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Project Overview

The Twin Cities metro region currently produces over 3.2 million tons of municipal solid waste per year. Projected population and employment growth, coupled with evidence that the per capita amount of waste produced is steadily climbing every year, results in a projection of over 5 million tons per year of solid waste by 2017. The Solid Waste Management Coordinating Board (SWMCB), as well as state agencies, grapple with how to address the increasing amount of garbage, while balancing environmental and economic considerations and remaining sensitive to the needs and desires of citizens. Metro area county commissioners and the SWMCB wanted to hear from citizens about what should be done in the metro region regarding solid waste as well as what citizens themselves are truly willing to do.

Eighteen citizens from the Twin Cities metropolitan area were carefully chosen from a randomly identified jury pool to serve as a representative microcosm of the region. During five consecutive days in June 2001, the jury heard expert witness presentations on a range of issues and perspectives related to solid waste. The jury learned about the current "hierarchy of preferred waste management practices," as well as several significant alternatives for addressing solid waste issues, along with the environmental, economic and behavioral implications of all proposals. The jury then deliberated together to develop recommendations about strategies for managing the region's solid waste, including waste reduction, reuse, recycling, composting, waste-to-energy, and land disposal.

The Citizens Jury is a unique process that allows decision-makers and the public to hear from citizens who are both informed and representative of the public. The process allows for considerable discussion and deliberation by the jurors to develop thoughtful and useful recommendations.

The Jefferson Center

The Jefferson Center is a non-profit, non-partisan organization located in Minneapolis, Minnesota. Established in 1974, the Center is committed to generating thoughtful citizen input on issues of public significance. The central focus of the Center is the Citizens Jury process, through which randomly selected and demographically representative panels of citizens meet for several days to examine public policy issues and present their findings to decision-makers and the public. To date, the Jefferson Center has conducted 28 Citizens Jury on a wide range of issues. *Information on the Jefferson Center can be found at www.jefferson-center.org.*

Solid Waste Management Coordinating Board (SWMCB)

The Solid Waste Management Coordinating Board is a joint powers board composed of commissioners from Anoka, Carver, Dakota, Hennepin, Ramsey, and Washington Counties, as well as representatives from the MN Pollution Control Agency (MPCA) and the MN Office of Environmental Assistance (MOEA). The SWMCB provides a forum for

these metropolitan counties and state officials to collaborate on the development of solid waste policies and programs for the metropolitan region.

The Citizens Jury® Process

Citizens Jury is a registered trademark of the Jefferson Center.

Advisory Committee

The Advisory Committee consisted of 12 individuals knowledgeable about the issues surrounding solid waste management and representing a variety of perspectives. They helped the Jefferson Center identify some of the key topics relating to solid waste. They advised the project in such areas as the charge, agenda development, and witness selection. The Advisory Committee was interested in the integrity and fairness of the process, not in specific outcomes. They were also on alert for any bias in the project. *A list of Advisory Committee members can be found on page 31.*

Juror Selection

The process for selecting the jury began with a telephone survey of adults living in the six counties represented by the SWMCB. The survey was conducted of 700 individuals using randomly generated telephone numbers, during the period of April 26 – May 6, 2001. Additional survey calls (22) were placed to targeted categories during the period of June 1-2, 2001, due to a low number of interested respondents in these categories during the first round of survey calls. All respondents were asked, among other things, if they might be interested in participating as a juror. Interested individuals (269) were sent information about the Jefferson Center, the Citizens Jury process, and this project. They were asked to return a Juror Information Form if they were willing to participate in this project. All individuals who were sent information were entered into the pool of potential jurors. Eighteen jurors were then selected out of this pool to participate in the Citizens Jury project. The jurors collectively represented the six-county metro area in terms of age, education level, gender, race, geographic location, and political ideology. *A list of jurors, the demographic targets, and the final composition of the jury can be found on pages 28-29.*

Witness Selection

Individuals knowledgeable about the issues relevant to solid waste management were selected to serve as witness presenters for the Citizens Jury hearings. They provided valuable background and advocate information pertaining to the issue. The expert witnesses represented a variety of perspectives and opinions concerning solid waste management in the metro area. Together, they presented a balanced picture of the issue. *A complete list of the witnesses can be found on page 36.*

Charge

The charge to the jury outlined the jury's focus and provided direction for the hearings. It informed the jury of their overall goals and objectives for the hearings. In this project, the jurors were asked to respond to three questions. Background and advocate testimony provided key information that enabled the jury to answer the questions in a knowledgeable manner. The charge to the jury was as follows:

1. What are the values, in order of priority, that should be reflected in a solid waste management strategy for the metropolitan area?
2. Given those prioritized values, what is the preferred solid waste management strategy for the metropolitan area?
3. To implement the preferred strategy, what tools should be used and what (if any) actions should be taken by government or others?

Hearings
The agenda was carefully developed to provide the jurors with the necessary information to address the charge questions. The hearings were divided into four parts: Overview & Values, Waste Management Practices, Solid Waste Management Options, and Deliberations, although discussions and deliberations occurred throughout the hearings.

On Day One, jurors heard a general overview of solid waste management as well as participated in an exercise to identify their values relating to this issue. On Day Two, witnesses presented background information on each of the five major waste management practices. Also on Day Two, an informational witness presented detailed information about the current solid waste management system in the metro area. On Day Three, three advocate witnesses presented three 'options' for a solid waste management strategy. These three options presented three different perspectives. Each advocate presentation was followed by a 'counter-perspective' that was intended not necessarily to oppose each option, but rather to present some additional information about the preceding option from another perspective, as well as possible shortcomings or challenges of pursuing that option. On Days Four and Five, the jurors continued their deliberations and formalized their recommendations. A diverse panel of resource witnesses was available during the deliberations on the morning of Day Four, to respond to questions. All five days of the hearings were professionally moderated by two Jefferson Center-trained moderators. *The agenda can be found starting on page 32. Information on each of the advocate options can be found in Appendix A.*

Recommendations
The jury's recommendations included their answers to the charge questions. The recommendations were issued in an initial report on the final day of the hearings, Friday June 22 at 2:30 PM. The jurors presented their recommendations to commissioners from the SWMCB, stakeholders, the public, and the press, and were given an opportunity to dialogue with those present about the process, the hearings, and their recommendations. The recommendations in both the initial report and this final report appear using language that the jurors themselves developed and approved. *The jury's recommendations can be found starting on page 5.*

Evaluation by Jurors
At the conclusion of this process, the jurors completed an evaluation of the project. A key question on the evaluation form asked the jurors to consider the overall integrity of the project. All jury members felt that the project was conducted in an unbiased manner, with 15 indicating that they were "very satisfied" in this regard and 3 indicating

that they were “satisfied” in this regard. *The results of the final evaluation by the jurors can be found on page 30 of this report.* The jurors were also given an opportunity to write a personal statement about the project for inclusion in this report. *These comments can be found on pages 25-27.*

Jury's Recommendations

In responding to the three Charge questions posed to them, the jury generated a set of findings and recommendations. These findings and recommendations appear in this final report as outlined below.

Preamble

1. Themes and guidelines

Charge Question #1: What are the values, in order of priority, that should be reflected in a solid waste management strategy for the metropolitan area?

1. Values and priority

Charge Question #2: Given those prioritized values, what is the preferred solid waste management strategy for the metropolitan area?

1. Evaluation of waste management practices, based on values
2. Order of preference of waste management practices
3. Evaluation of presented options, based on values
4. Recommended solid waste strategy
    a. histograms
    b. statistical calculations & pie chart of practices
    c. evaluation of recommended strategy, based on values
    d. reasons for recommended strategy

Charge Question #3: To implement the preferred strategy, what tools should be used and what (if any) actions should be taken by government or others?

1. Tools and actions
2. Actors and roles (who does what?)

PLEASE NOTE:
In this report, the jury's recommendations appear in **Times New Roman font**. All of the jury's recommendations appear in language developed or approved by the jury.

Explanations and narratives of the process, written by the Jefferson Center to assist the reader's understanding of the recommendations and the Citizens Jury process, appear in **Arial font**.

Preamble and Themes

The jury developed the following preamble to reflect several themes that they frequently emphasized throughout their deliberations.

In addition to our value statements (found on page 7), we the jury...

