# FISCAL YEAR 1990

# ABATEMENT PROGRESS REPORT FOR THE TWIN CITIES METROPOLITAN AREA

**Report of the Metropolitan Council**
**to the**
**Legislative Commission**
**on**
**Waste Management**

October 1990

Metropolitan Council
Mears Park Centre Building, 230 East Fifth Street, St. Paul, Minnesota 55101
612-291-6359

Publication No. 521-90-151

## METROPOLITAN COUNCIL MEMBERS

Steve Keefe, Chair

Liz Anderson, District 1
Mike McLaughlin, District 2
James W. (Jim) Senden, District 3
John Pacheco, District 4
David F. Fisher, District 5
Alfred Babington-Johnson, District 6
Mary Hauser, District 7
Donald E. Stein, District 8
Ken Kunzman, District 9
John Evans, District 10
Dottie Rietow, District 11
Gertrude Ulrich, District 12
Dirk deVries, District 13
Marcy J. Waritz, District 14
Margaret Schreiner, District 15
Patrick J. (Pat) Scully, District 16

The Metropolitan Council coordinates the planning and development of the seven-county Metropolitan Area. The Council is authorized by state and federal laws to plan for highways and transit, sewers, parks and open spaces, airports, land use, air and water quality, waste management, health, housing, aging and arts.

# CONTENTS


| | Page |
|---|---|
| About This Report | 1 |
| Summary | 2 |
| Recommendations | 5 |
| Waste Stream Generation and Composition | 8 |
| Data - Waste Generation | 8 |
| Issues - Waste Generation | 9 |
| Conclusions - Waste Generation | 11 |
| Data - Waste Composition | 11 |
| Issues - Waste Composition | 13 |
| Conclusions - Waste Composition | 14 |
| Waste Reduction | 16 |
| Data | 16 |
| Issues | 17 |
| Conclusions | 18 |
| Recycling | 19 |
| Data | 19 |
| Issues | 21 |
| Conclusions | 26 |
| Centralized Processing | 29 |
| Data | 29 |
| Issues | 32 |
| Conclusions | 33 |
| Landfills | 35 |
| Data | 35 |
| Issues | 37 |
| Conclusions | 39 |
| Appendix A Recycling Program Data by City and Township | 41 |
| Appendix B Minnesota Statute 473.848 | 54 |
| Appendix C County Certification Reports | 56 |

## TABLES


| | | Page |
|---|---|---|
| 1 | Total MSW Generation FY1990-FY1995 | 8 |
| 2 | Generation, Recovery, and Potential Recovery of Selected Recyclable Materials in the Metropolitan Area, 1989 & 1995 | 14 |
| 3 | Fiscal Year 1990 Recycling/Materials Recovered | 19 |
| 4 | Regional Source-Separation Abatement Programs FY1989 and FY1990 | 21 |
| 5 | Commercial/Industrial/Institutional Recycling, FY1990 | 24 |
| 6 | Centralized Processing Capacity for the Metropolitan Region | 29 |
| 7 | Management of Waste Received at Processing Facilities | 30 |
| 8 | Comparison of FY1990 Central Processing Goals and Results | 31 |
| 9 | Status of Current Landfill Siting Process | 36 |


## FIGURES


| | | |
|---|---|---|
| 1 | Forecast of Total Solid Waste Generation | 9 |
| 2 | 1988 Waste Composition by Weight Cal Recovery Ramsey/Washington Data | 12 |
| 3 | Metropolitan Area Total Waste Management FY1990 | 12 |
| 4 | Relative Contribution of Each Type of Recycling to Total Reported by County | 20 |
| 5 | Yard Waste Reported Managed FY1989 and FY1990 (by County) | 20 |
| 6 | Landfill Consumption Rates | 36 |
| 7 | Implication of Projected Landfill Use on Existing Capacity and Candidate Sites | 37 |

# ABOUT THIS REPORT

This is the sixth annual Abatement Progress Report to the Legislative Commission on Waste Management; the second providing data on a fiscal-year basis. Information contained in this report covers the period July 1, 1989, through June 30, 1990.

This report is the first containing a section addressing the restricted disposal of unprocessed waste, required by Minnesota Statute 473.848, Subd. 4, which states:

> The council shall include, as part of its report to the legislative commission on waste management required under section 473.149, an accounting of the quantity of unprocessed waste transferred to disposal facilities, the reasons the waste was not processed, a strategy for reducing the amount of unprocessed waste, and progress made by counties to reduce the amount of unprocessed waste. The council may adopt standards for determining when waste is unprocessible and procedures for expediting certification and reporting of unprocessed waste.

The Abatement Progress Report is required by the Waste Management Act of 1980, as amended, Minn. Stat. 473.149, Subd. 6, which states:

> The council shall report on abatement to the legislative commission on waste management by November 1 of each year. The report must include an assessment of whether the objectives of the metropolitan abatement plan have been met and whether each county and each class of city within each county have achieved the objectives set for it in the council's plan. The report must recommend any legislation that may be required to implement the plan. If in any year the council reports that the objectives of the council's abatement plan have not been met, the council shall evaluate and report on the need to reassign governmental responsibilities among cities, counties, and metropolitan agencies to assure implementation and achievement of the metropolitan and local abatement plans and objectives.

The five major sections contained in this report include: 1) the generation and composition of the waste stream; 2) waste reduction; 3)recycling; 4) centralized processing; and 5) landfills. Each section contains the most recent data available on the subject, the issues raised by the data, and the conclusions reached. Detailed information about recycling programs reported by each county and each city within the county is contained in Appendix A. Data from the seven metropolitan counties, the Metropolitan Council, its 1985 solid waste policy plan, the draft of its 1990 policy plan and its consultants are the basis for this report.

# SUMMARY

The seven-county Metropolitan Area generated an estimated 2,724,500 tons of mixed municipal solid waste (MSW) in fiscal year (FY) 1990, a 2.3 percent increase from FY 1989. Both population growth and growth in the number of jobs in the Metro Area contributed to this increase. Metropolitan Council projections indicate that during the 1990s population and employment growth will slow from previous rates. Annual growth in the waste stream is expected to be about 1.6 percent annually during the next decade. The MSW stream is only one portion of total solid waste generation, which initial Council estimates place at 3,819,000 tons for FY90.

Increasing numbers of materials are being banned from the MSW waste stream and land disposal capacity for separately managed wastes, such as industrial, demolition and construction materials, is diminishing. Therefore, it is becoming increasingly important that the region plan for the management of all non-hazardous solid waste generated, rather than just the MSW waste, which has been the focus of current Council and county plans.

It is more important than ever to know the characteristics of the waste stream being managed because recycling objectives are rising and more types of management technologies are available. Experience with implementing these technologies has shown that the waste stream is composed of a complex variety of materials that must be considered individually when management decisions are made. More research into the composition of the waste stream will be necessary to help the region identify the types and amounts of its various components.

One aspect of waste composition that was studied in further detail during FY90 was the potential supply of recyclables in the waste stream and the available market capacity. Franklin Associates, Ltd., performed the work. The supply side of the study indicated that even if 100 percent of the eight recyclables identified in the study were recycled, reaching a 35 percent recycling objective by 1993 and a 50 percent objective by 2000 would be a challenge.

Waste reduction is the most preferred management option. It means producing both smaller amounts of waste and fewer toxic components. Measuring the amount of waste not produced or the level of toxics not created is difficult, and no attempt has been made in this report to state a percentage of waste reduction achieved.

Leadership for waste reduction efforts is most effective at the state and federal level. The counties and Council continue to play a strong supporting role, however, through in-house programs modeling waste reduction and through public information programs. To reduce toxicity, the counties are working jointly to establish household hazardous waste management programs. The Council is considering solid waste policy plan revisions that will impose higher tipping fees at landfills and mandatory volume- or weight-based fees to generators to encourage reductions in the amount of waste generated.

The amount of materials recycled continued to increase during FY90. The 559,971 tons reported recycled by the counties equaled approximately 23 percent of the total MSW reported as managed by the region (2,413,000 tons). This is almost double the 12 percent recycling rate reported for FY89.

Growth in the number of recycling programs has slowed significantly. This may reflect the maturation of the recycling infrastructure, with multitenant buildings being one of the last areas where large numbers of programs can be added. Future recycling percentage gains will have to come from enhancing existing program features; adding more materials to the traditional cans, bottles and newspapers currently collected; increasing both the number of households recycling and the amounts of recyclable materials each household contributes; and improving participation and data collection from the commercial/industrial sector. Adding more varieties of materials to the collection system will likely require more processing capacity in order to separate recyclable materials set out in various combinations by waste generators, and/or the addition of more dropoff locations. Continued attention to the marketing of collected materials will be another key element of a viable recycling system.

Experience with centralized processing facilities has led to the conclusion that centralized processing objectives set by the 1985 policy plan (80 percent by 1990) are not likely to be achieved. In FY90 the region's five currently operating facilities received 44 percent of the waste reported managed. Of the total received, 86 percent was processed, 34 percent was landfilled and 3 percent was recycled. If all currently planned facilities were operational by 1995, the region could process about 58 percent of the projected MSW stream.

Since no additional MSW incineration facilities are likely to be constructed in the next decade beyond those currently operational or planned, existing facilities' capacities must be used as efficiently as possible. Efficient use will include removal of all materials that could be recycled before delivery to the facility, and increased cooperation among facilities to ensure that all available capacity is used: that waste unable to be processed at a particular facility is directed to another facility with available capacity. Only when no centralized processing capacity is available should waste be delivered to a landfill.

The region has continued to make significant progress toward implementing alternatives to landfilling. In addition, as tipping fees for waste processing facilities and landfills in the Metropolitan Area have increased, more waste has been leaving the region for disposal at landfills outside the seven-county area. Council staff estimates are that as much as 20 percent of the region's waste is now being disposed of elsewhere. According to a recent report from the Minnesota Pollution Control Agency (MPCA), the high cost of operating, closing and monitoring landfills under new MPCA regulations requiring liners and leachate collection systems means that large volumes of waste must be received in order for landfills to be viable. The report predicts a shift to fewer, larger landfills serving regions rather than individual counties. Thus landfill operators outside the Metropolitan Area may seek waste from the region to provide needed volumes, and the exporting of waste from the Twin Cities may continue.

The rate of consumption of landfill space was reduced 36 percent from FY89. Still, projections are that current MSW landfill capacity will be exhausted by 1994. Construction/demolition and private industrial landfills are also being filled. As those landfills close, it is possible that waste that was being delivered there will be shifted to MSW landfills, using capacity currently planned for MSW waste.

One possibility for maintaining sufficient landfill capacity for the region's waste is to seek long-term contracts with landfills outside the area that meet the same environmental standards as landfills within the region and have liners and leachate collection systems. Since the metropolitan counties have no control over activities in surrounding counties, however, and cannot be assured that capacity for metro waste will be available or that disposal costs will remain competitive, it is important that the siting process for landfills within the region be completed. The selected sites should be acquired. If long-term contracts with nonmetro landfills can be obtained, the sites can then be held in reserve for future development when and as needed.

# RECOMMENDATIONS

The following recommendations are derived from the Issues and Conclusions sections of this report. They reflect Council thoughts on regional solid waste policy contained in the current draft of the revised solid waste policy plan. The Council has included suggestions for legislative action, as well as recommendations for other units of government involved in solid waste management, as required by Minnesota Statute 473.149, Subd. 6. This states, in part:

> ...The report must recommend any legislation that may be required to implement the plan.... [T]he council shall evaluate and report on the need to reassign governmental responsibilities among cities, counties, and metropolitan agencies to assure implementation and achievement of the metropolitan and local abatement plans and objectives.

This section concludes with a list of actions the Council will take as part of its planning role for regional solid waste management.

# RECOMMENDATIONS

Waste Generation

- Any legislation prohibiting the disposal of a particular waste material in the MSW waste stream (major appliances, for example) should also include the establishment of an alternative system for managing that waste.

Waste Reduction

- Cities and counties should be required to mandate volume- or weight-based waste collection fees for each waste generator and each type of collection service.

- The Council should work with the MPCA to study the true long-term cost of landfilling the region's waste, particularly costs that might be incurred by landfills after the 20-year post-closure period. The report should recommend the assessment of a fee, charged by landfills, to cover those true costs; and determine appropriate uses for fee monies collected.

Recycling

- Cities and counties should be required to ensure that programs for collecting recyclables be established for each generator. Generators should be required to participate in recycling programs.

- Each generator should be required to subscribe to a waste collection service.

- The Council and the Office of Waste Management should work jointly on regional market development efforts that concentrate on identifying and expanding end markets to purchase increasing supplies of recyclables and recycled materials. This effort should be jointly funded.

Centralized Processing

- The legislature should extend the requirements for certification of "unprocessible" materials allowed at landfills. They should be extended to counties with designation, to exclusion entities, to industrial and demolition disposal facilities, and to all processing facility outputs, including those recovered for energy or reuse.

- The legislation restricting the disposal of unprocessed waste (Minnesota Statute 473.848) should be amended to redefine "processed" and "unprocessible" to ensure that every effort is made to manage wastes through alternative processes before they are delivered to landfills.

Landfilling

- The legislature should either clarify the process for exempting waste from the landfill surcharge or repeal the exemption. It should clarify it by defining the materials to which the exemption applies and the base upon which it will be measured.

Reporting Requirements

- Minnesota Statute 473.149, Subd. 6, should be amended to delete reference to "each class of city within each county" from the reporting requirements of the LCWM. The focus of reporting requirements should shift to measuring the success of the region as a whole.

# COUNCIL ACTIONS

- Over the next two years the Council will study the need for public management of all solid wastes (particularly such privately managed wastes as demolition/construction and industrial materials) for which the counties do not have management responsibility.

- By October 1991, the Council will contract with a consultant to perform a four-season waste composition study at six landfills and five resource recovery facilities in the Metropolitan Area. The results from this study, along with a companion study being performed by the MPCA, will be reported to the Legislative Commission on Waste Management by November 1, 1992.

- The Council will give first priority in awarding Abatement Fund monies to projects that increase the demand for recyclables.

- During the next fiscal year the Council will establish a cooperative marketing demonstration project.

- The Council will implement procurement procedures that will require the consideration of recycled content and recyclability in the preparation of bid specifications. The Council will encourage the other metropolitan agencies, counties and cities to implement similar procedures and, wherever possible, engage in joint purchasing agreements with these agencies.

# WASTE STREAM GENERATION AND COMPOSITION

The solid waste system described in the Council's 1985 Solid Waste Development Guide/Policy Plan is governed by a waste management hierarchy identified by the legislature in the 1980 Waste Management Act. The act listed waste management practices in the following order of preference:

1. Waste reduction and reuse;
2. Waste recycling and yard waste composting;
3. Resource recovery through mixed municipal solid waste composting or incineration; and
4. Land disposal.

To implement the act's policies and purposes, the Council was directed to develop a plan for the metropolitan region. The plan sets goals and objectives for each component of the hierarchy to reduce reliance on landfills through an integrated waste management system.

An assessment of whether the Council's landfill abatement objectives have been met requires establishing a waste generation number upon which progress can be measured. A determination of the effectiveness of the various waste management options relies, in part, on a study of the composition of waste arriving at processing and disposal facilities. This section provides information on current generation and composition numbers used by the Council in its evaluations.

## DATA - WASTE GENERATION

Table 1 contains the Council's forecasts of mixed municipal solid waste (MSW) for FY1990 through FY1995. These totals include an estimated 129,000 tons of specially managed wastes such as used oil, tires, lead acid batteries and major appliances, as well as yard waste and materials separated for recycling.

Table 1
**TOTAL MSW* GENERATION FY1990 - FY1995****

| FY1990 | FY1991 | FY1992 | FY1993 | FY1994 | FY1995 |
|---|---|---|---|---|---|
| 2,724,500 | 2,778,000 | 2,822,500 | 2,868,000 | 2,914,500 | 2,961,500 |

*Includes materials collected and disposed of as MSW, source-separated materials that would be disposed of as MSW if they were not being recycled, and yard wastes and special wastes that traditionally have been disposed of as MSW but by law must now be separately managed (used oil, tires, lead-acid batteries and major appliances).

**The fiscal-year projections were derived by averaging the calendar-year figures contained in the Council's revised Solid Waste Management Development Guide/Policy Plan.

Estimates of the amount of waste generated by each county within the region are provided in later sections as a base for measuring recycling and waste processing progress. The county generation estimates are portions of the total MSW waste generation assigned to counties based upon their relative share of the region's population and employment.

The region reported managing 2,413,000 tons of waste in FY90, compared to 2,271,100 tons in FY89. This six percent growth in the waste stream reported can be attributed to several factors, including actual growth in the waste stream, the inclusion of estimates for special wastes managed, increased tonnage estimates for commercial/industrial recycling and improved data collection. Comparing the tonnage reported by the counties with the 2,724,500 tons estimated by the Council offers a possible range of generation varying within 311,500 tons. The actual amount of waste generated probably lies somewhere in between.

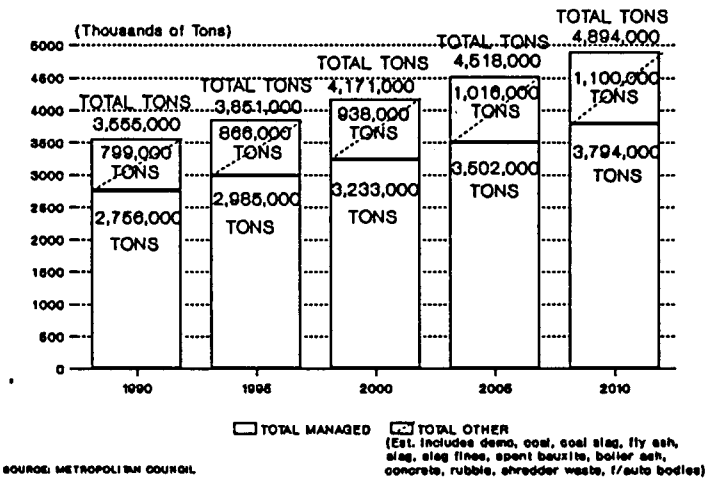
# ISSUES - WASTE GENERATION

## WASTES MANAGED

The "total managed" numbers in Figure 1 represent the MSW portion of the waste stream the counties are charged with managing. They serve as the base upon which progress will be measured toward the 35 percent SCORE recycling goal and the 1985 policy plan's management objectives. They represent, however, only a part of the total amount of waste generated in the region. While the counties are not charged with managing the total amount of waste generated, they are required by legislation to plan for the management of all solid waste. As a growing number of materials is banned from the MSW waste stream, and as waste haulers explore collecting separate waste streams as a potentially lower-cost alternative to collecting mixed-waste loads, this planning requirement becomes increasingly important.

In the past year the Council has made a preliminary attempt to quantify total solid waste generation. This includes non-MSW wastes such as residuals from processing plants, separately managed commercial and industrial wastes, and construction and demolition debris. Figure 1 represents the Council's initial estimate of this total. The figure's projections are based upon maintaining the same relative proportion of the non-MSW waste stream to the whole.

Figure 1
FORECAST OF TOTAL SOLID WASTE GENERATION
1990-2010



Guided by the Council's 1985 Solid Waste Management Development Guide/Policy Plan, the region has focused on MSW management, resulting in significant progress toward landfill abatement for this waste. However, non-MSW solid wastes represent a considerable proportion of the total waste stream. Any change in the current management of these wastes will potentially affect the MSW management system.

For example, a recent Council study, Demolition Debris Disposal in the Twin Cities Metropolitan Area - 1990, reported that county and state landfill inspectors had noted four-fold increases in the amount of material being disposed of in the region's demolition landfills during the past five years, as materials were diverted from increasingly costly MSW landfills. These landfills are currently accepting volumes equivalent to more than one-third of the total MSW waste stream. The report estimated that total remaining demolition capacity in the Metropolitan Area, roughly 5,000 acre feet, might last five years. It indicated that the anticipated life span of existing demolition landfills could change substantially depending on recycling and waste reduction efforts plus changes in the amount of materials diverted from MSW landfills. The amount of waste currently going to demolition landfills, even if reduced, could rapidly exhaust the existing capacity and require MSW land disposal capacity as well before replacement demolition landfills are sited.

