuse-derived fuel (RDF) and/or centralized MSW composting technologies. Currently, four waste processing facilities operate in the region. They are capable of managing about 1.1 million tons per year (TPY), based on their current annual average waste throughputs. The Council's policy plan showed the following need for additional resource recovery capacity, based in part, on projects in the planning stages at the time the plan was adopted. Implementation of this schedule would have brought the region's resource recovery capacity to about 1.7 million TPY.

TABLE 5 FACILITY DEVELOPMENT SCHEDULE		
Technology/Location	**Date**	**Annual Amount (tons)**
MSW Compost/Carver and Scott Counties	1992	53,850
MSW Compost/undetermined	1995	110,150
RDF Reject & Residuals Compost/undetermined	1995	165,000
Incineration/Dakota County	1993	234,000
Total New Resource Recovery Capacity	1992-1995	563,000
Source: Solid Waste Management Policy Plan		

However, there have been major departures from this Facility Development Schedule, and most of these projects will either not be built or will be significantly delayed. Carver and Scott Counties, in mid-1992, abandoned efforts to jointly develop an MSW compost facility, each deciding to pursue its own projects. Carver County is currently negotiating with its haulers to utilize capacity in the Hennepin County resource recovery system. This capacity, to the extent it is available, would be available on a short-term basis. In 1993, Scott County negotiated an agreement with NRG to build a transfer station and utilize capacity at the Newport RDF facility. However, this project was put on hold because it could not compete with recently lowered tip fees at existing resource recovery facilities. The county is reassessing its options, but no plans for developing this project or future projects have been made.

In late 1993, Dakota County approved a resolution that significantly changed the county's abatement direction. Instead of proceeding with a county owned and sponsored waste incineration project, the county will rely on private sector initiatives that may or may not include incineration, and in which the county's role will be minimal. The county's approach calls for: improved source separation; limitations on the disposal of unprocessed waste; using existing resource recovery capacity, to the extent it is available; and encouraging a private developer to build capacity to manage a portion of its waste. Many of the details of the County's approach are continuing to be worked out, such as amending the county's solid waste master plan and solid waste ordinance.

Other projects in the Facility Development Schedule have also not been implemented. No regional MSW organic composting projects have been developed, nor are any currently planned. Only minor success has occurred in the development of RDF reject and residuals processing capacity.

In addition, the region's existing resource recovery system has recently lost capacity. In early 1994, the 100,000 TPY EPR densified RDF facility ceased operations because it could not compete with the system-wide drop in resource recovery tip fees. The EPR facility, together with the projects in the Facility Development Schedule, represents about 37 percent of the resource recovery capacity identified in the policy plan as needed by 1995, capacity which currently does not exist.

Anoka, Hennepin, Ramsey and Washington Counties met the Council's processing development schedule. However, the amount of unprocessed MSW landfilled in 1993 was about the same as reported in 1992 (290,000 tons in 1992 and 266,000 tons in 1993). While Ramsey and Washington Counties landfilled excess waste declined by about 14 percent, total unprocessed MSW as a percentage of total MSW reported managed declined about 2 percent (from about 11 percent to about 9 percent).

Efforts are underway by the Council and counties to re-examine the need for resource recovery capacity, to more efficiently utilize existing resource recovery capacity, and to develop new capacity. However, at this time, it is uncertain to what extent regional capacity needs have changed and when new projects will be brought on line. Legal challenges to the counties' ability to designate facilities for waste management add to the uncertainty. It is expected that Carver, Dakota and Scott Counties will be submitting revised solid waste master plans to the Office of Environmental Assistance in late 1994. These plans will describe their efforts in light of these major departures from the Facility Development Schedule. These issues, including a re-examination of the Facility Development Schedule, should be considered in the preparation of a new regional solid waste policy plan.

Criteria 3 - Commitment to Reduce Disposal by Using Alternate Methods

The Council's 1991 policy plan proposed a regionally integrated solid waste management system. Specific abatement objectives for solid waste recycling, processing and land disposal were set for the region. The Council's regional recycling objective for 1993 was 35 percent of the MSW generated in the region. The counties reported that residents and businesses recycled 1,285,000 tons of materials in 1993, a 4 percent increase from the 1992 tonnages reported by the counties. This represents a significant slowing of recycling progress, since the counties reported that from 1991 to 1992 a 12 percent increase in recycling tonnages occurred. Moreover, the amount of undocumented commercial/industrial recycling continues to add an element of uncertainty to the recycling tonnage figures. For 1993, it represented 41 percent of the total recycling tonnages, whereas for 1992 it represented 42 percent of the total recycling.

Stating that the Council's recycling objectives have been met may be misleading without some type of systematic verifiable monitoring. Presently no mechanisms or analyses exist that provide feedback on the amount of collected recyclable materials actually sent to recycling markets. In order to correct this problem, in April 1994, the Council provided a grant to a consultant to prepare a recyclable materials study. The purpose of this study is to develop verifiable data about how much of the materials collected in the region for recycling are really recycled, how much ends up being landfilled and where, and an assessment of the strength of recycled materials markets. The study will identify haulers/recyclers and tonnages of recycled materials being disposed of in regional processing facilities, regional landfills, and facilities/landfills in greater Minnesota and out of state. The consultant will develop an ongoing monitoring and evaluation program that the counties can used in the future. The study results will be reported to the LCWM.

In addition to recycling, waste processing through mass burn and RDF production is instrumental in abating unprocessed waste from landfills. The region's network of processing facilities received about 1.21 million tons of MSW or 44 percent of the total MSW reported as managed, similar to the 43 percent received in 1992.

The certification reports from the four counties with designated waste processing systems should provide sufficient information to determine the amount of unacceptable wastes refused for processing and ultimately sent to landfills. Further efforts are needed by Anoka, Hennepin, Ramsey and Washington Counties to monitor this type of waste to verify land disposed wastes.

Carver, Dakota and Scott Counties share a responsibility to plan and implement additional waste processing strategies. These waste processing strategies should complement and integrate with existing facilities to give the region more flexibility in adapting to changing waste management needs.

Criteria 4 - Commitment to Achieve the Council's Landfill Limits

The amount of regional waste that is landfilled is the key indicator of how well the counties are progressing toward meeting the Council's goals and policies. The Council estimates that approximately 411,000 tons of MSW was landfilled in 1993. This volume is significantly less than the land disposal limits set in the policy plan.

Evidence increasingly shows that the waste generated in the metropolitan area is not always managed and/or disposed of in the region. An increasing number of haulers are disposing of unprocessed waste

at nearby non-metropolitan landfills and out-of-state landfills. Generally, mixed MSW leaving the state is going to landfills. The extent to which these facilities meet acceptable state and federal environmental protection criteria is not fully known.

Prohibiting waste from leaving a jurisdiction has been found unconstitutional in particular cases, the most notable being the 1993 Eighth Circuit Court of Appeals decision Waste Systems Corporation v. Martin and Faribault Counties and the U.S. Supreme Court decision C & A Carbone, Inc. Et Al., v. Town of Clarkstown, New York. These decisions said that the local ordinances violated the Interstate Commerce Clause of the United State Constitution because they operated as economic protectionism to protect in-state economic interests at the expense of out-of-state competition.

The Council has provided a grant to a consultant to evaluate the amount of MSW leaving the state. This study will identify: which metro counties are losing waste; how the waste is being transported out of the region; which landfills are receiving the waste; and what the costs are for this method of disposal. The study will provide important data on the extent of this practice and characterize the system of land disposal facilities that competes for the designated waste. The study will be available in the summer of 1994 The study results will be reported to the LCWM.

Conclusions - County Certification Reports

According to the counties' certification reports, the region continues to maintain aggressive recycling and processing levels consistent with regional goals and policies. The net abatement (recycling and processing levels) as reported by the counties is approximately 78 percent of the MSW waste reported managed. The Council's figures also show aggressive abatement in the region, with net abatement at about 75 percent of its MSW generation forecast for 1993.

However, there was very little additional abatement reported over the 1992 levels. The 1993 recycling level increased by only one percent and the level of waste processing remained virtually the same.

Higher recycling levels will become increasingly difficult to meet. Recycling programs need to add more materials, and recycling has to become a habit for all people. In addition, fundamental changes in recycling infrastructure and markets will be required to handle increases in the types and amounts of materials collected, including improved collection, processing and marketing.

In 1993, the Council disapproved the 1992 Scott and Carver Counties waste certification reports because of a lack of progress in the development of processing capacity. The Council is in the process of negotiating with these two counties to improve their landfill abatement efforts. It is expected that Scott, Carver and Dakota Counties will be submitting master plans amendments to the OEA this fall that describe their efforts at providing additional abatement capacity.

The Council sees a leadership role by the SWMCB in obtaining long-term processing capacity. The Council has provided the SWMCB with an implementation grant to establish that leadership role. It is expected that the SWMCB will develop long-term inter-county waste sharing commitments on behalf of all seven counties. The SWMCB effort is essential to avoid competition for processing capacity and to ensure efficient region-wide waste delivery. Inter-county waste sharing agreements should precede any waste supply agreements that counties would enter into with the private facility operators.

The Council's solid waste policy plan shows Carver, Dakota and Scott Counties as having available processing capacity by 1992. This date was based on the projected implementation of their projects. Although these projects didn't materialize, the date points out the importance of the counties moving ahead with a processing strategy within an aggressive timeframe. The counties should commit to an implementation schedule that reflects both short-term and long-term efforts to ensure that all MSW will be processed.

The solid waste policy plan supports developing a variety of processing technologies to manage the diverse components of the MSW waste stream. There remains a need to obtain MSW organic composting capacity to ensure an integrated regional system. This technology is the most appropriate method to manage the organic components of MSW. The counties, through the lead of the SWMCB, should continue to incorporate this technology into their planning.

It is expected that the new OEA will continue to apprise the counties of opportunities for solid waste efficiencies and inter-county cooperation. Both Local Recycling Development Grants and SCORE funding should continued to be supported for the counties.

APPENDIX B
COUNTY AND CITY RECYCLING DATA SUMMARIES
AND
PROGRAM DESCRIPTION SUMMARIES

METROPOLITAN MSW RECYCLING TOTALS		
	1992 MSW Recycled (Tons)	1993 MSW Recycled (Tons)
ANOKA COUNTY		
Andover	1,072	1,231
Anoka	1,808	2,813
Bethel	22	25
Blaine	2,753	2,825
Burns Township	131	201
Centerville	213	242
Circle Pines	563	1,157
Columbia Heights	2,220	2,466
Columbus Township	141	196
Coon Rapids	3,204	4,265
East Bethel	643	755
Fridley	2,587	2,073
Ham Lake	595	659
Hilltop	59	66
Lexington	112	186
Lino Lakes	627	855
Linwood Township	202	233
Oak Grove	332	396
Ramsey	1,012	1,161
St. Francis	147	141
Spring Lake	610	533
Subtotal	19,052	22,479
Unassigned	76,022	77,469
Total Recycling	95,374	99,948

METROPOLITAN MSW RECYCLING TOTALS		
	1992 MSW Recycled (Tons)	1993 MSW Recycled (Tons)
ANOKA COUNTY TOTALS		
Residential Recycling	41,996	44,740
Documented C/I/I Recycling	1,535	3,585
Non-documented C/I/I Recycling	46,225	46,465
Mechanical and Hand-Separated Recycling	5,618	5,158
TOTAL RECYCLING	95,374	99,948

METROPOLITAN MSW RECYCLING TOTALS		
	1992 MSW Recycled (Tons)	1993 MSW Recycled (Tons)
CARVER COUNTY		
Benton Township	0	0
Camden Township	0	0
Carver	71	104
Chanhassen	9,254	13,726
Chaska	2,410	3,261
Chaska Township	19	11
Cologne	60	34
Dahlgren Township	16	47
Hamburg	68	63
Hancock Township	0	0
Hollywood Township	0	0
Laketown Township	4	4
Mayer	56	65
New Germany	62	77
Norwood	180	153
San Francisco Township	11	45
Victoria	226	320
Waconia	514	622
Waconia Township	26	3
Watertown	221	182
Watertown Township	45	160
Young America	1,310	1,247
Young America Township	163	261
Subtotal	14,714	20,385
Unassigned	4,446	4,466
Total Recycling	19,160	24,851

METROPOLITAN MSW RECYCLING TOTALS		
	1992 MSW Recycled (Tons)	1993 MSW Recycled (Tons)
CARVER COUNTY TOTALS		
Residential Recycling	7,504	8,671
Documented C/I/I Recycling	11,656	16,180
Non-documented C/I/I Recycling	0	0
Mechanical and Hand-Separated Recycling	0	0
TOTAL RECYCLING	19,160	24,851

METROPOLITAN MSW RECYCLING TOTALS		
	1992 MSW Recycled (Tons)	1993 MSW Recycled (Tons)
DAKOTA COUNTY		
Apple Valley	3,978	3,677
Burnsville	5,412	4,944
Eagan	5,433	4,828
Farmington	907	677
Hastings	1,604	1,521
Inver Grove Heights	1,883	1,694
Lakeville	2,759	2,742
Lilydale	79	26
Mendota	30	22
Mendota Heights	1,442	1,385
Rosemount	1,116	1,496
South St. Paul	2,355	1,966
Sunfish Lake	60	47
West St. Paul	2,243	1,856
Rural SW Commission	1,016	846
Subtotal	30,316	27,727
Unassigned	84,044	97,228
Total Recycling	114,360	124,955

METROPOLITAN MSW RECYCLING TOTALS		
	1992 MSW Recycled (Tons)	1993 MSW Recycled (Tons)
DAKOTA COUNTY TOTALS		
Residential Recycling	54,702	58,115
Documented C/I/I Recycling	5,417	5,994
Non-documented C/I/I Recycling	54,241	60,846
Mechanical and Hand-Separated Recycling	0	0
TOTAL RECYCLING	114,360	124,955

METROPOLITAN MSW RECYCLING TOTALS		
	1992 MSW Recycled (Tons)	1993 MSW Recycled (Tons)
HENNEPIN COUNTY		
Bloomington	15,703	1,6446
Brooklyn Park	7,235	7,626
Champlin	2,959	3,327
Corcoran	414	320
Dayton	649	375
Deephaven	481	597
Eden Prairie	5,617	5,932
Edina	10,540	12,817
Excelsior	380	293
Golden Valley	4,062	3,600
Greenwood	72	59
Hanover	20	29
Hassan Township	170	199
Hopkins	2,256	3,813
Maple Grove	6,880	7,790
Minneapolis	44,957	44,273
Minnetonka	7,019	7,466
Minnetonka Beach	202	66
Minnetrista	1,072	939
Mound	2,216	6,740
Osseo	322	193
Plymouth/Medicine Lake	7,178	9,509
Richfield	6,821	7,279
Robbinsdale	1,704	1,573
Rockford	31	240

METROPOLITAN MSW RECYCLING TOTALS		
	1992 MSW Recycled (Tons)	1993 MSW Recycled (Tons)
Rogers	90	117
St. Anthony	604	917
St. Bonifacius	107	131
St. Louis Park	9,037	10,818
Shorewood	663	773
Spring Park	663	145
Tonka Bay	337	438
Wayzata	913	717
Woodland	59	64
Hennepin Recycling Group Brooklyn Center Crystal New Hope	11,794	16,157
West Henn. Recycling Group Greenfield Independence Long Lake Loretto Maple Plain Medina Orono	1,976	2,422
Subtotal	154,638	174,196
Unassigned	504,290	502,169
Total Recycling	658,927	676,365

METROPOLITAN MSW RECYCLING TOTALS		
	1992 MSW Recycled (Tons)	1993 MSW Recycled (Tons)
HENNEPIN COUNTY TOTALS		
Residential Recycling	241,046	257,699
Documented C/I/I Recycling	150,551	155,229
Non-documented C/I/I Recycling	244,796	239,771
Mechanical and Hand-Separated Recycling	22,534	23,666
TOTAL RECYCLING	658,927	676,365

METROPOLITAN MSW RECYCLING TOTALS		
	1992 MSW Recycled (Tons)	1993 MSW Recycled (Tons)
RAMSEY COUNTY		
Arden Hills	771	939
Falcon Heights	517	641
Gem Lake	12	0
Lauderdale	141	154
Little Canada	440	387
Maplewood	1,795	2,060
Moundsview	626	839
New Brighton	1,510	1,896
North Oaks	315	314
North St. Paul	742	769
Roseville	2,519	6,857
St. Anthony	358	269
St. Paul	18,359	19,297
Shoreview	2,330	2,548
Vadnais Heights	823	879
White Bear Lake	1,991	2,328
White Bear Township	680	1,530
Subtotal	33,930	41,707
Unassigned	226,359	235,388
Total Recycling	263,974	277,095

METROPOLITAN MSW RECYCLING TOTALS		
	1992 MSW Recycled (Tons)	1993 MSW Recycled (Tons)
RAMSEY COUNTY TOTALS		
Residential Recycling	111,104	114,666
Documented C/I/I Recycling	5,436	6,909
Non-documented C/I/I Recycling	139,261	145,023
Mechanical and Hand-Separated Recycling	8,173	10,497
TOTAL RECYCLING	263,974	277,095