- believe both **short and long term planning** are essential.
    - We used both short and long term thinking in all aspects of our decision making this week.
    - Decision makers should think in terms of generations, rather than decades.
    - A forum such as this should be done periodically on a consistent basis.
    - Continuous improvement and evaluation of these goals is essential, with special attention paid to adjusting the goals in light of development of new technologies.

- strongly believe that **education must be a key component** of any waste management strategy.
    - This education should include multiple messages, targeted at all levels (e.g., schools, government, corporations, business, individuals, etc...)
    - This education should be ongoing.
    - The goal of this education is to reform conventional waste/resource management habits and practices.
    - In light of the education that we received this week, we recognize the power that information has to influence thinking and behaviors.
    - Education drives change and encourages responsibility.

- believe that **decisions and/or directions about solid waste management must be driven by the public and the citizens**, in cooperation with private enterprise.
    - However, we acknowledge that the market will play a significant role in impacting the behavior and attitude of citizens.
    - Public decision makers should work in cooperation with private enterprise.
    - Intentional and in-depth follow-up activities to this Citizens Jury should be pursued to continue to generate citizen input and involve the community.

- recognize that the practices we recommend will require **additional public investment** above current costs. However, given our prioritized values, it is **important to make these investments**.
    - Current subsidies that counter-act our goals need to be analyzed, and possibly eliminated, to minimize the amount of new investment.
    - Redirect and invest public money in the right places to further our recommendations and our values.
    - Once economies of scale and infrastructure are developed, some of the costs of our recommendations will come down.
    - Achievement of our recommended goals may avoid future costs, both to the public and private sector.
    - Some of the up-front costs may be recouped once our goals are achieved.
    - In looking at the differing costs between the waste management practices, we believe there are hidden long-term costs of landfilling.
    - We acknowledge that composting costs are significantly higher than landfilling, and comparable to resource recovery, yet we are willing to make these important investments.

Values and Priority

After hearing a general overview of the solid waste management issues, the jury developed a set of values that they recommend be reflected in any solid waste management strategy for the metro area. The jury discussed, reviewed and refined these values each day of the hearings. The jury's final value statements are below.

Keeping both short-term and long-term planning in mind, the preferred solid waste management strategy for the metropolitan area should:

- Promote and protect optimum **health and safety**;
- Aggressively foster and encourage **responsibility** at multiple levels (personal, corporate, government);
- Protect, preserve and enhance the **environment**;
- Support and provide a sound **economic value**;
- Maximize operational **efficiency**; and
- Be as **convenient** as possible.

The jurors, as individuals, indicated their priority order of these values. The average priority ranking of each waste management practice was calculated by weighting their 'votes.' (In other words, a #1 vote was worth 1 point, a #2 vote was worth 2 points, and so on... and then averaged.) The jury discussed and re-examined their values and the values rankings at the end of each day of the jury hearings. The jury's final ranking of the values is shown below.

Value Name	average priority 'rank'	# of 'highest priority' votes	# of 'lowest priority' votes
1. Health & Safety	1.28	13	0
2. Responsibility	2.00	5	0
3. Environment	2.89	0	0
4. Economic Value	3.94	0	0
5. Efficiency (of the system)	5.00	0	2
6. Convenience	5.89	0	16

Waste Management Practice Evaluation

Background information on the five waste management practices was presented to the jury. These five waste management practices are listed in Minnesota statutes (Chapter 115A, Waste Management Act), as well as by the US Environmental Protection Agency, and are the widely accepted 'options' for waste management.

The jury discussed each waste management practice and evaluated each practice based on their values. Their evaluations are shown below. A plus sign (+) implies that encouraging that particular waste management practice would foster or promote that particular value. A minus sign (-) implies that encouraging that particular waste management practice would have a negative impact on that particular value. A zero (0) implies that encouraging that particular practice would have little or no impact on that particular value.

NOTE: Jurors were allowed to skip rows or to mark more than one selection for a given value, if desired. Therefore, rows may not total exactly 18.

Waste Management Practice: **Reduction & Reuse**

Value	+	**0**	**-**
Health & Safety	16	2	-
Responsibility	13	5	-
Environment	18	-	-
Economic Value	18	-	-
Efficiency	16	2	1
Convenience	1	5	12

Waste Management Practice: **Recycling**

Value	+	**0**	**-**
Health & Safety	13	4	1
Responsibility	13	4	1
Environment	18	-	-
Economic Value	10	7	1
Efficiency	10	3	5
Convenience	5	3	10

Waste Management Practice: **Composting**

Value	+	**0**	**-**
Health & Safety	11	5	2
Responsibility	12	5	1
Environment	17	1	-
Economic Value	4	7	6
Efficiency	6	4	8
Convenience	2	5	10

Waste Management Practice: **Resource Recovery (waste-to-energy)**

Value	+	**0**	**-**
Health & Safety	9	6	2
Responsibility	7	8	2
Environment	10	5	3
Economic Value	3	6	7
Efficiency	9	4	4
Convenience	9	4	4

Waste Management Practice: **Land Disposal**

Value	+	**0**	**-**
Health & Safety	5	6	7
Responsibility	4	5	9
Environment	3	3	12
Economic Value	12	3	3
Efficiency	14	1	3
Convenience	16	1	1

Order of preference of waste management practices

The jurors were asked the following question:
"Keeping in mind your prioritized values, create a ranking of the waste management practices in the order of your preference."

Each juror, as an individual, recorded their order of preference of the waste management practices that were presented to them. They were permitted to rank two or more practices as 'equally preferable,' if they desired.

The jurors were then asked for reasons why they preferred the waste management practices in the particular order. Following this discussion, the jurors recorded their 'official' order of preference. Only this final vote was collected and tabulated. The average ranking of each waste management practice was calculated by weighting their 'votes.' (In other words, a #1 vote was worth 1 point, a #2 vote was worth 2 points, and so on... and then averaged.)

Waste Management Practice	Average ranking
Reduction & Reuse	1.22
Recycling	2.06
Composting	2.72
Resource Recovery (waste-to-energy)	4.06
Land Disposal	4.94

why reduction as #1

- reduces the amount of resources entering the waste stream
- reflects our environmental values
- economic value - eliminates the need to replace useful items
- improves the efficiency of the system - because you have less waste to be handled
- starts at the beginning of the problem
- matches all of our values well

why recycling as #2

- a large amount of the waste stream is recyclable
- recycling preserves virgin materials
- recycling offers a wide range of possibilities
- it holds good economic value
- recycling is relatively easy and people are already accustomed to doing it and the infrastructure is already in place, so just do more
- value of recycled materials will increase as more is recycled (economy of scale increases)
- reduces the waste stream and gets the best use of it before we resort to "burning or burying"

why composting as #3

- the benefits are similar to recycling
- avoids other disposal methods (less waste to landfills or RDF)
- leachate in landfills would be reduced if organics were removed before disposal
- organic materials don't burn well in waste-to-energy (improves efficiency of RDF)
- a large portion of the current waste stream is compostable
- less pollution (no methane and no ash produced)
- it is a logical step towards the future

why resource recovery (waste-to-energy) as #4

why not higher

- the higher ranked processes remove resources thereby improving efficiency of resource recovery (e.g., composting removes organics, which don't burn very well.)
- uses subsidies
- generates ash
- concerns about air pollution & dioxin

why not lower

- reduces the volume of the waste stream
- better than putting it in a landfill
- end up with a "little pile of ash rather than a big pile of trash"
- generates power/electricity
- convenient
- long-term economic benefit - avoids potential clean-up costs
- produces electricity with relatively less dioxin than coal burning plants

why landfilling as #5

- questions about health and safety
- operator's liability is only 30 years
- a necessary last resort for waste disposal & residual ash
- limits future use of the land
- does match several values well...economic, convenience, efficiency
- unknown future economic & environmental costs
- potential risk to groundwater
- doesn't close the loop, garbage is still there
- affects greenhouse gases more than WTE

Options Evaluation

Three options for a metropolitan solid waste management strategy were presented to the jurors. These three options represented a range of perspectives. (See Appendix A for additional information on these options.) The jurors evaluated the three options, based on their values.