When privately operated landfills for industrial and construction waste reach capacity or encounter problems resulting in closure, that waste may be disposed of in MSW landfills, further reducing the region's landfill capacity. In order to preserve landfill capacity in the region, it will be necessary to address appropriate management of all nonhazardous wastes generated. (Wastes classified as hazardous already have a well-established management system in place.)

## WASTE STREAM GROWTH

In recent years the MSW waste stream has grown an annual average rate of 2.3 percent per year, while the region's population has increased an average of about one percent per year. A major factor influencing this growth has been growth in the number of jobs in the Metropolitan Area. Growth in employment is expected to continue. As a result, the relative portion of waste generated by the commercial and industrial sector is expected to increase from its present 50-60 percent share.

Population growth will also continue, but both population and employment growth are expected to slow from previous rates, resulting in an annual growth in the MSW stream of 1.6 percent. At that rate, by 2010 the region's MSW stream will be twice the total generated in 1980.

Initial Council estimates indicate that the MSW waste stream represents about 78 percent of the total amount of solid waste generated in the region. Insufficient information is available to determine whether this relative proportion will continue. As counties plan for the management of all solid waste generated in the region, increasing amounts of waste and potential shifts in waste composition will require particular attention. Using strategies to reduce the amount of waste generated and the rising costs of waste management could alter these projections.

# CONCLUSIONS - WASTE GENERATION

## WASTES MANAGED

Because the public and private sectors depend on land disposal as a final option for virtually all types of solid waste, it is becoming increasingly important for the Council and the counties to plan for the management of all types of nonhazardous solid waste. Although significant progress has been made in abating the amount of MSW landfilled, non-MSW wastes consume landfill capacity as well. Little attention has been paid to quantities and characteristics of these other types of waste. Further complicating the issue, wastes banned from the MSW waste stream, such as tires and major appliances, are shifted by legislation into the non-MSW stream, outside the counties' management parameters, but often with no alternative management system in place. Efforts to identify and abate these non-MSW wastes could reduce landfill use. Toward this end the counties will be directed to include planning information regarding non-MSW solid waste in their revised solid waste master plans.

The Council will study the need for the public management of all solid waste and assist the counties in identifying types and amounts of non-MSW waste being generated.

## WASTE STREAM GROWTH

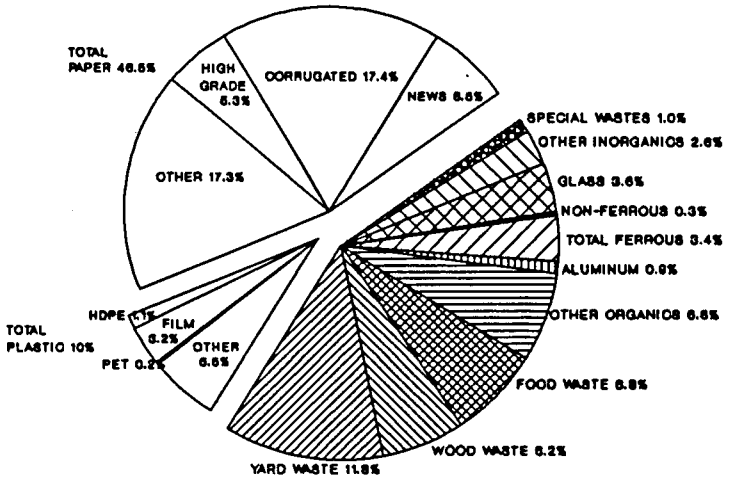
Continued growth in the amount of waste generated indicates that more substantial efforts at waste reduction will be required in order to manage the region's waste in the most cost-effective and environmentally sound manner. Waste reduction efforts must include attention to both the amount and toxicity of waste generated.

# DATA - WASTE COMPOSITION

Cal Recovery System's 1988 composition study of waste arriving at the Ramsey/Washington Resource Recovery Project at Newport offers the most recent Council assessment of the content of the waste stream arriving at processing facilities. Figure 2 illustrates the data reported. There are currently several composition studies underway, including efforts by individual counties, the Council, and the MPCA, which will provide more current data for the FY91 Abatement Progress Report.

The composition of the MSW waste stream is changing rapidly because of such factors as advances in technology, changes in consumer behavior and new legislation. For example, in the past year the MSW waste stream has been altered by bans on yard waste and appliances. While this makes predictions of future waste stream composition difficult, recent trends appear to indicate that various types of paper, plastics and aluminum will increase in proportion to other components.

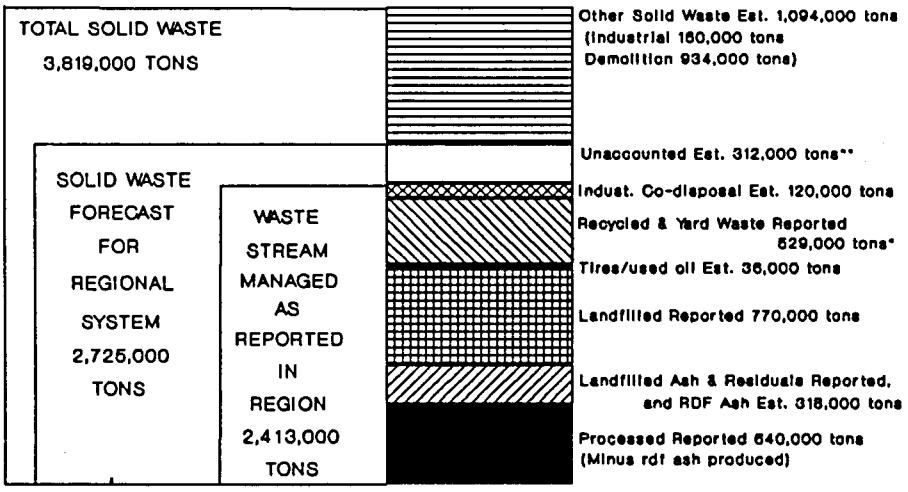
Figure 2
1988 WASTE COMPOSITION BY WEIGHT
CAL RECOVERY RAMSEY/WASHINGTON DATA




SOURCE: CRS Report 1187-88-2 Dec. 1988

Preliminary Council efforts to categorize all nonhazardous solid waste generated are illustrated in Figure 3, representing FY90.

Figure 3
METROPOLITAN AREA TOTAL WASTE MANAGEMENT
FY1990




*Does not include C/I/I recycling claimed by counties: 222,635 tons pre-1986 Hennepin Co., 15,000 tons Scott Co., 9,230 tons (4,000pre-1985) Washington Co.
**Includes special waste, litter, changes in conversion factors and waste densities, etc.
Source: Metropolitan Council

# ISSUES - WASTE COMPOSITION

## COMPOSITION STUDIES

As the variety of waste management technologies available in the Metropolitan Area increases, so does the importance of knowing the characteristics of the waste. Further efforts to abate landfills will require that various components of the waste stream be assigned to the most appropriate waste management alternative.

Experience gained by implementing the solid waste management system indicates that the waste stream is much more complex than implied in the Council's 1985 policy plan. Contrary to the percentage goals established in that plan, it appears that not all of the MSW waste stream can be managed by reduction, recycling or energy recovery. Some portions of the MSW stream will require landfilling. On the other hand, some elements of the non-MSW solid waste stream might be better suited for processing than landfilling; yet little attention has been given to abating the landfilling of these materials.

In order to identify methods to improve the processing of all wastes, more MSW composition studies will be needed. These studies would define elements of the waste stream currently being handled by energy recovery and disposal technologies that could be managed through the more preferred options of recycling and waste reduction.

## FURTHER RESEARCH

Figure 3 presents an initial estimate of the various components of the total solid waste stream. The data presented is derived from a variety of sources, some of them projections. Further research will be needed to better document and verify this information. Research should not only identify the types and quantities of non-MSW waste, but also consider appropriate management strategies that might further conserve landfill capacity.

## RECYCLABLES SUPPLY

The Council paid particular attention to one aspect of waste composition during 1990. Spurred by concerns caused by marketing problems that developed when the supply of newspapers exceeded demand in the spring of 1989, the Council hired Franklin Associates, Ltd., to study the potential supply of recyclables in the MSW waste stream and the available market capacity. Franklin's estimates of market capacity will be discussed in the recycling section of this report. Table 2 provides data on estimates of the generation, current recovery and potential recovery of eight recyclable materials that Franklin was directed to study.

Table 2
GENERATION, RECOVERY, AND POTENTIAL RECOVERY OF SELECTED RECYCLABLE MATERIALS IN THE METROPOLITAN AREA, 1989 & 1995

| | 1989 | | 1995 Potential | | |
|---|---|---|---|---|---|
| Material | Generation | Recovery | Total Recoverable* | Additional Recovery | % Recoverable |
| Old Newspaper | 145,000 | 72,500 | 95,600 | 23,100 | 65% |
| Old Corrugated | 250,000 | 150,000 | 216,200 | 66,300 | 75% |
| Mixed Paper | 133,000 | 13,000 | 30,500 | 17,200 | 20% |
| Glass Containers | 103,000 | 15,500 | 49,600 | 34,100 | 60% |
| Plastic Containers | 27,800 | 900 | 16,600 | 15,700 | 52% |
| Metal Food Containers | 19,700 | 2,000 | 10,700 | 8,400 | 60% |
| Aluminum | 18,700 | 8,100 | 14,200 | 6,100 | 71% |
| Yard Waste (Compost) | 176,000 | 77,600 | 158,400 | 80,800 | 90% |
| TOTAL | 873,200 | 339,600 | 591,800 | 251,700 | 67% |

*Calculated using 1995 generation rates.

Source: Franklin Associates, LTD.

The Franklin data indicates that, even with 100 percent recovery of the materials identified (which is impossible), only 32 to 36 percent of the total 1989 waste stream would be recycled. While the eight materials in the Franklin report do not represent all potentially recyclable materials, they do represent those materials most likely to be recovered and marketed. This data indicates that reaching a recycling goal of 35 percent by 1993 and 50 percent by 2000 for the Metropolitan Area will be a difficult challenge.

# CONCLUSIONS - WASTE COMPOSITION

## COMPOSITION STUDIES

The Council's current draft of a revised solid waste policy plan, while adhering to the basic theme of landfill abatement through an integrated system of cost-effective, environmentally sound waste management technologies, will place greater emphasis on:

- Reducing waste generation;
- Defining management options specific to the amount and kinds of waste actually in the waste stream;
- Improving the efficiency of resource recovery facilities;
- Removing toxics from the waste stream;
- Viewing wastes as resources; and
- Planning for the management of all waste generated.

Each of these points requires a sophisticated knowledge of the various components of the total solid waste stream. While detailed and current data on specific materials and marketing options is available through the Franklin Associates study, information on the amount of recoverable waste still contained in the MSW stream at various points of management is preliminary. Further research is needed to help the various waste management technologies achieve their full potential.

The legislature has directed the Minnesota Pollution Control Agency (MPCA) to conduct a statewide analysis of the composition of solid waste. Since the MPCA's selected sites do not include any in the Metropolitan Area, the Council has issued a request for proposals to perform four-season waste sorts at 11 energy-recovery and waste-disposal sites in the region. The final report, paid for by Council funds, will be due in October 1991. The Council's study has been coordinated with the MPCA's studies so that data from the two efforts can be compared easily.

## FURTHER RESEARCH

In addition to the composition study for which the Council is seeking proposals, further research on the amount and composition of non-MSW waste streams will be conducted. Over the next two years, the Council will gather data on non-MSW wastes and prepare a report addressing the need for public management of these wastes (especially construction/demolition and industrial wastes that are currently privately managed).

## RECYCLABLES SUPPLY

Although the counties have made substantial progress toward the 35 percent recycling goal, each future increase in percentage recovered will require proportionately higher levels of effort. The Council will assist the counties by establishing policies that require mandatory provision of recycling services and mandatory recycling participation, continuing to promote recycling in the region, and providing grants for proposals to increase levels of recycling. The counties will cooperate to refine existing programs, provide technical assistance, and expand recycling opportunities for multi-tenant residential, commercial, industrial and institutional generators. Both the Council and the counties can increase the demand for recyclables through procurement programs that require the purchase of materials containing recycled content.

In addition, the recycling infrastructure must continue to develop, through public and/or private efforts, to provide capacity for the processing and marketing of more varieties and amounts of recyclable materials. The Franklin data indicates that even with the combined efforts of all sectors, achieving the region's recycling objectives will not be easy.

# WASTE REDUCTION

Waste reduction is the waste management option most preferred by the counties, the state and the Council in their waste management hierarchies. The Council's revised policy plan identifies the following waste reduction strategies:

1. Influence manufacturers and generators so they do not produce problem wastes and superfluous materials;
2. Educate/influence the public so they do not purchase problem wastes and unneeded quantities;
3. Encourage proper turf management and backyard composting;
4. Require volume- or weight-based fees for collection service; and
5. Encourage the purchase of products made from post-consumer recycled materials.

Approaches to waste reduction most commonly identified nationally include:

A. Reducing the amount of material or toxicity of materials used in each product unit;
B. Increasing the useful life of products, particularly durable goods;
C. Substituting reusable products for single-use, disposable products;
D. Changing behaviors to reduce waste generation; and
E. Purchasing only quantities that are likely to be used.

These approaches are implemented through the regulation of product design, manufacture and packaging; the use of financial incentives or disincentives; consumer information; and education.

# DATA

During fiscal year 1990, the waste reduction efforts of most counties centered on including the concept in public information campaigns. The waste reduction component concentrated on urging residents to mulch their grass clippings and compost yard waste in their backyards. The Council supported the efforts of individual counties with a regional yard waste campaign featuring television and newspaper ads. The Connection® (sponsored by a Metropolitan Council grant) included yard waste information on its Recycling Hotline, and county extension offices provided information upon request.

No total tonnage or percentage data is available to measure the success of waste reduction efforts by the seven metropolitan counties. Using the Cal Recovery study that found yard waste equal to 11.8 percent of total MSW generation, Franklin Associates, Ltd. estimated the amount of yard waste expected to be generated in calendar year 1990 at 325,000 tons. However, the counties estimated that the actual supply of yard waste that would require management in 1990 equaled 176,000 tons. Using those figures we can estimate yard waste reduction at 149,000 tons.

County efforts to reduce the toxicity of the waste stream have included both individual county and regional approaches. Individually, the counties have acted to inform the public of safe options for disposing of household hazardous waste and alternatives to the use of household hazardous wastes, and to provide programs to collect those materials. The seven counties budgeted a total of $2,592,410 for household hazardous waste management programs in calendar year 1990. Regionally, the Solid Waste Management Coordinating Board is working to cooperatively establish permanent

household hazardous waste collection programs to comply with legislative requirements that such programs be operating in the Metropolitan Area by June 30, 1992.

Other wastes, such as used oil, tires, lead acid batteries, and major appliances, have been removed from the MSW waste stream by legislative mandate. Management of these materials, accomplished through a variety of technologies including recycling and incineration, also contributes to landfill abatement. Since these special wastes are no longer part of the MSW stream managed by the counties, accurate figures on total tonnage are difficult to obtain.

# ISSUES

## MEASUREMENT

A pilot waste reduction project in Itasca County has demonstrated that, with sufficient county commitment of staff resources and technical assistance, it is possible to implement specific waste reduction activities within the county government system and measure the resulting landfill abatement and cost savings. However, counties have generally chosen to put their limited resources into the development of other waste management strategies having a broader impact. Little specific effort has been focused on waste reduction beyond its inclusion in public information programs.

Because of the inherent difficulty in measuring the amount of waste not generated, the Council has accepted anecdotal reports of county waste reduction efforts and has not attempted to determine the counties' progress toward the four percent waste reduction goal set for the region in the 1985 policy plan. The revised solid waste policy plan will not include a specific numeric objective for waste reduction.

## TOXICITY MANAGEMENT

Another aspect of solid waste management receiving increased emphasis is the reduction of waste stream toxicity. The counties are working jointly to establishment the household hazardous waste management programs required by legislation. The governor's Select Committee on Packaging and the Environment (SCOPE) is considering recommendations for toxicity reduction in packaging materials. The Council's revised solid waste policy plan is considering requiring the removal of hazardous elements of the waste stream at every available opportunity and seeking legislation to assess a tax or fee on identified hazardous materials at the point of purchase.

## APPROPRIATE IMPLEMENTOR

Major impacts in reducing the amount and toxicity of waste generated require action at the federal or state level, with support from regional and local governments. In its leadership role the federal government is considering three courses of action: 1) imposing restrictions on the amount of lead and cadmium in products; 2) evaluating the need for federal testing guidelines to determine the potential for release of toxic constituents in products disposed of; and 3) examining ways of stimulating industry to produce products with reduced amounts of packaging and/or toxic packaging components.

The state of Minnesota has promoted a reduction in the amount of waste generated by requiring that volume- or weight-based fees be offered by haulers. This would serve as an incentive to generators to produce less waste. In addition, SCOPE is considering recommendations that would promote the reduction of both the amount and toxicity of packaging wastes through such options as a tax on packages containing toxic substances or required content standards for toxic substances in packages.

# CONCLUSIONS

## MEASUREMENT

While not requiring that specific waste reduction tonnages be measured, the Council has taken concrete steps to support waste reduction in the revision of its solid waste policy plan. The plan makes the reduction of the amount and toxicity of the waste stream its number-one goal. To promote waste reduction, the plan includes a policy stating that the Council will seek to increase the tipping fees for land disposal of all Metropolitan Area waste.

The revised plan's second goal states that collection and marketing of wastes should allow for the greatest possible reduction in the amount of waste ultimately disposed of. One of the policies to attain this goal supports state law by requiring cities and counties to mandate volume- or weight-based waste collection fees for each waste generator and each type of collection service.

In addition, Council public information and abatement grant programs will continue to stress waste reduction. Metropolitan counties will be expected to address waste reduction in the revision of their solid waste master plan and to report on waste reduction efforts in their annual reports to the Council.

## TOXICITY MANAGEMENT

To reduce the toxicity of the waste stream, the draft revised solid waste policy plan states that the Council will seek a tax or fee on identified hazardous materials at the point of purchase. Monies raised from the fee could be used to help fund programs for household hazardous waste management.

For their part, the counties' major focus will be to meet the legislative requirement that household hazardous waste collection programs be in operation by June 30, 1992.

## APPROPRIATE IMPLEMENTOR

While the state and federal government should assume the lead in waste reduction efforts, the Council and the counties will play a strong supporting role. Procurement programs have been or will be designed to include consideration of waste reduction strategies. Such waste reduction efforts as double-sided copying and the use of washable cups have been or will be instituted in-house. Public information materials stress the importance of waste reduction and offer suggestions for behavior changes to reduce waste generation.

# RECYCLING

To measure the counties' progress in recycling, the Council will use the legislative definition of "total solid waste generation" contained in Minn. Stat. 115A.551, Subd. 1:

"total solid waste generation" means the total by weight of:

1. materials separated for recycling;
2. materials separated for yard waste composting; and
3. mixed municipal solid waste plus yard waste, used oil, tires, lead acid batteries and major appliances.

This definition represents the generation figure referred to by the Council as the MSW waste stream. Also consistent with legislation, the Council will record total tonnages recycled rather than only tonnages defined as "source separated." In a change from previous data collection requirements, the Council will not require that total recycling data reported distinguish between pre- and post-1985 recycling efforts. Rather, the counties were asked to report documented total recycling occurring in FY90.

While the policy plan presents generation figures on a calendar-year basis, for purposes of this fiscal-year report, a number midway between calendar years 1989 and 1990 is used.

# DATA

Table 3 includes the total amount of waste reported recycled by each county and the resulting percentage portion of the waste stream recycled. The FY90 recycling objective for the region (a percentage figure midway between the objective for calendar years 1989 and 1990) was 14.5 percent. Individual county recycling objectives set in the 1985 plan were calculated in the same manner and are included in the table.

