



Waste Reduction and Outreach:
Shift in strategy recommended

November 2008
A Report by the Office of the Auditor

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MEMORANDUM

November 6, 2008

To: David Bragdon, Council President
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From: Suzanne Flynn, Metro Auditor

Subject: Audit of the Waste Reduction and Outreach Division

The attached report covers our audit of the Waste Reduction and Outreach Division as it existed in the Department of Solid Waste and Recycling. The program we audited has stayed intact, although it now resides within the Sustainability Center. This audit was included in our FY07-08 Audit Schedule.

Rather than complete a more traditional audit and review the historical performance of this program, our audit took note of the changing environment and we are recommending a strategic shift in resources. Since the program's inception, understanding of waste reduction and prevention has increased. The urgency of reducing waste has intensified with growing concern about global warming. In addition, the Metro Council introduced sustainability as an agency goal for Metro.

Although a leader in Oregon for recycling, Metro is unlikely to meet its waste recovery goal. Further, residents in the Metro region are producing more waste than ever before, even as the recycling rate has improved. We analyzed program expenditure by activity and found that about half of the resources from FY03 to FY07 were spent on recycling, while about one-third was spent on prevention and reuse. While it appears that activities aligned with prevention and reuse goals are more expensive and that there are few proven models to replicate, we suggest the program develop a strategy to work in this direction.

We have discussed our findings and recommendations with Scott Robinson, Deputy COO, Jim Desmond, Director, Sustainability Center, and Matt Korot, Program Director, Resource Conservation and Recycling Program. A formal follow-up to this audit will be scheduled within 1-2 years. We would like to acknowledge and thank the management and staff in the Department who assisted us in completing this audit.

A handwritten signature in cursive script, appearing to read "Suzanne Flynn".

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Summary

Metro is responsible for solid waste planning and disposal for the tri-county area. Making sure residents in the Metro region have the opportunity to recycle is one of the original goals of the Agency's waste reduction and outreach efforts.

While the recycling rate has increased, a larger problem for the environment is that the Metro region is generating more waste than ever. From 1992 to 2006, the total amount of waste nearly doubled from 1.46 to 2.70 million tons. The amount of waste produced per person increased from 6.4 to 9.4 pounds per day.

The purpose of this audit was to determine if the Waste Reduction and Outreach Division used its resources strategically. Although plans and statute place a higher priority on waste prevention, our analysis found Metro spent more on recycling. From FY03 to FY07, the Division spent about half of its resources on recycling while spending about 30% on prevention and reuse.

In order to act strategically, an organization needs to be clear about its objectives, have adequate data to make decisions and evaluate progress, and have the skills necessary to manage operations. The Waste Reduction and Outreach Division does not have a mission statement. We reviewed various documents that state the Division's purpose and objectives. It is not clear whether the Division's primary objective is recycling or waste prevention. Therefore, it is unlikely managers and staff will be able to make decisions based on a well-defined organizational strategy.

Metro needs to develop measures that reflect the full range of its waste reduction activities. Currently, the Division's performance is measured primarily by the recycling rate.

Measuring outcomes and cost effectiveness of waste prevention strategies will be challenging. Total waste generated in the region is a good general measure of progress in preventing waste. However, it is affected by conditions outside of the Division's control. Changes in population, economic conditions, and other variables affect the amount of waste generated. To determine Metro's direct impact on preventing waste, the Division will need additional data sets and program evaluation tools.

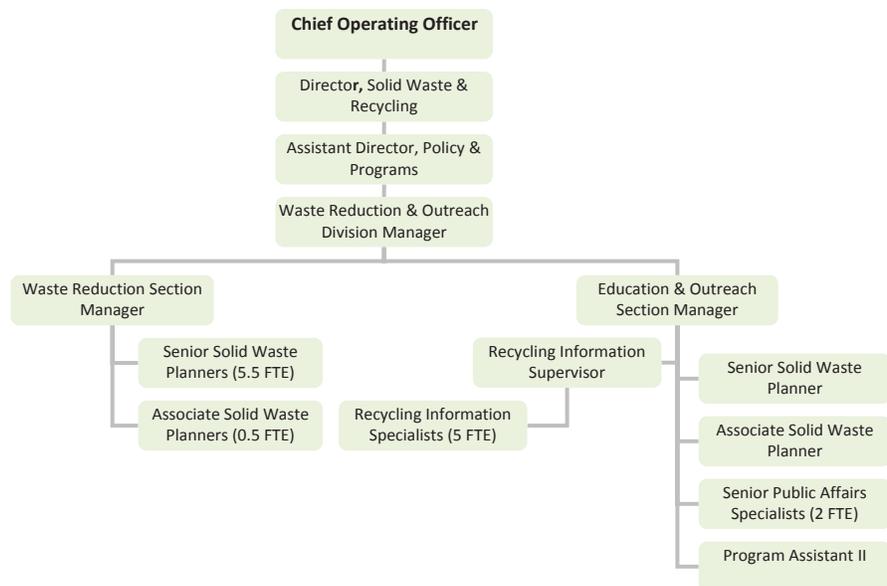
Further, there are few models of successful waste prevention programs. If Metro shifts more resources to waste prevention, the Division will need to evaluate the risks and potential benefits of these less proven programs. By having a strategy that gradually increases its focus on waste prevention, the Division can reduce the risk of using resources ineffectively.