METROPOLITAN MSW RECYCLING TOTALS		
	1992 MSW Recycled (Tons)	1993 MSW Recycled (Tons)
SCOTT COUNTY		
Belle Plaine	N/A	N/A
Belle Plaine Township	N/A	N/A
Blakeley Township	N/A	N/A
Cedar Lake Township	N/A	N/A
Credit River Township	N/A	N/A
Elko	N/A	N/A
Helena Township	N/A	N/A
Jackson Township	N/A	N/A
Jordan	N/A	N/A
Louisville Township	N/A	N/A
New Market	N/A	N/A
New Market Township	N/A	N/A
New Prague (Pt)	N/A	N/A
Prior Lake	N/A	N/A
St. Lawrence Township	N/A	N/A
Sand Creek Township	N/A	N/A
Savage	N/A	N/A
Shakopee	N/A	N/A
Spring Lake Township	N/A	N/A
Subtotal	9,374	7,887
Unassigned	21,103	16,855
Total Recycling	30,477	24,742

METROPOLITAN MSW RECYCLING TOTALS		
	1992 MSW Recycled (Tons)	1993 MSW Recycled (Tons)
SCOTT COUNTY TOTALS		
Residential Recycling	9,374	7,887
Documented C/I/I Recycling	5,483	8,014
Non-documented C/I/I Recycling	15,620	8,841
Mechanical and Hand-Separated Recycling	0	0
TOTAL RECYCLING	30,477	24,742

METROPOLITAN MSW RECYCLING TOTALS		
	1992 MSW Recycled (Tons)	1993 MSW Recycled (Tons)
WASHINGTON COUNTY		
Afton	188	250
Bayport	197	230
Baytown Township	67	70
Birchwood	99	113
Cottage Grove	2,185	1,969
Dellwood	98	97
Denmark Township	45	57
Forest Lake	934	583
Forest Lake Township	595	668
Grant Township	190	214
Grey Cloud Island	13	18
Hastings	0	0
Hugo	71	170
Lake Elmo	812	440
Lake St. Croix Beach	72	74
Lakeland	146	126
Lakeland Shores	12	20
Landfall	12	0
Mahtomedi	392	447
Marine St. Croix	166	62
May Township	244	269
New Scandia	244	340
Newport	221	226
Oak Park Heights	281	343
Oakdale	1,860	1,659

METROPOLITAN MSW RECYCLING TOTALS		
	1992 MSW Recycled (Tons)	1993 MSW Recycled (Tons)
Pine Springs	22	21
St. Mary's Point	28	26
St. Paul Park	618	318
Stillwater	2,050	1,619
Stillwater Township	213	246
West Lakeland Township	132	145
White Bear Lake	39	39
Willernie	35	43
Woodbury	2,196	2,031
Subtotal	14,476	
Unassigned	35,494	
Total Recycling	49,971	
WASHINGTON COUNTY TOTALS		
Residential Recycling	25,554	29,243
Documented C/I/I Recycling	484	2,228
Non-documented C/I/I Recycling	21,070	22,123
Mechanical and Hand-Separated Recycling	2,863	3,123
TOTAL RECYCLING	49,971	56,718

METROPOLITAN MSW RECYCLING TOTALS		
	1992 MSW Recycled (Tons)	1993 MSW Recycled (Tons)
METROPOLITAN AREA TOTALS		
Residential Recycling	491,281	521,021
Documented C/I/I Recycling	180,562	198,139
Non-documented C/I/I Recycling	521,212	523,069
Mechanical and Hand-Separated Recycling	39,188	42,444
TOTAL RECYCLING	1,232,243	1,284,674

COUNTY PROGRAM DESCRIPTION SUMMARIES

The following descriptions were provided by the counties as additional information for the LCWM and OEA. Not all counties submitted program descriptions.

ANOKA COUNTY - 1994

Anoka County's Integrated Waste Management System provides opportunities to residents, businesses and institutions to manage waste responsibly. The County has actively worked with its 21 municipalities and its licensed haulers since 1988 at monthly Solid Waste Abatement Advisory Task Force Meetings, which are convened by the Lead Commissioner on Solid Waste, Commissioner Paul McCarron. It is the desire of the County Board that abatement programs promote and encourage proper waste management activities through cooperation rather than through mandates. This approach has been highly successful and has resulted in a 42% recycling rate in 1993.

Waste reduction programs are designed to reduce both the volume and hazardous nature of waste. Volume reduction of waste going to landfills was accomplished by the promotion and development of recycling programs since 1988 for all sectors of the community and development of a resource recovery facility in 1989. Reducing the hazardous nature of the "business" waste is accomplished by hazardous waste reduction and management assistance by Environmental Services. Household hazardous waste is reduced by promotion of proper self management, quarterly collections and information such as the problem material guide mailed to every household in January 1994.

The County promotes recycling materials which have stable markets. Municipalities are encouraged to provide curbside recycling, however in rural areas active drop-off centers are sometimes the only recycling opportunity available. Only two municipalities failed to meet their goal in 1993. All municipalities are encouraged to provide two "recycling days" for scrap metal, tires, appliances, lead acid batteries and other material not collected at the curb. In general, the residents pay a fee for tires and appliances. The County provides two household mailings per year and the municipalities are responsible for two additional mailings.

Two compost sites are available for use free of charge to residents. No bags are allowed and residents are required to take any bags or containers home with them. The Corrections Department provides sentence-to-serve assistance two days per week to remove any contaminants. Composted material is used by the Parks Department and by county residents. The site never has a surplus of compost. Even though the compost is not screened it is very clean and highly valued by residents.

The tree waste processing site is operated by a private vendor on county property. A fee is charged and the cost of processing is not subsidized. Chips of all kinds are available for a fee at the site.

The Elk River Resource Recovery Facility is home for the remaining waste which cannot be reduced, composted or recycled. The County has worked diligently with municipalities and haulers in order to maintain the flow of waste to the facility. The County reduced the facility tip fee from $77 to $68 per ton, however if a waste hauler contracts with Anoka County and guarantees that the waste is delivered to the facility the hauler is charged $49 per ton and the county indemnifies the hauler for waste brought to the facility. The contract has worked well and 98% of the waste is going to the facility for processing.

Cooperation between government entities continues to be an important part of Anoka County's integrated waste management system. NACO, AMC, MICA, MAUC, SWMCB and other organizations the County belongs to help to reduce duplication of effort and provide a joint force for efficient and effective waste management.

The County is implementing two new programs for 1994. The Anoka County Environmental Work Group made up of members of all divisions will evaluate and recommend waste reduction methods to be utilized by the County. A mobile classroom will be built to provide environmental information to schools, shopping centers, municipal open houses and recycling days. The County is working with area High Schools and Colleges to provide staffing assistance.

CARVER COUNTY

DAKOTA COUNTY

DAKOTA COUNTY SOLID WASTE PROGRAM 1993 HIGHLIGHTS

Dakota County's focus on solid waste management shifted significantly during 1993. The County's proposed waste management strategy combines a mandatory recycling program with required processing of Dakota County MSW, a prohibition on landfills to accept unprocessed MSW, and a requirement that Dakota County MSW landfilled must be disposed in facilities with liners, leacheate collection systems, and which meet Federal Subtitle D requirements. The implementation of this proposed strategy, effective January 1, 1995, will begin with amendments to County Ordinance No. 110 - Solid Waste Regulation and the Solid Waste Management Master Plan during 1994.

Program Highlights:

- Dakota County's household hazardous waste (HHW) program collected 171 tons of material in 1993. Approximately 39% of the material was reused or recycled.

- Dakota County source reduction efforts included information booths at all County libraries during "Waste Reduction Week".

- Dakota County adopted a Resolution requiring all yard waste delivered to yard waste composting sites in Dakota County must be debagged or delivered in compostable bags, in part, to encourage residents to leave grass clippings on the lawn or backyard compost yard wastes.

- Dakota County received an Honorary Mention award for "Best Urban Program" from the National Recycling Coalition.

- The Dakota County Rural Curbside Recycling Program received a Certificate of Commendation from the Governor's Office, recognizing the efforts of Dakota County, the Rural Solid Waste Commission and 10 waste haulers to operate a rural curbside recycling program.

- In 1993, Dakota County was the first metro county to require curbside collection of magazines County-wide.

- In 1993, Dakota County conducted a milk carton and drink box pilot collection program; these materials are still collected at the County Recyclables Collection Center.

Program Concerns:

- Yard waste comprises a significant portion of county recycling tonnages. The elimination of yard waste will leave a large gap to be filled to reach the 1996 recycling goal. It is unclear what the cost to communities and businesses will be to reach these goals, as well as the market implications, especially in light of Chicago's proposed aggressive recycling program in 1995.

- Dakota County supports source reduction efforts as a means of reaching recycling goals.

HENNEPIN COUNTY

RAMSEY COUNTY

SCOTT COUNTY

Scott County continues to be committed towards achieving maximum waste reduction and recycling efforts. Since 1990, the County has met and exceeded the recycling goals set forth in the Waste Management Act. These goals have been accomplished through the development and promotion of programs that provide recycling incentives, public education and community events to County residents and businesses.

The Performance Enhancement Recycling Cost Share (PERCS) program was a successful incentive program in which haulers were subsidized for the recyclables collected. The program began in 1989 where it assisted haulers with start-up costs and the cost to collect and recycle the more difficult materials. The PERCS program ended in 1993 at the haulers' request. The haulers believed that the PERCS program had achieved its objective, therefore suggested that the money be spent on other solid waste programs.

The County continues to be dedicated towards educating the public about solid waste, recycling and other environmental issues. A quarterly environmental newsletter, The SCENE, provides information regarding source reduction, recycling, household hazardous waste as well as ground water and septic system information. Additionally, the county distributes a variety of educational material to residents and businesses that have been developed by the State. County outreach programs include school presentations and participation at community show cases.

Since 1992, the County has had biannual household hazardous waste collection days. Participation for these events has increased dramatically. The county has signed a Reciprocal Use Agreement with surrounding metropolitan counties. This Agreement allows Scott residents to dispose of household hazardous waste at other county facilities.

Scott County offices have been recycling office paper, cardboard, beverage containers and magazines since 1990. The County developed a procurement policy requiring the purchase of recycled and environmentally friendly products.

Future programs for the County include providing technical assistance to businesses and industries for source reduction and pollution prevention measures, enhance public education by providing outreach programs for backyard composting, apartment recycling and school programs. The county will also continue to work with the Solid Waste Management Coordinating Board on regional issues for integrated solid waste management.

WASHINGTON COUNTY

CHAPTER TWO

SOLID WASTE FACILITIES COST AND FINANCE REPORT FOR THE TWIN CITIES METROPOLITAN AREA

CHAPTER TWO

ABOUT THIS CHAPTER

This is the fifth year the Council has reported to the Legislative Commission on Waste Management on the operating, capital and debt service costs of solid waste facilities in the Metropolitan Area. This report is incorporated as part of the *1993 Abatement Progress Report.* The first *Solid Waste Facilities Cost and Finance Report* was presented in November 1986.

This information is required by the Waste Management Act of 1980, as amended, Minn. Stat. Sec. 473.149, Subd. 6, which states:

> "The report [Abatement Progress Report] in each even-numbered year must include a report on the operating, capital, and debt service costs of solid waste facilities in the metropolitan area; changes in the costs; the methods used to pay the costs; and the resultant allocation of costs among users of the facilities and the general public. The facility costs report must present the cost and financing analysis in the aggregate and broken down by county and by major facility."

This chapter focuses on publicly owned and/or publicly financed solid waste facilities located in the Twin Cities Metropolitan Area. To the extent that facilities located in Greater Minnesota or other states receive solid waste from the region, the costs of disposing of metropolitan area waste in those facilities are reflected. Information is presented on privately owned and financed solid waste facilities to the extent it is available to the Council. All the landfills receiving solid waste from the region and some of the resource recovery facilities are privately owned and operated. Financial information on them is not available.

This chapter provides similar information to the 1991 report, which expanded the scope of previous cost and finance reports. In addition to providing information on the costs and finances of solid waste facilities, it provides information on the costs and financing of regional and county solid waste programs, including the implementation of source and toxicity reduction, recycling, yard waste and household hazardous waste programs and public education programs. This gives a more complete picture of the costs and financing of the solid waste management system in the Twin Cities Metropolitan Area. The chapter also estimates the cost of collecting MSW, recyclables and yard waste in the region.

The Council's *Solid Waste Development Guide/Policy Plan*, adopted in September 1991, provides the policy background for reviewing this cost and finance information. The plan emphasizes having solid waste management costs paid for by the users of the system, and having the prices charged reflect the actual costs of the services provided. Metropolitan county solid waste master plans reflect actions taken by the counties to implement the regional plan.

The focus of this chapter is on solid waste facility and program costs and financing for calendar year 1993. However, several counties in the Twin Cities Metropolitan Area are currently changing how they charge waste generators and county residents for waste processing at resource recovery facilities in response to challenges to their designation ordinances. This chapter describes the changes that counties have made or are planning to make.

DATA SOURCES

The Council relied on a number of data sources to provide information on the costs and financing of solid waste facilities and programs. County solid waste certification reports provided information on the volumes of solid waste flowing to and from solid waste processing facilities and to disposal facilities. This information was supplemented with information prepared by the Solid Waste Management Coordinating Board (SWMCB). Information on facility tip fees and surcharges was obtained from a number of sources, including county certification reports and annual reports for landfills submitted to the Minnesota Pollution Control Agency. Information on the costs and financing of county solid waste management programs was obtained from SCORE reports submitted by the counties to the Office of Waste Management. Finally, information on residential and commercial collection fees was obtained from the *Draft Report: Comparative Economic Analysis of MSW and Recycling Collection in the Twin Cities Metropolitan Area*, a February, 1994 draft report prepared for the Metropolitan Council by Gerschman, Brickner & Bratton, Inc.

The statutes requires the Council to report on the operating, capital and debt service costs of solid waste facilities. In some cases, information is available that allowed the Council to determine these costs. In other cases, facility costs needed to be estimated based on tip fee revenues. The report indicates when costs are based on available cost data and when tip fee revenues are used as a proxy for costs.

While the best information available was used to prepare this report, information on the costs and financing of the solid waste system in some areas involves "best guess" estimates and should be used with that in mind. The solid waste management system in the Twin Cities Metropolitan Area is fragmented, involving seven counties, almost 200 local units of government, over 350 MSW haulers and numerous processing and land disposal facilities. Information from local units of government and haulers must be collected through surveys. Financial information for private facilities is often proprietary and not available. As a result, readers should focus less on specific numbers contained in the report and more on the broader policy issues raised by the numbers.

CHAPTER SUMMARY

The solid waste management system cost waste generators in the region approximately $372 million in 1993. The typical household paid approximately $198 to waste haulers in 1993 for the collection, processing and disposal of waste, although the amount varied depending on the county and city of residence, the type of collection system (open or organized) and the particular hauler. This amount included not only the costs of collection, processing and disposal, but also additional tip fee amounts, surcharges and taxes used to support solid waste management activities of state and local governments. In some jurisdictions, residents paid additional amounts through solid waste management charges collected through other methods.

There were five centralized processing facilities in the region in 1993, and no additional facilities have been added since 1989 when the HERC mass burn facility in Hennepin County began operating. There were no significant capital investments in centralized waste processing facilities between 1991 and 1993, although some capital investments were made to improve processing systems. The Eden Prairie Recycling facility (formerly Reuters), which provided 475 tons of the region's 3,850 tons of processing capacity, closed at the end of 1993. Facility operating and debt service costs for the five centralized facilities serving the region and transfer stations in Hennepin County totalled approximately $84 million in 1993. The 1993 average tip fee- per-processed-ton (including facility costs and revenues to counties for solid waste programs) was virtually the same as in 1991.

There were no new landfills in the Metropolitan Area and two of the four remaining landfills closed in the fall of 1993. Although capital, operating and debt service costs were not available for landfills, approximately $16.5 million was paid to landfill operators to dispose of MSW managed by the seven counties. An additional $5.9 million was paid to landfill operators to dispose of approximately 148,000 of unmanaged MSW escaping county management. MSW landfilled in Metropolitan Area landfills cost approximately $56 per ton in 1993 (including facility costs and surcharges), slightly more than the $54 per ton reported in 1991. Tip fee rates at landfills in Greater Minnesota and in other states were lower than metropolitan area landfills. County and municipal surcharges at metropolitan area MSW landfills are one factor in this difference.

Counties, municipalities and the Council spent approximately $25 million in 1993 on solid waste management programs, including source reduction, recycling, yard waste and household hazardous waste programs. These programs were financed with a variety of tip fees, surcharges and waste management fees enacted by the counties and SCORE and Landfill Abatement Account funds collected by the state. The majority of these revenues were collected for the governmental units by waste haulers and facility operators.

Although the costs and financing of solid waste facilities and the solid waste management system have not changed significantly since 1990, actions are currently taking place that will change the way the system is financed in 1994 and subsequent years. Recent court decisions have raised challenges to county designation ordinances. Counties in the Twin Cities Metropolitan Area have

responded by lowering tip fees at centralized processing facilities to make them more price competitive with landfill tip fees. The same counties have enacted new solid waste management fees to replace tip fee revenues as a financing source for facility operating and debt service costs and county solid waste management program costs. Another recent court ruling requires that ash from centralized processing facilities be tested for hazardous materials and potentially could raise the cost of landfilling incinerator ash.

Several policy issues are raised in the last section of this chapter relative to goals and policies contained in the Council's *Solid Waste Management Development Guide/Policy Plan.* One is the issue of the current volume-based pricing system used by the majority of waste haulers in the Metropolitan Area and whether that system provides sufficient economic incentives for waste reduction. Another issue raised involves whether some of the new solid waste management fees being instituted by the counties in 1994 provide economic incentives for waste reduction by residences and businesses being assessed the fees.