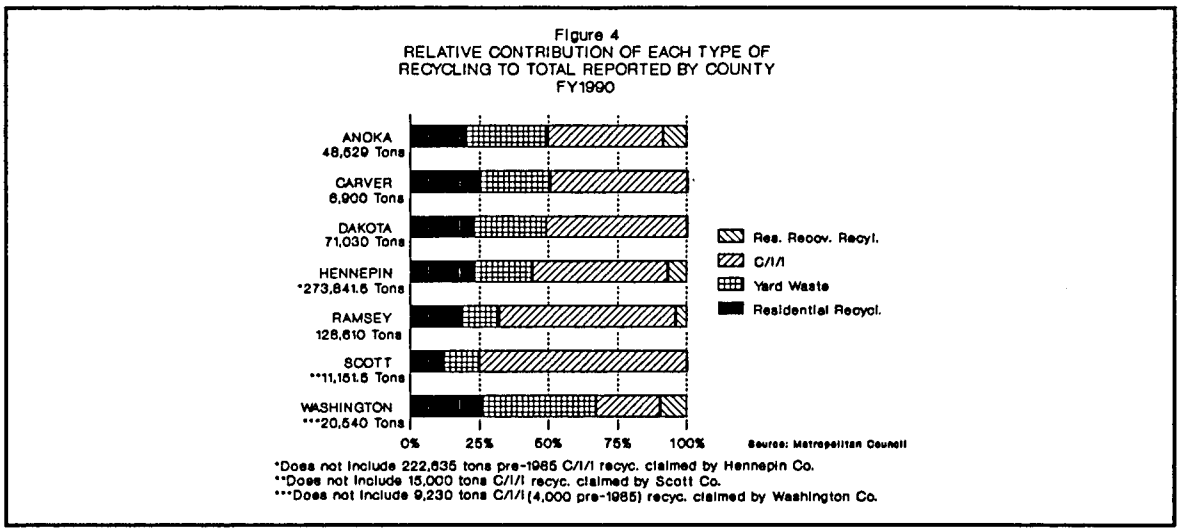
Table 3
FISCAL YEAR 1990 RECYCLING/MATERIALS RECOVERED

| County | Projected Waste Stream FY 1990 (Tons) | Recycled FY 1990 (Tons) | Recycled FY 1990 (%) | FY 1990 Goal (%) | Waste Stream Accounted for in FY 1990 (Tons) | Recycled FY 1990 (Tons) | Recycled FY 1990 (%) | ****Est. Tires/Used Oil (Tons) |
|---|---|---|---|---|---|---|---|---|
| Anoka | 219,000 | 48,529 | 22.2% | 13.5% | 193,961 | 48,529 | 25.0% | 3,578 |
| Carver | 40,000 | 6,900 | 17.3% | 12.0% | 35,427 | 6,900 | 19.5% | 707 |
| Dakota | 263,000 | 71,030 | 27.0% | 13.0% | 232,930 | 71,030 | 30.5% | 4,078 |
| Hennepin | 1,419,000 | *273,842 | 19.3% | 14.5% | *1,256,762 | *273,842 | 21.8% | 16,671 |
| Ramsey | 613,000 | 128,610 | 21.0% | 17.0% | 542,914 | 128,610 | 23.7% | 7,757 |
| Scott | 51,500 | **11,152 | 21.7% | 12.5% | **45,612 | **11,152 | 24.4% | 868 |
| Washington | 119,000 | ***20,540 | 17.3% | 14.0% | ***105,394 | ***20,540 | 19.5% | 2,129 |
| Metro Area | 2,724,500 | 560,602 | 20.6% | 14.5% | 2,413,000 | 560,602 | 23.2% | 35,788 |

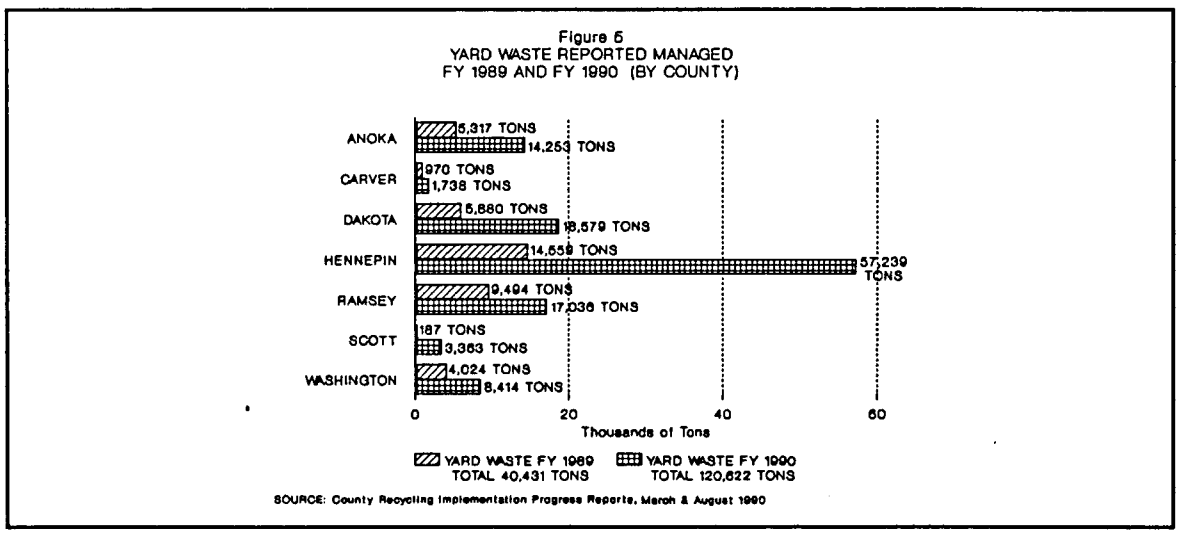
*Does not include 222,635 tons pre-1985 C/I/I recycling claimed by Hennepin County.
**Does not include 15,000 tons C/I/I recycling claimed by Scott County.
***Does not include 9,230 tons C/I/I recycling (4,000 pre-1985) claimed by Washington County.
****Based on MPCA projections of per capita and household generation.

Source: County Recycling Implementation Progress Reports, March & August 1990, and Metropolitan Council.

Figure 4 illustrates the relative contribution of residential recycling, residential yard waste composting, and commercial/industrial/institutional recycling to each county's total reported recycling.




On January 1, 1990, legislation took effect prohibiting the disposal of yard waste in MSW, in a disposal facility or in a resource recovery facility (Minn. Stat. Section 115A.931). This caused a major change in the way many generators managed their yard waste. The counties and the Council carried out public information campaigns to inform the public of their options and to promote waste reduction efforts by encouraging generators to manage yard waste on site. Still, large increases in the amount of yard waste requiring off-site management were reported. Figure 5 compares yard waste management reported by each county in FY89 with that reported in FY90.



# ISSUES

## RESIDENTIAL RECYCLING

### Recycling Participation

Table 4 indicates the number of curbside and drop-off recycling programs available in each county as of June 30, 1990, compared with the number reported for FY89 in last year's Abatement Progress Report. While FY89 showed an increase of 270 percent in the number of programs offered over those reported for 1987, the increase in program offerings from FY89 to FY90 was just 26 percent. This may indicate that the region is nearing completion of a residential curbside recycling infrastructure, with the exception of multitenant housing. Future implementation efforts will focus on enhancing current collection programs by adding such features as increasing the number of materials collected, providing bins, increasing collection frequency, and collecting recyclables on the same day that solid waste is collected. New programs will consist primarily of providing recyclables collection services to multitenant residences, establishing more dropoff sites and promoting further recycling by the commercial/ industrial/institutional sector.

Table 4
REGIONAL SOURCE-SEPARATION ABATEMENT PROGRAMS, FY 1989

| County | Curbside Recycling | Drop-off Recycling | Total County Recycling | Curbside Yard Waste | Drop-off Yard Waste | Total County Yard Waste | Total County Programs |
|---|---|---|---|---|---|---|---|
| Anoka | 10 | 19 | 29 | 5 | 3 | 8 | 37 |
| Carver | 9 | 3 | 12 | 2 | 11 | 13 | 25 |
| Dakota | 33 | 30 | 63 | 11 | 5 | 16 | 79 |
| Hennepin | 43 | 18 | 61 | 38 | 6 | 44 | 105 |
| Ramsey | 16 | 3 | 19 | 3 | 6 | 9 | 28 |
| Scott | 19 | 5 | 24 | 2 | 1 | 3 | 27 |
| Washington | 15 | 14 | 29 | 6 | 5 | 11 | 40 |
| TOTAL | 145 | 92 | 237 | 67 | 37 | 104 | 341 |

SOURCE: County Recycling Implementation Progress Reports, September 1989

REGIONAL SOURCE-SEPARATION ABATEMENT PROGRAMS, FY 1990

| County | Curbside Recycling | Drop-off Recycling | Total County Recycling | Curbside Yard Waste | Drop-off Yard Waste | Total County Yard Waste | Total County Programs |
|---|---|---|---|---|---|---|---|
| Anoka | 15 | 19 | 34 | 9 | 6 | 15 | 49 |
| Carver | 7 | 5 | 12 | 2 | 10 | 12 | 24 |
| Dakota | 33 | 30 | 63 | 12 | 8 | 20 | 83 |
| Hennepin | 44 | 35 | 79 | 43 | 15 | 58 | 137 |
| Ramsey | 17 | 4 | 21 | 20 | 11 | 31 | 52 |
| Scott | 19 | 5 | 24 | 1 | 0 | 1 | 25 |
| Washington | 28 | 11 | 39 | 13 | 7 | 20 | 59 |
| TOTAL | 163 | 109 | 272 | 100 | 57 | 157 | 429 |

SOURCE: County Recycling Implementation Progress Reports, March & August 1990

As more types of collection service have been added (recycling, yard waste and appliance pickup, for example), the cost of collection programs has increased. While some generators have responded by recycling more and generating less, an increasing number have dropped collection service and are instead disposing of their wastes in commercial dumpsters, on roadsides, in parks and vacant lots.

Even for those who maintain collection, the availability of curbside recycling service does not mean that generators actually recycle. Participation rates (generally measured on a monthly basis) vary considerably among programs. In addition to the program enhancement options described above, whether neighbors recycle is another key factor affecting a generator's willingness to participate. If recycling is a norm in the community, participation rates tend to be higher.

## Commingled Collection

Many of the region's initial recycling programs required a complete separation of materials, generally into three components: newspaper, glass and cans. Carefully separated by the generator and separately collected by recyclers, these materials streams could command the highest prices because of their relative purity. However, the 1990 Directed Market Research Study, performed for the Council by Franklin Associates, Ltd., indicates that more types and larger amounts of materials must be collected in order to reach recycling goals of 35-50 percent. It does not appear to be practical to require that generators separate materials into seven or eight categories, or feasible to require that recyclers collect that many separate components.

An increasing number of programs, both in the Metropolitan Area and nationally, are moving toward having the generator separate materials into three or four segments which allow for combining some recyclables--called commingled collection. These segments are then further refined into separate streams after collection. Such a system would require processing capacity for separating commingled recyclables.

## Yard Waste

Because the yard waste legislation took effect in January 1990, the FY90 abatement progress report does not contain data on a full year of post-implementation management. Both the counties and the Council are monitoring the fall yard waste season to ascertain the amount of leaf waste requiring management. While it appears that, as was the case with summer yard waste, the counties will be successful in obtaining capacity to compost the increased volumes anticipated, the issue of marketing the resulting product should be noted.

While some private entrepreneurs have been successful in selling relatively small quantities of yard waste compost, the counties have either stored the finished compost, given it away to anyone requesting it, or landspread it. Little attention has been given to setting compost quality standards or developing markets for the material.

## Commercial/Industrial/Institutional Recycling

Recycling data from the commercial and industrial sector continues to be difficult to collect because the private sector is reluctant to provide information considered proprietary. While legislation authorizes counties to license collectors of recyclables, many counties are still developing licensing

requirements, deciding whom to license, and determining the kinds of records recyclers will be required to keep. Legislation also requires collectors and processors of recyclables to submit annual reports of tonnages collected and markets used to the MPCA (beginning in 1989) as a condition for their "permit by rule" status. To date the MPCA has received few responses, however. In August 1990, in an attempt to obtain more accurate data, the Solid Waste Management Coordinating Board sponsored a survey of collectors of commercial/industrial recyclables. Seventy-three of the 90 collectors surveyed have responded. The scrap metal industries intend to provide a collective response. Results had not been compiled as this report was drafted.

Lacking better data, the majority of metropolitan counties reported commercial/industrial recycling tonnages for FY90 by adding a 10 percent increase to each of their biannual reports. The figure upon which the increase was calculated was based upon surveys of commercial/industrial businesses performed by each county in recent years. The commercial/industrial recycling tonnages reported by the counties are provided in Table 5. The data reported does not include 222,635 tons of pre-1985 commercial/industrial data claimed by Hennepin County based on the Hennepin County Comprehensive Recycling Study performed by Pope Reid Associates in 1985. Nor does it include 9,230 tons of pre-1985 commercial/industrial recycling estimated by Washington County, or 15,000 tons of commercial/industrial recycling reported by Scott County which may not actually qualify as recycling of mixed MSW. As the counties shift to a reporting system which measures all documented recycling, the continued inclusion of pre-1985 estimates could result in "double counting" of tonnages recorded in current data and included in the pre-1985 numbers.

There is undoubtedly more commercial/industrial recycling occurring than the counties have been able to document. What is not known, however, is whether this undocumented commercial/industrial recycling represents a little or a lot, despite years of attempting to gather the data. Improving the region's knowledge of commercial/industrial recycling tonnages will require many additional hours of staff time, or the focus could be shifted to monitoring the amount of waste landfilled in the region and planning ways to further reduce that amount. This change in emphasis would make specific percentage figures for commercial/industrial recycling less essential.

While data from institutions such as schools and government offices is easier to collect, many of these programs are less than one year old, making annual data impossible. It is expected that legislation requiring state agencies, local units of government and school districts in the Metropolitan Area to recycle at least three materials by January 1, 1991, will increase activity in the institutional sector and add to the tonnage of institutional recycling reported in future years. The institutional recycling tonnage reported by the counties for FY90 is also shown in Table 5.

Table 5
COMMERCIAL/INDUSTRIAL/INSTITUTIONAL RECYCLING, FY 1990

| County | Commercial/Industrial Tons | Institutional Tons | Total Tons |
|---|---|---|---|
| ANOKA | 20,111 | 121 | 20,232 |
| CARVER | 3,208 | 214 | 3,422 |
| DAKOTA | 36,100 | 179 | 36,279 |
| HENNEPIN | * 133,530 | **** 619 | * 134,149 |
| RAMSEY | 81,774 | 375 | 82,149 |
| SCOTT | ** 4,627 | 15 | ** 4,642 |
| WASHINGTON | *** 4,770 | N.A. | *** 4,770 |
| METRO AREA | 284,120 | 1,523 | 285,643 |

*Does not include 222,635 tons pre-1985 C/I/I recycling claimed by Hennepin County.
**Does not include 15,000 tons C/I/I recycling claimed by Scott County.
***Does not include 9,230 tons C/I/I recycling (4,000 tons pre-1985) claimed by Washington County.
****Some municipal office tonnages are included in residential recycling.

Source: County Recycling Implementation Progress Reports, March & August 1990

While commercial/industrial and institutional recycling accounted for 61 percent of the total reported for FY89, it represents 51 percent of the total reported for FY90.

## Markets for Recyclables

As stated by the 1990 Directed Market Research Study performed by Franklin Associates, Ltd., "[h]aving adequate markets (demand) for the various recyclable materials in municipal solid waste (MSW) has been recognized as a key factor, vital to long-term success of any program with goals to capture and recycle a maximum amount of materials that might otherwise have to be managed in resource recovery facilities, landfills, or mixed waste composting plants." Including materials potentially recyclable from the non-MSW waste stream would further compound the importance of market capacity.

The current status of markets for the materials studied by Franklin Associates follows:

Old Newsprint (ONP)
While finding markets for old newsprint may be a problem in the short term (six months), the long-term outlook is positive. In the last year a number of newsprint producers have made capital investments in equipment to incorporate old newsprint into their manufacturing process. There is little question that the threat of mandatory content legislation provided a powerful incentive for publishers in the region and the state to put pressure on their suppliers to produce newsprint with recycled content. By mid-1991 a new level of demand for ONP is expected to be established as the new mill capacity comes on line. Franklin estimates that the demand for old newsprint generated in the Metropolitan Area will exceed supply as early as 1991, resulting in positive market value for the material. Once the new investments in manufacturing capacity are in place, the supply and demand for ONP are likely to stabilize at a higher level.

Old Corrugated Containers (OCC)

The market for old corrugated containers has been and will continue to be strongly driven by demand. Economic factors such as virgin fiber costs, export opportunities and mill expansions all support this demand. Increasing costs of disposal provide incentive for increased recovery of OCC. Markets are likely for any increase in OCC recovered from the solid waste stream. Franklin Associates, Ltd., estimates that 60 percent of the corrugated generated in the Metropolitan Area is now being recovered. Recovery rates could reach 70 to 75 percent by 1995. The vast majority (90 percent) of OCC is being generated by commercial and industrial enterprises.

Mixed Paper

The demand for mixed paper is limited by both the decline in demand for products using mixed paper and the significant technical problems involved in using this material to manufacture other products. For some grades of paper the market is supply driven and markets are currently oversupplied. The practical maximum recovery rate for mixed paper is estimated to be from 15 to 20 percent. Some increased demand may occur for mixed paper if, as expected, the available supply of ONP is absorbed by expanded demand. This is most likely to occur in paperboard manufacturing.

Glass Containers

The majority of glass recycled in the Metropolitan Area is collected in curbside programs. Data from county recycling reports indicates that 15,500 tons of glass were collected and recycled in the region in 1989. This is approximately 15 percent of the glass containers in the waste stream. Anchor Glass in Shakopee is the only major local outlet for recycled glass. Anchor purchased 28,588 tons of color separated cullet (scraps of broken glass gathered for remelting) from local sources in 1989. The Shakopee plant reports that cullet made up 33 percent of its raw material last year, a substantial increase over the previous year. The consumption of cullet by regional container manufacturers is still only about half of what these manufacturers could consume. Capacity for waste glass, therefore, is still well above the regional supply. Future demand for recycled glass will depend upon the ability of glass packaging to maintain and expand its share of the packaging market. Glass has been losing market share, primarily to plastic, but recent data indicates that this trend may be leveling off.

Demand for mixed glass cullet, which combines shards of clear, green and/or brown glass, is extremely limited. Mixed cullet is not used by glass container manufacturers, but could potentially be used in such products as "glassphalt". Encouragement of new uses for this material will be essential if it is ever to be marketable.

Plastic Containers

Both regionally and nationally, over 95 percent of post consumer plastic container (collected from consumers after product purchase and use) recycling involved polyethylene terephthalate (PET) and high density polyethylene (HDPE) containers. Demand for used PET and HDPE is strong and growing, and is likely to exceed supply for the foreseeable future. One of the major problems in increasing the supply of post consumer plastics is finding cost-effective ways to collect these materials. While curbside collection may be the best way of getting source-separated plastics, it

is also the most expensive. Because of their volume-to-weight ratio, the net unit costs of collecting and transporting plastics can exceed the costs for other materials collected at curbside. A number of programs in the Metropolitan Area are collecting plastics (PET and HDPE) at curbside. Many more communities are expected to begin plastics collection in the near future.

Prices paid for used plastic depend on the supply and cost of used resins. Beyond PET and HDPE market demand currently is minimal for post consumer plastics, either source separated or mixed. Contamination of this plastic with food, glue or other unwanted materials is a major factor limiting demand. On the supply side, erratic and insufficient flow of materials is a disincentive to manufacturers to incorporate post consumer plastic scrap in their production processes. These obstacles can eventually be overcome if public policy and consumer pressures continue to push strongly for the recycling of plastics.