Background

Metro is responsible for solid waste planning and disposal for the tri-county area. State law requires Metro to develop and implement a waste reduction plan. Making sure residents in the Metro region had the opportunity to recycle was one of the original goals of the agency's waste reduction and outreach efforts. As such, Metro initially focused primarily on curbside recycling. However, since the 1990s, Metro showed a commitment to move beyond recycling and address the growing problem of waste generation.

This audit looked at part of Metro's solid waste system, the Waste Reduction and Outreach Division. The Division provided education and outreach, managed grants to local governments, and carried out other waste reduction strategies. The Waste Reduction and Outreach Division was part of Metro's Solid Waste and Recycling Department and was made up of two sections: 1) Solid Waste Reduction and 2) Education and Outreach. The chart below shows the Division's organizational structure as of July 2008.

Exhibit 1
Organizational chart
as of July 2008



Source: Auditor's office review of organizational charts

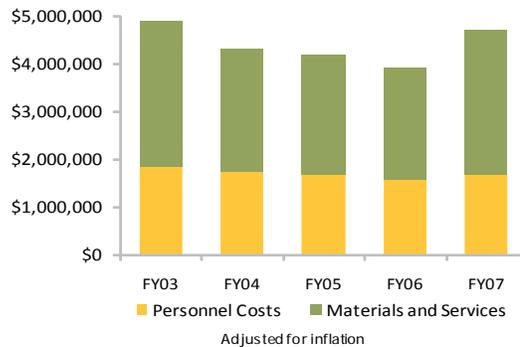
The **Waste Reduction** Section had three basic activities. The first was to maintain the region's recycling infrastructure through grants to local governments and providing coordination among governments and service providers. Second, the Section managed programs targeted at reducing waste in different sectors (multi-family residential housing, business, the building industry and commercial organics). Lastly, it measured and monitored performance.

The **Education and Outreach** Section also had three central activities. School education programs provided presentations, curriculum and education materials to teachers and organized an annual Earth Day art

contest. Adult education programs focused on reducing the toxicity of waste through hazardous waste and natural gardening programs. The Recycling Information Center used a hotline and website to answer questions about recycling, disposal and waste prevention.

The Division spent about \$4.4 million per year over the last five years. Spending decreased by 20% from Fiscal Year 2003 (FY03) to FY06, but increased in FY07. In FY03, the Division had 22 Full-time Equivalents (FTE). Staffing declined to 20 FTE for FY05 through FY07.

Exhibit 2
Waste Reduction and Outreach expenditures



Source: Auditor's office analysis of Division financial data

Metro's recent reorganization

Effective October 1, 2008, Metro changed its organizational structure. Activities of the former Department of Solid Waste and Recycling are now part of two new departments. Metro's waste reduction and outreach programs are part of the Sustainability Center and report to the Resource Conservation and Recycling Program Director. The chart below shows the new organizational structure. The reorganization occurred after audit fieldwork was completed and the conclusions in this report are based on the prior organizational structure.

Exhibit 3
Revised organizational chart



Source: Sustainable Metro Initiative documents

Scope and Methodology

The purpose of this audit was to determine if the Waste Reduction and Outreach Division used its resources strategically to reduce the negative impacts of solid waste.

Our methodology included five objectives:

1. Identify what practices most effectively reduce the negative impacts of waste. Determine whether Metro's waste reduction and outreach programs target activities with the greatest impact.
2. Determine if the way the Division is organized presents barriers to operating efficiently and effectively.
3. Identify where Metro's regulatory environment, goals, objectives, and funding may conflict with programs that have the greatest environmental benefit.
4. Determine whether Metro measures results and uses analysis in deciding which activities to pursue.
5. Determine whether the Division is structured to meet Metro's definition of sustainability.