SOLID WASTE FACILITY COSTS AND FINANCING

CENTRALIZED PROCESSING FACILITIES

Centralized processing facilities include mass burn facilities, refuse-derived fuel (RDF) processing facilities and centralized MSW composting facilities. In 1993, the region was served by five centralized processing facilities capable with a normal operating throughput of 3,850 tons per day (TPD). Table 6 shows the throughput, capital costs and debt issuances for the five facilities.

Table 6
CENTRALIZED PROCESSING FACILITIES FOR THE METROPOLITAN AREA

Resource Recovery Facility	Type	Normal Operating Throughput (TPD)	Capital Cost	Debt Issued
Hennepin Energy Resource Corp. (HERC)	Mass Burn	1,000	$ 88,500,000[1]	$ 112,500,000[2]
Newport Resource Recovery Project	Refuse-Derived Fuel	1,000	$ 69,500,000[3]	$ 27,700,000
Elk River Resource Recovery Project	Refuse-Derived Fuel	1,300	$ 60,300,000[4]	$ 53,400,000
Subtotal			$ 218,300,000	$ 193,600,000
Eden Prairie Recycling (formerly Reuter)	Refuse-Derived Fuel	475	$ 19,000,000	n.a.
Richard's Asphalt	Mass Burn	75	$ 3,500,000	n.a.
Total		3,850	$ 240,800,000	n.a.

Capital costs include land, facility construction, equipment and design/engineering costs. Debt issued reflects long-term debt issued to finance capital costs and debt issuance costs including debt service reserves and capitalized interest.

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[1]Capital costs for the Hennepin County Resource Recovery Facility $81 million for pre-1992 capital costs and $7.5 million in subsequent improvements (cooling tower redesign, ash classification building expansion, steam line provision, mercury control). HERC has a capacity of 1,200 tons per day, but is limited by law to 1,000 TPD.

[2]Hennepin County issued $112,495,000 in debt in 1992 and refunded the remaining balance on $141,700,000 in debt issued in 1987. The outstanding balance was reduced through the use of remaining 1987 bond proceeds and other county funds.

[3]Capital costs for the Newport Resource Recovery Facility include $35.9 million for pre-1992 capital costs, $3.6 million in subsequent improvements (tipping floor modifications, oversized and bulky waste shredder and materials recovery system) and $30 million for upgrading NSP's Red Wing and Wilmarth power plants to burn RDF and meet air emission standards.

[4]Capital costs for the Elk River Resource Recovery Project include $65.4 million in pre-1992 capital costs ($30.2 million for RDF facility and $35.2 million for UPA power plant) and $3.9 in subsequent improvements ($0.5 for RDF facility and $3.4 million for UPA power plant. The $60.3 million in capital costs in Table 6 reflects 87 percent of the capital costs of the facility. Anoka and Hennepin Counties use 1,300 TPD out of plant's total throughput of 1,500 TPD.

The cumulative capital cost for the five waste processing facilities is approximately $241 million. The majority of these costs were incurred between 1986 and 1991. The capital investment in 1992 and 1993 was $14.5 million. The additional capital costs include $3.6 million at the Newport Resource Recovery Facility for tipping floor modifications, a shredder for oversized and bulky materials and a materials recovery system, $7.45 million at the HERC Facility for cooling tower redesign, ash classification building expansion, steam line provision and mercury control and $3.4 million (87 percent of $3.9 million total cost) at the Elk River Resource Recovery Facility for miscellaneous improvements. Hennepin County plans to spend an additional $1.8 million in 1994 for tipping floor expansion and expanded hauler services. These capital investments were financed internally and no additional debt was issued by the counties.

Figure 10 shows the trends in processing capacity and cumulative capital costs for the five processing facilities. The Eden Prairie Recycling facility ceased operation at the end of 1993, reducing the region's processing capacity by 475 tons per day, or 12 percent. The plant was operating at less than full capacity and processed approximately 7 percent of the total waste processed in the region in 1993.

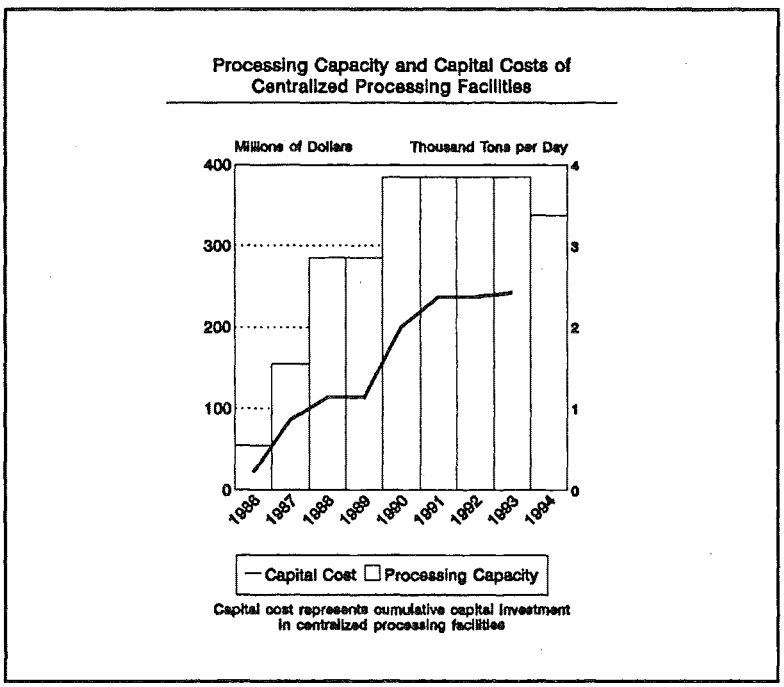

Figure 10

Table 7 on the next page shows the 1993 operating and debt service costs for the three publicly financed resource recovery facilities and estimates the cost to waste generators for processing waste at those facilities and the two privately owned facilities operating in the metropolitan area.

Table 7
1993 CENTRALIZED PROCESSING FACILITY
OPERATING AND DEBT SERVICE COSTS AND
COST TO WASTE GENERATORS

Facility	Estimated Operating Costs	Estimated Debt Service Costs	Estimated Total Costs	Metro Waste Received (Tons)	Estimated Tip Fee ($/Ton)	Estimated Cost to Waste Generators
HERC	$ 5,979,000[5]	$ 9,808,000	$ 15,787,000	347,800	$ 95.00	$33,041,000
Newport						
Rams. Co.	16,084,000	1,770,000	17,854,000	299,000	66.79	19,970,000
Wash. Co.	4,816,000	530,000	5,346,000	89,300	66.79	5,965,000
Other Co.	n.a.	n.a.	n.a.	1,500	66.79	100,000
Subtotal	20,900,000[6]	2,300,000	23,200,000	389,800	66.79	26,035,000
Elk River						
Anoka Co.	6,698,000	1,820,000	8,518,000	134,800	77.00	10,380,000
Henn. Co.	10,596,000	2,783,000	13,379,000	225,100	95.00	21,384,000
Subtotal	17,294,000[7]	4,603,000	21,897,000	359,900	88.26	31,764,000
Transfer Stations[8]	6,420,000	3,656,000	10,076,000	n.a.	n.a.	n.a.
Subtotal	$ 50,593,000	$ 20,367,000	$ 70,960,000	1,097,500	$ 82.77	$90,840,000
EPR	n.a.	n.a.	n.a.	89,700	92.00	8,252,000
Richard's	n.a.	n.a.	n.a.	23,800	90.00	2,142,000
Total	n.a.	n.a.	n.a.	1,211,000	$ 83.60	$101,234,000
Estimated Distribution of Tip Fee Revenues:						
To Centralized Facility/Transfer Station Operators					$ 69.52	$84,189,000[9]
To Hennepin and Anoka Counties to fund solid waste programs						17,045,000

[5]Operating costs for the HERC facility reflect net operating costs to the County. Net O&M costs of $7.1 million and ash disposal costs of $5.9 million are offset by a $7 million credit for the county's share of energy sales revenues.

[6]Operating costs for the Newport facility are estimated based on costs reported in the 1991 Cost and Finance Report.

[7]Operating costs for the Elk River facility reflect net operating costs to the Anoka and Hennepin Counties, which reflect approximately 86 percent of facility costs. Costs include county shares of $3.1 million in ash disposal costs.

[8]Includes operating costs for Hennepin County transfer stations and HHW drop-off site, debt service costs for county bonds issued to construct transfer stations and lease payments to private operators to cover capital costs of privately-financed facilities.

[9]The estimated distribution to facility operators includes county operational and debt service payments to HERC, Elk River and Hennepin County transfer station operators and tip fee revenues for Newport, EPR and Richard's. Includes disposal costs for ash, rejects and residuals.

The majority of the tip fee revenues paid by waste generators goes to the facility operators to cover annual debt service costs and annual operating costs, including processing costs, transportation and disposal costs for rejects, residuals and ash, debt service costs and profits for private operators. Revenues from energy sales reduce the costs that need to be paid by waste generators.

The majority of the tip fee revenues paid by waste generators goes to centralized processing facility and transfer station operators. The $84.1 million in estimated payments to facility operators includes estimated total costs for the HERC and Elk River facilities and Hennepin County transfer stations and the tip fee revenues (as a proxy for costs) for the Newport, EPR and Richard's facilities. Tip fees also generate additional revenues that finance county costs documented in the section on solid waste management program costs and financing. Hennepin County generates additional revenues with its $95 per ton tip fee to finance solid waste management programs of the county. Anoka County also generated a small amount of revenue from the tip fee at the Elk River Facility in 1993 to finance county solid waste management programs. The average tip fee at the centralized processing facilities in 1993 was approximately $84 per ton, up slightly from the $83 per ton reported in the *1991 Facilities Cost and Finance Report.*

In 1994, counties with centralized processing facilities have adjusted their tip fees to bring them more in line with out-of-state landfill tip fees and reduce the economic incentive for haulers to take MSW to out-of-state landfills. Hennepin County's tip fee on county waste delivered to the HERC and Elk River facilities would be reduced from $95 per ton to $60 per ton. Anoka County's tip fee for county waste delivered to the Elk River facility would be reduced from $77 per ton to $49 per ton. Ramsey and Washington Counties would reduce the tip fee on waste from those counties delivered to the Newport facility from $66.79 per ton to $50 per ton. Figure 11 shows the trend in average tip fees for centralized processing facilities and MSW landfills receiving metro waste and illustrates the impact of the county tip fee reductions anticipated in 1994.

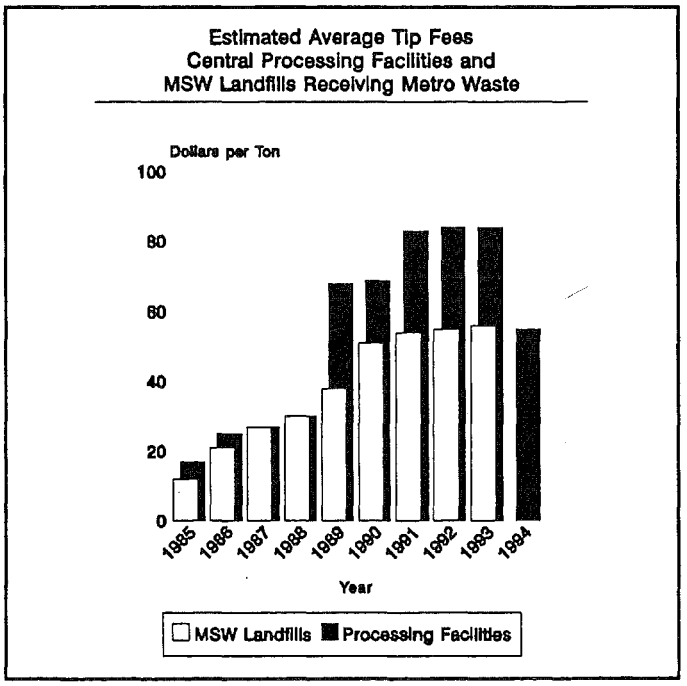

Figure 11

Each county with centralized processing facilities has instituted or is planning to institute additional fees or charges in 1994 to fully or partially offset losses in tip fee revenues resulting from the reduction in tip fee rates. The proposed additional charges or fees being proposed or

instituted by the counties are summarized below. Estimates of revenues raised from these new charges or fees can't be determined at this time. Ramsey and Washington Counties are assuming that the solid waste management charge will offset the losses in tip fee revenues at the Newport facility. Anoka County is also assuming that the solid waste management charge will offset losses in tip fee revenues at the Elk River facility. In Anoka County, the tip fee in effect in 1993 generated sufficient revenue to cover the county's costs for processing waste at the Elk River facility and provide a small amount of funding for the county's solid waste management program. In 1994, the new county solid waste management charge will generate revenues to provide funding for the county solid waste management program and cover a portion of the county's costs for processing waste at Elk River. The impact of the new fees proposed in Hennepin County is less clear in terms of the amount of revenues the new charges will generate. It appears that a portion of the revenues will subsidize centralized waste processing costs (including transfer station costs) and a portion will be used to finance county solid waste program costs.

Anoka County	Reduce tip fee from $77/ton to $49/ton. Enact waste management charges on three categories of residential properties. Category I ($36.09/year) includes single-family residences and all other residences not in Categories II and III, Category II ($28.87/year) includes mobile homes in mobile home parks, Category III ($23.46/year) includes units in apartments with more than four dwelling units. The rate differentials reflect differences in average number of persons per unit. Enact waste management charges on four categories of non-residential properties, with charges increasing with the improved value of property. The average charge on 2,697 non-residential parcels in the county would be $370 per year. The charge would be included on property tax statement and paid with property taxes.
Hennepin County	Reduce tip fee from $95/ton to $60/ton. Enact service charges of 9 percent on waste hauler bills for residential service and 14 percent on waste hauler bills for commercial service. The charge would be collected by waste haulers.
Ramsey and Washington Counties	Reduce tip fee from $66.79 per ton to $50 per ton. Enact waste management charge on residential properties of $1.60 per month or $19.20 per year. Enact waste management charge on non-residential properties based on purchased capacity (size of dumpster). Fees would be $0.80 for each loose cubic yard of purchased capacity and $2.40 for each compacted cubic yard of purchased capacity. For example, for a 8 cubic yard dumpster picked up once a week, the annual charge would be 8 x $0.80 = $6.40 per pickup x 52 weeks = $332.80. The charge would be collected by waste haulers.

LAND DISPOSAL FACILITIES

MSW Landfills

Table 8 shows the estimated amount of MSW generated in the Seven-County Metropolitan Area that was landfilled in MSW landfills in 1993 and the cost to waste generators. Waste landfilled in MSW landfills in the region and in landfills in Greater Minnesota and other states includes unprocessible waste, rejects and residuals from centralized processing facilities and unprocessed waste. The region landfilled approximately 411,000 tons of MSW in 1993, including approximately 266,000 tons of unprocessed MSW, 51,000 tons of excess waste delivered to Newport but transferred to landfills without processing, 15,000 tons of rejects and 79,000 of processing residuals.

Table 8
1993 REGIONAL MSW LANDFILL COSTS

Facility/County	Managed Metro Wastes Landfilled (Tons)	Average Tip Fee ($ per Ton)		Cost to Waste Generator
		Base Rate	Total Rate	
Anoka/Anoka	60,600	$ 45.67	$ 56.36	$ 3,415,000
Burnsville/Dakota	70,000	40.00	62.41	4,369,000
Pine Bend/Dakota	135,000	40.90	63.74	8,605,000
Woodlake/Hennepin	87,200	34.25	47.57	4,148,000
Subtotal-Metro Landfills	352,800	$ 39.90	$ 58.21	$ 20,537,000
Greater Minnesota Landfills[10]	46,000	42.05	48.71	2,241,000
Out-of-State Landfills[11]	12,200	40.00	40.00	488,000
Subtotal-Other Landfills	58,200	41.62	46.89	2,729,000
Total-All Landfills	411,000	$ 40.14	$ 56.61	$ 23,266,000
Estimated Distribution of Tip Fee Revenues:				
To Landfill Operators			$ 40.14	$ 16,498,000
To State: Landfill Abatement Acct and Greater Minnesota Landfill Cleanup Fund				2,656,000
To Host Counties and Municipalities				4,112,000

[10]Greater Minnesota landfills receiving metro wastes include Elk River (Sherburne Co.), McLeod (McLeod Co.), Rice (Rice Co.) and Yonak (Wright Co.).

[11]Includes landfills located in Illinois, Iowa, North Dakota and Wisconsin. Includes managed metro waste only. Additional unmanaged waste may be going to these landfills.

Operating, capital and debt service costs for MSW landfills generally are not available, since the landfills are privately owned and financed. Table 3 uses tip fee revenues as a proxy for landfill costs and estimates how the revenues are distributed between facility operators (representing landfill costs) and governmental units (representing surcharge revenues used to finance solid waste program costs).

Table 8 only includes mixed-municipal solid waste (MSW) managed by the counties. An estimated 148,000 tons of unmanaged MSW escaped the county management systems and be disposed in Greater Minnesota or out-of-state landfills. Based on the estimated average tip fee at out-of-state landfills, disposal of this unmanaged waste cost waste generators in the metropolitan area approximately $5,920,000, bring the total cost to metropolitan area waste generators, including surcharges, to $29,189,000 and the total tip fee revenues to landfill operators (a proxy for landfill costs) to $22,418,000.