Metal Food Containers

Low scrap value and lack of recycling infrastructure have kept recycling rates for post consumer steel cans far below those for aluminum cans (5 percent vs. 55 percent). Nationally, there is a capacity to consume well over three times the steel cans now recovered. In the Metropolitan Area, a new detinning facility built by AMG in St. Paul will have the capacity to use 40,000 tons of scrap per year. This is more than enough capacity to absorb any amount of steel and bimetal cans generated by collection programs or resource recovery facilities in the region. The low market value of steel cans compared to aluminum cans ($90 per ton compared to $1,000 per ton) is expected to continue. It is unlikely that steel cans will be able to regain much of the market share lost to aluminum containers. They continue to drop as a portion of food cans as well. Franklin Associates estimated that around 10 percent of the metal food containers being generated in the Metropolitan Area are currently being recovered. By 1995, it could be possible to recover up to 60 percent of these steel food cans.

# CONCLUSIONS

## RESIDENTIAL RECYCLING

### Recycling Participation

City and county ordinances specifying that all solid waste generators have solid waste collection service are an approach to discouraging illegal dumping that could be implemented regionwide. Such ordinances could support waste reduction efforts by requiring that collection fees be charged based on the volume or weight of the waste generated. If fees were structured so that the generator paid less for the materials set out for recycling than for the materials set out for processing/disposal, a further incentive would be offered to encourage recycling.

Requiring generators to recycle would set recycling behavior as the norm and likely increase participation rates significantly. A recent Biocycle magazine national survey of curbside recycling

programs found participation rates for voluntary weekly programs averaged 72 percent, while weekly mandatory programs averaged 82 percent. Mandatory participation could be required either by city or county ordinance or by state legislation. It is likely that participation rates would improve even without specific penalties for noncompliance.

## Commingled Collection

In order to achieve the 35 percent recycling objective by 1993 set by state legislation, and to progress to the 50 percent recycling objective by 2000 set by the Council in the revised solid waste policy plan, the volume of recovered materials must increase dramatically. Without undergoing fundamental changes, current recycling programs will not be sufficient to handle the increase in types and amounts of materials needed to achieve these objectives.

Since recycling measurement is defined to include the management of special wastes, yard wastes, source-separated recyclables and materials recovered at resource recovery plants, many options are available to the counties for programs designed to achieve these objectives. The revised policy plan informs the counties of the capacity needs for materials recovery while allowing the counties to determine the mix of programs to provide this capacity. It is anticipated that materials recovery facilities, either public or private, will be a necessary part of these programs. In fact, several private-sector proposals have already been offered to manage specific portions of the recyclables stream. For example, Knutson Services has proposed a materials recovery facility for commercial wastes to be located in Rosemount.

## Yard Waste

Efforts to collect and compost yard waste appear to be keeping pace with quantities generated. However, further refinement of composted material to ensure consistent quality, and education of potential major users of compost as to its availability and benefits will be necessary to ensure that yard waste collected and composted can actually be considered recycled.

## Commercial/Industrial and Institutional Recycling

MPCA enforcement of its reporting requirements, together with the counties' establishment of licensing programs for collectors of recyclables (which include data reporting as a condition of licensure), will improve the quality of data available from businesses. Mandating recycling by commercial and industrial businesses, as generators, will increase the level of recycling, with the resulting tonnages reported by licensed recyclables collectors and permitted processors. Legislatively required recycling programs within public institutions will not only add to the recycling tonnages recovered, but also model and reinforce recycling behaviors expected from residents and businesses.

An alternative to continued efforts to improve the available data on commercial/industrial recycling would be to monitor the amount of MSW entering landfills, report on tonnage reductions achieved, and consider ways to reduce landfilling even further. Since both the MPCA and the Department of Revenue collect information on the amount of waste landfilled, this data would be more readily available and consistently derived than commercial/industrial data gathered through individual county surveys or estimates.

## Recyclables Markets

In analyzing the market capacity for the eight recyclable materials studied, Franklin Associates found significant differences in the approach necessary to ensure sufficient demand for each type of material. The study's findings were:

- Old corrugated and aluminum do not require any significant market development work; some emphasis might be placed on collection/recovery infrastructure, but demand is established and growing.

- Mixed papers need both supply and demand work. For example, telephone directories and obsolete file stock are promising products for conventional recycling into tissue or other products. However, this category needs substantial efforts because market applications are so different.

- The principal need for glass containers is to increase the recovery of color-sorted cullet. Mixed-color glass used for glassphalt is an alternative that has the potential to absorb much of this material, and thus contribute substantially to landfill abatement.

- The principal need for steel containers is to increase the recovery of the cans; the new AMG detinning plant should be able to absorb all Twin Cities Area generation from the recovery of source-separated material and steel cans magnetically separated at resource recovery plants.

- For plastic containers, a balanced approach is needed to support supply (collection), refine technologies and quantity, and develop specific markets to bring in new plants or expand existing ones. The whole recycling effort is gaining momentum, especially for using HDPE and PET, both of which are constrained principally by supply; other resins are restrained by market capacity.

- Compost from yard waste lacks demand because of the need for consistency in product quality. At present markets will have to be "jump started." Education of the potential users is just as important: nurseries and greenhouses, landscape contractors, parks and highway departments, and agricultural users. When product quality is consistent and proper, the markets will respond.

# CENTRALIZED PROCESSING

Centralized processing facilities described in the 1985 policy plan include mass burn, refuse- derived fuel (RDF), and MSW composting technologies. These facilities are also often referred to as resource recovery facilities. The counties have been developing them solely for the management of MSW, consistent with their legislatively assigned management responsibilities.

A number of transfer stations, both public and private, collect waste for delivery to designated facilities. Spurred by increasing tipping fees at processing and disposal facilities, these transfer stations have shifted from merely receiving and transporting wastes to recovering recyclables and removing other materials before delivering the waste for processing. This trend is continuing, with new transfer stations providing space for even more of this sorting and recycling activity.

## DATA

Since 1985, when one 80-ton-per-day MSW mass-burn facility was operating in the region, centralized processing capacity has expanded to five facilities with expected daily throughput of 3,772 tons per day. Two more facilities, an MSW composting plant shared by Scott and Carver Counties and a mass-burn plant in Dakota County, will complete the centralized processing system required in the Council's 1985 policy plan. Total daily capacity would then equal 4,612 tons per day, as shown in Table 6. In addition, private companies are planning facilities that potentially will add to the region's processing capacity.

Table 6
CENTRALIZED PROCESSING CAPACITY FOR THE METROPOLITAN REGION
(Tons Per Day Expected Average Daily Throughput)

| CURRENTLY OPERATING FACILITIES | TECHNOLOGY | CAPACITY |
|---|---|---|
| Hennepin Energy Resource Corp. | mass burn | 1000 TPD |
| Ramsey/Washington Resource Recovery Project | RDF | 1000 TPD |
| Anoka/Hennepin Elk River Resource Recovery Facility | RDF | 1300 TPD |
| Reuter, Inc. | RDF | 400 TPD |
| Richard's Asphalt | mass burn | 72 TPD |
| **ADDITIONAL FACILITIES PLANNED BY COUNTIES** | | |
| Dakota County Resource Recovery Facility (operational 1993) | mass burn | 640 TPD |
| Scott/Carver MSW Composting Facility (operational 1992) | MSW compost | 200 TPD |
| SUBTOTAL (by 1993) | | 4612 TPD |
| **PROPOSED PRIVATELY DEVELOPED FACILITIES** | | |
| Reuter, Inc., Composting Facility | MSW compost | 300 TPD |
| RECOMP Composting Facility | food waste compost | 400 TPD |
| SUBTOTAL (by 1995) | | 5312 TPD |
| **ADDITIONAL FACILITIES IDENTIFIED AS NEEDED BY THE COUNCIL** | | |
| RDF & Residuals Composting Facility (by 1995) | RDF & residuals compost | 530 TPD |
| Additional MSW Composting Facility (by 1995) | MSW compost | 350 TPD |
| **TOTAL PROCESSING CAPACITY (by 1995)** | | 6192 TPD |

This capacity could process about 58 percent of the MSW waste stream projected for FY95. About 49 percent of the waste stream would be handled by combustion, with the remainder of processed waste being composted. If non-MSW waste were included in the total to be managed, processing would represent a smaller percentage of the whole.

The Council has determined that it will not approve the construction of any more RDF or mass- burn facilities before 1995. The time until then will be used to evaluate the role of such facilities in an integrated, comprehensive waste management system. More MSW composting capacity could be developed before 1995.

The addition of the Anoka/Hennepin Elk River Resource Recovery facility and the Hennepin Energy Resource Corporation (HERC) facility enabled the region to process a much greater amount of MSW during FY90. Resource recovery facilities received 44 percent of the MSW reported managed by the region in FY90 compared to 18 percent for FY89. Table 7 shows the improved management results for processing facilities in FY90. Of the 397,873 tons received at processing facilities in FY89, 76 percent was processed. Of that, 48 percent was converted to RDF or burned, 46 percent landfilled and 6 percent recycled.

Table 7
MANAGEMENT OF WASTE RECEIVED AT PROCESSING FACILITIES

| FY 1990 Facility | Total Tons Received | Total Tons Processed | Total Tons Landfilled | Total Tons Recycled | Energy Recovered | |
|---|---|---|---|---|---|---|
| HERC | 197,359 | 197,359 | 50,320 | 6,058 | 140,981 | |
| NSP ELK RIVER | *321,673 | *260,303 | *#82,736 | *11,323 | *197,272 | Rdf |
| NSP NEWPORT | 399,360 | 312,518 | #147,807 | 7,482 | 232,052 | Rdf |
| REUTER | 113,066 | 113,066 | 74,262 | 6,312 | 29,323 | Fluff/Pellets |
| RICHARDS | 23,354 | 23,354 | 8,070 | 150 | 15,134 | |
| TOTAL TONS | 1,054,812 | 906,600 | 363,195 | 31,325 | 614,752 | |
| % OF TOTAL RECEIVED | | 86% | 34% | 3% | 58% | |

*Anoka and Hennepin portion only.
#Includes by-pass.

Source: County Recycling Implementation Progress Reports, March & August 1990

In the 1985 policy plan, objectives for MSW processing by individual counties were established in ranges through calendar year 1989 to allow for flexibility in the construction and operation dates of processing facilities. The plan set a regional centralized processing objective of 57 percent for 1989. The plan assumed that all facilities would be on line by 1990, and a regional objective of processing 80 percent of the waste stream was set. Averaging these two objectives yields a FY90 objective of 68.5 percent of total MSW generated. The processing objectives and levels of processing achieved by each county and for the region as a whole are reported in Table 8.

Table 8
COMPARISON OF FY 1990 CENTRAL PROCESSING GOALS & RESULTS

| County | Generation Tons | FY 1990 Processing Goal Tons | FY 1990 Processing Goal % of Total | FY 1990 Actual Processing Tons | FY 1990 Actual Processing % of Total |
|---|---|---|---|---|---|
| ANOKA | 219,000 | 105,120 - 175,200 | 48 - 80% | 98,915 | 45% |
| CARVER | 40,000 | 6,400 - 32,800 | 16 - 82% | 0 | 0% |
| DAKOTA | 263,000 | 110,460 - 210,400 | 42 - 80% | 0 | 0% |
| HENNEPIN* | 1,419,000 | 539,220 - 1,135,200 | 38 - 80% | 489,329 | 34% |
| RAMSEY | 613,000 | 441,360 - 472,010 | 72 - 77% | 228,138 | 37% |
| SCOTT | 51,500 | 11,845 - 42,745 | 23 - 83% | 5,838 | 11% |
| WASHINGTON | 119,000 | 82,110 - 94,010 | 69 - 79% | 84,380 | 71% |
| METRO AREA | 2,724,500 | 1,552,965 - 2,179,600 | 57 - 80% | 906,600 | 33% |

Assumes:
Richards has 75/25 intake split between Hennepin & Scott counties,
NSP Newport has 73/27 intake split between Ramsey & Washington counties,
NSP Elk River has 38/62 intake split between Anoka & Hennepin counties on metro waste.

*HERC not fully operational until March 1990.

Source: County Recycling Implementation Progress Reports, March & August 1990 and Metro Council

## COUNTY CERTIFICATION REPORTS

In August 1990, the counties reported waste certification information to the Council for the first time. The reports covered the six-month period, January 1 - June 30, 1990. This information is required by Minn. Stat. 473.848 (see Appendix B), Subd. 4, which directs the Council to include in the Abatement Progress Report:

> an accounting of the quantity of unprocessed waste transferred to disposal facilities, the reasons the waste was not processed, a strategy for reducing the amount of unprocessed waste, and progress made by counties to reduce the amount of unprocessed waste...

Appendix C presents the information provided by the counties.

# ISSUES

## DESIGNATION

The flow of waste to centralized processing facilities is guaranteed through a designation process that allows a county to specify that MSW waste collected within its boundaries be sent to a particular facility. Only MSW is controlled by the designation process. All MSW within a county is required to go to the designated facility, even though some loads might be better handled by a different technology.

MSW that cannot be processed in the facility to which it is designated is either not accepted or is received only for transfer to a landfill. In addition, some potentially processible non-MSW wastes are hauled directly to landfills without being evaluated for processing.

Parallel to the counties' MSW capacity development, private firms are considering ways to recycle or process certain components of non-MSW wastes and may develop facilities in the future. The efforts of one such firm, RECOMP, to site a composting plant to handle food wastes is an example.

## TIPPING FEES

The fees charged to tip waste at a resource recovery facility are higher than those charged to tip waste at a landfill. This is particularly true of landfills outside the Metropolitan Area. Although the waste management hierarchy states that landfilling should be the last resort, the current fee structure actually encourages greater landfill use in the following ways:

- Studies of the potential for further processing of the rejects and residuals from resource recovery facilities have indicated it is less expensive to landfill the rejects and residuals than to develop the processing capacity to do something else with them. (Thirty-four percent of waste received at centralized processing facilities was landfilled in FY90, compared to 46 percent in FY89. The 1985 policy plan expected that 23 percent of the waste received at processing facilities would be landfilled each year.)

- Haulers potentially derive economic benefit from changing their collection system so that wastes once collected as MSW are now collected as separate waste streams. This reduces the amount of MSW over which the counties have jurisdiction. It also may increase the amount of wastes landfilled if separated materials are not recycled or converted to energy.

- Lower tipping fees at landfills outside the Metropolitan Area encourage haulers to avoid designation and deliver waste to less expensive landfills. Current estimates indicate that disposal outside the region has increased from about 8 percent of the MSW waste

stream in 1985 to as much as 20 percent in FY90. Such activity means that the counties spend significant amounts of staff time and money attempting to enforce their designation ordinances.

- Non-MSW waste, outside the counties' designation authority, goes directly to landfills. (If capacity were available and tipping fees made landfilling more expensive than resource recovery, portions of this waste might be voluntarily delivered to processing facilities. If capacity were available to process it, this would further reduce the amount of waste entering the region's landfills.)

## COUNTY CERTIFICATION REPORTS

The Council has approved the first certification reports because no specific report requirements or evaluation criteria were established by the Council at the time the reports were submitted, and the reports do address the information requested in legislation. As part of its revised policy plan, the Council has included reporting requirements and review criteria to guide the counties' report preparation. The reports, as submitted, raised the following issues:

- The counties' certification reports, as required, stated the quantity of waste unprocessed. It would be useful, however, in evaluating the strategies offered to reduce unprocessed waste if a more detailed description of the kinds of waste unprocessed were included. Also, reporting that MSW received "met the statutory definition of processing" provides no information on whether those "processed by definition" wastes that were landfilled might have been more appropriately managed by another facility or technology. The Council's understanding of the statute would not allow "processed by definition" wastes to be defined as unprocessible.

- Another issue relates to the intent of the legislation. As it is presently written, the Council can approve or disapprove a certification report from any metropolitan county and can suggest specific techniques to reduce the amount of unprocessed waste to any county whose report was disapproved. However, the Council can enforce the implementation of those reduction techniques only on counties that have not enforced designation ordinances. In 1990, those counties are Dakota, Carver and Scott.

# CONCLUSIONS

## DESIGNATION

The resource recovery facilities in the region have improved their operating efficiency compared to FY89 and more capacity has been added. Continued improvements in the effectiveness of these facilities and completion of the planned recovery facility system will be necessary, however, to continue to decrease the amount of waste landfilled. Construction and operation of the Dakota County mass-burn facility and the Scott/Carver MSW composting facility will add to the region's capacity. Completion of the proposed private MSW and Council scheduled composting facilities could add some additional capacity to the system as well.

Increased regional cooperation among facilities is the other key component for maximizing resource recovery. For instance, when a facility is down, waste normally delivered to that facility should be sent to another one in the region if capacity is available, rather than being sent directly to a landfill. Cooperation among facilities could potentially result in further processing of rejects and residuals before landfilling, the creation of more logical waste sheds, and the assignment of certain components of the waste stream to the facility most capable of managing them. Planning for the management of non-MSW wastes within this cooperative system could potentially produce an even greater reduction in the amount of waste landfilled.

Negotiations for such cooperation have already begun through the activities of the Solid Waste Management Coordinating Board. The legislation restricting the disposal of unprocessed waste supports this regional management approach as well. In order to accomplish this shift to regional operation of facilities, designation must evolve from its current intra-county approach to a more regional, inter-county structure. This evolution can occur if the counties can devise methods for ensuring that each facility receives the contracted tonnage of waste while at the same time delivering the waste to the most appropriate facility for its management.

## TIPPING FEES

To support the implementation of the waste management hierarchy, encourage further waste reduction efforts and reduce the enforcement activities needed to ensure compliance with designation, the Council will promote the establishment of a landfill surcharge to be assessed on all Metropolitan Area waste, regardless of where it is disposed of. This surcharge would be expected to result in a cost for landfilling of waste that is higher than the cost of other management options.

Higher landfill fees would encourage both private and public efforts to reduce the amount of waste generated and to develop processing systems for small portions of the waste stream. Waste stream components generated in small quantities by several sources could be aggregated for processing. Rejects and residuals generated by various centralized processing facilities are one instance where such aggregated processing could prove cost-effective.

## COUNTY CERTIFICATION REPORTS

In order to make the certification reports a more useful tool for increasing landfill abatement in the region, the Metropolitan Council has developed reporting requirements and review criteria. Counties will be required to describe in detail the types of unprocessed wastes they are reporting, document more thoroughly their efforts to locate other processing capacity for that waste and reconcile the amount of waste they report as unprocessed with the amount of waste reported received by landfills.

In order to clarify the intended role of the Council in enforcing the implementation of strategies to reduce the amount of unprocessed waste landfilled, the Council will seek clarification of Council oversight authority to ensure that unprocessible waste is not sent to landfills. Legislation should redefine "processed" and "unprocessible," and allow Council oversight of all facilities regardless of whether they are subject to designation or have been given an exclusion from it.

# LANDFILLS

Although early efforts to manage solid waste seemed to imply that the development of alternative management methods could make landfills obsolete, experience has led to the conclusion that landfills are a necessary and valuable part of a viable waste management system. Although last in preference, landfills will continue to receive wastes--significantly more waste than originally intended.

Efforts to make landfills an environmentally sound alternative have resulted in greatly increased costs to operators. A number of the state's landfills with remaining capacity have closed, unable or unwilling to meet the more stringent requirements for liners, leachate collection systems, closure and post-closure care enacted by the MPCA. A recent report from the MPCA predicts a resulting shift to fewer and larger regional disposal facilities. Liability for potential environmental damage caused by these facilities is another concern that remains unresolved, with requirements for financial responsibility that address only closure and a 20-year post-closure period.

The Council's solid waste policy plan states that at least three landfills should be maintained until ash disposal options are less uncertain, and a large facility is sited to serve the region. This facility must have an emergency back-up cell and access from at least two 10-ton or better roadways. At the same time, the plan acknowledges that the Metropolitan Area is a major waste producing region of the state and must carefully consider the impact its waste management facilities might have on all of Minnesota.