We reviewed state and local regulations, missions, goals, objectives, and strategic plans related to waste reduction and outreach programs. We reviewed other program documents, Metro Council resolutions, professional literature and studies. To better understand how Metro allocated resources and evaluated program effectiveness, we interviewed staff from Metro, the Oregon Department of Environmental Quality (DEQ), the Portland Office of Sustainable Development, and the Washington County Recycle at Work program. We researched literature on sustainability and sustainability frameworks.

The Division's spending was analyzed for a five-year period. We sorted the Division's activities and spending into five waste management practices defined by the state of Oregon and the Regional Solid Waste Management Plan. Division management confirmed how resources and staff were allocated. To determine the layers of management and ratio of staff to managers, we reviewed and updated the Division's organizational chart.

To assess how the Division measures program effectiveness, we looked at its data systems, performance measures, cost-benefit analyses, and performance reports. We developed new cost data from the agency's financial system. We used waste recovery and generation data reported to and reviewed by DEQ. As the financial data had been audited and the waste recovery and generation data reviewed by a third party, we believe this data is reasonable and accurate. Our limited testing of other data maintained by Division staff raised some concerns over its reliability

and accuracy; therefore, we cannot be assured that information controls are effective, and data is reasonable or accurate. We made no conclusions based on this data.

The scope of this audit was the Waste Reduction and Outreach Division. We also reviewed aspects of the Solid Waste and Recycling Department's Office of the Director and Financial Management and Analysis division related to organizational structure and Division financial information. During the course of this audit, we found the Division managed many contracts totaling about \$2 million per year. This amounted to more than 80% of its non-personnel related spending. While we chose not to study contract management practices in this audit, we will consider this as a possible topic for a future audit.

This audit was included in the FY08 audit schedule. We conducted this performance audit in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

Results

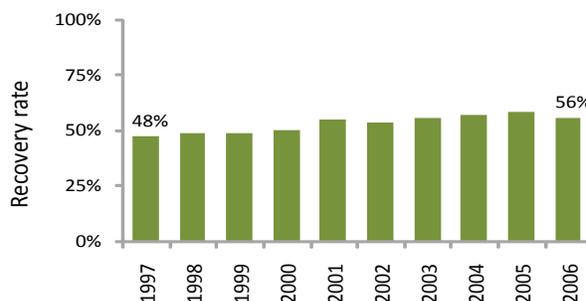
Metro, like the state of Oregon and solid waste experts around the world, ranks recycling as the third best solid waste management practice. Waste prevention and reuse are considered better for the environment than recycling. This is because they have a bigger impact on waste generation, greenhouse gas emissions, and, in some cases, waste toxicity. Waste prevention is a term used to describe activities that reduce the amount or toxicity of waste before it is produced. Reducing product packaging, using longer-lasting goods, and using less toxic household and gardening products are examples of waste prevention. While there is agreement that waste prevention is better for the environment, there are few proven models of effective waste prevention programs.

Metro residents are producing more waste than ever before, even as the recycling rate has improved. The amount of waste being produced is a challenge to regional sustainability. This challenge comes at a time when the Metro Council has committed to making sustainability the guiding principle for all Metro policies and programs. In order to ensure the Waste Reduction and Outreach Division's programs align with Metro's focus on sustainability, the Division's goals and spending may need to change to reflect this new direction.

Metro unlikely to meet recovery goal

State law requires Metro to develop a waste reduction plan and achieve certain waste recovery goals for the region. These State goals called for Metro to achieve a 62% recovery rate for solid waste by the end of 2005 and a 64% recovery rate by the end of 2009. Reaching this 64% recovery goal means that for every 1,000 pounds of solid waste, 640 pounds of it will be diverted from landfills through practices such as recycling and composting. The Metro region did not meet its 2005 goal and is unlikely to meet its 2009 goal. In 2005 the regional recovery rate was 59%. This dropped to 56% for 2006, reversing several years of steady improvement.