Tip fee revenues include base fees charged by landfill operators and state, county and municipal surcharges. Surcharges include:

1) A Metropolitan Landfill Abatement Fund surcharge of $6.66 per ton ($2 per cubic yard) on all MSW landfilled in metropolitan area landfills. The revenues fund landfill abatement activities of the Metropolitan Council and the counties.
2) A Greater Minnesota Landfill Cleanup Fund surcharge of $6.66 per ton ($2 per cubic yard) on all MSW landfilled in state landfills outside the metropolitan area. The revenues fund landfill cleanup activities.
3) County surcharges (Up to $3.33 per cubic yard on waste generated within a county and up to $7.50 per cubic yard on waste generated outside a county and disposed with the county). Dakota County charged $11.09 per ton ($3.33 per cubic yard) on waste generated within the county and $24.42 per ton ($7.33 per cubic yard) on out-of-county generated waste. Hennepin County charged $7.66 per ton ($2.30 per cubic yard) and Anoka County charged $4.03 per ton ($1.21 per cubic yard) on all waste landfilled within their jurisdiction. Surcharge revenues can be used for abatement activities or costs directly related to the facility.
4) Municipal surcharges up to $3.33 per ton or $1 per cubic yard. Burnsville and Inver Grove Heights charge the maximum surcharge. Only $0.83 per ton ($0.25 per cubic yard) of the collected fee must be used for abatement activities or costs of mitigation. The remainder may be used by the municipality for any general fund purpose.

Demolition Debris and Industrial Waste Landfills

Separate from mixed-municipal solid waste (MSW), the region incurred additional costs for the land disposal of demolition and construction debris and industrial wastes.

There are five permitted demolition landfills in the Metropolitan Area and two permitted non-metropolitan facilities that received significant volumes of the region's demolition waste. In 1993, these landfills handled approximately 1.6 million cubic yards of demolition debris. At an

average charge of $10 per cubic yard, or $18 per ton, the total cost to the region for the disposal of demolition debris was approximately $16 million.

Metropolitan Area and non-metropolitan area MSW landfills accepted the region's industrial waste in 1993. This industrial waste was typically co-disposed in separate landfill cells in accordance with a Minnesota Pollution Control Agency (MPCA)-approved industrial waste management plan. Fees for the co-disposal of industrial waste are generally higher than for MSW because the landfill cells have higher protective standards. Metropolitan Area landfills handled approximately 67,500 tons of industrial waste in 1993. At an average charge of $60 per ton, the total cost to the region for the disposal of industrial waste at metro landfills was approximately $4 million.

In addition to industrial wastes landfilled at MSW landfills, several industries in the Metropolitan Area operate disposal facilities exclusively for their own wastes. No cost data is available on these facilities.

Incinerator Ash Landfills

Significant quantities of ash were generated from the processing of the region's solid waste, both at mass burn facilities and at power plants burning refuse-derived fuel produced from regional waste. Approximately 236,400 tons of ash generated by HERC, Elk River and Newport resource recovery facilities was landfilled at a 1993 cost of approximately $9.8 million, or $42 per ton. An additional 11,600 tons of ash was generated at the Eden Prairie Recycling (EPR, formerly Reuter) and Richard's facilities. Cost of ash disposal at both facilities in not available, but is estimated at $200,000, bringing the total 1993 cost to approximately $10 million.

Costs for the three large processing facilities were:

The HERC mass burn facility produced approximately 101,000 tons of ash in 1993, which was sent to a landfill in Illinois. Transportation and disposal costs for this ash disposal totalled $5.9 million in 1993, or $59 per ton.

Refuse-derived fuel produced at the Newport RDF facility was burned at NSP's Red Wing and Wilmarth electric generating plants, producing approximately 64,700 tons of ash. The ash was landfilled in ash monofills in Red Wing and Blue Earth County. Transportation and disposal costs for this ash were approximately $800,000 in 1993, or $13 per ton.

Refuse-derived fuel produced at the Elk River RDF facility was burned at a United Power Association electric generating plant, producing approximately 70,600 tons of ash. The ash was landfilled in an ash monofill in Becker County. Transportation, disposal, capital recovery and funding of long-term closure costs totalled approximately $3.1 million in 1993, or $44 per ton.

SOLID WASTE MANAGEMENT PROGRAM COSTS AND FINANCING

Metropolitan Area counties, municipalities and the Metropolitan Council carry out a variety of solid waste management activities related to source reduction, recycling, yard waste, household hazardous waste, markets development and public education. In 1993, counties and the Metropolitan Council spent approximately $24.9 million on solid waste management programs. Included in the total were approximately $14.4 million spent directly by the counties and Council for program planning and administration and service delivery, either directly or by contract. An additional $10.5 million was provided through county grants to municipalities for recycling programs and other local solid waste management activities. Municipalities spent additional local funding on solid waste management activities, but the total amount is not available.

Figure 12 summarizes Council, county and county-grant funded municipal spending for 1993, based on information provided in SCORE reports to the Minnesota Office of Waste Management and Council Landfill Abatement Fund reports. SCORE refers to the comprehensive source reduction and recycling program established by the Minnesota Legislature in 1989. Information in the SCORE reports was categorized by major purpose to obtain a picture of where the Council, counties and municipalities are spending on solid waste management programs. Within each major purpose, activities might include research and planning, public education, county provided services (either directly or through contract) and municipal services and programs funded with county grants.

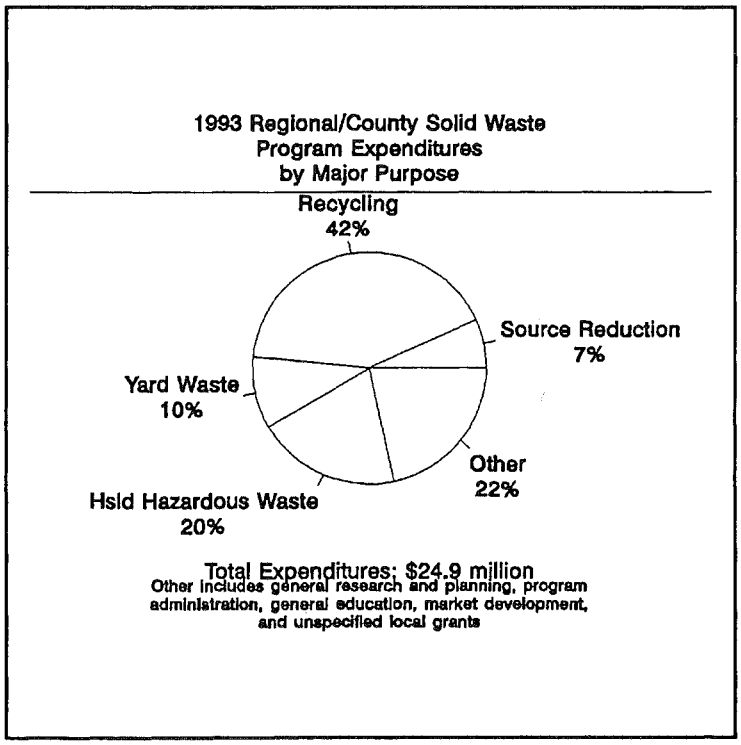

Figure 12

Over half of the solid waste management program spending was directed at implementation of recycling and yard waste composting programs. Approximately $10.4 million was spent in 1993 on **recycling** programs through local grants to municipalities ($6.9 million) and county-provided services ($2.5 million). An additional $1 million was spent by the Council and counties on research, planning and public education activities related to recycling. Approximately $2.5 million was spent on **yard waste** programs by counties and municipalities. These amounts represent the public cost of recycling and yard waste programs. They do not include the costs of collecting and transporting recyclables and yard wastes by private haulers or private sector costs of processing yard wastes or recyclables.

Approximately $1.7 million was spent in 1993 on **source reduction and toxicity reduction** activities. The majority of this spending was on research and planning ($600,000) and public eduction programs ($1 million). Counties have increased spending on **household hazardous waste** programs. Counties spent approximately $4.9 million on these programs in 1993, significantly more than the $2.2 million spent in 1991.

Other activities cost the Council, counties and municipalities approximately $5.4 million in 1993. Components of this category include program administration and general research and planning ($3.6 million) and miscellaneous education, market development and unspecified activities ($1.8 million).

Figure 13 shows how these 1993 solid waste management program costs were financed. In total, the Council and counties generated approximately $25.2 million in revenues to fund program costs. The counties generated approximately $16 million, or 63 percent of the funding, from various county sources. Major sources included centralized processing facility tip fees ($9.6 million), landfill surcharges ($2.1 million) and waste management fees ($2.9 million). Other county revenues ($1.4 million) came from material sales, a small amount of general fund revenues and other sources.

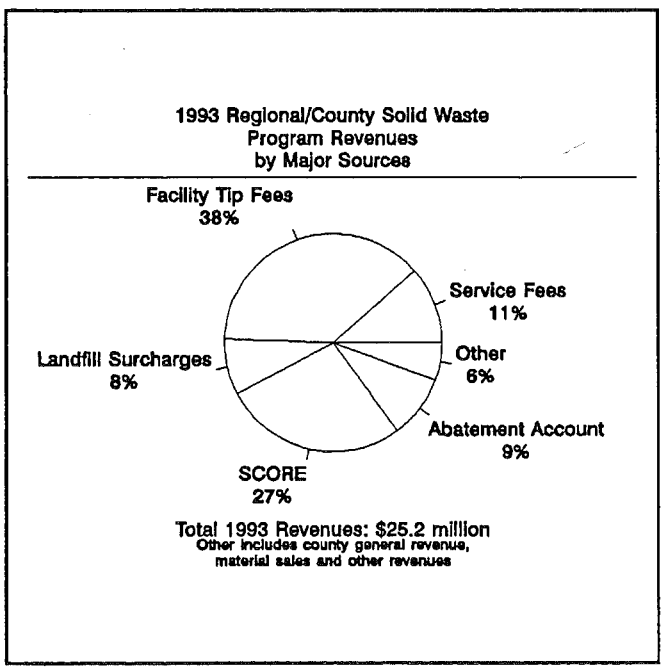

Figure 13

Additional funding for solid waste management programs was provided through SCORE funding ($6.9 million) and the Landfill Abatement Account administered by the Council ($2.35 million).

WASTE COLLECTION COSTS

Virtually all the costs of the solid waste management system, including most of the costs of county solid waste programs, are reflected in the waste collection fees charged residential and commercial waste generators by municipal or private waste haulers. Waste collection fees include the costs of collecting and transporting mixed solid waste (MSW) and, in most instances, recyclables and yard waste to recycling, waste processing or land disposal facilities. Collection and transportation costs include direct costs for labor, vehicles, maintenance, insurance, license fees and fuel, administrative costs for record keeping and billing, taxes and profit. The fees also include a majority of the costs of waste processing and/or land disposal as reflected in the tipping fees haulers pay at resource recovery facilities and landfills. Collection fees also include the 6.5 percent SCORE tax, landfill surcharges reflected in landfill tip fees, centralized processing facility tip fee revenues used to fund county solid waste programs and, in some cases, county and municipal waste management fees. In a few instances, counties collect solid waste management fees through the property tax collection system rather than through haulers. Since resource recovery facility and landfill costs and various government fees and surcharges are charged to waste generators indirectly through haulers, the waste collection fee is the primary and most visible source of information for waste generator as to the cost of the regional waste management system. In most cases, the monthly or quarterly fee charged by waste haulers does not itemize collection charges, tipping fees and government fees and surcharges.

RESIDENTIAL COLLECTION

Table 9 on the next page shows 1993 average monthly collection fees paid for residential waste hauling in each metropolitan county. The information is based on a 1993 consultant survey of municipalities and haulers and the Chanhassen Organized Collection Study conducted in 1993 summarized in ***Draft Report: Comparative Economic Analysis of MSW and Recycling Collection in the Twin Cities Metropolitan Area***, a February, 1994 draft report prepared for the Metropolitan Council by Gerschman, Brickner & Bratton, Inc. The table also provides comparisons of average monthly collection charges for residential customers under organized and open collection systems and in counties with and without designation ordinances.

The majority of the municipalities in the Metropolitan Area require mandatory waste collection service for residential waste generators. In addition, six counties and most municipalities require volume or weight based pricing through their hauler licensing. Generally, waste haulers offer the three-tier pricing system reflected in Table 9. Haulers operating within open collection systems use volume-based collection pricing to a greater extent than haulers in organized systems, and this is reflected in the wider pricing differential between 30, 60, and 90 gallon service. The table also shows that residential customers in counties with designation ordinances pay higher monthly charges than customers in non-designated counties. The pricing differential reflects the higher costs per ton to process rather than landfill waste.

Table 9
1993 AVERAGE MONTHLY RESIDENTIAL COLLECTION CHARGES

County	Number of Munic.	Population	30 Gal.	60 Gal.	90 Gal.	Weighted Average
Anoka	21	255,064	$14.06	$16.50	$19.14	$15.60
Carver	23	50,914	$12.42	$13.94	$15.62	$13.99
Dakota	34	290,443	$13.40	$17.86	$16.18	$15.81
Hennepin	47	1,047,206	$16.20	$17.81	$19.60	$17.87
Ramsey	19	490,258	$13.09	$15.58	$18.10	$15.59
Scott	19	61,960	$11.37	$12.71	$14.03	$12.71
Washington	34	156,276	$12.89	$15.62	$17.99	$15.49
Metro Area	197	2,352,121	$14.54	$16.85	$18.48	$16.52
Organized	44	698,836	$14.56	$15.63	$15.11	n.a.
Open	153	1,653,285	$14.53	$17.36	$19.90	n.a.
Designated	121	1,948,804	$14.87	$16.90	$19.04	$16.81
Undesignated	76	403,317	$12.96	$16.57	$15.78	$15.10

NON-RESIDENTIAL (COMMERCIAL) COLLECTION

Waste hauler charges for commercial, industrial and institutional customers vary considerably and are difficult to quantify. The 1993 consultant study on MSW collection costs showed that average charges ranged significantly with the region. Charges may vary by the size of the dumpster or roll-off, the weight, the frequency of pickup and where the waste is transported. Based on the consultant survey of municipalities and haulers, charges depend to a significant degree on the volume of waste generated.

COLLECTION COSTS

Regional MSW collection costs in 1993 totalled approximately $214 million. This estimate is based on the following assumptions:

Residential Charges	$ 181,350,000	Assumes 914,800 households were charged an average fee of $16.52 per month or $198 per year
Commercial Charges	154,750,000	Assumes commercial sector generated 1,520,300 tons of waste (55% of MSW managed) and was charged $222 per month for a weekly collection of an 8 cubic yard uncompacted container. At 125 pounds per cubic yard, the average annual cost per ton is approximately $102.
Gross Collection Costs	$ 336,100,000	
Less:		
Processing Tip Fees	101,250,000	Includes processing costs, ash disposal costs, reject and residual disposal costs and tip fee revenue distributed to counties to fund solid waste programs
Landfill Tip Fees	20,750,000	Includes unprocessed MSW disposal costs, estimated disposal cost for unmanaged MSW and state, county and municipal surcharges used to fund solid waste programs
Net Collection Costs	$ 214,100,000	

Collection costs for industrial wastes for 1993 were estimated at approximately $3.8 million (Gross charges of $7.8 million, minus landfill costs of $4 million). Collection costs for demolition debris for 1993 were estimated at approximately $8 million (Gross charges of $24 million, minus landfill costs of $16 million).

SOLID WASTE SYSTEM COSTS

Figure 14 shows the estimated share of costs for major components of the solid waste management system for the Twin Cities Metropolitan Area. Collection costs represent the largest cost component of the overall solid waste management system for the metropolitan area, totalling approximately $226 million in 1993. Centralized processing costs and disposal costs for ash and rejects/residuals charged to waste generators at the five resource recovery facilities, represent the next largest cost component, totaling approximately $ 84 million in 1993. Land disposal of unprocessed MSW, demolition debris and industrial waste cost the region approximately $37 million in 1993. Other costs totalled approximately $25 million in 1993.

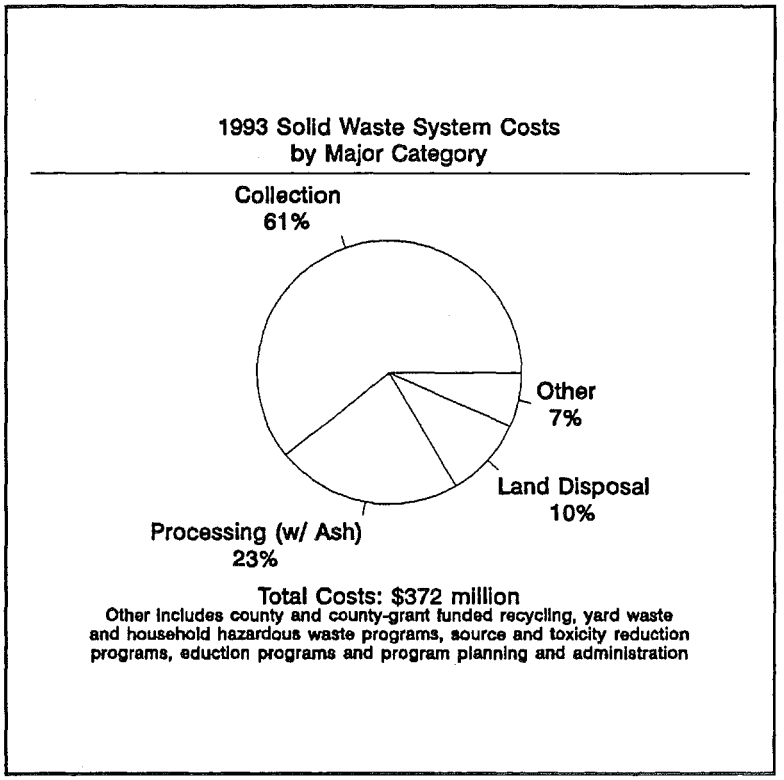

Figure 14

Total 1993 system costs are lower than those reported in the *1991 Facilities Cost and Finance Report*. The 1991 report estimated the cost of processing and landfilling waste by determining the total tip fee revenues generated by each facility and using those figures as an estimate of the costs for those facilities. However, a portion of the tip fee revenues do not cover costs of the facilities, but are collected for state, regional, county and municipal governments to fund solid waste management program costs. Since the costs of these programs are reflected in other components of the system costs, including tip fee revenues and landfill surcharges that represent revenues generated to fund program costs results in double counting. The 1993 report estimates the tip fee revenues going to facility operators, net of revenues going to the state, counties and municipalities, to eliminate this double counting. The 1993 figures should more accurately reflect total system costs.