## DATA

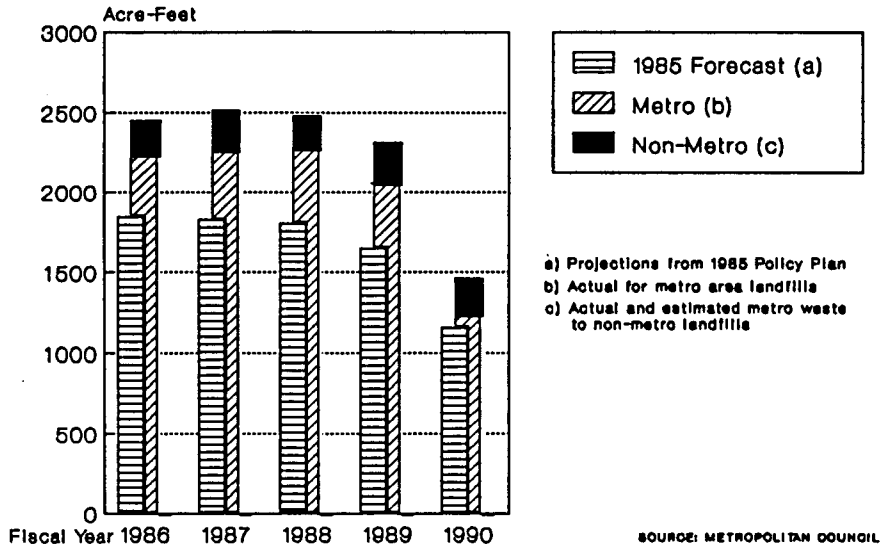
The most recent aerial photographs used to determine the remaining capacity of landfills in the Metropolitan Area were taken in 1988. New photographs will be taken in fall 1990 and used as the basis for a staff analysis that may change the capacity estimates that follow.

The region disposed of 1,150,732 tons of MSW in FY90, 84 percent of it in Metropolitan Area landfills. Ash and residuals from resource recovery facilities represented 318,263 tons, or 28 percent, of the total. All ash from the region's resource recovery facilities continues to be disposed of outside the area.

The waste disposed of used approximately 1,474 acre-feet of landfill space, 238 acre-feet of which was outside the Metropolitan Area. (Both the total of waste landfilled and that landfilled outside the Metropolitan Area are based on a survey of three nonmetro landfills. Small but unknown quantities of waste are also disposed of in other nonmetro landfills in Minnesota and Wisconsin. Ash from the HERC facility is disposed of in Illinois.)

This rate of consumption of landfill space is 835 feet less than the FY89 rate, a 36 percent reduction. Significant increases in the amount of wastes recycled and the startup and operation of the HERC facility in Minneapolis contributed to the reduction. Figure 6 compares actual landfill consumption rates during the past five fiscal years with those projected in the 1985 policy plan.

Figure 6
LANDFILL CONSUMPTION RATES




Council staff estimated that remaining capacity in Metropolitan Area landfills was 4,978 acre-feet at the end of FY90. With current and projected consumption rates, it is estimated that existing metropolitan capacity would be exhausted by 1994. The larger landfills in counties adjacent to the seven metropolitan counties have capacities totaling an additional 18,850 acre-feet.

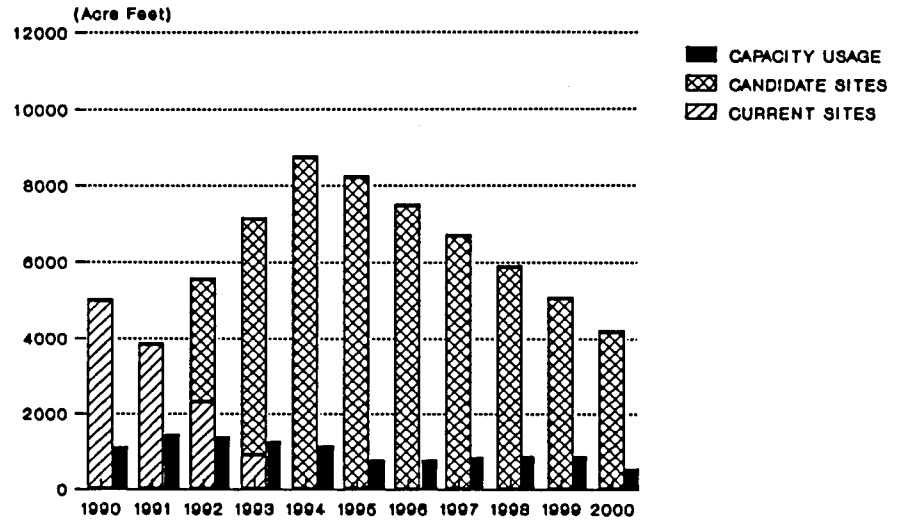
The Council, in accordance with the Waste Management Act, required Anoka, Hennepin and Washington Counties to conduct environmental reviews, and select and develop one new landfill each. Table 9 indicates the scheduled capacity of each county's landfill, the date originally set for its development, the FY89 Abatement Progress Report's anticipated site selection date and the current status of the process.

Table 9
STATUS OF CURRENT LANDFILL SITING PROCESS

| County | Scheduled Capacity | Council's Development Schedule Date | FY89 Abatement Progress Report Anticipated Site Selection Date | Current Status |
|---|---|---|---|---|
| ANOKA | 3,000 Acre Feet | 1987 | Summer, 1990 | Continuing EIS work. Site selection date undetermined. |
| HENNEPIN | 3,232 Acre Feet | 1991 | March, 1990 | Continuing EIS work. Site selection date undetermined. |
| WASHINGTON | 2,494 Acre Feet | 1993 | Summer, 1991 | Continuing EIS work. Site selection date undetermined. |

Figure 7 combines current capacity estimates with the additional capacity to be added as candidate landfill sites are completed. A landfill use column is included to illustrate the expected depletion of capacity.

Figure 7
IMPLICATION OF PROJECTED LANDFILL USE ON
EXISTING CAPACITY & CANDIDATE SITES




POTENTIAL EXPANSION CAPACITY, 4,000 ACRE FEET
POTENTIAL EXPORTATION CAPACITY, 18,850 ACRE FEET

SOURCE: METROPOLITAN COUNCIL

# ISSUES

## MEASURING LANDFILL ABATEMENT EFFORTS

The ultimate measure of success in accomplishing the goals of the Waste Management Act is the reduction in the amount of waste disposed of in landfills, rather than the achievement of specific percentage objectives for each technology. The region is committed to managing each component of the waste stream as high in the waste management hierarchy as possible, taking into account environmental protection and cost-effectiveness. In 1985 the region was almost totally dependent on landfills for the management of its waste. In FY90, 62 percent of the waste stream reported by the counties was managed through alternative technologies.

With much of the solid waste management infrastructure now in place, each incremental improvement in percentages of waste managed by alternatives to landfills will require greater effort, and continued refinement and enhancement of that infrastructure. For recycling, more kinds of materials must be

added to the list of recyclables. More people must participate in recycling programs and recycle dramatically greater amounts to achieve the objectives of 35 percent by 1993 set by the legislature and 50 percent by 2000 set by the Council's revised solid waste policy plan. This will likely require collecting commingled recyclables and adding materials recovery facilities (MRFs) to the recycling system.

Resource recovery facilities must work more cooperatively to ensure that wastes are processed at the most appropriate facility with available capacity. A Council decision to limit incineration capacity to that currently planned by the counties until at least 1995 will require continued improvements to existing facilities to achieve the highest possible levels of processing. Additional MSW composting capacity will be necessary and has been scheduled by the Council in its policy plan. Rejects and residuals composting is also scheduled in the Council's plan, to further process these materials and reduce the amount being landfilled. Alternatives to the land disposal of ash must continue to be sought.

## FLOW OF MSW OUTSIDE THE REGION

Fueled by the increasing costs of Metropolitan Area landfills and centralized processing facilities, the closing of landfills in the region, and the lack of designation implementation in Carver, Dakota and Scott Counties, MSW continues to be hauled to disposal sites outside the region. All the ash generated by burning metro waste is also disposed of outside the region. Previous Council abatement progress reports raised this issue in the context of possible curtailment of disposal activities outside the region, as nonmetropolitan counties enacted licensing requirements or other restrictions that could potentially halt the disposal of metropolitan waste. However, this possibility has been mitigated by the implementation of MPCA landfill rules that have resulted in increased landfill construction and operation costs.

The requirement that landfills be constructed with liners and leachate collection systems and that funds be established for closure and post-closure care have resulted in a need to deliver sufficient waste volumes to disposal facilities to ensure their economic viability. Several landfills outside the region have been soliciting waste from the Metro Area to attain cost-effective receiving rates. But some landfills outside the Metro Area do not meet the same environmental standards as those within the region. This raises concerns about future liability for metro waste disposed of there.

The primary issue appears to be control. The metropolitan counties do not have control over activities in surrounding counties. They cannot be assured that capacity will be available for their waste, that nonmetro landfills will meet environmental standards that will lessen issues of future liability, or that costs for disposal in Greater Minnesota will remain competitive. At the same time, the metropolitan counties are moving forward with a siting process to develop additional landfill capacity within the Metro Area. This could affect the viability of Greater Minnesota landfills.

## COMPLETION OF THE SITING PROCESS

Another year has passed with little progress toward the completion of the landfill siting process. Given the time it takes to site and develop a landfill, the FY89 Abatement Progress Report indicated that barely enough time existed to develop replacement capacity before existing landfills are closed. Current capacity predictions continue to expect the space in present landfills to be exhausted by 1994,

and the same concern exists. Closing of demolition and industrial landfills could shift additional non-MSW wastes to MSW landfills and shorten their life expectancy. To ensure the viability of the solid waste management system, it is vital that the siting process be completed without further delay. If the candidate landfill siting process fails, it will not be possible to develop replacement capacity in the Metro Area before existing facilities are filled.

The fact that metropolitan waste is being disposed of outside the region does not relieve the counties of the responsibility to select and acquire sites. If long-term contracts with nonmetro landfills can be obtained, site development can be postponed until the additional capacity is needed.

# CONCLUSIONS

## MEASURING LANDFILL ABATEMENT EFFORTS

The Council's draft revised solid waste policy plan focuses on measuring and reporting reductions in the amount of waste being landfilled. With the exception of a 35 percent recycling objective, set by the state and increased to 50 percent by the Council, no specific numeric goals are set for measuring the success of other technologies. Rather, landfill limits are set, establishing the amount of waste the region will be permitted to landfill. Landfill certification reports will be a key indicator of progress, requiring that the counties describe in detail their efforts to reduce the amount of waste disposed of.

The increased cooperation among counties and facilities established in the landfill certification process will require an administrative structure that transcends county boundaries to deal with solid waste issues from a regional perspective. The counties have joined together in a Solid Waste Management Coordinating Board to begin such cooperative planning efforts. Current coordinating board projects include planning jointly for household hazardous waste management and studying the possibilities for further processing rejects and residuals. The Council's draft revised policy plan sets up specific responsibilities for a regional entity, including developing a plan for the development and operation of regional solid waste facilities.

## FLOW OF MSW OUTSIDE THE REGION

Because the seven metropolitan counties cannot control land disposal capacity outside the region and because three of the metropolitan counties are in the process of developing landfill capacity within the region, a flexible approach seems prudent. The Council's draft policy plan revision suggests that the disposal of waste outside the Metropolitan Area is acceptable, provided that the counties can obtain long-term contracts for waste disposal in landfills meeting the same or higher environmental standards as those in the Metro Area, which have liners and leachate collection systems.

Secondly, the Council's draft plan suggests that a surcharge be placed on disposal of all waste generated in the Metropolitan Area, regardless of where it is disposed of. The funds collected could be used to support household hazardous waste management programs and waste reduction efforts. The fee would also raise the cost of landfilling to encourage generators and haulers to select other waste management technologies.

## COMPLETION OF THE SITING PROCESS

The Council will require that the counties involved in the landfill siting process select and purchase landfill sites to be held in reserve. If nonmetro disposal contracts are broken, or when capacity at landfills outside the region approaches its limits, the metropolitan counties can proceed with the development of the sites.

| 1990 FISCAL ANOKA | Population | House-holds | Type of Service | Pick-Up | City Bin | July thru December 1989 Tons Resd. Recy. | Tons Yard Waste | Lbs. Pers. Recy. | Lbs. Pers. Yard | January thru June 1990 Tons Resd. Recy. | Tons Yard Waste | Lbs. Pers. Recy. | Lbs. Pers. Yard |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Under 5,000 Population** | | | | | | | | | | | | | |
| Bethel | 309 | 115 | drop-off recycling 3/89 | -- | -- | 4.1 | 5.0 | 26.5 | 32.4 | 2.6 | 1.3 | 17.0 | 8.2 |
| Burns Twp. | 2,404 | 714 | drop-off recycling 3/89 | -- | -- | 21.8 | 0.0 | 18.1 | 0.0 | 34.1 | 0.0 | 28.4 | 0.0 |
| Centerville | 1,395 | 416 | curbside recycling 6/88, | Weekly | Yes | 39.1 | 13.0 | 56.1 | 18.6 | 17.0 | 1.0 | 24.3 | 1.4 |
| | | | curbside yard Fall/85 | Weekly | No | | | | | | | | |
| Circle Pines | 4,764 | 1,521 | curbside recycling 9/89, | Weekly | Yes | 97.7 | 45.0 | 41.0 | 18.9 | 132.2 | 30.3 | 55.5 | 12.7 |
| | | | drop-off recycling 1984, | Weekly | No | | | | | | | | |
| | | | curbside yard waste 11/89, | | | | | | | | | | |
| | | | drop-off yard waste 4/88 | | | | | | | | | | |
| Columbus Twp. | 3,726 | 1,100 | curbside recycling 3/90, | 2/month | Yes | 6.1 | 0.0 | 3.3 | 0.0 | 16.9 | 0.0 | 9.1 | 0.0 |
| | | | drop-off recycling 1988 | | | | | | | | | | |
| Hilltop | 705 | 416 | curbside recycling 3/90 | Weekly | Yes | 0.0 | 0.0 | 0.0 | 0.0 | 9.9 | 0.0 | 28.2 | 0.0 |
| Lexington | 2,115 | 771 | curbside recycling 10/88, | 2/month | No | 36.5 | 11.0 | 34.5 | 10.4 | 54.0 | 0.0 | 51.1 | 0.0 |
| | | | drop-off recycling 1984, | | | | | | | | | | |
| | | | curbside yard waste | | | | | | | | | | |
| Linwood Twp. | 3,401 | 1,071 | drop-off recycling 6/88, | -- | -- | 30.4 | 1.3 | 17.9 | 0.8 | 48.7 | 2.0 | 28.6 | 1.2 |
| | | | drop-off yard waste | | | | | | | | | | |
| Oak Grove | 4,967 | 1,500 | drop-off recycling 4/88 | -- | -- | 42.3 | 0.0 | 17.0 | 0.0 | 52.5 | 0.3 | 21.1 | 0.1 |
| St. Francis | 2,202 | 717 | drop-off recycling 7/88, | -- | -- | 62.4 | 0.0 | 56.7 | 0.0 | 49.4 | 6.0 | 44.9 | 5.4 |
| | | | drop-off yard waste 4/90 | | | | | | | | | | |
| **Over 5,000 Population** | | | | | | | | | | | | | |
| Andover | 14,646 | 4,172 | curbside recycling 11/89, | 2/month | Yes | 202.3 | 0.0 | 27.6 | 0.0 | 248.7 | 1.0 | 34.0 | 0.1 |
| | | | drop-off recycling 6/88, | | | | | | | | | | |
| | | | curbside yard waste, | | | | | | | | | | |
| | | | drop-off yard waste | | | | | | | | | | |
| Anoka | 17,266 | 6,323 | curbside recycling 9/88, | 2/month | No | 734.5 | 311.5 | 85.1 | 36.1 | 718.5 | 336.7 | 83.2 | 39.0 |
| | | | drop-off recycling 9/88, | | | | | | | | | | |
| | | | curbside yard waste 10/88 | 2/month | No | | | | | | | | |
| Blaine | 37,482 | 12,305 | curbside recyling 1/89, | Weekly | Yes | 1,119.9 | 1,109.1 | 59.8 | 59.2 | 1,323.7 | 1,029.8 | 70.6 | 54.9 |
| | | | drop-off recycling, | | | | | | | | | | |
| | | | curbside yard waste 3/89 | Weekly | No | | | | | | | | |
| Columbia Heights | 20,039 | 7,885 | curbside recycling 4/89, | Weekly | Yes | 631.3 | 196.1 | 63.0 | 19.6 | 614.3 | 578.9 | 61.3 | 57.8 |
| | | | drop-off recycling 7/85, | | | | | | | | | | |
| | | | curbside yard waste 9/89 | Weekly | | | | | | | | | |
| Coon Rapids | 47,725 | 16,421 | curbside recycling 4/90, | Weekly | Yes | 357.8 | 0.0 | 15.0 | 0.0 | 680.4 | 0.0 | 28.5 | 0.0 |
| | | | drop-off recycling 2/89, | | | | | | | | | | |
| | | | curbside yard waste 4/90, | Weekly | | | | | | | | | |
| | | | drop-off yard waste 6/89 | | | | | | | | | | |
| East Bethel | 7,976 | 2,575 | curbside recycling 5/90, | 2/month | Yes | 32.7 | 0.0 | 8.2 | 0.0 | 66.6 | 36.1 | 16.7 | 9.0 |
| | | | drop-off recycling 9/85, | | | | | | | | | | |
| | | | drop-off yard waste | 1/year | | | | | | | | | |
| Fridley | 29,250 | 10,938 | curbside recycling 6/85, | 2/month | No | 549.9 | 550.0 | 37.6 | 37.6 | 640.7 | 1,014.0 | 43.8 | 69.3 |
| | | | drop-off recycling 1979 | | | | | | | | | | |

1990 FISCAL

| ANOKA | Population | House-holds | Type of Service | Pick-Up | City Bin | July thru December 1989 Tons Resd. Recy. | Tons Yard Waste | Lbs. Pers. Recy. | Lbs. Pers. Yard | January thru June 1990 Tons Resd. Recy. | Tons Yard Waste | Lbs. Pers. Recy. | Lbs. Pers. Yard |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ham Lake | 9,017 | 2,703 | drop-off recycling 7/88 | -- | -- | 84.6 | 0.0 | 18.8 | 0.0 | 104.3 | 0.0 | 23.1 | 0.0 |
| Lino Lakes | 8,235 | 2,448 | curbside recycling 6/89, drop-off newspaper | Weekly | Yes | 113.5 | 7.2 | 27.6 | 1.7 | 168.6 | 1.0 | 40.9 | 0.2 |
| Ramsey | 12,717 | 3,641 | curbside recycling 10/88, drop-off recycling 6/87 | 2/month | Yes | 116.1 | 55.4 | 18.3 | 8.7 | 189.2 | 128.0 | 29.8 | 20.1 |
| Spring Lake Park | 7,037 | 2,347 | curbside recycling 5/86, drop-off recycling 5/90, curbside yard waste | 2/month | Yes | 96.3 | 225.6 | 27.4 | 64.1 | 190.0 | 0.0 | 54.0 | 0.0 |
| Bunker Hills/Rice | | | | | | | 2,052.3 | | | | 6,504.0 | | |

| | | | July thru Dec. 1989 TOTAL TONS | | Jan. thru June 1990 TOTAL TONS | |
|---|---|---|---|---|---|---|
| TOTAL POPULATION | 237,378 | | | | | |
| TOTAL HOUSEHOLDS | 80,099 | TOTAL RESIDENTIAL RECYC. | 4,379.3 | 36.9 lbs./person | 5,362.2 | 45.2 lbs./person |
| | | TOTAL YARD WASTE | 4,582.5 | lbs./person | 9,670.3 | 81.5 lbs./person |
| | | TOTAL COMMER/INDUS/INST. | 9,617.0 | | 10,615.0 | |
| | | FISCAL COMMER/INDUS/INST. | 20,232.0 | | | |
| | | FISCAL RESIDENTIAL RECYC. | 9,741.5 | | | |
| | | FISCAL YARD WASTE | 14,252.8 | | | |