OPTION #1 - presented by Susan Hubbard, Neighborhood Energy Consortium

The ideal waste management system should manage 75% of the waste through reduction, reuse, recycling, composting, and address another 15% of the waste through product/retailer/consumer stewardship. The remaining waste (10%) would be handled by either resource recovery or land disposal.

Value	+	**0**	**-**
Health & Safety	16	2	1
Responsibility	16	1	1
Environment	16	2	-
Economic Value	9	4	5
Efficiency	8	6	4
Convenience	2	1	15

one person marked + & - here.

OPTION #2 - presented by Susan Haigh, Ramsey County Commissioner

The ideal system should manage 66% of the waste by reduction, reuse, recycling and composting practices. Most of the remainder (29%) should be burned to produce steam for heating and cooling or electrical generation by maximizing use of existing facilities. The small amount that remains (5%) must be landfilled.

Value	+	**0**	**-**
Health & Safety	13	1	4
Responsibility	11	6	1
Environment	11	6	1
Economic Value	7	4	7
Efficiency	13	5	-
Convenience	11	4	3

OPTION #3 - presented by Julie Ketchum, Waste Management, Inc.
The ideal waste management system should address 55% of the waste stream through reduction, reuse and recycling, while allowing for another 10% to be addressed through new technologies, new designs, and product/retailer/consumer stewardship. The remaining waste (35%) should be handled by facilities that "meet environmental standards, but also consider economics and market conditions when making that choice," meaning both resource recovery and land disposal.

Value	+	**0**	-
Health & Safety	2	10	6
Responsibility	5	8	5
Environment	3	6	9
Economic Value	10	6	2
Efficiency	9	6	3
Convenience	12	4	2

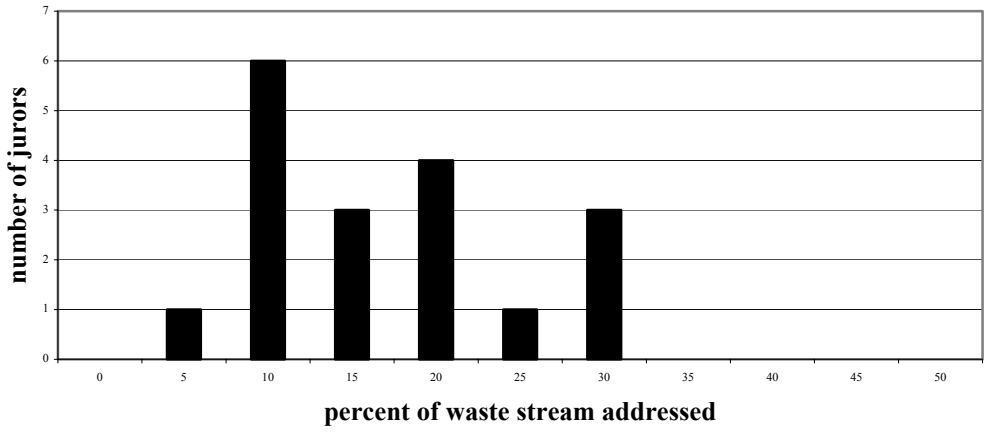
1 person wrote that there was not enough info to determine (and marked "0" for all values)

Recommended solid waste management strategy - histograms

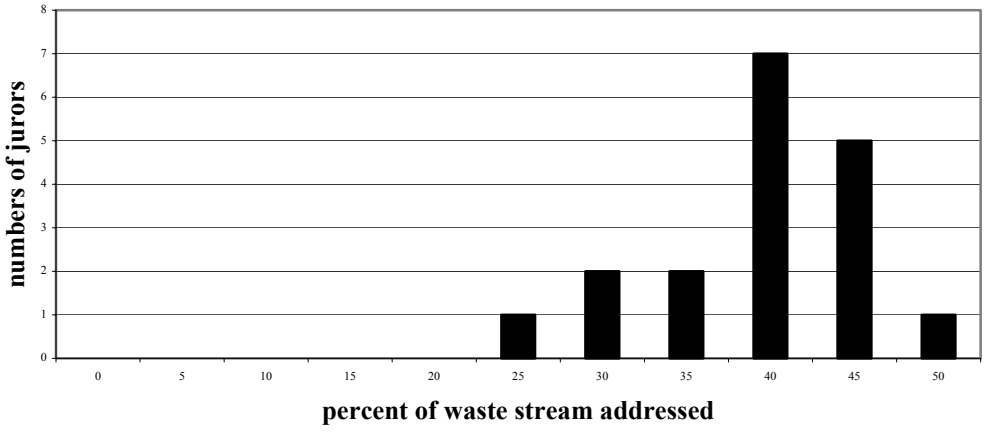
The jurors were asked to put together a solid waste management strategy for the metropolitan area. Following significant discussion, the jurors were instructed to develop recommended goals for each of the waste management practices, keeping their values in mind. The jurors were asked to develop goals that they believe could be achieved in the next 5-10 years. Each juror indicated the percent of the waste stream that he/she recommends addressing by each of the waste management practices, (totaling 100 percent). The results of this exercise are shown below. The statistical analysis of their responses follows the histograms.

The height of each bar represents the number of jurors who selected a given percentage goal for that particular waste management practice.

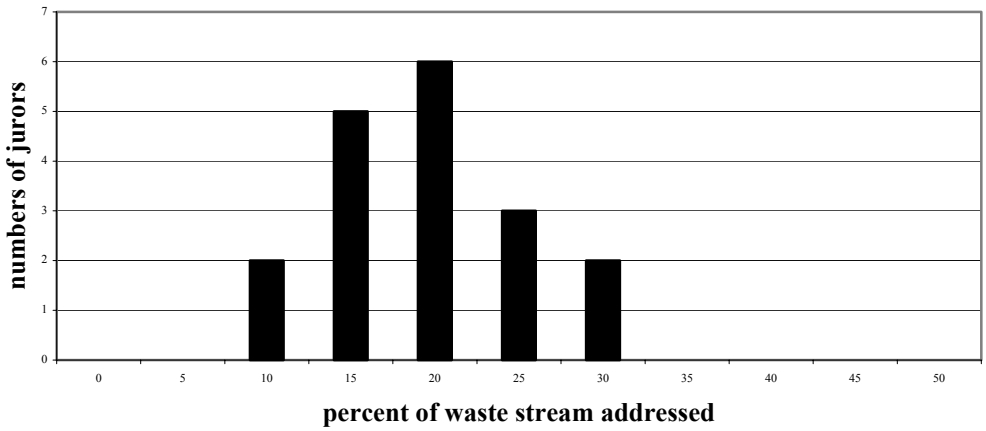
Reduction & Reuse



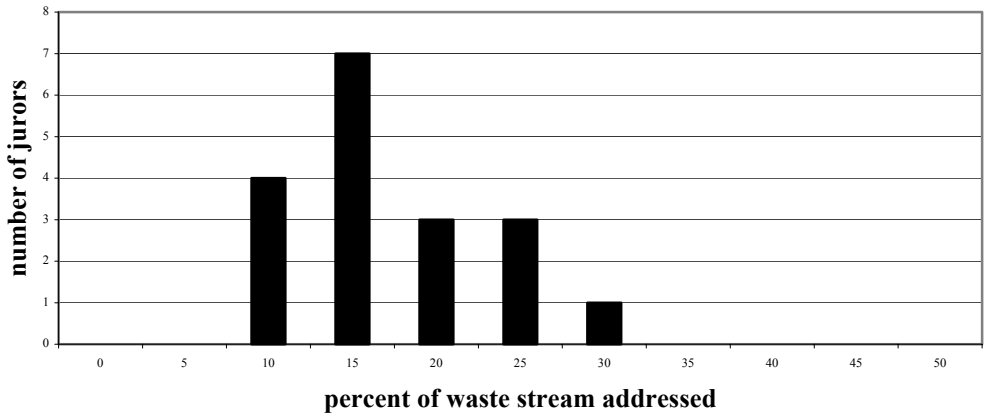
Recycling



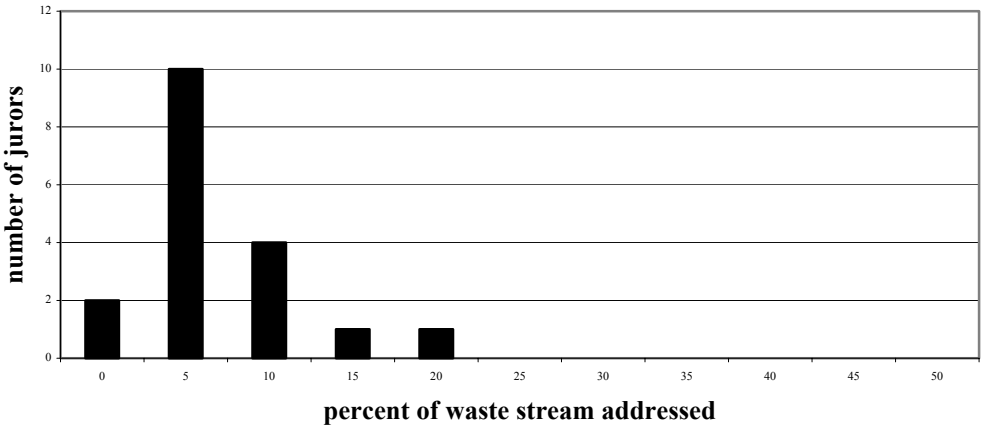
Composting



Resource Recovery
(waste-to-energy)