Exhibit 4
Metro recovery rate
1997-2006



Source: Oregon Department of Environmental Quality

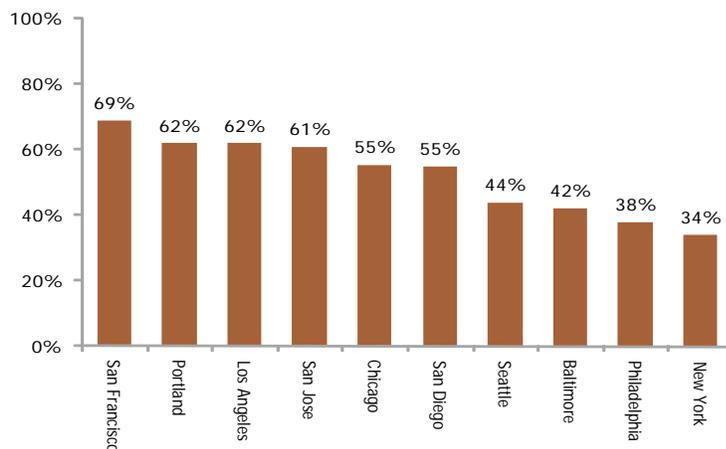
A review of Metro efforts by Oregon's Department of Environmental Quality (DEQ) found Metro is "doing all it could to move towards achievement of its 2009 recovery goal". DEQ stated there will be no penalty for not meeting its statutory goals. Metro is putting several programs in place to increase recovery. One program requires construction and demolition waste be screened to remove recyclables. The Metro Council also approved a proposal to make the recycling of paper and containers mandatory for businesses.

The regional recovery rate may be influenced by factors outside of Metro's control. Management said the recovery rate may have been artificially high in recent years due to market conditions resulting in the recycling of a large stockpile of metal inventory. Despite recent shortfalls, DEQ staff and Metro management stated that while it is unlikely the goal will be met in 2009, it may be met in the near future with new programs.

Metro a leader in recycling but can still improve

Even though the Metro region missed its 2005 recovery goal, it is still a leader in Oregon for recycling. Comparable data is not available to show how the Metro region ranks nationally. However, data for Portland indicates that it is a leader among U.S. cities. A 2006 study of the 30 largest cities showed that the average recycling rate was 28% compared to a 62% recycling rate for Portland. Only San Francisco had a higher recycling rate (69%) than Portland. While these results demonstrate the region's success, San Francisco's recycling rate is higher than Portland's, indicating improvement is possible.

Exhibit 5
Large U.S. cities with highest recycling rates

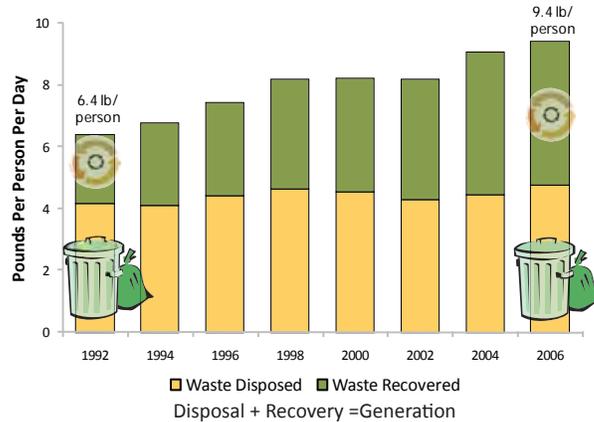


Source: Waste News, March 3, 2008

Metro region generating more waste

A larger problem for the environment is that the Metro region is generating more waste than ever. From 1992 to 2006, the amount of waste produced increased from 6.4 to 9.4 pounds per person per day. In the same fifteen year period, the total amount of waste nearly doubled from 1.46 to 2.70 million tons.

Exhibit 6
Waste generation
1992-2006

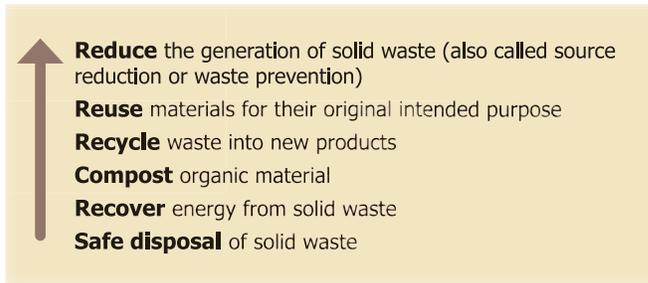


Source: Oregon Department of Environmental Quality

Growing concern over climate change and sustainability has increased the importance of reducing waste generation. Because the environmental impact of making new products is bigger than disposing of them, preventing a ton of waste is better than recycling a ton of waste. Every new product has an environmental cost, from mining the raw materials, to making the product, to shipping it. For example, 58% of a personal computer’s greenhouse gas emissions occur before a customer buys it, while less than 1% occurs in its disposal. As a result, recycling waste has a smaller impact on greenhouse gas emissions than reducing the number of new items manufactured.