ALSO REMOVED FROM RESID. WASTE STREAM: 84 TONS OIL AND 85 TONS TIRES.

| 1990 FISCAL DAKOTA | Population | House-holds | Type of Service | Pick-Up | City Bin | July thru December 1989 Tons Resd. Recy. | Tons Yard Waste | Lbs. Pers. Recy. | Lbs. Pers. Yard | January thru June 1990 Tons Resd. Recy. | Tons Yard Waste | Lbs. Pers. Recy. | Lbs. Pers. Yard |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Under 5,000 Population | | | | | | | | | | | | | |
| Lilydale | 643 | 372 | curbside recycling 4/89 | Weekly | Yes | 36.4 | 0.0 | 113.2 | 0.0 | 39.7 | 11.0 | 123.6 | 34.2 |
| Mendota | 197 | 81 | curbside recycling 4/89, drop-off yard waste 11/88 | Weekly | Yes | 0.0 | 0.0 | 0.0 | 0.0 | 0.2 | 0.0 | 2.0 | 0.0 |
| Sunfish Lake | 393 | 136 | curbside recycling 4/89, curbside yard varies, drop-off yard waste 11/88 | Weekly Varies | Yes | 9.8 | 0.0 | 49.9 | 0.0 | 12.4 | 0.8 | 63.0 | 3.8 |
| Rural SW Comm.: | | | curbside recycling 4/89, | Weekly | Yes | 254.0 | 20.0 | 36.1 | 2.8 | 226.5 | 6.0 | 32.2 | 0.8 |
| Castle Rock Twp. | 1,438 | 469 | drop-off recyc. pre 7/88, | or | | | | | | | | | |
| Coates | 204 | 69 | drop-off yard waste 11/88 | Bi-weekly | | | | | | | | | |
| Douglas Twp. | 615 | 183 | | | | | | | | | | | |
| Empire Twp. | 1,290 | 425 | | | | | | | | | | | |
| Eureka Twp. | 1,321 | 432 | | | | | | | | | | | |
| Greenvale Twp. | 642 | 209 | | | | | | | | | | | |
| Hampton | 315 | 114 | | | | | | | | | | | |
| Hampton Twp. | 902 | 266 | | | | | | | | | | | |
| Marshan Twp. | 1,169 | 332 | | | | | | | | | | | |
| Miesville | 178 | 52 | | | | | | | | | | | |
| New Trier | 116 | 34 | | | | | | | | | | | |
| Nininger Twp. | 799 | 233 | | | | | | | | | | | |
| Randolph | 323 | 117 | | | | | | | | | | | |
| Randolph Twp. | 415 | 141 | | | | | | | | | | | |
| Ravenna Twp. | 1,907 | 543 | | | | | | | | | | | |
| Sciota Twp. | 244 | 83 | | | | | | | | | | | |
| Vermillion | 550 | 170 | | | | | | | | | | | |
| Vermillion Twp. | 1,173 | 343 | | | | | | | | | | | |
| Waterford Twp. | 479 | 185 | | | | | | | | | | | |
| Over 5,000 Population | | | | | | | | | | | | | |
| Apple Valley | 33,622 | 10,577 | curbside recycling 4/89, drop-off recyc. pre 7/88, | Weekly | Yes | 893.9 | 1,648.1 | 53.2 | 98.0 | 1,064.6 | 1,237.4 | 63.3 | 73.6 |
| | | | curbside yard waste varies, drop-off yard waste 11/88 | Varies | No | | | | | | | | |
| Burnsville | 50,225 | 18,381 | curbside recycling 4/89, drop-off recyc. pre 7/88, | Weekly | Yes | 1,685.5 | 2,996.1 | 67.1 | 119.3 | 1,543.8 | 1,950.1 | 61.5 | 77.7 |
| | | | curbside yard waste varies, drop-off yard waste 4/88, compost site | Varies | No | | | | | | | | |
| Eagan | 44,058 | 16,410 | curbside recycling 3/89, drop-off recyc. pre 7/88, | Weekly | Yes | 1,170.0 | 1,482.5 | 53.1 | 67.3 | 1,283.2 | 1,707.8 | 58.3 | 77.5 |
| | | | curbside yard waste varies, drop-off yard waste 4/86, compost site | Varies | No | | | | | | | | |
| Farmington | 5,682 | 2,012 | curbside recycling 3/89, drop-off recyc. pre 7/88, | Weekly | Yes | 175.9 | 641.8 | 61.9 | 225.9 | 210.6 | 358.2 | 74.1 | 126.1 |
| | | | curbside yard waste 4/89, drop-off yard waste 11/88 | Varies | No | | | | | | | | |

1990 FISCAL

| CARVER | Population | House-holds | Type of Service | Pick-Up | City Bin | July thru December 1989 Tons Resd. Recy. | Tons Yard Waste | Lbs. Pers. Recy. | Lbs. Pers. Yard | January thru June 1990 Tons Resd. Recy. | Tons Yard Waste | Lbs. Pers. Recy. | Lbs. Pers. Yard |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Under 5,000 Population | | | | | | | | | | | | | |
| Benton Twp. | 957 | 295 | drop-off recycling 1970 | -- | -- | 2.2 | 0.0 | 4.6 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Camden Twp. | 907 | 288 | drop-off recycling 1984 | -- | -- | 10.9 | 0.0 | 24.0 | 0.0 | 19.7 | 0.0 | 43.5 | 0.0 |
| Carver | 741 | 275 | drop-off yard waste 1986 | -- | -- | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 5.0 | 0.0 | 13.5 |
| Chaska Twp. | 206 | 65 | -- | -- | -- | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Cologne | 608 | 245 | drop-off recycling 8/88, drop-off yard waste 10/88, | -- | -- | 21.4 | 9.0 | 70.4 | 29.6 | 8.0 | 5.0 | 26.2 | 16.4 |
| Dahlgren Twp. | 1,316 | 393 | -- | -- | -- | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Hancock Twp. | 428 | 127 | -- | -- | -- | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Hollywood Twp. | 1,112 | 349 | -- | -- | -- | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Laketown Twp. | 2,336 | 573 | -- | -- | -- | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Mayer | 398 | 159 | curbside recycling 7/88, drop-off yard waste 10/88 | Monthly | No | 5.9 | 12.0 | 29.6 | 60.3 | 8.3 | 9.0 | 41.8 | 45.2 |
| New Germany | 356 | 146 | curbside recycling 7/88, drop-off yard waste 10/88 | Monthly | No | 6.4 | 12.0 | 36.0 | 67.4 | 6.3 | 9.0 | 35.2 | 50.6 |
| San Francisco Twp. | 715 | 240 | -- | -- | -- | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Victoria | 2,228 | 719 | curbside recycling 6/88, drop-off yard waste 10/82 (with Chanhassen) | Monthly | No | 50.2 | N/A | 45.1 | N/A | 61.7 | N/A | 55.4 | N/A |
| Waconia | 3,415 | 1,437 | curbside recycling 1988, curbside yard waste 10/85, drop-off yard waste 10/83 | Monthly<br>2/year | No<br>No | 94.0 | 96.0 | 55.1 | 56.2 | 88.2 | 64.0 | 51.6 | 37.5 |
| Waconia Twp. | 1,352 | 436 | -- | -- | -- | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Watertown | 2,120 | 855 | curbside recycling 1/88, drop-off yard waste 10/85 | 2/month | No | 29.0 | 600.0 | 27.4 | 566.0 | 42.1 | 21.0 | 39.7 | 19.8 |
| Watertown Twp. | 1,428 | 463 | -- | -- | -- | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Young America Twp. | 936 | 306 | -- | -- | -- | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Over 5,000 Population | | | | | | | | | | | | | |
| Chanhassen | 10,461 | 3,799 | curbside recycling 4/89, drop-off recycling 6/88, curbside yard waste 10/82, drop-off yard waste 10/82 | Bi-weekly<br>2/year | No<br>No | 165.2 | 276.0 | 31.6 | 52.8 | 340.8 | 340.0 | 65.2 | 65.0 |
| Chaska | 11,141 | 4,063 | drop-off recycling 1980, drop-off yard waste 10/82 | -- | -- | 358.7 | 60.0 | 64.4 | 10.8 | 285.4 | 149.0 | 51.2 | 26.7 |
| Norwood/ Young America/ and Hamburg | 1,262<br>1,230<br>487 | 497<br>451<br>182 | curbside recycling 5/87, drop-off yard waste 10/86 | Monthly | No | 63.4 | 60.0 | 42.6 | 40.3 | 71.4 | 11.0 | 47.9 | 7.4 |

| | | | July thru Dec. 1989 TOTAL TONS | | Jan. thru June 1990 TOTAL TONS | |
|---|---|---|---|---|---|---|
| TOTAL POPULATION | 46,140 | | | | | |
| TOTAL HOUSEHOLDS | 16,363 | | | | | |
| | | TOTAL RESIDENTIAL RECYC. | 807.3 | 35.0 lbs./person | 931.8 | 40.4 lbs./person |
| | | TOTAL YARD WASTE | 1,125.0 | 48.8 lbs./person | 613.0 | 26.6 lbs./person |
| | | TOTAL COMMER/INDUS/INST. | 1,665.7 | | 1,756.8 | |
| | | FISCAL COMMER/INDUS | 3,422.5 | | | |
| | | FISCAL RESIDENTIAL RECYC. | 1,739.1 | | | |
| | | FISCAL YARD WASTE | 1,738.0 | | | |

1990 FISCAL

| DAKOTA | Population | House-holds | Type of Service | Pick-Up | City Bin | July thru December 1989 Tons Resd. Recy. | Tons Yard Waste | Lbs. Pers. Recy. | Lbs. Pers. Yard | January thru June 1990 Tons Resd. Recy. | Tons Yard Waste | Lbs. Pers. Recy. | Lbs. Pers. Yard |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Hastings | 14,893 | 5,253 | curbside recycling 4/89, drop-off recyc. pre 7/88, curbside yard waste varies, drop-off yard waste 1986, compost site | Weekly<br>Varies | Yes<br>No | 465.9 | 317.5 | | | 444.8 | 370.2 | 59.7 | 49.7 |
| Inver Grove Hts. | 21,850 | 7,753 | curbside recycling 4/89, drop-off recyc. pre 7/88, curbside yard varies, drop-off yard 11/88, compost site Pine Bend | Weekly<br>Varies | Yes<br>No | 316.6 | 417.3 | 29.0 | 38.2 | 531.9 | 328.4 | 48.7 | 30.1 |
| Lakeville | 22,707 | 7,522 | curbside recycling 4/89, drop-off recyc. pre 7/88, curbside yard varies, drop-off yard waste 11/88, County compost site | Weekly<br>Varies | Yes<br>No | 807.4 | 855.3 | 71.1 | 75.3 | 967.0 | 507.8 | 85.2 | 44.7 |
| Mendota Heights | 8,982 | 3,155 | curbside recycling 3/89, drop-off recyc. pre 7/88, curbside yard varies, drop-off yard waste 11/88 | Weekly<br>Varies | Yes<br>No | 327.5 | 202.6 | 72.9 | 45.1 | 320.9 | 236.7 | 71.4 | 52.7 |
| Rosemount | 8,014 | 2,675 | curbside recycling 2/89, drop-off recyc. pre 7/88, curbside yard waste 3/89, drop-off yard waste 11/88 | Weekly<br>Varies | Yes | 175.5 | 398.8 | 43.8 | 99.5 | 268.0 | 336.7 | 66.9 | 84.0 |
| South St. Paul | 20,083 | 8,026 | curbside recycling 4/89, drop-off recyc. pre 7/88, curbside yard varies, drop-off yard waste pre/88, compost site | Weekly<br>Varies | Yes<br>No | 399.8 | 752.8 | 39.8 | 75.0 | 537.3 | 1,000.8 | 53.5 | 99.7 |
| West St. Paul | 18,381 | 8,374 | curbside recycling 4/89, drop-off recyc. pre 7/88, curbside yard varies, drop-off yard waste 11/88 | 2/month or weekly<br>Varies | Yes<br>No | 643.3 | 313.0 | 70.0 | 34.1 | 716.1 | 341.5 | 77.9 | 37.2 |
| Miscellaneous (not broken out by community) | | | | -- | -- | 210.9 | 139.9 | 0.0 | 0.0 | 432.3 | 0.0 | 0.0 | 0.0 |

| | | | July thru Dec. 1989 TOTAL TONS | | Jan. thru June 1990 TOTAL TONS | |
|---|---|---|---|---|---|---|
| TOTAL POPULATION | 263,810 | | | | | |
| TOTAL HOUSEHOLDS | 95,127 | TOTAL RESIDENTIAL RECYC. | 7,572.4 | 57.4 lbs./person | 8,599.2 | 65.2 lbs./person |
| | | TOTAL YARD WASTE | 10,185.7 | 77.2 lbs./person | 8,393.2 | 63.6 lbs./person |
| | | TOTAL COMMER/INDUS/INST. | 17,851.0 | | 18,428.0 | |
| | | FISCAL COMMER/INDUS/INST. | 36,279.0 | | | |
| | | FISCAL RESIDENTIAL RECYC. | 16,171.6 | | | |
| | | FISCAL YARD WASTE | 18,578.9 | | | |
| | | ALSO REMOVED FROM RESID. WASTE STREAM: | 45 TONS OIL. | | | |

1990 FISCAL

| HENNEPIN | Population | House-holds | Type of Service | Pick-Up | City Bin | July thru December 1989 Tons Resd. Recy. | Tons Yard Waste | Lbs. Pers. Recy. | Lbs. Pers. Yard | January thru June 1990 Tons Resd. Recy. | Tons Yard Waste | Lbs. Pers. Recy. | Lbs. Pers. Yard |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Under 5,000 Population | | | | | | | | | | | | | |
| Dayton | 4,125 | 1,306 | curbside recycling 9/89, curbside yard waste | Monthly Spring/fall | No No | 215.4 | 59.0 | 104.4 | 28.6 | 0.0 | 0.0 | 0.0 | 0.0 |
| Deephaven | 3,773 | 1,341 | curbside recycling 9/87, curbside yard Spring/88 | Weekly Spring/fall | Yes No | 119.2 | 78.0 | 63.2 | 41.3 | 151.6 | 0.0 | 80.3 | 0.0 |
| Excelsior | 2,530 | 1,266 | curbside recycling 8/84, curbside yard Spring/88 | Weekly Spring/fall | Yes No | 69.3 | 39.0 | 54.8 | 30.8 | 69.5 | 33.9 | 54.9 | 26.8 |
| Fort Snelling | 216 | 0 | -- | -- | -- | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Greenwood | 663 | 258 | curbside recycling 10/87, drop-off recycling 10/87, curbside yard Fall/89, drop-off yard waste 1990 | Weekly Spring/fall | Yes No | 22.3 | 20.0 | 67.3 | 60.3 | 25.3 | 0.0 | 76.4 | 0.0 |
| Hanover | 307 | 88 | -- | -- | -- | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Hassan Twp. | 2,053 | 585 | curbside recycling 5/89, drop-off recycling 5/89, curbside yard Spring/89 | Weekly Spring/fall | Yes No | 55.8 | 39.0 | 54.4 | 38.0 | 61.9 | 0.0 | 60.3 | 0.0 |
| Minnetonka Beach | 642 | 222 | curbside recycling 11/88, drop-off recycling 11/88, curbside yard waste 6/88 | 2/month Spring/fall | Yes No | 10.4 | 20.0 | 32.4 | 62.3 | 53.6 | 0.0 | 167.1 | 0.0 |
| Minnetrista | 3,722 | 1,219 | curbside recycling 5/87, drop-off yard Spring/88 | 2/month | Yes | 73.5 | 33.0 | 39.5 | 17.7 | 103.4 | 1,200.0 | 55.6 | 644.8 |
| Osseo | 2,743 | 1,006 | curbside recycling 5/89, drop-off recycling 1/89, curbside yard waste 5/89 | Weekly Weekly | Yes Yes | 74.0 | 0.0 | 54.0 | 0.0 | 64.1 | 0.0 | 46.7 | 0.0 |
| Rockford | 437 | 180 | curbside recycling 8/88, drop-off recycling 8/89, curbside yard Spring/89 | Bi-weekly Bi-weekly | Yes No | 6.7 | 20.0 | 30.7 | 91.5 | 62.8 | 0.0 | 287.3 | 0.0 |
| Rogers | 733 | 255 | curbside recycling 8/89, drop-off recycling 8/89, curbside yard Fall/89 | 2/month | -- | 0.0 | 20.0 | 0.0 | 54.6 | 0.0 | 0.0 | 0.0 | 0.0 |
| St. Bonifacius | 1,138 | 398 | curbside recycling 9/87, curbside yard Spring/89, drop-off yard Spring/88 | 2/month Spring/fall | Yes No | 23.3 | 0.0 | 40.9 | 0.0 | 42.2 | 0.0 | 74.1 | 0.0 |
| Spring Park | 1,532 | 792 | curbside recycling 4/87, drop-off recycling 4/87, curbside yard Spring/88 | Alt.Fri. 2/year | Yes No | 21.9 | 20.0 | 28.6 | 26.1 | 23.5 | 0.0 | 30.7 | 0.0 |
| Tonka Bay | 1,487 | 606 | curbside recycling 6/87, drop-off recycling 7/87, curbside yard waste 10/88, drop-off yard Spring/89 | Weekly 2/year | Yes No | 64.5 | 157.0 | 86.8 | 211.2 | 70.7 | 0.0 | 95.1 | 0.0 |
| Wayzata | 3,938 | 1,841 | curbside recycling 7/87, drop-off recycling 1967, curbside yard Fall/86, drop-off yard Spring/86 | Weekly | Yes No | 180.6 | 420.0 | 91.7 | 213.3 | 236.9 | 241.0 | 120.3 | 122.4 |
| Woodland | 482 | 184 | curbside recycling 10/87, drop-off recycling 10/87, curbside yard Spring/89 | 2/month 2/year | Yes No | 23.3 | 20.0 | 96.7 | 83.0 | 0.0 | 0.0 | 0.0 | 0.0 |