Estimates of centralized processing facility costs included in Figure 14 and Table 10 reflect the net costs of the facilities after subtracting revenues from energy sales. The report did not attempt to estimate gross processing costs and energy revenues, although Hennepin County indicated that it received an energy credit of approximately $10 million in 1993 reflecting revenues from energy sales at the HERC mass burn facility.

Table 10 provides more detailed information on specific components of regional system costs and estimates of the cost per managed ton for each component. Overall, the solid waste management system costs in 1993 totalled approximately $372 million.

Table 10
1993 SOLID WASTE SYSTEM COSTS

Cost Component	1993 Estimated Cost	1993 Estimated Tons	1993 Estimated Cost/Ton
System Planning and Administration	$ 5,400,000	2,767,000	$ 1.95
Source/Toxicity Reduction Programs	1,700,000	2,767,000	0.61
Recycling Programs[12]	10,400,000	1,285,000	8.07
Yard Waste Composting Programs	2,500,000	279,000	9.04
Household Hazardous Waste Programs	4,900,000	n.a.	n.a.
Subtotal-Solid Waste Management Programs	$ 24,900,000	2,767,000	$ 9.00
Centralized Processing Facilities[13]	68,400,000	1,211,000	56.48
Rejects and Residuals Disposal	5,800,000	145,000	40.00
Ash Disposal	10,000,000	248,000	40.32
Subtotal-Centralized Processing	$ 84,200,000	1,211,000	$ 69.53
Unprocessed (Managed/Unmanaged) MSW Land Disposal[14]	16,600,000	414,000	40.10
Demolition Debris Disposal	16,000,000	889,000	18.00
Industrial Waste Disposal	4,000,000	68,000	60.00
Subtotal-Land Disposal (Excluding Ash and R&R)	$ 36,600,000	n.a.	n.a.
Total Excluding Collection	$ 145,700,000	2,767,000	$ 52.66
Collection (MSW, Recyclables, Yard Waste)	214,100,000	2,767,000	77.35
Collection (Industrial Waste, Demolition Debris)	11,800,000	n.a.	n.a.
Total	$ 371,600,000	n.a.	n.a.
Total (Managed MSW Only)	$ 333,900,000	2,767,000	$ 120.67

[12]Program costs for recycling and yard waste programs exclude the cost of collecting and transporting recyclables and yard waste to recycling and composting facilities. Collection and transportation costs are included with MSW collection costs in the table.

[13]Excludes tip fee revenues retained by counties to fund county solid waste management programs

[14]Excludes landfill surcharge revenue collected for state, county and municipal governments

POLICY IMPLICATIONS

Solid waste management system costs have leveled out compared to the major increases in system costs in the mid-1980s as major centralized processing facilities went into operation. Regional and county solid waste program expenditures have stayed level between 1991 and 1993, although the distribution of spending between source reduction, recycling, yard waste composting and household hazardous waste programs has shifted. In particular, the counties are spending more in 1993 on household hazardous waste programs than reported in 1991.

Solid waste system financing did not change between 1991 and 1993, although changes occurring in 1994 will significantly change the way waste generators and the general public pay for solid waste management costs. Waste generators currently pay for solid waste services primarily through waste hauler fees and to a lessor extent through consumer prices, state and local taxes and solid waste management fees assessed through the property tax system. Most solid waste-related taxes and fees charged waste generators (landfill surcharges, processing tip fee revenues used to fund program costs, county and municipal solid waste management charges and state SCORE taxes) are reflected in the waste hauler fees charged residential and commercial waste generators. Sometimes these taxes and charges are explicitly shown on a customers bill, although frequently they are not specifically itemized, making it difficult for waste generators to determine specifically what services they are paying for and who (waste haulers, facility operators and state, regional, county and municipal units of government) is receiving what from their waste hauler charge.

The *Solid Waste Management Development Guide/Policy Plan* contains the following goal and policy for guiding future investments and managing the costs and financing of the regional solid waste management system.

Goal 5: The solid waste management system must make effective use of public resources and allocate costs equitably to waste generators.

Policy 5A: In general, management of the solid waste stream should be paid for by generators, and from revenues derived from the sale of energy, recyclables and compost.

Residences and businesses should pay the actual costs of managing the waste they generate to maintain economic incentives for waste reduction and recycling, and to promote equity in the allocation of waste management costs. Solid waste management should continue to be financed largely through user fees, which should reflect to the greatest extent possible the system costs incurred to manage a particular generators waste.

The *1993 Facilities Cost and Finance Report* points out two issues related to this goal and policy. The first involves the volume-based pricing system reflected in Table 9. The second involves the new solid waste management fees being enacted by counties in 1994.

As can be seen in Table 9, the volume-based pricing system offers little economic incentive for residential customers to reduce waste generation, since a reduction in the volume of waste collected does not result in a significant reduction in charges. The share of waste hauler charges that reflects facility tip fees suggests that there should be a larger differential in rates, although there isn't a direct correlation between volume and weight since if price differential were greater waste generators could place more waste in fewer containers. Governmental units involved in the solid waste management system need to continue to research pricing alternatives, including weight-based pricing systems, that will provide greater economic incentives for reductions in waste generation by residential and commercial, industrial and institutional waste generators.

The new solid waste management fees being enacted by Anoka, Ramsey and Washington counties to replace revenues losses for reductions in facility tip fees move the financing of the solid waste management system in those counties away from the position taken by the Council in Policy 5A.

The waste management fee proposed by Ramsey and Washington Counties on residential properties of $1.60 per month or $19.20 per year is a flat rate that does not vary with the amount of waste generated by a residence. The non-residential charge is based on purchased volume, so it bears a relationship to waste generation by non-residential customers.

The waste management fee proposed by Anoka County for residential properties sets differential rates for categories of residences based on the average number of persons per household and, indirectly, waste generation rates. But the fees with these broad categories are a flat annual rate (eg. $36.09 for single family residences) that do not vary by the amount of waste generated by a residence. Non-residential charges include four categories based on improved value of a property.

The new waste management charges represent 10 to 20 percent of a typical residential customers cost for solid waste management. The impact of these changes on economic incentives for reductions in waste generation likely will be minimal, considering that the current volume-based pricing system itself offers little economic incentive for waste reduction. However, the new residential charges in Anoka, Ramsey and Washington Counties and the non-residential charges in Anoka County further contributes to a pricing system that does not reward reductions in waste generation.

Although not related directly to the Council's goal and policy, a related issue could affect waste generators in the region. Anoka, Hennepin, Ramsey and Washington Counties are assuming that as they impose new solid waste management fees, the additional cost to waste generators resulting from these fees will be offset by reductions in waste hauler fees reflecting reduced tip fees paid by haulers at centralized processing facilities. Based on 1993 waste processed and the reduced tip fees, tip fee revenues at the three large centralized processing facilities, and tip fee costs to waste haulers in those counties, will be reduced approximately $30 million from 1993 levels. If these cost reductions in tip fees are not reflected in waste hauler fees, waste generators in the region will pay more in 1994 for solid waste management than necessary. Residential charges should be surveyed in 1994 and 1995 to monitor these changes.

CHAPTER THREE

METROPOLITAN COUNCIL
LANDFILL ABATEMENT ACCOUNT

FY93 EXPENDITURES AND ACTIVITIES

CHAPTER SUMMARY
Metropolitan Council Landfill Abatement Account (MCLAA)
1993 Expenditures and Activities Report

NON-GRANT PROGRAMS	Exp/Enc Amount	% of Total
Administration-General administration; Quarterly grants newsletter; program evaluation and revision; financial audits.	$ 252,439.15	8.6%
Public Education-Final implementation of the CISRR project and regional public education campaign on waste reduction.	$ 213,613.59	7.3%
Solid Waste Research-Completion of work for the MPCA/Met Council Waste Composition Study.	$ 210,244.96	7.2%
GRANT PROGRAMS		
Local Recycling Development (LRD)-Legislatively mandated program-50% of the ACTUAL 1993 MPCA & interest receipts to metro counties.	$1,175,530.56 (50% of 1993 PCA & interest receipts)	40.2%
Memo of Agreement (MOA)-SWMCB (implementation activities).	$ 126,320.00	4.3%
Regional Public Education (RPE)-SWMCB (regional public education campaign).	$ 507,062.00	17.3%
Request for Proposals (RFPs)-HNTB (generation to 2015);GBB (collection strategies economic analysis). (10 applicants; 2 grants)	$ 199,982.00	6.8%
Public Education for Cross-Cultural Materials (PECC)-Fresh Air Radio (PSAs-6 cultures); KTCI TV (Hmong teaching videos and PSAs); MN Inst. of Public Health (pre-school curriculum w/Head Start & ECFE); MCEA (Deaf community curriculum w/DEAF); Small Change Original Theatre (theatre presentations); HAP (Hmong storycloth/posters); MAACC (high school media presentations). (8 applicants; 7 grants awarded)	$ 242,493.00	8.3%
TOTAL	$2,927,685.26	100%

Of the 26 grant requests received, 18 grants were awarded, totalling $2,251,387.56. MCLAA funds by policy area are illustrated on page 4, Figure 1. The Regional Public Education grant to the SWMCB was awarded in calendar year 1993. It is included in the FY95 budget, as the funds will not be expended until 1994 and 1995.

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INTRODUCTION

Minnesota Statutes, Section 473.844 of the Waste Management Act, authorizes the Metropolitan Council to make grants for landfill abatement activities. Funding for the Council's programs comes from the Metropolitan Landfill Abatement Account (MLAA), which is generated from receipt of $1.50 per cubic yard surcharge on solid wastes accepted and disposed of at landfills in the Metropolitan Area. The Minnesota Pollution Control Agency (MPCA) collects the surcharge and forwards it to the Metropolitan Council Landfill Abatement Account (MCLAA.)

FLOW CHART for METROPOLITAN COUNCIL LANDFILL ABATEMENT ACCOUNT
January 1, 1993 - June 30, 1993/July 1, 1993 - December 31, 1993

	1/1-6/30/93	7/1-12/31/93
MPCA receipts and interest	$1,297,156.64	$1,053,904.48

LRDG = 50%	1/1-6/30/93	7/1-12/31/93
Anoka	$ 76,485.91	$62,142.72
Carver	52,488.52	42,645.49
Dakota	82,323.12	66,885.29
Hennepin	202,310.12	164,371.47
Ramsey	117,022.06	95,077.24
Scott	53,461.38	43,435.92
Washington	64,487.21	52,394.11
TOTAL LRDG	$648,578.32	$526,952.24

Non-LRDG MC programs	1/1 - 6/30/93	7/1-12/31/93
50% MPCA receipts + int.	$648,578.32	$526,952.24
Repaid/reverted funds	26,082.45	3,400.00
MCLAA balance encumbered		547,141.69
TOTAL COUNCIL PROGRAM FUNDS		$1,752,154.70

Non-LRDG Metropolitan Council programs-detailed expenditures/encumbrances

PUBLIC ED.CROSS-CULTURAL GRANTS AWARDED	$ 242,493.00	0
MEMO OF AGREEMENT GRANT AWARDED (RFP program)	0	126,320.00
RFP GRANTS AWARDED	199,982.00	
REGIONAL PUBLIC EDUCATION GRANT AWARDED	0	507,062.00
ADMINISTRATIVE EXPENDITURES	113,411.01	139,028.14
SOLID WASTE RESEARCH EXPENDITURES	121,011.64	89,233.32
PUBLIC EDUCATION EXPENDITURES	133,613.59	80,000.00
TOTAL NON-LRDG METROPOLITAN COUNCIL PROGRAMS EXPENDITURES and ENCUMBRANCES		$1,752,154.70

1993 EXPENDITURES AND ACTIVITIES

A) SUMMARY OF 1993 EXPENDITURES AND ACTIVITIES in SIX MONTH INCREMENTS

Table 11 represents revenues, repayments, encumbered grants having unused grant funds that reverted to the MCLAA, balance carry-over funds; and expenditures/encumbrances.

Note that carry-over funds expended/encumbered include $507,062.00 awarded to the SWMCB for the Regional Public Education (RPE) grant. RPE grant funds will actually be paid out in 1994 and 1995.

TABLE 11

FUNDS TO MCLAA		
	1/1-6/30/93	7/1-12/31/93
MPCA Receipts	1,258,070.34	1,008,262.84
Interest	39,086.30	45,641.64
Sub-total	1,297,156.64	1,053,904.48
Repayment to fund	4,673.61	3,400.00
Previously encumbered reverted grant funds	21,408.84	0
Sub-total ($2,380,543.57)	1,323,239.09	1,057,304.48
MCLAA balance carry-over funds		547,141.69
TOTAL		2,927,685.26
EXPENDITURES/ENCUMBRANCES		
Grants	$1,091,053.32	$1,160,334.24
Administration	113,411.01	139,028.14
Public Education	133,613.59	80,000.00
Solid Waste Research	121,011.64	89,233.32
TOTAL ($2,927,685.26)	1,459,089.56	1,468,595.70

B) ACTIVITIES BY POLICY AREA

Metropolitan Council Landfill Abatement Account funds were spent in four over-lapping policy areas:

1) Source/waste/toxicity reduction efforts
2) Recycling activities
3) Markets development
4) Solid waste research

Table 12 shows the estimate of dollars expended in each policy area. Appendix D details the calculations.

TABLE 12 - METROPOLITAN COUNCIL LANDFILL ABATEMENT ACCOUNT by POLICY AREA

POLICY AREA	1/1-6/30/93	7/1-12/31/93
1) Source/waste/toxicity reduction efforts	$645,135.37	$868,898.32
2) Recycling activities	476,729.87	275,837.57
3) Markets development	182,544.65	101,355.08
4) Solid waste research	154,679.67	222,504.73
TOTAL	$1,459,089.56	$1,468,595.70

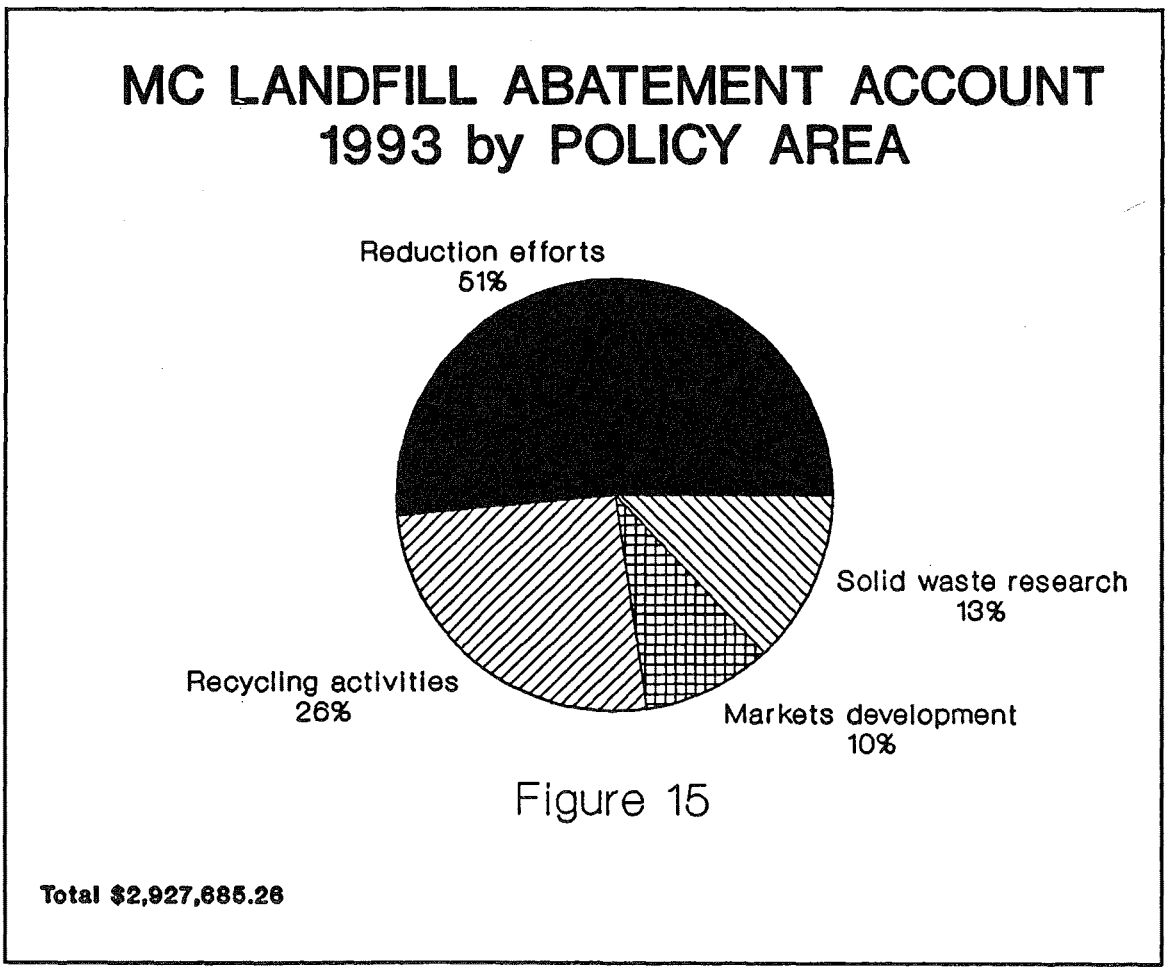


Figure 15

C) 1993 FUNDS TO MCLAA IN 6 MONTH INCREMENTS

Table 13 shows the receipts forwarded to the Council from the MPCA, interest on the MCLAA, and detail on funds repaid or reverted to the MCLAA during 1993 in six month increments.