Metro’s ten-year Regional Solid Waste Management Plan (RSWMP) and Oregon statute identify the solid waste hierarchy as the preferred management practice in the region. This hierarchy ranks waste prevention and reuse ahead of recycling.

Exhibit 7
Solid waste hierarchy

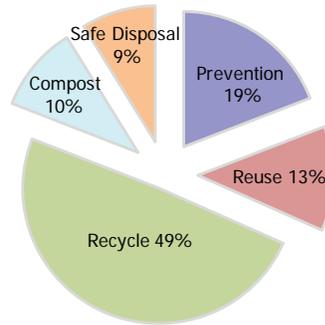


Source: Oregon Revised Statutes 459.015; RSWMP 2008-2018

Resources not targeted to greatest environmental benefit

Although plans and statute place a higher priority on waste prevention, our analysis found that Metro spent more on recycling. From FY03 to FY07, the Division spent about half of its resources on recycling. It spent about 30% on prevention and reuse. Between FY03 and FY07, spending on prevention increased from 16% to 19%. In total, the Division spent about \$2.3 million on recycling efforts and \$1.5 million on waste prevention and reuse for FY07.

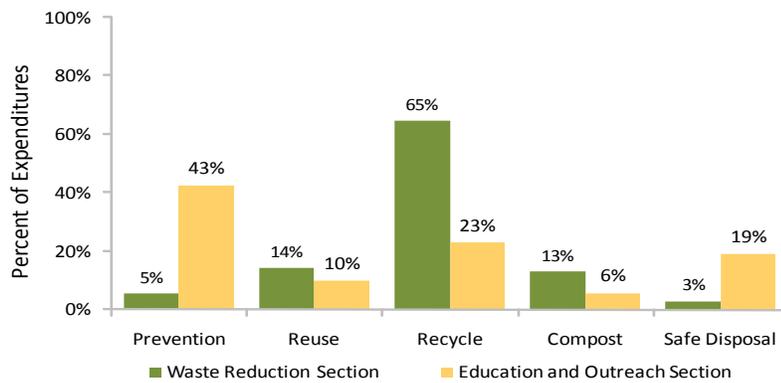
Exhibit 8
Division expenditures
FY07



Source: Auditor's Office analysis of financial data

Our analysis showed that the Education and Outreach Section targeted prevention activities to a greater degree than the Waste Reduction Section. By design, these sections have different objectives and programs, with the Waste Reduction Section focusing on recycling, reuse and composting. In FY07, 43% of Education and Outreach expenditures were for prevention while 5% of the Waste Reduction expenditures were for waste prevention.

Exhibit 9
Spending by Section
FY07



Source: Auditor's Office analysis of financial data

Management agreed that more of the Division's focus needs to be placed on waste prevention and stated several reasons why this has not occurred. The Division's direction was established in the 1990s, when there were different priorities. The Division needs to show progress towards meeting the recovery goal before it can shift its focus to prevention. It is difficult to convince people to consume less. Also, effectiveness of waste prevention activities is harder to measure.

**Mission unclear
and there may be
conflicting incentives**

An organization's mission, measures and incentives should be clearly linked. If this connection is not apparent, employees will not have the framework or direction to make decisions strategically. Moreover, it will be difficult to achieve intended results and ensure money is spent wisely.

The Waste Reduction and Outreach Division does not have a mission statement. In the absence of a mission statement, we reviewed various documents that state the Division's purpose and objectives. These documents included the budget, the Regional Solid Waste Management Plan, and the Solid Waste and Recycling Department Strategic Plan. We found inconsistencies between these documents. It is not clear whether the Division's primary objective is recycling or waste prevention. Therefore, it is unlikely managers and staff will be able to make decisions based on a well defined organizational strategy.

Exhibit 10
Primary purpose
according to documents

Document	Priority	Stated purpose and objectives
FY09 Program budget	<ol style="list-style-type: none"> 1. Recycling 2. Prevention 	<p>The responsibilities (of the Waste Reduction section) are to ensure that an opportunity to recycle is provided for all generators of post-consumer waste.</p> <p>The principal purposes (of the Education and Outreach section) are to:</p> <ul style="list-style-type: none"> • Promote recycling opportunities; • Integrate resource conservation concepts into school curriculum and classroom activities; • Directly promote waste prevention.
Regional Solid Waste Management Plan 2008-2018 Update	<ol style="list-style-type: none"> 1. Prevention 2. Reuse 3. Recycle or compost 4. Recover energy 5. Landfill <p>Performance Measure: Recycling</p>	<p>Solid waste management practices will be guided by the following hierarchy:</p> <ol style="list-style-type: none"> 1. Reduce 2. Reuse 3. Recycle or compost 4. Recover energy 5. Landfill <p>The regional recovery rate continues to be the primary benchmark of progress.</p>
Solid Waste and Recycling Department Goals (2004)	<ol style="list-style-type: none"> 1. Toxics Reduction 2. Prevention 3. Recycling 	<p>Goal 1 - Reduce the generation and disposal of hazardous waste.</p> <p>Goal 2 - Expand waste prevention, recycling and recovery.</p> <p>Goal 3 - Raise awareness of waste prevention and recycling opportunities.</p>