Land Disposal



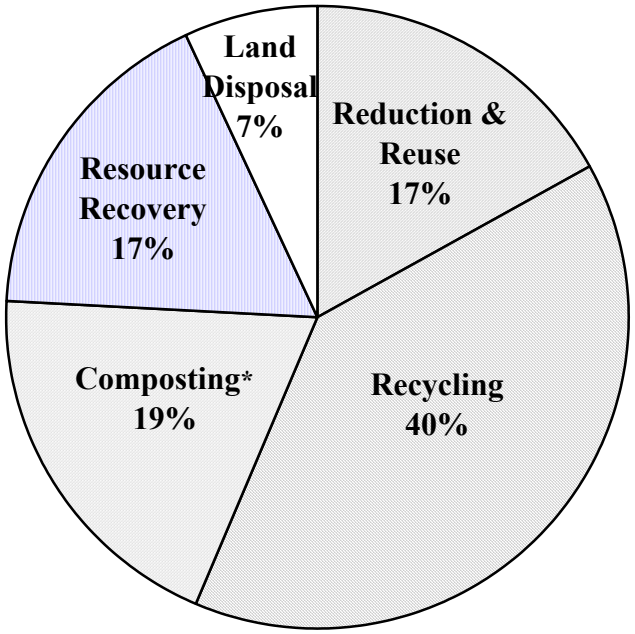
Recommended solid waste management strategy

The statistical calculations[1] of the jurors' recommended goals for each waste management practice are shown in the table below.

	Reduction & Reuse	Recycling	Composting	Resource Recovery (WTE)	Land Disposal
Average*	**16.9%**	**39.4%**	**19.4%**	**17.2%**	**6.9%**
Median	15%	40%	20%	15%	5%
Mode	10%	40%	20%	15%	5%
Std dev	7.88	6.39	5.91	6.00	4.89
Minimum	5%	25%	10%	10%	0%
Maximum	30%	50%	30%	30%	20%

*NOTE: These may not total exactly 100% due to averaging and rounding.

The averages, taken together, represent the jury's recommended solid waste management strategy for the metropolitan area, for the next 5-10 years, and are shown in the pie chart below.



*NOTE: The recommended 19% composting is mainly "source separated organic composting."

[1] **Average**: arithmetic mean
Median: the number in a group of numbers such that there are an equal number of numbers in the set greater than the number as are less than the number (i.e., the 'middle' number)
Mode: the number that occurs most frequently in a set of data
Standard deviation: a measure of the dispersion or 'spread' of numbers in a set of data; 98% of the numbers in the data set are predicted to fall within ± 2 standard deviations of the mean
Minimum: the number with the smallest value in a set of data (i.e., the 'lowest' number)
Maximum: the number with the largest value in a set of data (i.e., the 'highest' number)

Recommended solid waste management strategy

Evaluation of recommended strategy, based on the values

The jurors evaluated their recommended strategy, based on the values they had identified. Their evaluations are shown below. A plus sign (+) indicates that pursuing their recommended strategy would foster or promote that particular value. A minus sign (-) implies that pursuing their recommended strategy would have a negative impact on that particular value. A zero (0) implies that pursuing their recommended strategy would have little or no impact on that particular value.

Value	+	**0**	**-**
Health & Safety	18	-	-
Responsibility	17	1	-
Environment	18	-	-
Economic Value	11	6	1
Efficiency	12	6	-
Convenience	7	7	4

Reasons for recommended strategy

The jury then articulated their rationale for developing their recommended strategy, as well as the rationale for the recommended level for each waste management practice. All of the statements listed here were approved for inclusion in this report by all 18 members of the jury.

<u>Why is this our overall strategy?</u>

- It represents the composition of the waste stream and how those materials can be handled.
- It is a good balance, uses all of the waste management practices.
- It is an environmentally safe route.
- It maximizes practices that most promote health & environment values, and minimizes practices that do not reflect those values as well.
- It has a long term vision.
- Recycling and composting are identified as being important (fits our order of preference).
- It greatly reduces what is being wasted.
- It reduces reliance on land disposal.
- It is very proactive, which is what is needed to avoid a crisis and meet future needs.
- It represents the view of the public, not a particular stakeholder's agenda.
- It acknowledges that land space is limited.
- It takes into account all of the differing perspectives.
- It is realistic for the time frame of 5-10 years.

Why NOT any of the options that were presented (see appendix A)

- Those options are not proactive enough in certain areas.
- Ours is more strongly environmental.
- Ours more realistic than some of the options that were presented.

Why 16.9% reduction?

- "You get the greatest benefit and prevent the most problems."
- It allows for land/space conservation.
- It shrinks the total volume of entire waste stream.
- We want to be proactive, yet remain realistic.
- It puts the least strain on unharvested natural resources.
- It is economically efficient.
- It gets people thinking about other ways to reduce waste.
- It fosters creativity and innovation.
- Both manufacturers and consumers can have an influence on the total waste stream.

Why 39.4% recycling?

- Recycling is already working well at approximately this level.
- It is sustaining what has already been accomplished.
- This goal doesn't require much additional behavior changes.
- This reflects the composition of our waste stream.
- This goal fits our values well.
- Recycling saves virgin materials.
- Recycling is a relatively convenient way to reduce waste.
- Everyone can be involved in efforts.
- It reduces costs of waste to energy and landfills by removing those items from the system.
- Infrastructure for recycling already exists.
- It puts responsibility onto the consumer.
- Recycling can reduce production costs, saves energy.
- Recycling is already widespread, both for individuals and businesses.
- This is a reasonable, realistic goal.

Why 19.4% composting?

- It reduces the chance of polluting groundwater (through not putting in landfill).
- Composting increases efficiency of resource recovery (WTE) and land disposal.
- Composting creates a useable and valuable product (good dirt!).
- Composting completes the cycle.
- Of the 'disposal' options, it is least toxic.
- It reflects the composition of the waste stream.
- This would take care of over a quarter of the total waste stream.
- More is probably possible (considering the composition of the waste stream), but since it is a new program, 19.4% is a realistic, yet aggressive goal.

Why 17.2% resource recovery (waste-to-energy)

- Of 'remaining residuals', you can still capture some of the resources.
- We do not encourage much more than this goal, since it costs (through subsidies).
- We can get value (electricity) out of it.
- Resource recovery generates cleaner electricity than coal.
- Current infrastructure exists to achieve this goal.
- Emissions are well monitored.
- We're still paying for current facilities, so we should continue to support existing and working facilities.
- Not more than that level because:
    - there is uncertainty of air pollution impacts.
    - it costs more and requires subsidies.
    - not want to discourage 'higher priority' practices.
    - there is concern about dioxin.
- Support at this level reflects our values (not as preferable as the 'higher' practices, but slightly more preferable than land disposal).

Why 6.9% land disposal?

- We need an option for items that cannot be handled through other practices.
- Landfill technology & innovation is improving.
- This might be too aggressive (achieving this level).
- We need an option for when other facilities break down.
- We recommend a relatively low level because:
    - there are still concerns about potential environmental impacts.
    - of uncertainty regarding future use of land (after landfill closes).
    - it is a waste of resources that can be used elsewhere.
    - of potential clean-up costs.
    - of concerns about methane emissions.
- Doing much more landfilling than this is an 'easy way out'.
- We do acknowledge that there is a short-term economic advantage to landfilling.
- We do acknowledge that electricity can be produced from methane production.