Reversion of grant funds occurs whenever a grantee does not use all of the awarded funds. Since payment of grant funds has been on a reimbursement basis since FY91, repayments of grant funds by a grantee are becoming more rare.

TABLE 13

FUNDS TO THE METROPOLITAN COUNCIL LANDFILL ABATEMENT ACCOUNT
January 1, 1993 - June 30, 1993 and July 1, 1993 - December 31, 1993

RECEIPTS	1/1/93-6/30/93	7/1/93-12/31/93
Funds forwarded from MPCA	$1,258,070.34	$1,008,262.84
Interest	39,086.30	45,641.64
Sub-total	1,297,156.64	1,053,904.48
REPAYMENTS ($8,073.61 for calendar year 1993)		
Northland Recycling	900.00	900.00
Goodwill Industries	3,773.61	0
North Star Universal	0	2,500.00
REVERSIONS ($21,408.84 for calendar year 1993)		
City of Mounds View	255.60	0
St. Paul NEC	1,962.40	0
St. Paul Public Schools	19,022.81	0
City of White Bear Lake	168.03	0
TOTAL - $2,380,543.57	$1,323,239.09	$1,057,304.48

1993 GRANTEES in SIX MONTH INCREMENTS

TABLE 14

LOCAL RECYCLING DEVELOPMENT GRANTS: Number of applicants-7; Total LRD grant funds paid/encumbered for 1993-$1,175,530.56	Jan. 1, 1993-June 30, 1993	July 1, 1993-Dec. 31,1993
1) Anoka County-Contact person: Carolyn Smith, (612) 323-5735; Activities: Educational materials and technical assistance for residents, municipalities and businesses to reduce the toxicity of the waste stream.	$ 76,485.91	$62,142.72
2) Carver County-Contact person: Michael Lein, (612) 448-3435; Activities: County-wide public education effort continued; recycling, yard waste and special waste/household hazardous waste programs coordination and implementation.	52,488.52	42,645.49
3) Dakota County-Contact person: Mike Trdan, (612) 891-7021; Activities: Sub-grants to the city programs-to be eligible for funding, the communities were required to have a fully operating recyclables collection program.	82,323.12	66,885.29
4) Hennepin County-Contact person: Carl Michaud, (612) 348-3054; Activities: Grants to cities for recycling programs; public education efforts on problem waste management, multi-unit recycling and toxicity reduction.	202,310.12	164,371.47
5) Ramsey County-Contact person: Zack Hansen, (612) 292-7900; Activities: LRDG funds are dedicated to commercial, industrial, and institutional waste reduction and recycling activities.	117,022.06	95,077.24
6) Scott County-Contact person: Al Frechette, (612) 496-8177; Activities: Sub-grants to municipalities; contracted recycling and household hazardous waste services; Performance Enhancement Recycling Cost Share (PERCS) program provides subsidies to haulers collecting recyclables.	53,461.38	43,435.92
7) Washington County-Contact person: Judy Arends, (612) 430-6655; Activities: Curbside recycling program (based on performance) and CLIMB Theatre productions in schools were funded.	64,487.21	52,394.11
7 grants awarded - TOTAL	$648,578.32	$526,952.24

1993 MEMO OF AGREEMENT IMPLEMENTATION GRANT TO SOLID WASTE MANAGEMENT COORDINATING BOARD	Jan. 1, 1993-June 30, 1993	July 1, 1993-Dec. 31,1993
1) SWMCB-Contact person: Tim Yantos, 323-5692 Activities: Implementation of SWMCB activities for a regional solid waste system.	0	$126,320.00
1 grant awarded - TOTAL	0	$126,320.00

1993 REGIONAL PUBLIC EDUCATION GRANT TO SOLID WASTE MANAGEMENT COORDINATING BOARD (SWMCB)	Jan. 1, 1993-June 30, 1993	July 1, 1993-Dec. 31,1993
1) SWMCB-Contact person: Tim Yantos, 323-5692 Activities: Development and implementation of regional solid waste education campaign through the Public Information Committee of the SWMCB.	0	$507,062.00
1 grant awarded - TOTAL	0	$507,062.00

1993 REQUEST FOR PROPOSALS GRANT PROGRAM: Number of applicants-10 for 2 RFPs (total $199,982)	July 1, 1992-Dec. 31, 1992	Jan. 1, 1993-June 30,1993
1) HNTB, Inc.-Contact person: Larry Dallam, 920-4666 Activities: Waste generation forecast to 2015 with analysis of composition type, management alternatives and implementation strategies.	$150,000.00	0
2) GBB, Inc.-Contact person: Debby Miller, (703) 573-5800 Activities: Comparative economic analysis of regional MSW and recyclables collection strategies.	49,982.00	0
2 grants awarded - TOTAL	$199,982.00	$0

1993 PUBLIC EDUCATION FOR CROSS-CULTURAL MATERIALS GRANT PROGRAM: 8 applicants; 7 grants awarded	Jan. 1, 1993-June 30, 1993	July 1, 1993-Dec. 31,1993
1) Fresh Air, Inc. KFAI, 90.3 FM Contact person: Denise Mayotte, 341-3144 Activities: PSAs for 6 cultural communities.	$ 36,000.00	0
2) Twin Cities Public TV-KTCI-17 Contact person: James Carufel, 229-1453 Activities: Hmong teaching videos and PSAs.	34,980.00	0
3) MN Institute of Public Health Contact person: Margie Lindberg, 427-5310 Activities: Pre-school curriculum with Head Start & ECFE.	29,025.00	0
4) MN Community Education Assoc Contact person: Susan Cairn, 722-5806 Activities: Curriculum for Deaf community with DEAF.	39,978.00	0
5) Small Change Original Theatre Contact person: E. Ward Eames, 341-0882 Activities: Cross-cultural solid waste theatre presentations at elementary schools and cultural events.	39,600.00	0
6) Hmong American Partnership Contact person: Padee Yang, 642-9601 Activities: Hmong storycloth/solid waste posters.	23,308.00	0
7) MN African American Chamber of Commerce Contact person: Rob Randle, 374-5787 Activities: High school media presentations.	39,602.00	0
7 grants awarded - TOTAL	$242,493.00	0

1993 - 18 grants awarded totalling $2,251,387.56	$1,091,053.32	$1,160,334.24

1993 GRANT FUNDS AWARDED:

A) GRANT FUNDS AWARDED/ENCUMBERED, BY PROGRAM

TABLE 15

METROPOLITAN COUNCIL LANDFILL ABATEMENT ACCOUNT
GRANT PROGRAMS FOR 1993 in SIX MONTH INCREMENTS

	# OF GRANTS		GRANT FUNDS	
PROGRAM	1-6/93	7-12/93	1-6/93	7/1-12/31/93
Local Recycling Development Grants (LRDG)	7		$648,578.32	$526,952.24
Public Educ.-Cross Cultural Materials (PECC)	7	0	242,493.00	0
Regional Public Education (RPE)	0	1	0	507,062.00
Memorandum of Agreement to SWMCB (MOA)	0	1	0	126,320.00
Request for Proposals (RFPs)	2	0	199,982.00	0
TOTAL	16	2	$1,091,053.32	1,160,334.24

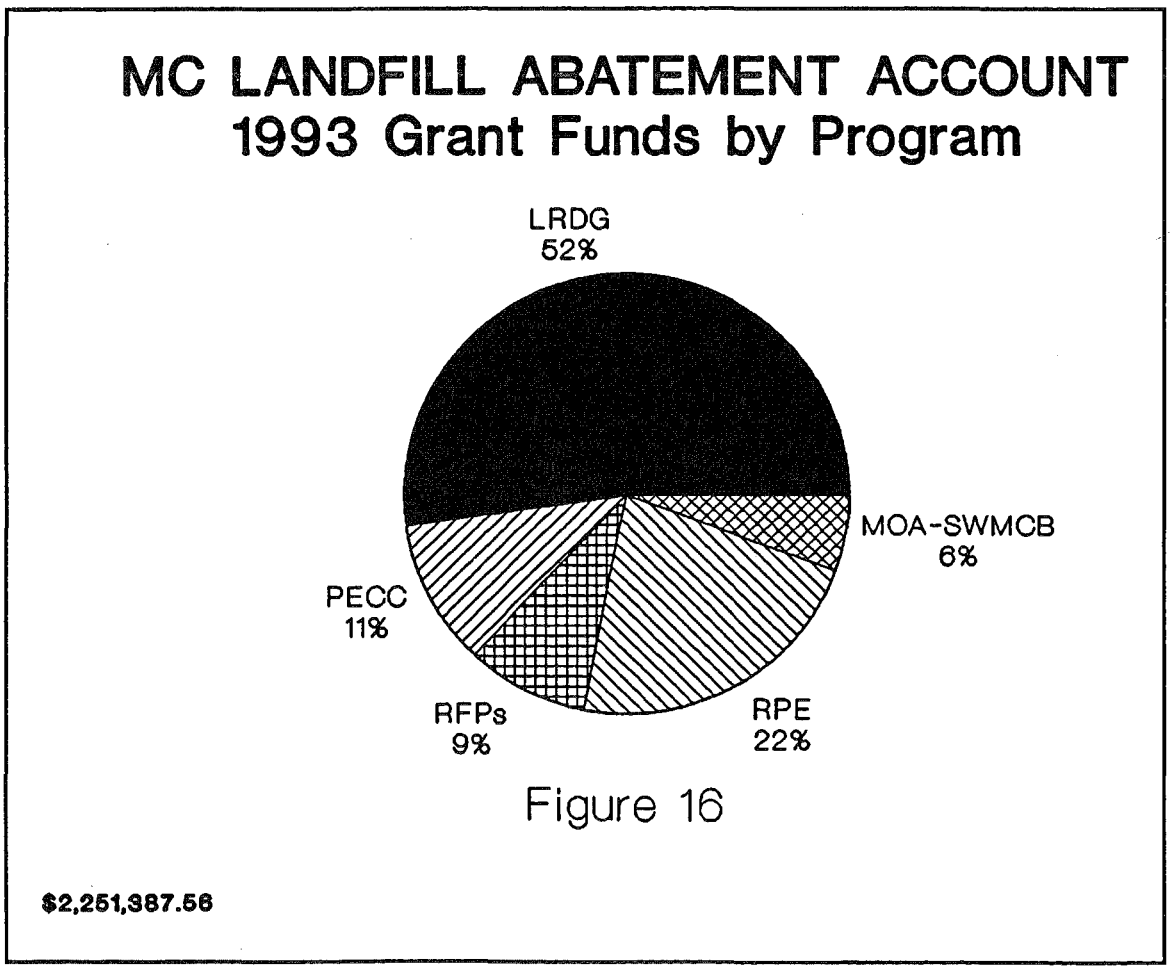


Figure 16

$2,251,387.56

B) GRANT FUNDS AWARDED/ENCUMBERED, BY TYPE OF PROJECT SPONSOR
TABLE 16

METROPOLITAN COUNCIL LANDFILL ABATEMENT ACCOUNT
GRANT PROGRAMS FOR 1993 in SIX MONTH INCREMENTS

Amount of grants awarded/encumbered						
Program	COUNTIES		PUBLIC/ NONPROFIT		BUSINESSES	
	1-6/93	7-12/93	1-6/93	7-12/93	1-6/93	7-12/93
LRDG	$648,578.32	526,952.24	0	0	0	0
PECC	0	0	166,893.00	0	75,600.00	0
RPE	0	507,062.00	0	0	0	0
MOA	0	126,320.00	0	0	0	0
RFPs	0	0	0	0	199,982.00	0
TOTAL	$648,578.32	$1,160,334.24	$166,893.00	0	$275,582.00	0
% grants	80.4%		7.4%		12.2%	

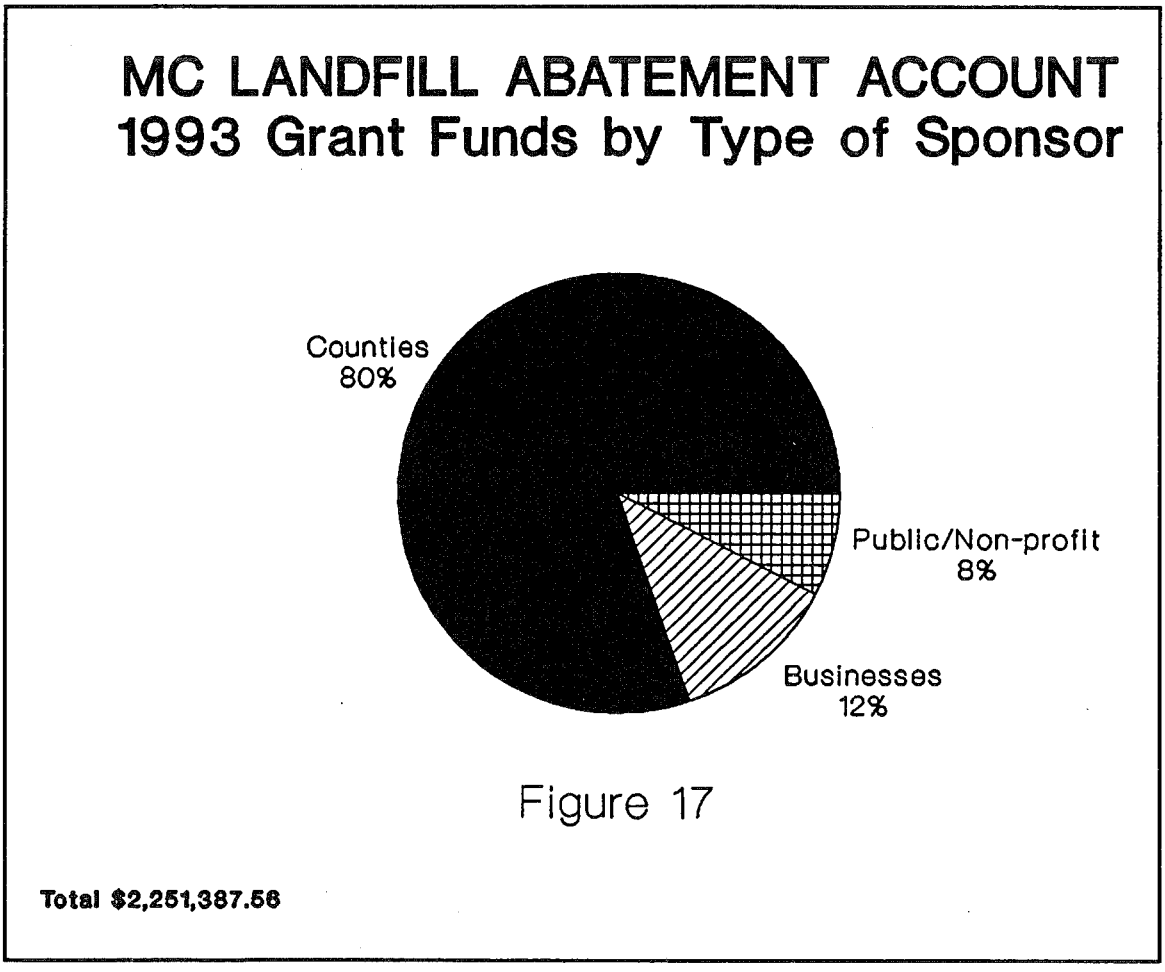


Figure 17

C) GRANT FUNDS AWARDED/ENCUMBERED, TYPE OF ABATEMENT

TABLE 17
METROPOLITAN COUNCIL LANDFILL ABATEMENT ACCOUNT
GRANT PROGRAMS FOR 1993 in SIX MONTH INCREMENTS

Amount of grants awarded/encumbered						
Program	RESIDENTIAL		COMMERCIAL		OTHER *	
	1-6/93	7-12/93	1-6/93	7-12/93	1-6/93	7-12/93
LRDG	0	0	0	0	$648,578.32	$526,952.24
PECC	202,891.00	0	39,602.00	0	0	0
RPE	0	507,062.00	0	0	0	0
MOA	0	0	0	0	0	126,320.00
RFPs	0	0	0	0	199,982.00	0
TOTAL	$202,891.00	$507,062.00	$39,602.00	0	$848,560.32	$653,272.24
% grants	31.5%		1.8%		66.7%	

* LRDG-Combination of residential, commercial, yard waste, source and toxicity reduction; Memorandum of Agreement-Implementation activities of SWMCB; REQUEST FOR PROPOSALS (RFP)-Waste generation forecast to 2015; Economic analysis of collection strategies; REGIONAL PUBLIC EDUCATION (RPE) - Although the focus of the campaign has not been established at this time, it is anticipated it would be directed to the residential sector.