| 1990 FISCAL MENNEPIN | Population | House-holds | Type of Service | Pick-Up | City Bin | July thru December 1989 Tons Resd. Recy. | Tons Yard Waste | Lbs. Pers. Recy. | Lbs. Pers. Yard | January thru June 1990 Tons Resd. Recy. | Tons Yard Waste | Lbs. Pers. Recy. | Lbs. Pers. Yard |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Over 5,000 Population | | | | | | | | | | | | | |
| Bloomington | 86,460 | 34,695 | curbside recycling 4/89, drop-off recycling 1/87, | Weekly | Yes | 3,410.1 | 1,534.0 | 78.9 | 35.5 | 3,952.9 | 2,116.3 | 91.4 | 49.0 |
| | | | curbside yard waste 4/89, drop-off yard waste 4/90 | Weekly | No | | | | | | | | |
| Brooklyn Park | 55,294 | 20,433 | curbside recycling 6/89, drop-off recycling 1/89, | Weekly | Yes | 2,084.9 | 1,354.0 | 75.4 | 49.0 | 1,789.6 | 209.7 | 64.7 | 7.6 |
| | | | curbside yard Spring/89, drop-off yard waste 4/90 | Weekly | No | | | | | | | | |
| Champlin | 16,245 | 5,172 | curbside recycling 8/88, drop-off recycling, | Weekly | Yes | 408.7 | 295.0 | 50.3 | 36.3 | 401.3 | 0.0 | 49.4 | 0.0 |
| | | | curbside yard Spring/88 | Weekly | No | | | | | | | | |
| Corcoran | 5,116 | 1,512 | curbside recycling 8/88, drop-off recycling 8/88, | Alt.Tues. | Yes | 153.3 | 0.0 | 59.9 | 0.0 | 181.0 | 0.0 | 70.8 | 0.0 |
| | | | curbside yard Spring/89 | Varies | No | | | | | | | | |
| Eden Prairie | 37,786 | 14,018 | curbside recyc. by 8/89, drop-off recycling 1/89, | Weekly | Yes | 1,034.6 | 728.0 | 54.8 | 38.5 | 1,133.0 | 111.0 | 60.0 | 5.9 |
| | | | curbside yard waste 10/89 | Fall | No | | | | | | | | |
| Edina | 44,943 | 20,467 | curbside recycling 1987, drop-off recycling 1987, | Weekly | Yes | 1,792.9 | 1,213.0 | 79.8 | 54.0 | 1,972.4 | 1,457.0 | 87.8 | 64.8 |
| | | | curbside yard Spring/89 | Season | No | | | | | | | | |
| Golden Valley | 21,813 | 8,268 | curbside recycling 8/88, | Weekly | Yes | 728.5 | 438.0 | 66.8 | 40.2 | 804.7 | 3,986.0 | 73.8 | 365.5 |
| | | | curbside yard Spring/88 | 6 Wk.Season | No | | | | | | | | |
| Hopkins | 16,111 | 7,816 | curbside recycling 1/89, drop-off recycling 1/89, | Weekly | Yes | 537.7 | 445.0 | 66.7 | 55.2 | 370.3 | 204.6 | 46.0 | 25.4 |
| | | | curbside yard Spring/88 | Season | | | | | | | | | |
| Maple Grove | 37,792 | 12,024 | curbside recycling 5/89, drop-off recycling 5/89, | Weekly | Yes | 1,337.9 | 728.0 | 70.8 | 38.5 | 1,276.0 | 40.0 | 67.5 | 2.1 |
| | | | curbside yard Fall/89 | Fall 8 wks. | No | | | | | | | | |
| Minneapolis | 358,166 | 164,780 | curbside recycling 11/83, | 2/month | Yes | 7,997.8 | 22,043.0 | 44.7 | 123.1 | 9,892.9 | 6,913.0 | 55.2 | 38.6 |
| | | | curbside yard waste 10/87 | Season | No | | | | | | | | |
| Minnetonka | 47,727 | 18,195 | curbside recycling 5/89, drop-off recycling 2/88, | Weekly | Yes | 2,008.0 | 909.0 | 84.1 | 38.1 | 1,901.0 | 400.0 | 79.7 | 16.8 |
| | | | curbside yard Fall/88, drop-off yard Fall/88 | Spring/fall | No | | | | | | | | |
| Mound | 9,444 | 3,766 | curbside recycling 10/85, drop-off recycling 10/85, | 2/month | Yes | 203.9 | 123.0 | 43.2 | 26.0 | 304.5 | 601.7 | 64.5 | 127.4 |
| | | | curbside yard Fall/89, drop-off yard Spring/88 | Fall 4 wks. | No | | | | | | | | |
| Richfield | 34,876 | 15,675 | curbside recycling 9/84, | Weekly | Yes | 1,188.0 | 708.0 | 68.1 | 40.6 | 1,149.5 | 1,265.8 | 65.9 | 72.6 |
| | | | curbside yard Spring/88 | Season | No | | | | | | | | |
| Robbinsdale | 14,276 | 6,265 | curbside recycling 6/88, drop-off recycling 6/88, | Weekly | Yes | 755.1 | 320.0 | 105.8 | 44.8 | 692.1 | 483.0 | 97.0 | 67.7 |
| | | | curbside yard Summer/88 | Season | No | | | | | | | | |
| St. Anthony | 5,371 | 2,167 | curbside recycling 12/89, drop-off recycling 1986, | Weekly | No | 78.0 | 0.0 | 29.0 | 0.0 | 196.6 | 60.9 | 73.2 | 22.7 |
| | | | curbside yard waste 12/89, drop-off yard waste 1986 | Spring/fall | No | | | | | | | | |

| 1990 FISCAL HENNEPIN | Population | House-holds | Type of Service | Pick-Up | City Bin | July thru December 1989: Tons Resd. Recy. | Tons Yard Waste | Lbs. Pers. Recy. | Lbs. Pers. Yard | January thru June 1990: Tons Resd. Recy. | Tons Yard Waste | Lbs. Pers. Recy. | Lbs. Pers. Yard |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| St. Louis Park | 42,649 | 20,170 | curbside recycling 1/82, curbside yard Summer/86 | Weekly<br>Season | Yes<br>No | 1,462.5 | 1,255.0 | 68.6 | 58.9 | 1,552.5 | 1,437.0 | 72.8 | 67.4 |
| Shorewood | 5,815 | 1,981 | curbside recycling 7/87, drop-off recycling 7/87, curbside yard waste 6/90 | Bi-week<br>Spring | Yes<br>No | 175.1 | 118.0 | 60.2 | 40.6 | 216.4 | 0.0 | 74.4 | 0.0 |
| Henn. Recyc. Group: | | | curbside recycling 6/89, drop-off recycling 1/89, curbside yard Spring/89, drop-off yard waste 5/90 | Weekly<br>Weekly | Yes<br>No | 802.8 | 1,318.0 | 21.7 | 35.6 | 2,449.7 | 645.2 | 66.1 | 17.4 |
| Brooklyn Center | 28,578 | 11,301 | | | | | | | | | | | |
| Crystal | 22,851 | 9,423 | | | | | | | | | | | |
| New Hope | 22,680 | 8,403 | | | | | | | | | | | |
| W. Henn. Recycling: | | | curbside recycling 8/88, drop-off recycling 11/86, curbside yard 4/87 | Bi-weekly<br>Spring/fall | Yes<br>No | 823.8 | 315.0 | 86.6 | 33.1 | 769.3 | 217.7 | 80.9 | 22.9 |
| Greenfield | 1,512 | 488 | | | | | | | | | | | |
| Independence | 2,746 | 915 | | | | | | | | | | | |
| Long Lake | 1,939 | 779 | | | | | | | | | | | |
| Loretto | 345 | 143 | | | | | | | | | | | |
| Maple Plain | 1,832 | 708 | | | | | | | | | | | |
| Medina | 3,272 | 1,027 | | | | | | | | | | | |
| Orono | 7,379 | 2,677 | | | | | | | | | | | |
| Plymouth/ | 51,390 | 18,867 | curbside recycling 4/86, drop-off recycling 4/86, curbside yard Spring/88, drop-off yard Spring/90 | Weekly<br>Spring/fall | Yes<br>No | 1,461.3 | 826.0 | 56.4 | 31.9 | 1,574.8 | 0.0 | 60.8 | 0.0 |
| Medicine Lake | 387 | 167 | | | | | | | | | | | |

| | | July thru Dec. 1989 TOTAL TONS | | Jan. thru June 1990 TOTAL TONS | |
|---|---|---|---|---|---|
| TOTAL POPULATION | 1,015,316 | | | | |
| TOTAL HOUSEHOLDS | 423,849 | | | | |
| TOTAL RESIDENTIAL RECYC. | | 29,405.1 | 57.9 lbs./person | 33,545.8 | 66.1 lbs./person |
| TOTAL YARD WASTE | | 35,615.0 | 70.2 lbs./person | 21,623.7 | 42.6 lbs./person |
| TOTAL COMMER/INDUS/INST.* | | 63,792.0 | | 70,357.0 | |
| FISCAL COMMER/INDUS/INST.* | | 134,149.0 | | | |
| FISCAL RESIDENTIAL RECYC. | | 62,950.9 | | | |
| FISCAL YARD WASTE | | 57,238.7 | | | |
| ALSO REMOVED FROM RESID. WASTE STREAM: | | 202 TONS OIL AND 362 TONS TIRES. | | | |

*Some municipal office tonnages are included in residential recycling.
Does not include 222,635 tons pre-1985 C/I/I recycling claimed by county.

1990 FISCAL

| RAMSEY | Population | House-holds | Type of Service | Pick-Up | City Bin | July thru December 1989 Tons Resd. Recy. | Tons Yard Waste | Lbs. Pers. Recy. | Lbs. Pers. Yard | January thru June 1990 Tons Resd. Recy. | Tons Yard Waste* | Lbs. Pers. Recy. | Lbs. Pers. Yard* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Under 5,000 Population** | | | | | | | | | | | | | |
| Gem Lake | 397 | 136 | curbside recycling 9/88 | 2/month | $ 8 | 4.5 | 0.0 | 22.7 | 0.0 | 5.2 | 0.0 | 26.3 | 0.0 |
| Lauderdale | 2,455 | 1,188 | curbside recycling 7/87 | 2/month | No | 33.5 | 0.0 | 27.3 | 0.0 | 49.6 | 0.0 | 40.4 | 0.0 |
| North Oaks | 3,287 | 1,058 | curbside recycling 4/87 | Monthly | $ 8 | 100.8 | 0.0 | 61.3 | 0.0 | 101.7 | 0.0 | 61.9 | 0.0 |
| St. Anthony | 2,963 | 1,436 | curbside recycling 1/90, drop-off recycling 1979 | -- | $ 8 | 76.0 | 0.0 | 51.3 | 0.0 | 49.1 | 19.0 | 33.1 | 12.8 |
| **Over 5,000 Population** | | | | | | | | | | | | | |
| Arden Hills | 9,667 | 2,915 | curbside recycling 3/88, drop-off yard waste 10/83 | Weekly | Yes | 219.0 | 490.0 | 45.3 | 101.4 | 250.9 | 0.0 | 51.9 | 0.0 |
| Falcon Heights | 5,234 | 2,067 | curbside recycling 4/87, curbside yard Spring/90 | 2/month | $ 8 | 116.0 | 0.0 | 44.3 | 0.0 | 182.2 | 13.4 | 69.6 | 5.1 |
| Little Canada | 9,119 | 3,974 | curbside recycling 7/87 | 2/month | Yes | 127.8 | 0.0 | 28.0 | 0.0 | 154.1 | 0.0 | 33.8 | 0.0 |
| Maplewood | 30,163 | 11,291 | curbside recycling 11/88, drop-off yard waste 10/84 | 2/month | Yes | 287.4 | 559.0 | 19.1 | 37.1 | 369.9 | 0.0 | 24.5 | 0.0 |
| Mounds View | 12,738 | 4,733 | curbside recycling 6/88, drop-off yard waste 10/84 | 2/month | Yes | 166.8 | 280.0 | 26.2 | 44.0 | 199.2 | 0.0 | 31.3 | 0.0 |
| New Brighton | 22,798 | 8,400 | curbside recycling 7/87 | 2/month | No | 322.8 | 0.0 | 28.3 | 0.0 | 437.0 | 0.0 | 38.3 | 0.0 |
| North St. Paul | 12,257 | 4,417 | curbside recycling 7/87, curbside yard waste 1988 | 2/month | Yes | 311.8 | 566.0 | 50.9 | 92.4 | 323.1 | 0.0 | 52.7 | 0.0 |
| Roseville | 34,474 | 13,358 | curbside recycling 7/87, curbside yard waste, drop-off yard waste | 2/month | No | 628.3 | 1,800.0 | 36.5 | 104.4 | 765.6 | 460.0 | 44.4 | 26.7 |
| St. Paul | 267,968 | 111,283 | curbside recycling 1981, drop-off yard waste 10/83 | 2/month | No | 4,992.0 | 1,895.0 | 37.3 | 14.1 | 5,536.0 | 0.0 | 41.3 | 0.0 |
| Shoreview | 24,087 | 8,949 | curbside recycling 5/88, drop-off yard waste | 2/month | $ 6 | 756.4 | 200.0 | 62.8 | 16.6 | 715.7 | 0.0 | 59.4 | 0.0 |
| Vadnais Heights | 9,749 | 3,755 | curbside recycling 10/88 | 2/month | $ 8 | 144.1 | 0.0 | 29.6 | 0.0 | 186.4 | 0.0 | 38.2 | 0.0 |
| White Bear Lake (Part in Ramsey Co.) | 23,240 | 8,448 | curbside recycling 4/88, curbside yard waste 7/88 | Weekly | Yes | 489.0 | 1,001.0 | 42.1 | 86.1 | 626.9 | 190.7 | 54.0 | 16.4 |
| White Bear Twp. | 8,739 | 3,167 | curbside recycling 9/85, curbside yard waste 4/88 | Weekly Weekly | Yes | 244.3 | 407.0 | 55.9 | 93.1 | 147.7 | 435.0 | 33.8 | 99.6 |
| Miscellaneous (not broken out by community) | | | | | | 1,939.4 | 0.0 | 0.0 | 0.0 | 2,903.2 | 8,528.9 | 0.0 | 0.0 |

| | | | July thru Dec. 1989 TOTAL TONS | | Jan. thru June 1990 TOTAL TONS | |
|---|---|---|---|---|---|---|
| TOTAL POPULATION | 479,335 | | | | | |
| TOTAL HOUSEHOLDS | 190,575 | TOTAL RESIDENTIAL RECYC. | 10,959.9 | 45.7 lbs./person | 13,003.4 | 54.3 lbs./person |
| | | TOTAL YARD WASTE | 7,198.0 | 30.0 lbs./person | 9,647.0 | 40.3 lbs./person |
| | | TOTAL COMMER/INDUS/INST. | 39,040.0 | | 43,109.0 | |
| | | FISCAL COMMER/INDUS/INST. | 82,149.0 | | | |
| | | FISCAL RESIDENTIAL RECYC. | 23,963.3 | | | |
| | | FISCAL YARD WASTE | 16,845.0 | | | |
| | | ALSO REMOVED FROM RESID. WASTE STREAM: | 17 TONS TIRES. | | | |

*Specific information on yard waste generated is not available for each community.

1990 FISCAL

| SCOTT | Population | House-holds | Type of Service | Pick-Up | City Bin | July thru December 1989 Tons Resd. Recy. | Tons Yard Waste | Lbs. Pers. Recy. | Lbs. Pers. Yard | January thru June 1990 Tons Resd. Recy. | Tons Yard Waste | Lbs. Pers. Recy. | Lbs. Pers. Yard |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Under 5,000 Population | | | | | | | | | | | | | |
| Belle Plaine | 3,071 | 1,088 | curbside recycling 1/89, drop-off recycling | -- | -- | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| Belle Plaine Twp. | 730 | 212 | curbside recycling 1/89 | -- | -- | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| Blakeley Twp. | 489 | 154 | curbside recycling 1/89 | -- | -- | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| Cedar Lake Twp. | 1,770 | 509 | curbside recycling 1/89 | -- | -- | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| Credit River Twp. | 2,878 | 853 | curbside recycling 1/89 | -- | -- | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| Elko | 274 | 88 | curbside recycling 1/89 | -- | -- | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| Helena Twp. | 1,252 | 363 | curbside recycling 1/89 | -- | -- | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| Jackson Twp. | 1,353 | 488 | curbside recycling 1/89 | -- | -- | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| Jordan | 2,767 | 946 | curbside recycling 1/89, drop-off recycling | -- | -- | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| Louisville Twp. | 875 | 266 | curbside recycling 1/89 | -- | -- | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| New Market | 288 | 109 | curbside recycling 1/89 | -- | -- | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| New Market Twp. | 2,108 | 611 | curbside recycling 1/89 | -- | -- | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| New Prague | 2,482 | 945 | curbside recycling 1/89, drop-off recycling | -- | -- | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| St. Lawrence Twp. | 386 | 123 | curbside recycling 1/89 | -- | -- | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| Sand Creek Twp. | 1,574 | 414 | curbside recycling 1/89 | -- | -- | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| Spring Lake Twp. | 2,938 | 874 | curbside recycling 1/89 | -- | -- | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| Over 5,000 Population | | | | | | | | | | | | | |
| Prior Lake | 10,863 | 3,818 | curbside recycling 1/89, drop-off recycling | -- | -- | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| Savage | 9,430 | 3,192 | curbside recycling 1/89, drop-off recycling | -- | -- | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| Shakopee | 12,045 | 4,180 | curbside recycling 1/89, curbside yard waste 4/89 | -- | -- | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| Scott County Total | | | curbside recycling 1/89, curbside yard waste 4/89 | -- | -- | 1,562.8 | 160.0 | | | 1,546.1 | 3,202.8 | | |

| | | July thru Dec. 1989 TOTAL TONS | | Jan. thru June 1990 TOTAL TONS | |
|---|---|---|---|---|---|
| TOTAL POPULATION | 57,573 | | | | |
| TOTAL HOUSEHOLDS | 19,233 | | | | |
| | TOTAL RESIDENTIAL RECYC. | 1,562.8 | 54.3 lbs./person | 1,546.1 | 53.7 lbs./person |
| | TOTAL YARD WASTE | 160.0 | 5.6 lbs./person | 3,202.8 | 111.3 lbs./person |
| | TOTAL COMMER/INDUS/INST.* | 2,321.0 | | 2,321.0 | |
| | FISCAL COMMER/INDUS/INST.* | 4,642.0 | | | |
| | FISCAL RESIDENTIAL RECYC. | 3,108.9 | | | |
| | FISCAL YARD WASTE | 3,362.8 | | | |

*Does not include 15,000 tons C/I/I recycling claimed by county.

1990 FISCAL

| WASHINGTON | Population | House-holds | Type of Service | Pick-Up | City Bin | July thru December 1989 Tons Resd. Recy. | Tons Yard Waste | Lbs. Pers. Recy. | Lbs. Pers. Yard | January thru June 1990 Tons Resd. Recy. | Tons Yard Waste | Lbs. Pers. Recy. | Lbs. Pers. Yard |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Under 5,000 Population | | | | | | | | | | | | | |
| Afton | 2,616 | 904 | curbside recycling 9/88, curbside yard waste 4/90 | Monthly 4/month | No | 65.6 | 0.0 | 50.2 | 0.0 | 65.6 | 3.7 | 50.1 | 2.8 |
| Bayport | 3,118 | 744 | curbside recycling 10/89, drop-off recycling 1987, curbside yard waste 10/89 | 2/month | No | 34.1 | 32.5 | 21.9 | 20.8 | 67.8 | 0.0 | 43.5 | 0.0 |
| Baytown Twp. | 905 | 287 | curbside recycling 10/88 | Monthly | No | 14.3 | 0.0 | 31.6 | 0.0 | 17.0 | 0.0 | 37.5 | 0.0 |
| Birchwood | 1,067 | 361 | curbside recycling 2/89, curbside yard waste 9/89 | 2/month 4/month | No No | 36.2 | 29.0 | 67.9 | 54.4 | 41.9 | 50.4 | 78.5 | 94.5 |
| Dellwood | 882 | 286 | curbside recycling 1/89, curbside yard waste 9/89 | 2/month 4/month | Yes No | 27.4 | 29.0 | 62.1 | 65.8 | 34.4 | 39.6 | 78.0 | 89.8 |
| Denmark Twp. | 1,213 | 386 | curbside recycling 9/89, drop-off recycling 1988 | Monthly | No | 9.3 | 0.0 | 15.3 | 0.0 | 32.1 | 0.0 | 53.0 | 0.0 |
| Grant Twp. | 3,921 | 1,156 | curbside recycling 1/90 | Monthly | No | 0.0 | 0.0 | 0.0 | 0.0 | 70.3 | 0.0 | 35.9 | 0.0 |
| Grey Cloud Twp. | 337 | 119 | -- | -- | -- | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Hugo | 4,323 | 1,365 | drop-off recycling 1987, drop-off yard waste 10/88 | -- | -- | 47.2 | 23.7 | 21.8 | 11.0 | 17.2 | 71.0 | 8.0 | 32.8 |
| Lake St. Crx. Bch. | 1,155 | 426 | curbside recycling 7/88, curbside yard waste 1987 | 2/month 4/month | No No | 42.3 | 26.0 | 73.2 | 45.0 | 24.0 | 22.2 | 41.5 | 38.4 |
| Lakeland | 1,991 | 657 | curbside recycling 5/88, curbside yard waste 1987 | 2/month 4/month | No No | 78.2 | 26.0 | 78.6 | 26.1 | 29.7 | 22.2 | 29.8 | 22.3 |
| Lakeland Shores | 213 | 89 | curbside recycling 4/90, curbside yard waste 1987 | 2/month 4/month | No No | 0.0 | 6.5 | 0.0 | 61.0 | 4.1 | 3.7 | 38.0 | 34.7 |
| Landfall | 580 | 312 | -- | -- | -- | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Marine St. Croix | 539 | 221 | curbside recycling 4/90, drop-off recycling 1985, drop-off yard waste 4/90 | Monthly | No | 37.3 | 0.0 | 138.4 | 0.0 | 21.3 | 28.0 | 79.1 | 103.9 |
| May Twp. | 2,431 | 788 | curbside recycling 4/90, drop-off recycling 1985 | Monthly | No | 25.2 | 0.0 | 20.7 | 0.0 | 28.3 | 0.0 | 23.2 | 0.0 |
| Newport | 3,587 | 1,367 | curbside recycling 4/90, drop-off recycling 1987 | 4/month | No | 22.4 | 0.0 | 12.5 | 0.0 | 80.2 | 0.0 | 44.7 | 0.0 |
| New Scandia Twp. | 3,155 | 1,030 | curbside recycling 4/90, drop-off recycling 1985 | Monthly | No | 62.5 | 0.0 | 39.6 | 0.0 | 62.6 | 0.0 | 39.7 | 0.0 |
| Oak Park Heights | 3,844 | 1,325 | curbside recycling 9/89, drop-off recycling 1987, curbside yard waste 6/88 | 2/month 4/month | No No | 104.0 | 300.0 | 54.1 | 156.1 | 101.7 | 100.0 | 52.9 | 52.0 |
| Pine Springs | 437 | 138 | curbside recycling 9/89 | Monthly | No | 3.9 | 0.0 | 17.8 | 0.0 | 9.0 | 0.0 | 41.1 | 0.0 |
| St. Mary's Point | 358 | 130 | curbside recycling 10/88, curbside yard waste 1987 | Monthly 4/month | No | 19.0 | 6.5 | 106.1 | 36.3 | 10.5 | 3.7 | 58.7 | 20.7 |
| St. Paul Park | 4,972 | 1,707 | curbside recycling 2/90, drop-off recycling 1987 | 4/month | Yes | 25.4 | 0.0 | 10.2 | 0.0 | 98.1 | 0.0 | 39.5 | 0.0 |
| Stillwater Twp. | 2,124 | 655 | curbside recycling 3/89 | 4/month | No | 41.9 | 0.0 | 39.5 | 0.0 | 41.2 | 0.0 | 38.8 | 0.0 |
| West Lakeland Twp. | 1,733 | 532 | curbside recycling 10/88 | Monthly | No | 25.1 | 0.0 | 29.0 | 0.0 | 24.5 | 0.0 | 28.2 | 0.0 |
| White Bear Lake | 266 | 89 | curbside recycling 6/88 | 4/month | Yes | 5.5 | 0.0 | 41.4 | 0.0 | 7.9 | 0.0 | 59.2 | 0.0 |
| Willernie | 645 | 255 | curbside recycling 2/89 | 2/month | No | 12.3 | 0.0 | 38.1 | 0.0 | 13.5 | 0.0 | 41.8 | 0.0 |