The goals should be continually evaluated. If any of these goals are easily met, consideration should be given to making the goal even more aggressive, in accordance with the values.

Choices should be based more on consumer preferences than on haulers.

Tools and actions

The following is a list of tools and actions that the jurors brainstormed. These suggestions may or may not reflect the consensus opinion of the entire jury, although all statements were approved for inclusion in this report by all 18 jury members.

"We acknowledge that some of these tools and actions may require additional legal input, may involve elements that may not be feasible within the current system, or may take significant time or short-term costs to achieve. But we encourage the SWMCB to consider these suggestions to achieve the goals in our recommended strategy, while keeping our prioritized values in mind. In addition, we recognize that some of these recommendations (e.g., incentives, tax breaks, infrastructure development, etc...) will involve increased costs, but we believe that these tools can be effective in achieving our recommended goals."

Reduction & Reuse

- increase product stewardship
  - incentives
  - seal of approval
  - tax breaks
  - eco-packaging
- promotion & education
  - mass media & advertising
  - in-school curriculum
  - school assembly program
  - promote environmental benefits, across age spectrum
- encourage producers to put labels on products with ideas for reuse
- government packaging standards (to reduce packaging)
- develop school-age curriculum
- design products so can be easily disassembled or repaired
- produce a greater number and variety of re-useable containers
- remove subsidies for materials than compete with recycled & re-useable items
- incentives to businesses to reduce packaging
- promote "green marketing"
- encourage and fund research
- tax breaks
- grants to develop further technology
- impose regulations and laws

Recycle

- education
  - highlight the benefit to individuals
  - especially target apartments & service businesses (incentives)
  - clarify HHW materials
  - implement school age programs
- recognize MN leadership in this area & promote state pride to encourage more recycling

- incentives for research & development
- include all multi-family housing (provide incentives to landlords)
- simplify HHW collection or drop-off
- have more recyclable containers
- returnable deposit on refillable containers (financial motivation)
- better labeling symbols on recyclable materials
- establish packaging and labeling standards (bigger, in braille)
- develop uniformity between communities and standardize curbside pick-up programs
- more convenient storage bins

Composting

- set up infrastructure for composting, may need to provide govt subsidies
- provide containers that minimize odors
- educate on benefits
- tax credits, incentives to businesses and landlords
- curbside pickup
- source separated, so it is a clean and efficient compost pile
- provide free drop-off sites
- sell compost to offset costs (and minimize subsidies)
- provide incentives to commercial and industrial (restaurants, cafeterias, institutions)
- make a home container readily available
- make yard waste pick-ups cheaper
- regular (weekly) curbside pick-ups of organics (to reduce the amount of time that resident or business has to store organics)
- encourage home composting
- reform haulers on trucks so they are more selective
- design trucks so that they can pick up everything in one trip
- high end technology containers available
- advertising

Resource Recovery (waste-to-energy)

- negotiate with haulers
  - contract with them to bring waste to existing facilities
  - provide incentives for haulers to deliver waste to existing facilities
- develop incentives to create competition among haulers
- encourage separation at the source (to reduce costs to facilities)
- more research for greater efficiency converting to electricity
- research to find another use (besides landfilling) for ash
- reduce the tipping fees for WTE facilities (with subsidies) so more competitive with landfills
- heavy school and workplace education
- provide government subsidies to get hauler to bring waste to facilities
- better education regarding safety facts of WTE facilities

Land Disposal

- increase tipping tax (for landfills)
- provide incentives to increase competition among haulers to get them to not go to their own landfills
- legislate cell size (to reduce potential clean-up costs)
- negative advertising to discourage land disposal
- encourage recycling, reduction and composting
- develop fines if there are recyclables in the landfill
- when other methods in place, there will be little need for landfilling.
- sort at the source, so that appropriate materials go the best possible option, and therefore minimize materials that go to landfill
- research to increase site longevity
- require standards so that they can only put in items that cannot be addressed through other practices
- strict monitoring processes, increase funding for state monitoring efforts

Who does what? What actions should be taken or led by whom?

The jury then discussed the actions that should be taken or led by various sectors within the solid waste management system. The following is a list of actions that should be taken by government, private sector, non-profit sector, and citizens. This is not necessarily an exhaustive list, but rather is a list of suggestions and recommended actions about the roles that various sectors should play.

Goverment

education (of citizens, businesses, and families)
regulation
enforcement
evaluation & monitoring
fund incentives and investment (especially for composting infrastructure development)
seek citizen input
foster public forums
provide and fund incentives for product development, research, etc...
partner with private sector, non-profits & citizens
re-examine current subsidies that counter-act our goals
market these ideas
lead by example
schools need to implement
consider using prison labor
re-educate private industries
continue to subsidize the RDF facilities, until their natural life is over, and then re-evaluate their viability, in relation to the other technologies at that time
fund research (especially about RDF safety & technologies)
establish standards
fund grants for business and non-profits to do some of the education

Private Sector/Business

take ownership and responsibility for their decisions and actions
educate their own employees
show commitment
develop new technologies and products
embrace the goals of the public
fund and conduct research
redevelopment of products
partner with government, non-profits & citizens
purchase more recycled products
market these ideas
lead by example
shift some of their landfill resources to composting (including hauling activities)
embrace paradigm shifts
support the public investment in WTE plants

Non-profits
education (of citizens, businesses, and families)
show commitment
run small scale pilot projects
fund and conduct research
promote reuse
partner with government, private sector & citizens
buy more recycled products
lead by example

Citizens
learn and understand these issues
organize
take ownership and responsibility
show commitment
buy more recycled products
educate neighbors and friends
embrace paradigm shift
attitude adjustments
lead by example

Juror Comments

The jurors were given an opportunity to make a statement about the project, the process, or the issue. The comments of all the jurors who chose to express their opinions are included below, in their own words.

"The process was very professionally run. Timeframes were kept for discussion and for witnesses. I learned a lot of valuable information on metro solid waste management. I will pass this information on to family and friends. I feel very good about the final report that we, as a jury, came up with."
- Judy Ames

"I think that solid waste management should be taken seriously. I think the main goal should be to reduce and reuse. I think this could be achieved by continuous improvement and education. It will take commitment by all people. We are all responsible for waste."
- Robert Bourke

"This process was enlightening and caused me to think about waste management and the dilemma it poses for our future generations. The practices currently in place, and the practices we proposed, all have advantages and disadvantages. The decisions we make today have long term implications, and some of the effects of these choices have no hard empirical data on the effects of their implementation. The dialogue needs to continue, as does the education of the public. We must have a coherent, practical, focused plan that effectively deals with the issue. Commitment to research and the flexibility to enact new technologies that offer greater efficiency in waste management is essential. If we work together, waste management can be greatly improved and the negative effects greatly reduced for generations to come."
- Tom Croft

"I feel the issue of solid waste is of extreme importance now. Before this process, I didn't realize how complex it really is. I feel that I am a very practical person and I know that during this process I learned that people in general are going to have to really try to get educated and become involved in all aspects of solid waste management. I believe that it will take time for everyone to adapt to some of these ideas, but I also believe that if we don't do something now, we are going to be in trouble in the future."
- Todd Groves

"I feel that the Citizens Jury programs are an excellent idea. It has proven to successfully motivate a group of people to feel strongly about solid waste. These types of programs hold great value for a society."
- Emily Helgeson

"I thought the staff and the witnesses were excellent. Through the process, I have learned a great deal about solid waste management and its many aspects, what is being done at the present time, and what is being implemented for the future (example, the bioreactor program). Ultimately, we are all responsible for the future of the planet."
- Lorraine Henderson

"I have to say that this experience has been very exciting and also interesting to learn about something that isn't commonly brought up or discussed everyday. When I think of waste management, I just assume there is no problem as long as it is out of sight. But, being a part of the jury and coming here knowing nothing and leaving here 5 days later so overwhelmed and educated on the thoughts and ideas that all the witnesses presented to us makes me want to learn more and get involved with whatever plans they have for the future. Thanks to everyone for allowing me to be part of this!"