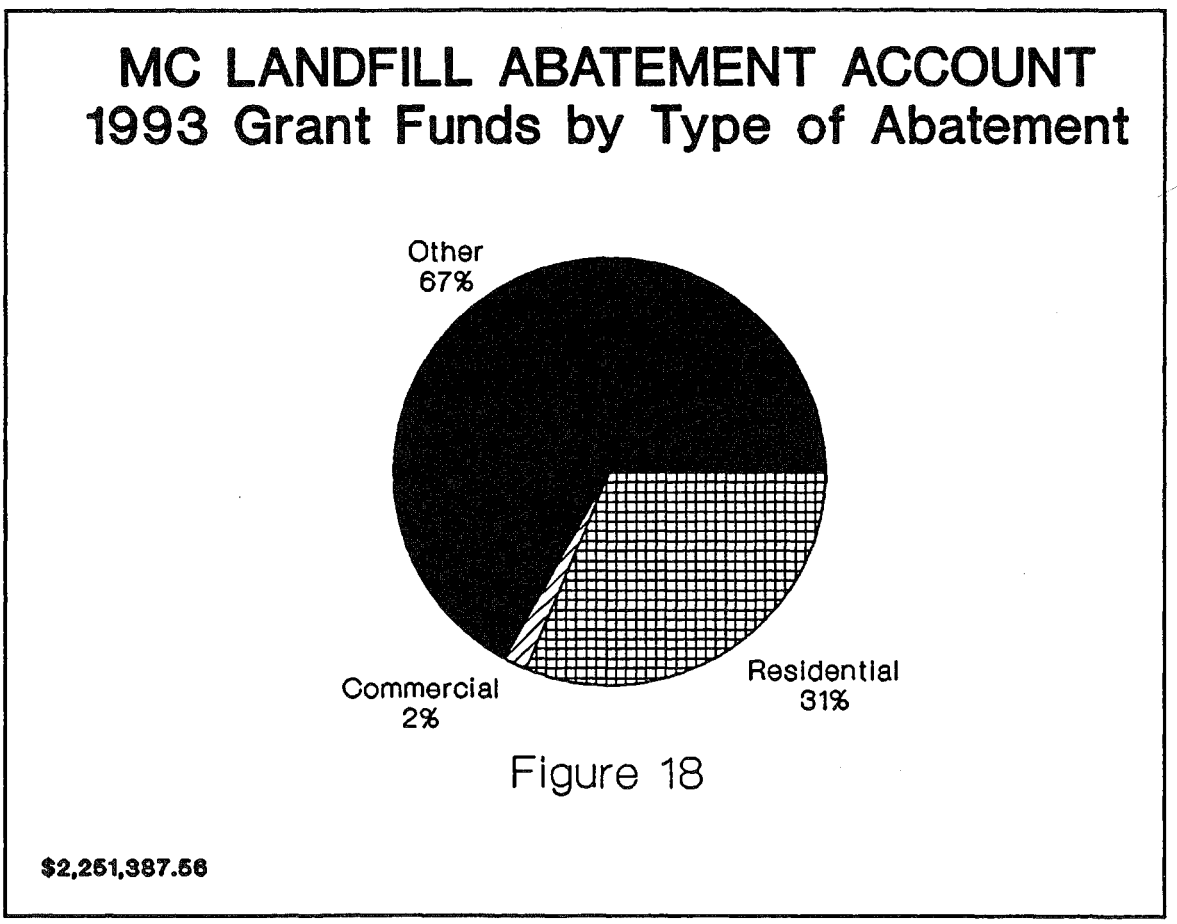


Figure 18

APPENDIX C

QUARTERLY GRANTS NEWSLETTER

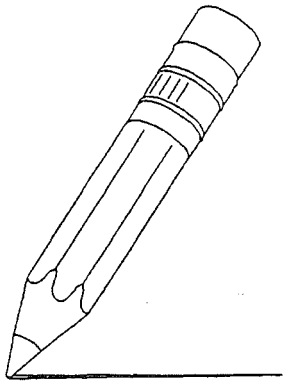
METROPOLITAN COUNCIL LANDFILL ABATEMENT ACCOUNT GRANTS NEWSLETTER

METROPOLITAN COUNCIL, Mears Park Centre, 230 E. 5th St., St. Paul, MN 55101

This newsletter is prepared quarterly by grants staff to keep you informed of grant activities. Grants staff: Victoria Reinhardt, Abatement Grants Administrator - 291-6536; Sunny Emerson, Grants Assistant - 291-6499.

PUBLIC EDUCATION FOR CROSS-CULTURAL MATERIALS REQUEST FOR PROPOSALS

FY94-95 PUBLIC EDUCATION for CROSS-CULTURAL MATERIALS RFP GRANT PROGRAM
Publication Number 522-94-003
JANUARY, 1994



ELIGIBLE PROJECT SPONSORS:
Businesses, nonprofit agencies, public institutions, school districts, and trade or industry organizations demonstrating an intimate understanding of the culture for which the project activities are proposed are eligible project sponsors. Projects must be implemented in the seven-county Metropolitan Area.

Since solid waste management message development has been done, the project sponsors will be required to work with municipal and county solid waste coordinators in producing cross-cultural solid waste management public education materials to ensure dissemination of the most current information.

PURPOSE:
The Public Education Grant program for Cross-Cultural Materials is designed to provide eligible project sponsors with the opportunity and resources to produce cross-cultural educational materials for the region's culturally diverse population that will result in increased quality and quantity of landfill abatement information and opportunities in the Metropolitan Area.

$300,000 has been allocated to the Council's Public Education for Cross-Cultural Materials RFP Grant Program and is being made available to assist the region in meeting abatement goals and detoxifying the waste stream. Retroactive grant requests are ineligible for funding.

PROPOSAL SUBMISSION DATES:
By 4:00 p.m. on Tuesday, April 19, 1994; and, if the total funding allocation has not been fully expended, by 4:00 p.m. on Tuesday, November 29, 1994.

GRANT REQUEST MAXIMUM:
$40,000.00 - 10% cash or in-kind matching funds required.

COUNCIL STAFF:

Victoria Reinhardt	(612) 291-6536
Sunny Jo Emerson	(612) 291-6499
TDD	(612) 291-0904

SUBMITTAL ADDRESS:
Metropolitan Council
230 East Fifth Street
St. Paul, MN 55101-1634

OFFICIAL NOTICE REISSUANCE OF RFP

CONTACT PERSON: Victor Ward - 291-6460

REQUEST FOR PROPOSALS FOR FUNCTIONAL INDUSTRY AND PRESSURE POINTS ANALYSES FOR CREATING/EXPANDING RECYCLED MATERIALS MARKETS FOR FOUR SPECIFIED COMMODITIES
1) CORRUGATED CARDBOARD and KRAFT PAPER; 2) FOOD WASTE; 3) WOOD WASTE; and 4) PLASTIC FILM

Deadline for submission of proposal:

TUESDAY, MAY 3, 1994, 4:00 p.m.

See last page of this newsletter for a complete description of the RFP.

GRANTS NEWSLETTER SPOTLIGHT ON CROSS-CULTURAL GRANTS

* *FY93 PUBLIC EDUCATION for CROSS CULTURAL MATERIALS*

1) HMONG AMERICAN PARTNERSHIP
450 N. Syndicate, Suite 35
St. Paul, MN 55104
Project director: Padee Yang (612) 642-9601
Project dates: 7/5/93-7/4/94 Grant: $23,308
Proposed project activities: HAP, working with EarthWrite, a Hmong artist, and local waste abatement agencies will develop a pandau (traditional Hmong storycloth) which will depict a narrative regarding the concept of waste reduction. Posters of the storycloth will be printed and distributed.
Project update: HAP is working with an artist. Timing has been an issue as the artist is very busy and finding a craftsperson has been difficult. Progress is continuing to be made, however.

2) MINNESOTA AFRICAN AMERICAN CHAMBER OF COMMERCE
1121 Glenwood Avenue North
Minneapolis, MN 55405
Project director: Rob Randle (612) 374-5787
Project dates: 7/12/93-6/6/94 Grant:$39,602
Proposed project activities: Two groups of ten students each from Minneapolis and St. Paul schools will be provided with information (via tours) on all aspects of solid waste management. The students with MAACC mentors, RAM and Springer & Associates will develop media presentations (video, slide show) and written materials based on their experiences which will be presented to their schools and others.
Project update: Videos are in the process of being completed. Next step is to schedule presentations for schools and businesses.

3) FRESH AIR RADIO (KFAI)
1808 Riverside Avenue
Minneapolis, MN 55454
Project director: Dwight Thompson
Project dates: 4/15/93-9/15/94 Grant: $36,000
Proposed project activities: PSAs for 6 cultural communities; recycling and waste abatement information to listeners of Hmong, Cambodian, Laotian, American Indian, Hispanic and African American heritage.
Project update: PSAs are close to the production stage. County and Council staff will be reviewing the scripts in the near future.

4) KTCI TELEVISION
172 E. 4th Street
St. Paul, MN 55101
Project director: James Carufel, 229-1453
Project dates: 6/15/93-6/15/94 Grant: $34,980
Proposed project activities: Six 12 minute "teaching" videos on solid waste management topics, which will be produced for the Hmong community and shown on Kev Koom Siab. Posters and 6 PSAs will also be produced.
Project update: In addition to a survey, the Community Board of Advisors has been helping to identify Hmong community issues and areas of interest. Videos will cover: What Happens to Your Garbage; Reduce, Reuse, Recycle; What is Hazardous Waste; Composting/Yard Waste; Recycling-Where the Products Come From & What They Become After Recycling.

5) MN COMMUNITY EDUCATION ASSOC.
University of St. Thomas, #4004
2115 Summit Avenue
St. Paul, MN 55105
Project director: Susan Cairn, 722-5806
Project dates: 5/1/93-9/30/94 Grant: $39,978
Proposed project activities: Development of waste management curriculum for the Deaf and hard of hearing population. MCEA will work jointly with Deafness Education Advocacy Foundation, Inc. (D.E.A.F.) on this project.
Project update: A video to open caption is being sought. A pilot project in Richfield using the curriculum is in progress.

COMPLETED PECC PROJECTS

6) MN INSTITUTE OF PUBLIC HEALTH
2829 Verndale Avenue
Anoka, MN 55303
Project director: Margie Lindberg, 427-5310
Project dates: 4/1/93-11/30/93 Grant: $29,025
Proposed project activities: Pre-school solid waste curriculum with ECFE, Head Start and INTER-RACE.

7) SMALL CHANGE ORIGINAL THEATRE
212 3rd Avenue North, #205
Minneapolis, MN 55401
Project director: E. Ward Eames, 341-0882
Project dates: 3/8/93-2/20/94 Grant: $39,600
Proposed project activities: Solid waste reduction educational theatre programs with Mixed Blood Theatre Company, accompanied by written curriculum.

Final Reports: Contact grants staff. Both projects were successful, well-received and are available for reuse by contacting the project sponsors.

RFP GRANT AWARDED ON MARCH 24, 1994

REQUEST FOR PROPOSALS FOR SOLID WASTE RESEARCH TO CONDUCT SOLID WASTE FLOW AND RECYCLABLE MATERIALS RECONNAISSANCE AND ANALYSIS STUDIES

On March 24, 1994 the Metropolitan Council awarded up to $29,982 to Richardson, Richter and Associates, Inc. for the solid waste flow study and up to $29,978 to Smith and Guggenbuehl Associates Inc. for the recyclable materials flow study.

Project managers for the grant projects are:
Paul Smith, 291-6408 (solid waste)
Victoria Reinhardt, 291-6536 (recyclables)

Purpose of the RFP:

The Solid Waste Flow Study will examine the present status of waste flow controls (waste designation) applied to mixed municipal solid waste (MSW) generated in the Twin Cities Metropolitan Area.

The purpose of the Solid Waste Flow Study is to determine the region's existing and potential loss of manageable MSW at designated and non-designated facilities for waste generated in each of the seven metro counties.

The Recyclable Materials Flow Study is intended to develop verifiable data about how much of the materials collected in the region for recycling ends up actually being recycled, how much ends up being landfilled and where, and an assessment of the strength of recycled materials markets.

The contractor will estimate the total amount of material that is intended for recycling by generators, the amount recycled and the amounts disposed in processing facilities and landfills. Materials disposed of in processing facilities and landfills will be examined and characterized by the contractor as to its potential recyclability and reasons for not being recycled, if known.

PREVIOUSLY AWARDED COUNCIL GRANTS

1) Residential Recycling Bins grants (3 year grants) to: Afton, Lauderdale, St. Paul and North St. Paul.

2) Capital Assistance grants (3 year grants) to: Farmington-weight based fees equipment; Minneapolis-recycling trucks; White Bear Lake-recycling containers in public parks/areas; Mounds View-oil filter crusher; Bloomington-street sweepings screener; and Centerville-weight based fees equipment.

3) Technology and Research grant to Hennepin County-ash toxicity.

4) RFP grants:

Sunny Jo Emerson, project manager, 291-6499
DPRA-coordinated markets development.

Paul Smith, project manager, 291-6408
Solid Waste Management Coordinating Board (SWMCB)-paint toxicity; GBB-collection strategies.

Victoria Reinhardt, project manager, 291-6536
SWMCB-establishment of regional authority; SWMCB-implementation activities; SWMCB-regional public education; Minnesota Chamber of Commerce-Waste Wise.

Victor Ward, project manager, 291-6460
R.W. Beck-percentage of packaging in the waste stream; HNTB-waste generation to 2015; and GBB-construction and demolition waste (a final report on this project is available.)

5) Local Recycling Development Grants to Anoka, Carver, Dakota, Hennepin, Ramsey, Scott and Washington counties.

Please contact either Sunny Jo Emerson, 291-6499 or Victoria Reinhardt, 291-6536 on non-RFP grants for updates on project activities. For RFP grant updates, the project manager as indicated above should be contacted.

MN Office of Waste Management Information-Nancy Delles Skuta

The 9,500 square foot OWM/Met Council display at the Minnesota State Fair will not be used in 1994. Therefore, the OWM and Council would like to see the display reused by educators like you..the counties, cities, recycling facilities, non-profits and businesses.

Present a one page proposal of what you would like to do with the display and how it may be used in your region. The OWM will select proposals and donate free of charge the display to you for your safekeeping and reuse!

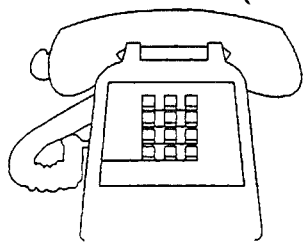
What is available: 1) Reuse Store; 2) Laundry Room; 3) Office Setting; 4) Kitchen (for reuse); 5) Kitchen (for reduction); and 6) Grocery Store.

In your proposal identify which section you would like to use, where it would be housed, and how the general public would have access to the exhibit. Proposals may be submitted to Sue Wiley; Office of Waste Management; 1350 Energy Lane, Suite 201; St. Paul, MN 55108. PROPOSALS SHOULD BE MAILED TO THE OWM BY APRIL 15, 1994.

Waste Reduction Week Dates Set for Oct. 3-9, 1994!!
The OWM will again be sponsoring Waste Reduction Week this year as an opportunity to promote waste reduction throughout Minnesota. Mark your calendars now and start planning ways that your community or organization may teach or learn how to reduce the amount of waste we produce. If you would like more information on Waste Reduction Week or would like to get involved yourself, contact your county solid waste office or phone the OWM at (612) 649-5750 or toll-free in Minnesota 1-800-657-3843.