Source: Department documents

Also, Metro may need to address the potential conflict between some of its revenue sources and a goal to give a higher priority to waste prevention. Revenues to operate the solid waste disposal system and to fund other services outside of the Solid Waste and Recycling Department are based upon fees and taxes calculated on landfill waste. These funds vary with the amount of tonnage received. If Metro processed less waste at its transfer facilities because of successful waste prevention efforts, funding would decline. Currently, Metro has a reserve fund to stabilize downturns in revenues that support general Metro programs such as the Zoo, Planning, or Regional Parks and a contingency fund in Solid Waste to meet short-term unanticipated losses. However, if revenues begin to decline over the long term, adjustments will be needed.

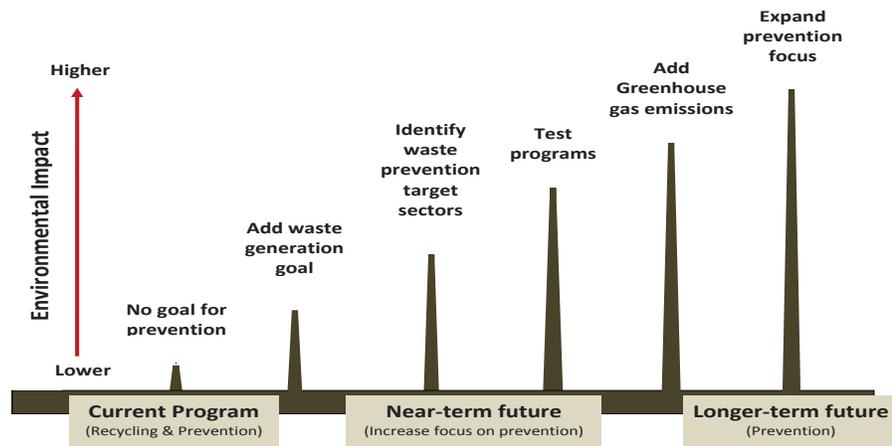
Strategy for waste prevention efforts needed

Metro has several activities underway with the objective of preventing waste, but they are not coordinated as part of a larger waste prevention strategy. Best practices recommend a clear and coordinated strategy that focuses on a limited number of priority materials and/or sectors. Priority areas are typically identified based what will have the largest environmental impact and where the greatest likelihood is of changing behavior.

This is not to say waste prevention should be the only strategy. There are few models of successful waste prevention programs. If it shifts resources to less proven models, the Division will need to evaluate the risks and

potential benefits of new programs and strategies. The diagram below identifies potential steps Metro could take to shift resources to programs with a greater environmental impact while testing new models for cost-effectiveness. By gradually increasing its focus on waste prevention, the Division can better align its programs and performance measures and reduce the risk of using resources ineffectively.

Exhibit 11
Possible steps to shift program focus



Source: Auditor's office analysis

The Division can begin to implement new waste prevention strategies while continuing to work to meet its statutory recovery target. The Division's current programs are a mixture of recycling and prevention programs, yet the only regional target is for waste recovery. The State of Oregon has established statewide targets for waste recovery, waste generation and greenhouse gas emissions. Metro could adopt regional targets for waste generation and greenhouse gas emissions to better align with its programs and established statewide targets.

Testing and evaluating waste prevention programs important

Measuring outcomes and cost effectiveness of waste prevention strategies will be challenging. Total waste generated in the region is a good general measure of progress in preventing waste. However, waste generation is affected by conditions outside of the Division's control. Changes in population, economic conditions, and other variables affect the amount of waste generated. To determine Metro's direct impact on preventing waste, the Division will need additional data sets and program evaluation tools. For example, if plastic bags are being targeted, the Division will need to track over time the amount of plastic bags thrown away. In addition, the Division may need to make greater use of pre- and post-event surveys to evaluate the effectiveness of outreach messages.