- Lisa Hucks

"I enjoyed serving on the Metro Solid Waste Citizens Jury. I learned a lot about not only the subject, but also how others felt. It was interesting to see that even with varying differences of opinion, we were able to come to a consensus on how best to deal with the questions presented. I feel the staff, witnesses and especially the jurors acted in a very professional and thoughtful manner. If asked to serve on another Citizens Jury, I would not hesitate to accept if at all possible."

- Kevin Iverson

"If we don't put everything we take from the earth back into it, we stop the cycle and become truly wasteful. Please, have faith in the amazing ability humans have to learn and change socially. We need to be educated in order to assume responsibility and gain pride. The generators' commitment is needed in order for the cycle to be complete. Educate and a new understanding will be made. Think big – zero waste is very possible."

- Reya Laing

"I found the overall process to be very well run. The selection of the jurors appears to have been a fairly good representation of the population. The Jefferson Center is to be commended for their efforts. The background information and overview was an excellent introduction to the topic of solid waste management. The advocate for composting presented a compelling argument to invest in the infrastructure and education required to pick up compostables at curbside. Unfortunately, the short term planning horizon of 5-10 years inappropriately tips the economic scales to favor landfill solutions. The jury made the conscious decision to look at a longer term view of the economics of solid waste management. Our longer term perspective drove our solutions towards reducing waste, recycling resources and returning compostables to feed the earth. Perhaps 'we' could consider a composting credit on the solid waste bills to encourage participation. Perhaps 'we' could sell biodegradable trash bags to encourage recycling and composting and reduction of waste overall."

- **Sharon Lane-Getaz**

"I think that everyone involved in the project should be proud of their efforts. I found it to be a rewarding experience that I'll always remember. It was amazing what eighteen diverse citizens could do when provided with information and resources. I applaud the Jefferson Center for the concept and development of the Citizens Jury format and the SWMCB for sponsoring the Jury on Metro Solid Waste."

- Doug McKee

"This has been a very interesting week for me. Although there is much more to be done in reducing waste, I was amazed at the amount that is already being done and the many tools available. It is too bad that the public as a whole does not have the opportunity that we, the jurors, have had this past week. It has been a truly enjoyable experience."
- Lucille Nelson

"Due to the repetition of my daily routine, a large part of my thought process has been in hibernation. This process woke that up again. For that, I am extremely thankful. I feel I have taken an active role in a serious issue. I would like to say that our goals are unrealistic for the next 5-10 years (specifically, reducing land disposal from 23% to 7% and achieving nearly 20% composting). This change will require substantial behavior change and expense and I view it as more feasible in 15-20 years."
- Todd Oseby

"I found all of the content valuable personally and hope to do something to spread the word. I loved the structure and timing of the leaders. As an older person, I found it difficult to stay on task when people loosely were calling out but was inspired by the leaders' abilities to stay unbiased and treat all equally. The overriding values that will move waste management in the right direction are honesty, integrity and working toward the common good."
- Mary Ann Schmit

"The Citizens Jury is a very effective process by which decision makers can involve citizens in formulating policies on an issue. The whole process was a great learning experience for me. The information received will definitely affect my attitude and practices with regards to solid waste management. Listening to the other jurors I believe the same impact was created on them too. Therefore, I believe education at all levels is a key to fostering responsible waste management practices."
- Farella Shaka

"A free market economy may seem desirable and 'American.' But, in matters of human and environmental health and protection, the role of the government is to step in, where needed, to protect the rights of the community over the interest of the individual. And people who advocate for the free enterprise system may not realize that the government already heavily subsidizes various industries, i.e., housing (deductible interest) and petroleum industries. The petroleum subsidy does much to promote the production of harmful substances, which we now need the government subsidy to clean up when it enters the waste stream. (plastic – not cheap)"
- Susan Strebig

"I encourage all readers of this report to consider this. There are over seven hundred citizen hours of thought and labor involved within. Please listen well."
- John Van Bakel

"I would just like to say that this whole process was wonderful. I felt honored to be a part of such an important decision-making process. I have learned so much over these last few days. I am so motivated to implement new waste management practices at home and to spread the word to everyone I know. Thanks for giving me the 'push' I needed to get back into activism again."
- Christina Wiegand

Juror List

Name	Age	Occupation	City of Residence	County
Judy Ames	56	Social Worker	Bloomington	Hennepin
Robert Bourke	44	Welding & assembly supervisor	Wyoming	Anoka
Tom Croft	44	Sales	Chaska	Carver
Todd Groves	32	Sales	South St. Paul	Dakota
Emily Helgeson	18	Student	Rosemount	Dakota
Lorraine Henderson	70	Retired factory worker	Minneapolis	Hennepin
Lisa Hucks	22	Homemaker / mother	White Bear Lake	Ramsey
Kevin Iverson	36	Machinist	Brooklyn Center	Hennepin
Reya Laing	23	Student	Blaine	Anoka
Sharon Lane-Getaz	43	Teacher	Minneapolis	Hennepin
Doug McKee	44	Shipping supervisor	St. Paul	Ramsey
Lucille Nelson	69	Retired paralegal	Bloomington	Hennepin
Todd Oseby	32	U.S. Army (Active National Guard)	Stillwater	Washington
MaryAnn Schmit	71	Retired teacher	Mahtomedi	Washington
Farella Shaka	50	College Professor	Blaine	Anoka
Susan Strebig	58	Consultant	Mendota Heights	Dakota
John VanBakel	48	Project manager	Champlin	Hennepin
Christina Wiegand	28	Unemployed	Crystal	Hennepin

Jury Composition

One of the key goals of any Citizens Jury is to be demographically reflective of the community. Potential jurors were first identified through a random telephone survey designed by the Jefferson Center. The final eighteen jurors were carefully selected to be representative of the state of six-county metro region represented by the SWMCB. Data from a variety of sources[2] were used to establish the demographic targets for the jury. The targets included age, education level, gender, geographic residence, race, and political ideology. Below is a chart of the demographic targets for this jury. In some cases, assigned targets were not entirely achieved due to last minute cancellations and substitutions.

Demographic Category	Actual % in Population[3]	**Jury Target**	**Actual # on Jury**
Gender – Male	48.5%	**9**	**6**
Gender – Female	51.8%	**9**	**12**
Age – 18-34	32.4%	**6**	**7**
Age – 35-54	42.3%	**7**	**6**
Age – 55+	25.4%	**5**	**5**
Education – H.S. or less	41.7%	**7**	**5**
Education – Some college	21.3%	**4**	**3**
Education – College graduate	36.9%	**7**	**10**
Race – White	84.4%	**15**	**15**
Race – Non-white, other, or multi-racial	15.6%	**3**	**3**
Geographic Location – Anoka	11.7%	**2**	**3**
Geographic Location – Carver	2.8%	**1**	**1**
Geographic Location – Dakota	13.9%	**3**	**3**
Geographic Location – Hennepin	43.7%	**7**	**7**
Geographic Location – Ramsey	20.0%	**3**	**2**
Geographic Location – Washington	7.9%	**2**	**2**
Attitude – Conservative	24%	**5**	**5**
Attitude – Moderate	51%	**8**	**9**
Attitude – Liberal	25%	**5**	**4**

[2] The sources for the data used to determine the jury targets can be found in Appendix B.
[3] Includes the populations of Anoka, Carver, Dakota, Hennepin, Ramsey and Washington counties only because these are the counties who compose the membership of the Solid Waste Management Coordinating Board (SWMCB).

Juror Evaluation

On the final day of the hearings, the jurors completed individual evaluation forms on this Citizens Jury project. The following information reflects those evaluations.

1. In general, how do you feel about the Citizens Jury on Metro Solid Waste now that you have completed the project?

16	Very satisfied
2	Satisfied
-	Neutral
-	Dissatisfied
-	Very dissatisfied

2. How do you feel about different parts of the project?

	Very Satisfied	Satisfied	Neutral	Dissatisfied	Very Dissatisfied
Introductory Session	14	3	-	-	-
Day 1 – Background/overview	15	3	-	-	-
Day 1 – Values & Principles	13	5	-	-	-
Day 2 – waste mgmt practices	11	4	3	-	-
Day 2 – Detailed background	13	4	1	-	-
Day 3 – advocates/options	11	6	1	-	-
Deliberations	10	6	1	-	-

NOTE: These may not all add up to exactly 18, due to abstensions.