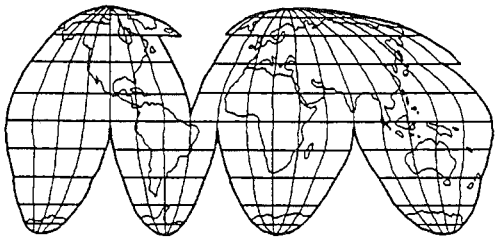
OTHER INFORMATION OF INTEREST

TECHNICAL RESOURCES: (all 612 prefix)



Metropolitan Council:	291-6359
TDD	291-0904
Grants: Victoria Reinhardt	291-6536
Sunny Jo Emerson	291-6499
Association of Recycling Managers (ARM):	
Kris Hageman, Chair	550-5085
Recycling Association of Minnesota (RAM):	
Fran Kurk, Coordinator	481-1143
MN Office of Waste Management (OWM):	649-5750
Waste Education Clearinghouse	649-5482
Waste Educ. Coalition (WEC)-L.Countryman	649-5786
Toll free number 1-800-657-3843	
MN Pollution Control Agency (PCA):	296-6300
Toll free number 1-800-657-3864	
MN Legislative Commission on Waste Management:	297-3604
MN Technical Assistance Program (MnTAP):	627-4646
MN Environmental Initiative:	334-3388
Solid Waste Association of North America (SWANA):	
Jerry Turnquist	777-0331
MN EarthDay Network: David Shea	476-1077
COUNTY STAFF	
Anoka County: Carolyn Smith	323-5735
Carver County: Mike Lein	361-1500
Dakota County: Gayle Prest	891-7025
Hennepin County: Carl Michaud	348-3054
Ramsey County: Zack Hansen	292-7900
Scott County: Al Frechette	496-8177
Washington County: Judy Arends	430-6668

Earth Day Guest Columnist
Minnesota Earth Day Network
David Shea, Co-chair



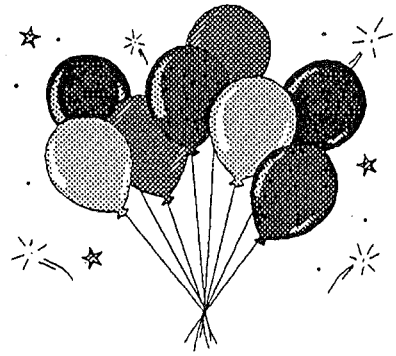
Earth Day was first celebrated in 1970. Senator Gaylord Nelson of Wisconsin conceived Earth Day as a grassroots effort to wake up the political structure in the United States over concern for the environment. The first Earth Day found an estimated twenty million people in ten thousand grade schools and high schools, two thousand colleges and one thousand communities involved in local activities and demonstrations focused on environmental issues. Almost 25 years later, Earth Day continues to flourish as a locally-based, universally-celebrated call to environmental awareness and action. Earth Day is April 22, but the scope of activities in Minnesota and around the world increasingly prove that "Earth Day Every Day" is a reality.

Earth Weeks have become common in Minnesota Communities and on college campuses, drawing attention to a wide variety of environmental issues and activities of local concern. Some communities hold an Earth Week during Arbor Month, emphasizing the importance of tree planting and gardening to replenish plant life, truly greening the local landscape. Other communities include an Earth Day as part of their summer festivals, spring or autumn community clean-ups or special religious observances. Celebrating Earth Day at home is also becoming popular. Families are adopting the values Earth Day promotes and making them part of everyday life, celebrating a commitment to caring for everyone's home, the Earth. The adaptability of Earth Day is part of its appeal. Many organizations have ideas and materials to make Earth Day events a successful part of an organizational, community or family celebration.

The MN Earth Day Network is a purely grassroots organization. Anyone interested is welcome to join, participate as much or as little as they wish and meet a group of environmentally active and concerned professionals united by the Earth Day ideal. The MN Earth Day Network is non-judgmental, inclusive, collaborative, has no dues or fees, doesn't raise money and has a very simple organizational structure. All members contribute expertise, help with mailings, seek ways to promote environmental actions within their groups, share their successes with others and come up with creative new ideas for environmental action. Meetings are held the third Thursday morning of each month at the Office of Waste Management in St. Paul from 8:30 until 10:00 a.m.

The MN Earth Day Network is developing a statewide environmental initiative for 1995, celebrating the 25th anniversary of Earth Day and the 50th anniversary of the chartering of the United Nations. This Great Minnesota Green-Up will provide a broad array of environmental activities for communities across the state.

Earth Day has made a real difference in how we view the environment in its first 25 years. As we move towards a new century, there are many challenges to overcome so we make sure that Earth continues to be a remarkable home for each of us and for future generations. The call to awareness and action Earth Day provides can help make it possible.



UPCOMING EVENTS

April 7: RAM monthly "Brown Bag" Issues Forum-Alternatives to Toxics; 1st Thursday of each month; OWM conference room; 5:00-6:30 p.m. Contact RAM.

April 20: SWANA monthly luncheon meeting with speaker (3rd Wednesday of each month); Sheraton Midway; Jerry Turnquist 777-0331.

April 21: MN EarthDay Network monthly meeting (3rd Thursday of each month); OWM conference room; Contact MN EarthDay Network.

April 22: OWM Waste Education Coalition (4th Friday of each month); 9:00 a.m.; OWM-WEC.

April 26-28: New England Environmental Exposition; Boston, MA; 617-489-4199.

April 27-28: Integrated Solid Waste Management, Solid Waste Processing Division, ASME; Grand Rapids, MI; Doug Taylor, 313-792-2740.

April 28: ARM monthly meeting (4th Thursday of each month); Contact ARM.

May 3-6: Waste Expo '94-Keeping the Competitive Edge-NSWMA; Dallas Convention Center; Dallas, TX; NSWMA 202-659-4613.

May 23-27: 1st International Conference on Liquid Waste Recycling; Liquid Assets; National Oil Recyclers Association; San Francisco, CA; 216-791-7316.

June 1-3: Wascon '94: Environmental Implications of Construction Materials & Technology Developments-Netherlands Agency for Energy and Environment; Maastricht, Netherlands; 31-0-46-595-312.

June 7-9: World Recycling Conference & Exposition: Resource Recycling Magazine; Rosemount, IL; 203-852-0500.

September 1: MPCA Certification for Demolition Landfill Operators, including exam in afternoon; Shoreview Holiday Inn; Roberta Wirth 296-7384.

September 26-28: National Recycling Congress; Portland, OR; NRC; 202-625-6406.

REISSUED RFP April, 1994

REQUEST FOR PROPOSALS FOR FUNCTIONAL INDUSTRY AND PRESSURE POINTS ANALYSES FOR CREATING/EXPANDING RECYCLED MATERIALS MARKETS FOR FOUR SPECIFIED COMMODITIES - 1) CORRUGATED CARDBOARD and KRAFT PAPER; 2) FOOD WASTE; 3) WOOD WASTE; and PLASTIC FILM

Eligible applicants: Businesses, research firms and post-secondary educational institutions with expertise in economics, especially in commodity issues and industry marketing analysis.

Overview of the RFP: The purpose of the grant is to conduct research, analyze the information found, develop reports and make presentations that present a comprehensive functional industry, value-added and pressure points analyses for creating and/or expanding recycled materials markets for each of the following four commodities: 1) Corrugated Cardboard and Kraft Paper; 2) Food Waste; 3) Wood Waste and 4) Plastic Film. The RFP application must include an analysis of how demand for each recycled commodity relates to final consumer markets and describe their potential. The RFP application must also include a description of the methodology that will be used to choose the industrial sectors examined as markets for the recycled commodities.

It is expected that the agreement will be made with a single entity, but separate awards for one or more of the commodities will be considered. Therefore, each commodity may be the subject of a separate agreement.

The grantee/contractor(s) will be expected to involve the Council's project manager or solid waste team in the project activities. The grantee/contractor(s) will prepare and submit: a draft report; a final report (to include an abstract; executive summary; descriptions of sector and cost analysis, and pressure points; and recommendations for action); diskette(s) for written information; and presentation graphics.

Deadline for submission of proposals: 4:00 p.m., Tuesday, May 3, 1994.

Grant amount: Up to $100,000 for 4 commodities.

Council project manager: Victor Ward (612) 291-6460.

APPENDIX D

POLICY AREA CALCULATIONS

APPENDIX D

Table 12 Calculations: 1/1-6/30/93 and 7/1-12/31/93

51.7% - SOURCE WASTE/TOXICITY REDUCTION - $645,135.37 - 44.2% and $868,898.32 - 59.2%

LRDG	Anoka	90%	$ 68,837.32 and $ 55,928.45
	Hennepin	60%	$121,386.07 and $ 98,622.88
	Ramsey	45%	$ 52,659.93 and $ 42,784.76
	Scott	45%	$ 24,057.62 and $ 19,546.16
RFPs		25%	$ 49,995.50 and 0
Public Ed. for Cross-Cultural Grants		60%	$145,495.80 and 0
Regional Public Education Grant		100%	$ 0 and $507,062.00
(Included under reduction although focus has not been determined)			
Administration		50%	$ 56,705.51 and $ 69,514.07
MC - Public Education		94.3%	$125,997.62 and $ 75,440.00

25.7% - RECYCLING ACTIVITIES - $476,729.87 - 32.7% and $275,837.57 - 18.8%

LRDG	Carver	90%	$ 47,239.67 and $ 38,380.94
	Dakota	90%	$ 74,090.81 and $ 60,196.76
	Hennepin	30%	$ 60,693.04 and $ 49,311.44
	Ramsey	45%	$ 52,659.93 and $ 42,784.76
	Scott	45%	$ 24,057.62 and $ 19,546.16
	Washington	90%	$ 58,038.49 and $ 47,154.70
Public Ed. for Cross-Cultural Grants		40%	$ 96,997.20 and 0
RFPs		22%	$ 43,996.04 and 0
Administration		10%	$ 11,341.10 and $ 13,902.81
MC - Public Education		5.7%	$ 7,615.97 and $ 4,560.00

9.7% - MARKETS DEVELOPMENT - $182,544.65 - 12.5% and $101,355.08 - 6.9%

LRDG	Anoka	10%	$ 7,648.59 and $ 6,214.27
	Carver	10%	$ 5,248.85 and $ 4,264.55
	Dakota	10%	$ 8,232.31 and $ 6,688.53
	Hennepin	10%	$ 20,231.01 and $ 16,437.15
	Ramsey	10%	$ 11,702.20 and $ 9,507.72
	Scott	10%	$ 5,346.14 and $ 4,343.60
	Washington	10%	$ 6,448.72 and $ 5,239.41
RFPs		39%	$ 77,992.98 and 0
Administration		35%	$ 39,693.85 and $ 48,659.85

12.9% - SOLID WASTE RESEARCH - $154,679.67 - 10.6% and $222,504.73 - 15.1%

Memo of Agreement-SWMCB Grant	100%	$ 0 and $ 126,320.00
RFPs	14%	$ 27,997.48 and 0
Administration	5%	$ 5,670.55 and $ 6,951.41
MC-SW Research	100%	$121,011.64 and $ 89,233.32

TOTAL-$1,459,089.56 and $1,468,595.70

GRAND TOTAL = $2,927,685.26

GRANTS: 1993 awards = $1,091,053.32 and $1,160,334.24 = $2,251,387.56

NON-GRANT: Public Education, Solid Waste Research and Administration = $368,036.24 and $308,261.46 = $676,297.70

APPENDIX E

EXCERPT FROM GOVERNING
MAY 1994

Governing, May 1994

Recycled Sand: On the Road Again

Bloomington Public Works Director Charles Honchell with equipment that enables the city to recycle sand.

Has it come down to this? A city pinching pennies so tightly that it recycles the sand it dumps on roads during winter months? Well, Bloomington, Minnesota, has used this approach to wring significant savings from what was once a costly dilemma.

Last winter, Bloomington and other municipalities in the Twin Cities area used an average of 19 tons of ice-control sand per mile, at a cost of about $3 per ton. When spring arrived, the sand had to be removed to avoid clogged sewers and damage to road surfaces.

So street sweepers went out and collected sand and debris. Back at the public works yard, the material was dumped into a hopper and conveyed onto a large vibrating screen, where it was sifted and then rinsed.

The equipment, made for commercial sand and gravel pit operations, was purchased for $80,000 and has more than paid for itself. This year, 130,000 tons of sand was recovered. The city figures it would have cost about $900,000 to dispose of that amount in a landfill. The system has also been used to clean compost and recover granite seal-coat chips spread on fresh asphalt.

"We're seeing just plain fiscal savings," says Public Works Director Charles Honchell. "Beyond that, we've gotten positive reactions from citizens who like to see we're doing something about the environment."

—André Henderson

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CHAPTER FOUR

METRPOLITAN LANDFILL ABATEMENT ACCOUNT
FY95
WORK PROGRAM AND BUDGET

CHAPTER FOUR

CHAPTER SUMMARY

This chapter provides two summary tables from the Metropolitan Landfill Abatement Account (MLAA) FY95 portion of the Work Program and Budget approved by the Council and presented to the LCWM in July of 1993. Since all solid waste management powers and duties will be transferred from the Council to the Office of Environmental Assistance on July 1, it is not appropriate for the Council to present a detailed work program and budget for activities occurring after that date. The Council's work program will consist of assisting with the transfer of authority to the new agency. The Council will help the OEA to develop its detailed work program and budget for the MLAA, providing last year's full budget report to the OEA as a guide. OEA staff will be scheduling time to present the office's FY95 Work Program and Budget to the LCWM as soon as it is complete.

METROPOLITAN COUNCIL LANDFILL ABATEMENT ACCOUNT (MCLAA)
FY95 WORK PROGRAM AND BUDGET

Local Recycling Development Grant Program	Estimated Receipts	% of Receipts/Budget
Local Recycling Development (LRDG)-Legislatively mandated grant program-50% of the actual funds received in the MCLAA are remitted to the metro counties.	$ 954,750 (est)	50% of receipts 45.1% of budget

Budget Item and Description	Funding Amount	% of Budget
Administration-General administration of MCLAA including the 1/4ly grants newsletter; program evaluation and revision; financial audits.	$ 300,000	14.2%
Solid Waste Research-Research and planning information as deemed appropriate to fulfill identified needs for an integrated system.	$ 75,000	3.5%
GRANT PROGRAMS		
Local Recycling Development (LRDG)-see above	$ 954,750	45.1%
Request for Proposals grant program. RFPs are requested for specific, identified regional needs. Examples of projects the RFP program may include are: Public Education for Cross-Cultural Materials; Solid Waste Regional Entity; etc.	$ 450,000	21.2%
Regional Public Education Grant-Regional Entity	$ 338,042	16.0%
TOTAL	$2,117,792	100%

The budget amounts are based on: 1) FY93 receipts to the Metropolitan Council Landfill Abatement Account; and 2) No new facilities scheduled for full-scale operation before 6/30/95. See Figure 1.

VARFY95.X

FY95 METROPOLITAN COUNCIL LANDFILL ABATEMENT ACCOUNT BUDGET

TABLE 18

SUMMARY OF ESTIMATED FY95 FUNDS

SOURCE	Last 6 mos. FY94 1/1-6/30/94	FY95 7/1-12/31/94	FY95 1/1-6/30/95
Landfill Surcharge	$ 925,000.00	$ 912,500.00	$ 912,500.00
Interest	42,250.00	42,250.00	42,250.00
Sub-Total	967,250.00	$954,750.00	954,750.00
Funds forwarded from balance in MCLAA	125,885.00	104,146.00	104,146.00
TOTAL ESTIMATED FUNDS *	$1,093,135.00	$1,058,896.00	$1,058,896.00

SUMMARY OF DRAFT PROPOSED FY95 EXPENDITURES/ENCUMBRANCES

PROGRAM	Last 6 mos. FY94 1/1-6/30/94	FY95 7/1-12/31/94	FY95 1/1-6/30/95
Local Recycling Development Grants	$ 483,625.00	$ 477,375.00	$ 477,375.00
Request for Proposals Grants	325,000.00	225,000.00	225,000.00
Regional Public Education Grant **	84,510.00	169,021.00	169,021.00
SUB-TOTAL GRANTS	$ 893,135.00	$ 871,396.00	$ 871,396.00
Solid Waste Directed Research	50,000.00	37,500.00	37,500.00
Administration	150,000.00	150,000.00	150,000.00
TOTAL	$1,093,135.00	$1,058,896.00	$1,058,896.00

* Revenue estimates are based on FY93 receipts of $1.50 per cubic yard surcharge on metropolitan solid waste disposed of at metropolitan landfills plus interest to the MCLAA.

** The Regional Public Education was awarded in calendar year 1993 and is included in this report. It continues to be included in the FY95 budget to reflect when the funds will actually be expended from the MCLAA.

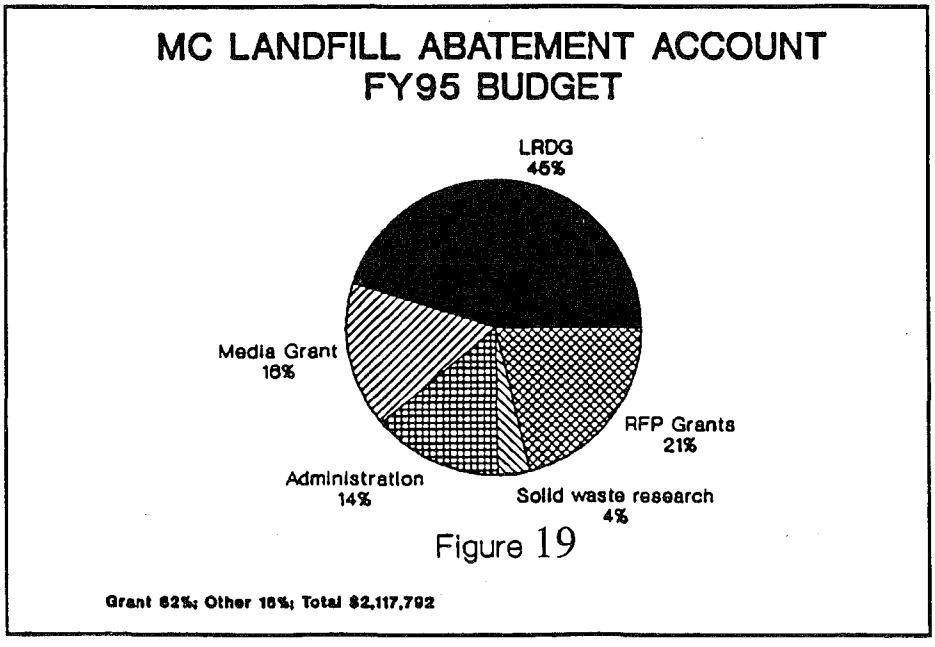

Figure 19