Our analysis of program expenditures indicated waste prevention strategies may be more costly. Metro's waste prevention and reuse programs spent almost ten times more per ton than recycling and compost programs. Similarly, expenditures per contact for education and outreach increased for waste prevention programs. For example, in FY07, the cost per contact for the Recycling Information Center, which is focused primarily on recycling and disposal, was \$5.56. In the same year, cost per contact for the Adult Toxic Reduction program, which is focused mainly on waste prevention, was \$25.04.

The higher cost per contact for prevention programs may be due to the method of delivery and the complexity of the message. Prevention programs can require more intensive in-person outreach because they involve introducing concepts that are new to people. Recycling programs have existed for many years. People are familiar with the messages and seek out information about recycling. To strategically allocate resources to meet its goals, the Division should acknowledge and account for this challenge.

Exhibit 12
Expenditure per ton
by strategy

Strategy	Expenditure/ton
Prevention and reuse	\$20.24
Recycling	\$ 2.73
Compost	\$ 2.47

Source: Auditor's Office analysis of 2006 performance and expenditure data

Even with these challenges, it is important for Metro to take a leadership role in waste prevention efforts. DEQ has developed strategies for waste prevention but does not have the resources to implement them. Because the Metro region is a state leader in developing effective recycling and other waste reduction programs, as well as the largest generator of waste in Oregon, it makes sense for Metro to continue to pilot new programs and test waste prevention strategies. Metro has a history of developing innovative planning and transportation programs to test strategies. The Division can build on these examples to test innovative waste prevention strategies.

One way to pilot waste prevention strategies is through grants the Division makes to local governments. Over the last five years, the Division spent about 60% of its non-personnel dollars through grants to local governments and businesses. Intergovernmental agreements with local governments for their waste reduction and Recycle at Work programs include some waste prevention activities; however, the primary focus of these programs is recycling. Once Metro has a waste prevention strategy, elements of this strategy could be included in grant criteria and requirements. This approach was used successfully by DEQ to target additional resources to waste prevention.

Guidance needed to align programs

In April 2008, the Metro Council adopted sustainability as the guiding principle for all Metro policies and programs. There are several different approaches to sustainability. Examples include the Triple Bottom Line, the Natural Step, the Ecological Footprint, and the Sustainable Hierarchy. The first approach emphasizes the need to balance economic, social and ecological goals. The next two focus on measuring and reducing damage to natural assets. The fourth attempts to provide an over arching framework for sustainability. Each approach emphasizes different goals and measures of success.

In 2003, the Metro Council adopted the Natural Step approach to guide the creation of a sustainable business model for Metro. Based on our review of the Waste Reduction and Outreach Division, we found the Natural Step framework has not been successfully integrated into its programs. Metro should determine what approach it will follow because that choice will affect how Metro and the Division sets priorities and measures progress.

Key systems needed to strategically manage

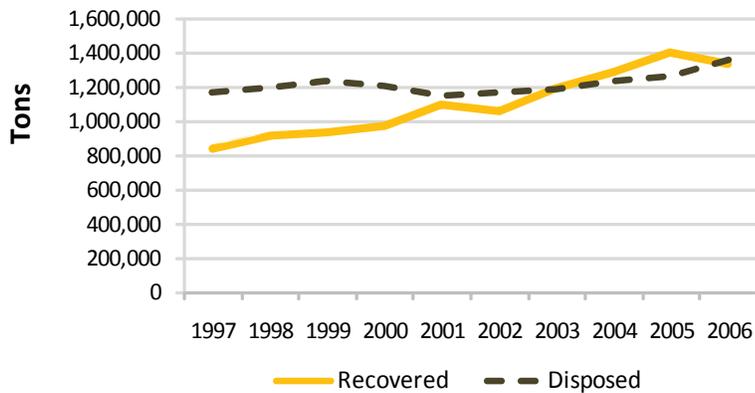
In order to act strategically, an organization needs to be clear about its objectives, have adequate data to make decisions and evaluate progress, and have the skills necessary to manage operations. Metro needs to develop measures for efforts in all areas of the waste hierarchy. Data collection systems that do exist are not providing adequate data and reports are not standardized. This weakens the ability to act strategically. Finally, we found that the Division could improve its organization and skill sets.

Existing measures not sufficient

The Division’s performance measures are not aligned with all of its strategies and don’t provide an accurate representation of its progress. The Division’s measurement is heavily weighted towards recycling. Less emphasis is placed on other goals, such as waste prevention and toxics reduction.