3. One of our aims is to have the Jefferson Center staff conduct the project in an unbiased way. How satisfied are you with their performance in this regard?
(Note: Jefferson Center staff includes Kim, Sara, Doug, Keiko & Lynette only)

15	Very satisfied
3	Satisfied
-	Neutral
-	Dissatisfied
-	Very dissatisfied

Project Staff & Committees

Moderators

Kim Boyce

Sara Taylor

Jefferson Center

Doug Nethercut……...Executive Director

Keiko Veasey……...Project Director

Lynette Uetz……...Administrator / Project Associate

SWMCB Working Group

Phil Eckhert……....Hennepin County Environmental Services

Linda Gondringer……..……..Richardson, Richter & Associates

Peter McLaughlin……..Hennepin County Commissioner

Mary Richardson……..Richardson, Richter & Associates

Dick Stafford……...Washington County Commissioner

Advisory Committee

Mike Ayers…….. BFI Waste Systems, Inc.

Peter Bachman……...Minnesota Center for Environmental Advocacy

David Benke……...……..Minnesota Office of Environmental Assistance

Andy Carr……..…….Waste Management, Inc.

Phil Eckhert……....Hennepin County Environmental Services

Julie Jones……...City of Fridley

Bob Kircher……...Aspen Waste

Anne Hunt……..Saint Paul Neighborhood Energy Consortium

Wayne Rivard……Andersen Windows

Dotti Shay……....Pillsbury Company

Dick Stafford……..….Washington County Commissioner

Gary White……...……..NRG Energy, Inc.

Agenda

DAY ONE – Monday, June 18

8:30	Welcome • Welcome to Jurors • Project Overview • Brief History of Jefferson Center and Citizens Jury process • Role of Jury • Rules of procedure & discussion ground rules • Introduce Charge & Agenda	Comm. Dick Stafford Doug Nethercut Moderators
9:30	Introductions • Introduction to staff • Get to Know Each Other Exercise	Moderators
10:30	BREAK	
10:45	Background Information – BIG PICTURE • General Introduction to issue • Introduction to major terms • What is solid waste? • How much is produced? • Introduce each management practice	**Art Dunn**
12:00	LUNCH	
1:30	Values & Principles • Introduce & define values • Discuss & add to list, if necessary • Prioritize values	Moderators
4:00	Juror Check-in, Review, etc…	
4:30	Adjourn	

DAY TWO – Tuesday, June 19

8:30	Review agenda for the day and recap the previous day	Moderators
8:45	Waste Management Practices – detailed presentations	
8:45 – 9:15	• Reduction & Reuse (20 min pres + 10 min questions)	**Tom Osdoba**
9:15 – 9:45	• Recycling	**Dan Krivit**
9:45 – 10:15	• Composting	**Judy Purman**
10:15	BREAK	
10:30	Waste Management Practices (continued)	
10:30 – 11:00	• Resource Recovery	**Carl Michaud**
11:00 – 11:30	• Land disposal	**Mike Ayers**
11:30	LUNCH	
12:30	Discuss Waste Management Practices • Discuss mgmt practices • Evaluate each one, based on values • Develop 'rank order' for mgmt practices	Moderators
2:00	BREAK	
2:15	Detailed Background Information • Current law (hierarchy) • What currently happens to waste? (specifically in TC-metro area) • Current infrastructure and facilities • Who does what? • Legal issues • Other issues	**Zack Hansen**
3:00	Discussion of current situation • What's good? • What's bad? • Perhaps evaluate based on values • Other	Moderators
4:00	Juror Check-in, Values check, Review day, Preview tomorrow, etc…	Moderators
4:30	Adjourn	

DAY THREE – Wednesday, June 20

8:30 Review agenda for the day and recap the previous day — Moderators

8:45 Present three options for addressing solid waste issues in the metropolitan area.
Three options will be presented as 'starting points.' The jury will not be confined to simply these three strategies. Rather, these three strategies will help the jury to understand the issues, appreciate how the dimensions can be inter-connected, and be aware of the complexity of the issue.

8:45 **OPTION 1**

8:45 – 9:15	Presentation & Description	**Susan Hubbard**
9:15 – 9:30	Counter perspective	**Jim Bosch**
9:30 – 10:15	Discussion and Evaluation	Moderators

10:15 BREAK

10:30 **OPTION 2**

10:30 – 11:00	Presentation & Description	**Susan Haigh**
11:00 – 11:15	Counter perspective	**Chuck Wegner**
11:15 – 12:00	Discussion and Evaluation	Moderators

12:00 LUNCH

1:00 **OPTION 3**

1:00 – 1:30	Presentation & Description	**Julie Ketchum**
1:30 – 1:45	Counter perspective	**Barry Schade**
1:45 – 2:30	Discussion and Evaluation	Moderators

2:30 BREAK

2:45 Panel Discussion of all three options — **Advocates**

4:00 Juror Check-in, Values check, Review day, Preview tomorrow, etc… — Moderators

4:30 Adjourn

DAY FOUR – Thursday, June 21

8:30	Review agenda for the day and recap the previous day	Moderators
8:45	Business waste reduction & recycling programs	**Paul Kroening**
9:00	Continue Initial deliberations on question #2	Moderators **(Resource Witnesses Available)**
10:30	BREAK	
10:45	Continue deliberations, develop solid waste management strategy Deliberation on question #3 (Discuss preferred tools and actions)	
12:00	LUNCH	
1:00	Begin Final Deliberations • Revisit initial recommendations • Revise, amend, or add to initial recommendations Review value priority Review rank of presented options Continue to develop/refine recommended strategy & tools	Moderators
4:15	Juror Check-in, Review day, Preview tomorrow, etc…	
4:30	Adjourn	

DAY FIVE – Friday, June 22

8:30	Continue and complete final deliberations (break as needed)	
10:30	Review initial report	JC staff & jurors
11:30	Evaluations by jurors	
12:00	LUNCH	
1:30	Juror debrief with moderators	
1:30	Prepare for press conference	
2:30	Issue Initial Report at Press Conference	
4:00	Juror thank you reception	
4:30	Adjourn	

Witness List

Topic & Witness Type	Name
Background Information & Overview *(Informational)*	Art Dunn Deputy Director, Policy & Planning Division MN Pollution Control Agency
Reduction & Reuse *(Informational)*	Tom Osdoba e4 Partners
Recycling *(Informational)*	Dan Krivit Krivit & Associates
Composting *(Informational)*	Judy Purman NRG Processing Solutions
Resource Recovery *(Informational)*	Carl Michaud Solid Waste Division Manager Hennepin County
Land disposal *(Informational)*	Mike Ayers General Manager, Pine Bend Landfill BFI Waste Systems, Inc.
Detailed Background Information *(Informational)*	Zack Hansen Environmental Health Director Ramsey County
Option #1 – advocate *(advocate)*	Susan Hubbard Recycling Program Director St. Paul Neighborhood Energy Consortium
Option #1 – counter perspective *(advocate)*	Jim Bosch Environmental Services Manager Target Corporation
Option #2 – advocate *(advocate)*	Susan Haigh Ramsey County Commissioner
Option #2 – counter perspective *(advocate)*	Chuck Wegner Area Manager, Government Affairs BFI Waste Systems, Inc.
Option #3 – advocate *(advocate)*	Julie Ketchum Manager, Government Affairs Waste Management Inc.
Option #3 – counter perspective *(advocate)*	Barry Schade Director, Environmental Mgmt Dept Dakota County
Business waste reduction & recycling *(Informational)*	Paul Kroening Business Waste Reduction & Recycling Program Hennepin County
Resource Witnesses: Art Dunn MN Pollution Control Agency Kirk Rosenberger NRG Energy, Inc.	David Benke MN Office of Environmental Assistance Susan Hubbard St. Paul Neighborhood Energy Consortium Chuck Wegner BFI Waste Systems, Inc.

Appendix A

Three different system-wide 'options' or visions were presented to the jury, from three different perspectives. These three options were intended to serve as starting points for the jury's discussions in developing their own recommended vision. In addition, these options helped the jury to further understand the issues, appreciate how the dimensions can be inter-connected, and continue to be aware of the complexity of the issue. In addition to providing the preferred 'mix' of waste management practices (shown in the pie charts below), each option also proposed various tools and actions to achieve their respective goals, implications and consequences of pursuing their recommended strategy, as well as rationale for the advocates' own support of the proposed strategy.