| 1990 FISCAL WASHINGTON | Population | House-holds | Type of Service | Pick-Up | City Bin | July thru December 1989 Tons Resd. Recy. | Tons Yard Waste | Lbs. Pers. Recy. | Lbs. Pers. Yard | January thru June 1990 Tons Resd. Recy. | Tons Yard Waste | Lbs. Pers. Recy. | Lbs. Pers. Yard |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Over 5,000 Population | | | | | | | | | | | | | |
| Cottage Grove | 21,863 | 6,471 | drop-off recycling 1987, drop-off yard waste 1985 | -- | -- | 101.4 | 302.0 | 9.3 | 27.6 | 170.7 | 1,161.0 | 15.6 | 106.2 |
| Forest Lake | 5,400 | 2,150 | curbside recycling 7/89, drop-off recycling 1982, drop-off yard waste 1984 | 2/month Spring | Yes | 126.3 | 309.8 | 46.8 | 114.7 | 155.0 | 716.0 | 57.4 | 265.2 |
| Forest Lake Twp. | 6,436 | 2,073 | curbside recycling 6/89, drop-off recycling 1982 | 2/month Spring | Yes | 126.3 | 0.0 | 39.2 | 0.0 | 154.0 | 0.0 | 47.9 | 0.0 |
| Lake Elmo | 5,580 | 2,076 | curbside recycling 3/88, curbside yard waste 4/90, drop-off yard waste 1985 | 2/month 4/month | Yes No | 110.1 | 343.6 | 39.5 | 123.2 | 141.7 | 804.5 | 50.8 | 288.4 |
| Mahtomedi | 5,099 | 1,829 | curbside recycling 2/89 | 2/month | No | 84.1 | 0.0 | 33.0 | 0.0 | 110.3 | 0.0 | 43.3 | 0.0 |
| Oakdale | 16,908 | 6,187 | curbside recycling 11/89, drop-off recycling 1987, curbside yard waste 4/90, drop-off yard waste 4/89 | 2/month 4/month | Yes No | 332.7 | 5.0 | 39.4 | 0.6 | 570.5 | 106.5 | 67.5 | 12.6 |
| Stillwater | 13,282 | 4,775 | curbside recycling 9/89, drop-off recycling 1987, curbside yard waste 6/88 | 2/month 4/month | No No | 486.6 | 1,306.5 | 73.3 | 196.7 | 455.7 | 400.0 | 68.6 | 60.2 |
| Woodbury | 19,961 | 6,642 | curbside recycling 1/90, curbside yard waste 4/89, drop-off yard waste 1984 | 4/month 4/month | Yes No | 0.0 | 1,395.4 | 0.0 | 139.8 | 569.6 | 740.2 | 57.1 | 74.2 |

| | | July thru Dec. 1989 TOTAL TONS | | Jan. thru June 1990 TOTAL TONS | |
|---|---|---|---|---|---|
| TOTAL POPULATION | 140,941 | | | | |
| TOTAL HOUSEHOLDS | 47,532 | | | | |
| TOTAL RESIDENTIAL RECYC. | | 2,106.6 | 29.9 lbs./person | 3,230.1 | 45.8 lbs./person |
| TOTAL YARD WASTE | | 4,141.5 | 58.8 lbs./person | 4,272.7 | 60.6 lbs./person |
| TOTAL COMMER/INDUS/INST.* | | 2,270.0 | | 2,500.0 | |
| FISCAL COMMER/INDUS/INST.* | | 4,770.0 | | | |
| FISCAL RESIDENTIAL RECYC. | | 5,336.7 | | | |
| FISCAL YARD WASTE | | 8,414.2 | | | |

*Does not include 9,230 tons C/I/I recycling (4,000 tons pre-1985) claimed by county.

TOTALS FOR METRO AREA

TOTAL POPULATION 2,240,493
TOTAL HOUSEHOLDS 872,778

| | July thru Dec. 1989 TOTAL TONS | | Jan. thru June 1990 TOTAL TONS | |
|---|---|---|---|---|
| TOTAL RESIDENTIAL RECYC. | 56,793 | 50.7 lbs./person | 66,219 | 59.1 lbs./person |
| TOTAL YARD WASTE | 63,008 | 56.2 lbs./person | 57,423 | 51.3 lbs./person |
| TOTAL COMMER/INDUS/INST.* | 136,557 | | 149,087 | |
| FISCAL COMMER/INDUS/INST.* | 285,644 | | | |
| FISCAL RESIDENTIAL RECYC. | 123,012 | | | |
| FISCAL YARD WASTE | 120,430 | | | |

ALSO REMOVED FROM RESID. WASTE STREAM: 331 TONS OIL AND 464 TONS TIRES.

*Some municipal office tonnages are included in residential recycling for Hennepin County.
Does not include 222,635 tons pre-1985 C/I/I recycling claimed by Hennepin County.
*Does not include 15,000 tons C/I/I recycling claimed by Scott County.
*Does not include 9,230 tons C/I/I recycling (4,000 tons pre-1985) claimed by Washington County.

Source: Metropolitan Council "April 1, 1989 Population & Household Estimates" Pub. #620-89-105, August 1989 and County Recycling Implementation Progress Reports, March & August 1990

ABTAPDXA 9/21/90 UPDATED 9/27/90 NEW POPULATION/HOUSEHOLD FIGURES
10/2/90 UPDATED HENN. C/I/I AND FOOTNOTE
1/9/90 UPDATED RAMSEY Y.W., SCOTT C/I/I, WASHINGTON C/I/I

## RESTRICTED DISPOSAL OF UNPROCESSED WASTE (1990 DEADLINE)

**473.848 RESTRICTION ON DISPOSAL.**

Subdivision 1. **Restriction.** (a) After January 1, 1990, a person may not dispose of unprocessed mixed municipal solid waste at waste disposal facilities located in the metropolitan area unless:

(1) the waste has been certified as unprocessible by a county under subdivision 2; or

(2)(i) the waste has been transferred to the disposal facility from a resource recovery facility;

(ii) no other resource recovery facility in the metropolitan area is capable of processing the waste; and

(iii) the waste has been certified as unprocessible by the operator of the resource recovery facility under subdivision 3.

(b) For purposes of this section, mixed municipal solid waste does not include street sweepings, construction debris, mining waste, foundry sand, and other materials, if they are not capable of being processed by resource recovery as determined by the council.

Subd. 2. **County certification; council approval.** (a) Each county that has not implemented designation of all or a portion of its mixed municipal solid waste to a resource recovery facility shall submit a semiannual certification report to the council detailing:

(1) the quantity of waste generated in the county that was not processed prior to transfer to a disposal facility during the six months preceding the report;

(2) the reasons the waste was not processed;

(3) a strategy for development of techniques to ensure processing of waste including a specific timeline for implementation of those techniques; and

(4) any progress made by the county in reducing the amount of unprocessed waste.

(b) The council shall approve a county's report if it determines that the county is reducing and will continue to reduce the amount of unprocessed waste, based on the report and the county's progress in development and implementation of techniques to reduce the amount of unprocessed waste transferred to disposal facilities. If the council does not approve a county's report, it shall negotiate with the county to develop and implement specific techniques to reduce unprocessed waste. If the council does not approve three or more consecutive reports from any one county, the council shall develop specific reduction techniques that are designed for the particular needs of the county. The county shall implement those techniques by specific dates to be determined by the council.

Subd. 3. **Facility certification; county reports.** (a) The operator of each resource recovery facility that receives waste from counties in the metropolitan area shall certify as unprocessible each load of mixed municipal solid waste it does not process. Certification must be made to each county that sends its waste to the facility at intervals specified by the county. Certification must include at least the number and size of loads certified as unprocessible and the reasons the waste is unprocessible. Loads certified as unprocessible must include the loads that would otherwise have been processed but were not processed because the facility was not in operation, but nothing in this section relieves the operator of its contractual obligations to process mixed municipal solid waste.

(b) A county that sends its waste to a resource recovery facility shall submit a semiannual report to the council detailing the quantity of waste generated within the county that was not processed during the six months preceding the report, the reasons the waste was not processed, and a strategy for reducing the amount of unprocessed mixed municipal solid waste.

Subd. 4. **Council report.** The council shall include, as part of its report to the legislative commission on waste management required under section 473.149, an accounting of the quantity of unprocessed waste transferred to disposal facilities, the reasons the waste was not processed, a strategy for reducing the amount of unprocessed waste, and progress made by counties to reduce the amount of unprocessed waste. The council may adopt standards for determining when waste is unprocessible and procedures for expediting certification and reporting of unprocessed waste.

**HIST:** 1985 c 274 s 35; 1989 c 325 s 66

# APPENDIX C

## COUNTY CERTIFICATION REPORTS

| COUNTY | QUANTITY OF WASTE NOT PROCESSED | ALL APPLICABLE REASONS WHY WASTE WAS NOT PROCESSED | STRATEGIES TO REDUCE THE AMOUNT OF UNPROCESSED WASTE | TIMELINE FOR IMPLEMENTATION OF STRATEGIES* | PROGRESS MADE IN REDUCING THE AMOUNT OF UNPROCESSED WASTE* |
|---|---|---|---|---|---|
| DAKOTA | 98,000 tons | -Dakota County resource recovery facility not yet operational<br><br>-No available centralized processing capacity for handling the waste has been identified in the Metro Area<br><br>-No designation authority for facilities outside the county | -PCA permit for facility<br><br>-Facility construction<br><br>-Facility operational<br><br>-Continue to promote waste reduction, recycling, yard waste composting, and proper management of specific components of the waste stream | -Early 1991<br><br>-Begin in 1991<br><br>-Early 1993<br><br>-Ongoing | -Development of an integrated waste management strategy for the handling of solid waste<br><br>-Successful public information programs<br><br>-'89 and '90 national awards for recycling program<br><br>-Model household hazardous waste collection program<br><br>-Expansion of collection of special wastes such as household batteries |
| CARVER | 11,875 tons estimate (based on total generation of 29,834 tons for 1990) | -Carver County resource recovery facility not yet operational<br><br>-No competitively priced facility available for haulers to utilize | -Complete MSW composting facility EAW, MPCA permit application, and environmental audit of the site<br><br>-Adopt waste designation ordinance<br><br>-Secure a grant from the Office of Waste Management<br><br>-Facility construction<br><br>-Facility operation | -Currently<br><br>-Currently<br><br>-Sept., 1990<br><br>-1991<br><br>-1992 | -Continuation and expansion of programs in<br>o waste reduction<br>o recycling<br>o education |
| SCOTT | No specific tonnage provided. Council staff estimate based on total generation less reported recycling = 11,430 tons | -No processing facility available to haulers that was competitively priced with landfills<br><br>-No waste designation ordinance<br><br>-No facility with available capacity to which waste could be sent | -Complete MSW composting facility EAW, MPCA permit application, and environmental audit of the site<br><br>-Adopt waste designation ordinance<br><br>-Secure a grant from the Office of Waste Management<br><br>-Facility construction<br><br>-Facility operation | -Currently<br><br>-Currently<br><br>-Sept., 1990<br><br>-1991<br><br>-1992 | -Continuation and expansion of programs in<br>o waste reduction<br>o recycling<br>o education |

| COUNTY | QUANTITY OF WASTE NOT PROCESSED | ALL APPLICABLE REASONS WHY WASTE WAS NOT PROCESSED | STRATEGIES TO REDUCE THE AMOUNT OF UNPROCESSED WASTE | TIMELINE FOR IMPLEMENTATION OF STRATEGIES* | PROGRESS MADE IN REDUCING THE AMOUNT OF UNPROCESSED WASTE* |
|---|---|---|---|---|---|
| ANOKA | 146 tons | -UPA #3 boiler down, reducing plant's combustion capacity by 50 percent | -During normal operation no unprocessed waste is landfilled<br><br>-Working with Hennepin County and NSW to allow additional Hennepin County waste to be processed at Elk River<br><br>-Participating on Solid Waste Management Coordinating Board to develop a plan to manage residues and rejects from all seven counties | NA | NA |
| HENNEPIN | 44,970 tons landfilled<br><br>-some deemed unprocessible<br><br>-some not processed due to state of Illinois capacity restrictions on HERC | -Planned transfer stations to pre-process waste not yet operational<br><br>-State of Illinois allowed only residential waste to be burned at HERC in February and March<br><br>-NSP Elk River had processing problems<br><br>-Rapidly changing solid waste system (yard waste ban, increased commercial recycling, expanded residential recyclables collection programs has delayed the county's consideration of and construction of an MSW composting plant | -Construct transfer stations to pre-process waste, collect recyclables and household hazardous wastes<br><br>-Encourage separate collection of large metal recyclables<br><br>-Implement an appliance recycling plan<br><br>-Add cardboard, PET, and HDPE to materials collected curbside<br><br>-Add magazines, white and pastel paper, paperboard packaging and other plastics to curbside collection programs<br><br>-Require provision of recycling services for multi-family housing units<br><br>-Continue commercial recycling development programs<br><br>-Arrange with other processing facilities to process Hennepin County waste when capacity is available | -Operational end of 1991<br><br>-1991<br><br>-1992<br><br>-July 1, 1991 | NA |

| COUNTY | QUANTITY OF WASTE NOT PROCESSED | ALL APPLICABLE REASONS WHY WASTE WAS NOT PROCESSED | STRATEGIES TO REDUCE THE AMOUNT OF UNPROCESSED WASTE | TIMELINE FOR IMPLEMENTATION OF STRATEGIES* | PROGRESS MADE IN REDUCING THE AMOUNT OF UNPROCESSED WASTE* |
|---|---|---|---|---|---|
| HENNEPIN (cont.) | | | -Participate on Solid Waste Management Coordinating Board to develop a plan to manage rejects<br><br>-Review requests for exclusion from the designation ordinance and grant if such exclusions enhance the system.<br><br>-Conduct a recycling and yard waste ad campaign and run ads for commercial recycling and corrugated collection<br><br>-Support replacement of hammermill equipment at NSP Elk River to allow for increased RDF production<br><br>-Complete a study of the feasibility of contracting for further processing of residues | -1990<br><br>-early 1991 | |
| RAMSEY | All acceptable MSW generated in Ramsey County is designated to NSP Newport. All MSW delivered to NSP is, by definition, processed.<br><br>During the past year there has been a dramatic increase in Newport's operating efficiency | -All MSW received during the reporting period met the statutory definition of processing<br><br>(Some excess waste was sent directly to a landfill from the tipping floor) | -Amend service contract with NSP to provide an incentive fee for NSP to process additional waste over the amount specified in the 1986 service agreement.<br><br>-Consider the addition of a residue processing system<br><br>-NSP has entered a long-term contract to market recovered ferrous<br><br>-Participate on the Solid Waste Management Coordinating Board as it explores options for residue management | NA | NA |

| COUNTY | QUANTITY OF WASTE NOT PROCESSED | ALL APPLICABLE REASONS WHY WASTE WAS NOT PROCESSED | STRATEGIES TO REDUCE THE AMOUNT OF UNPROCESSED WASTE | TIMELINE FOR IMPLEMENTATION OF STRATEGIES* | PROGRESS MADE IN REDUCING THE AMOUNT OF UNPROCESSED WASTE* |
|---|---|---|---|---|---|
| RAMSEY (cont.) | (landfilling of excess waste, residue and unmarketed ferrous decreased almost 20,000 tons in the first half of '90 compared to the last half of '89)<br><br>Percentage of waste received which was landfilled decreased from 47.3% to 31.6%<br><br>73% of Newport waste is from Ramsey County | | -Evaluate and possibly grant exclusions from designation to reduce the quantity of excess waste delivered to the facility<br><br>-To the extent that resource recovery capacity exists, work with other counties to send or receive excess waste to avoid landfilling | NA | NA |
| WASHINGTON | All acceptable MSW generated in Washington County is designated to NSP Newport. All MSW delivered to NSP is, by definition, processed.<br><br>During the past year there has been a dramatic increase in Newport's operating efficiency (landfilling) of excess waste, | -All MSW received during the reporting period met the statutory definition of processing<br><br>(Some excess waste was sent directly to a landfill from the tipping floor) | -Amend service contract with NSP to provide an incentive fee for NSP to process additional waste over the amount specified in the 1986 service agreement.<br><br>-Consider the addition of a residue processing system<br><br>-NSP has entered a long-term contract to market recovered ferrous<br><br>-Participate on the Solid Waste Management Coordinating Board as it explores options for residue management<br><br>-To the extent that resource recovery capacity exists, work | | |

| COUNTY | QUANTITY OF WASTE NOT PROCESSED | ALL APPLICABLE REASONS WHY WASTE WAS NOT PROCESSED | STRATEGIES TO REDUCE THE AMOUNT OF UNPROCESSED WASTE | TIMELINE FOR IMPLEMENTATION OF STRATEGIES* | PROGRESS MADE IN REDUCING THE AMOUNT OF UNPROCESSED WASTE* |
|---|---|---|---|---|---|
| WASHINGTON (cont.) | residue and unmarketed ferrous decreased almost 20,000 tons in the first half of '90 compared to the last half of '89)<br><br>Percentage of waste received which was landfilled decreased from 47.3% to 31.6%<br><br>27% of Newport waste is from Washington County | | with other counties to send or receive excess waste to avoid landfilling | | |