Following each advocate's presentation, a counter-perspective was presented to address that particular option. These counter-perspectives were not intended necessarily to oppose each option, but rather to present some additional information about the preceding option from another perspective, as well as possible shortcomings or challenges of pursuing that option. The jury then discussed that particular option. When all three sets of presentations were complete, a panel comprised of all three advocate presenters and all three counter-perspective presenters responded to questions and comments from the jury.

Below are brief overviews of the three options that were presented to the jury. Only the preferred 'mix' of waste management practices is provided for each option. Detailed rationale, implications, as well as information on the counter-perspectives are not provided, due to space constraints of this report.

Option 1 - presented by Susan Hubbard, Neighborhood Energy Consortium
The ideal waste management system should manage 75% of the waste through reduction, reuse, recycling, composting, and address another 15% of the waste through product/retailer/consumer stewardship. The remaining waste (10%) would be handled by either resource recovery or land disposal.

Reduction - 3%

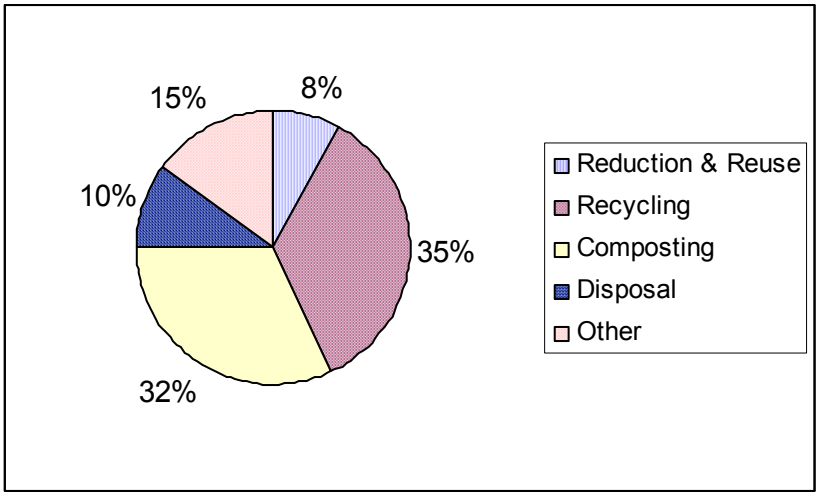
Reuse - 5%

Recycle - 35%

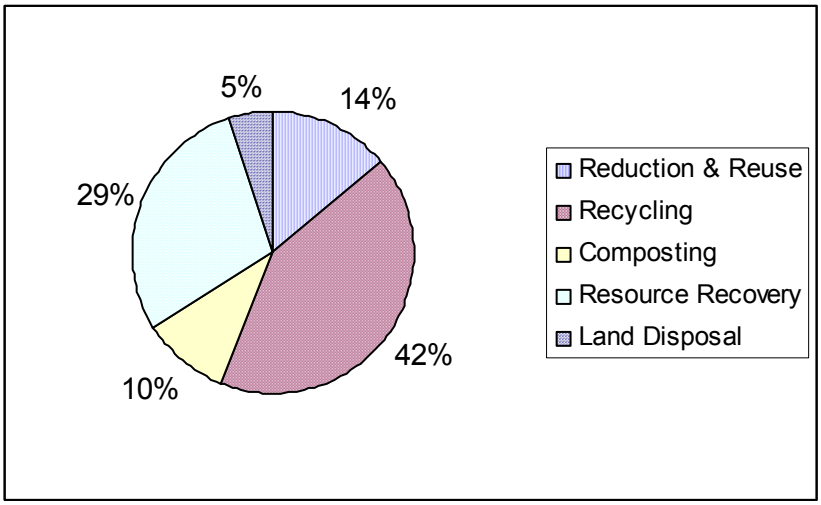
Compost - 32%

Disposal - 10%
(resource recovery & land disposal)

Other - 15%
(through product, retailer and/or consumer stewardship, many items would be moved to reduction or reuse. (e.g., PVC, other plastics, treated wood, electronics, HHW & empty HHW containers, carpet, etc...)



Option 2 - presented by Sue Haigh, Ramsey County Commissioner
The ideal system should manage 66% of the waste by reduction, reuse, recycling and composting practices. Most of the remainder (29%) should be burned to produce steam for heating and cooling or electrical generation by maximizing use of existing facilities. The small amount that remains (5%) must be landfilled.



Reduction & Reuse - 14%

Recycling - 42%

Composting - 10%

Resource Recovery - 29%

Land Disposal - 5%

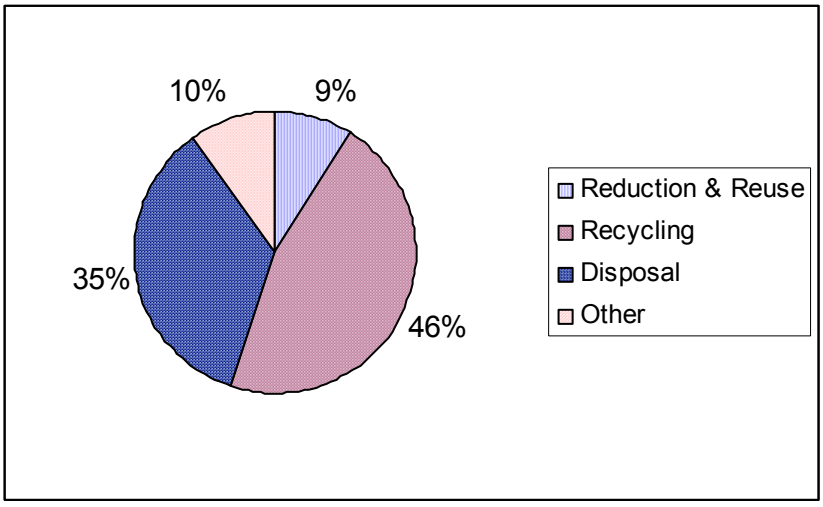
Option 3 - presented by Julie Ketchum, Waste Management, Inc.
The ideal waste management system should address 55% of the waste stream through reduction, reuse and recycling, while allowing for another 10% to be addressed through new technologies, new designs, and product/retailer/consumer stewardship. The remaining waste (35%) should be handled by facilities that "meet environmental standards, but also consider economics and market conditions when making that choice," meaning both resource recovery and land disposal.

Reduction & Reuse - 9%

Recycling - 46%

Disposal - 35%
(resource recovery & land disposal)

Other - 10%
(Allows for new technologies, product stewardship, design for environment, new disposal technologies such as bioreactor)



Appendix B

Source information for data used to determine jury demographic targets:

Gender - Based on Year 2005 county projections from the State Demographic Center at Minnesota Planning. Published June 1998. Prepared for *Faces of the Future: Minnesota County Population Projections 1995-2025.* Published September 1998. (Note: based only on those 20 years old and above.)

Age - Based on Year 2005 county projections from the State Demographic Center at Minnesota Planning. Published June 1998. Prepared for *Faces of the Future: Minnesota County Population Projections 1995-2025*. Published September 1998.

Education - 1990 US Census Data. (Note: based only on those 25 years and older)

Race - 2000 US Census Data. Non-white includes black/African-American, Asian/Pacific Islander, Native American or "some other race." This grouping also includes those who consider themselves to be of more than one race. Note: In the 2000 census, as in earlier censuses, Hispanic or Latino identity is considered an ethnic rather than racial category. People who identify themselves as Hispanic or Latino may be any race or combination of races. 2000 Census data show that 3.7% of the metro population consider themselves to be of Hispanic origin. Therefore, there was a 'sub-target' to have one Hispanic (white or non-white) juror. The final jury satisfied this sub-target.

Geographic Location - 2000 US Census Data.

Attitude - Minnesota Poll (conducted for Star-Tribune), April 5-11, 2001. Note: This is based on 450 "random-digit dialed" telephone interviews conducted in the 7-county area of the Anoka, Carver, Dakota, Hennepin, Ramsey, Scott, and Washington counties, even though Scott County is not part of the SWMCB. Data for SWMCB counties only were unavailable.