The primary performance measure that guides strategic decision making is the regional recovery rate, which is largely a measure of recycling. While this measures progress towards its statutory goal, it does not provide a full picture of the region’s waste reduction efforts. For example, over the last ten years the amount of waste disposed of in landfills increased by almost 190,000 tons even as the recovery rate increased from 48% to 56%.

Exhibit 13
Tons recycled and disposed 1997-2006



Source: Oregon Department of Environmental Quality

As long as the Division’s success is primarily measured by the rate of recycling, it will be difficult to shift focus to strategies that have a greater impact on waste generation.

Difficult to evaluate effectiveness

The Division has difficulty evaluating program effectiveness. One difficulty is access to timely data. In the Waste Reduction Section, evaluation and strategic decision making for programs is based almost entirely on tonnage data from DEQ. DEQ tonnage data takes more than a year to report and detailed waste composition data isn't finalized for at least two years. This makes it difficult to determine the cost-effectiveness of Waste Reduction programs. The Section has attempted to overcome this barrier by receiving and analyzing raw data prior to DEQ reports being finalized.

During the audit, we found information systems insufficient to accurately report and maintain program data. Reports created by the Recycle at Work database contain errors. The Outreach and Education database has gaps in its data and isn't used consistently by all staff. This forces staff to maintain additional duplicative systems. Because each program maintains its own data, the Division's ability to produce consistent and accurate program data is weakened. Also, if staff members leave, the Division may not be able to maintain consistent data over time.

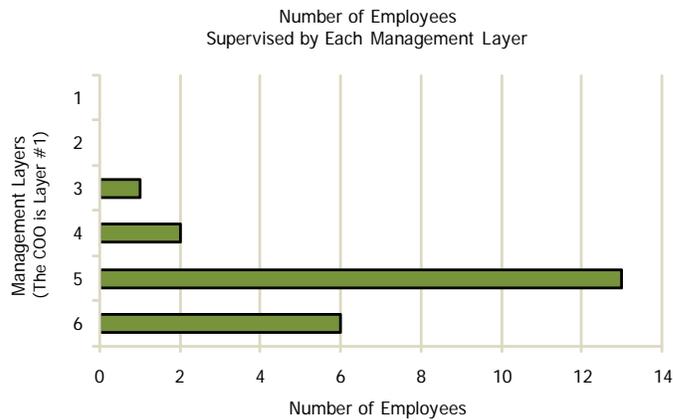
In the Education and Outreach Section, there is no dedicated data analyst position. As a result, program evaluation methods vary between programs. Moreover, it is very difficult to determine the outcomes of many of the waste prevention and toxicity programs. The number of people reached at each event is the standard performance measure published in departmental reports for these programs. The Division should consider additional sources of data to improve program evaluation.

There is also the need for a standardized evaluation and reporting process for the Division's programs. Staff occasionally conduct benefit-cost analyses and write policy papers to evaluate proposed program changes. These reports rely on different methods to estimate environmental impacts and do not compare programs against each other. Establishing clear program evaluation and reporting processes may help the Division make strategic decisions more efficiently. In addition, standardizing these tools will help in comparing programs against each other, and evaluating trends over time.

Organization may present barriers to efficiency and effectiveness

An organization's 'layers of management' are defined as the maximum number of people through which an employee must report in order to reach the chief executive. Prior to the reorganization of Metro, 86% of employees in the Waste Reduction and Outreach Division had five or more layers of management.

Exhibit 14
Layers of management
as of July 2008



Source: Auditor's analysis of organizational structure

Most contemporary management experts recommend a flatter management structure. Organizations with many layers of management tend to have poorer communication between the bottom and top layers, take longer to make service decisions, and have lower employee satisfaction. During the course of our audit, we found indications that the Division has these characteristics. Metro is currently reviewing its organizational structure. Metro may find it can increase the Division's efficiency and effectiveness by reducing management layers.

Assessing staff skills and training was not part of our audit plan. However, during the course of this audit we identified key skills that are important to effective operations:

1. *Contract management.* The Waste Reduction and Outreach Division spends about \$2 million per year through contracts. This amounts to more than 80% of its non-personnel related spending. Staff manage many contracts. Over the five year period from FY03 to FY07, two employees managed more than 100 contracts each. An additional 16 employees managed at least 10 contracts each.
2. *Community-based social marketing.* Community-based social marketing is an approach used to encourage people and businesses to adopt sustainable behaviors. This approach will be used by the Division in its waste prevention efforts. Staff say they apply these concepts in their programs. To ensure community-based social marketing concepts are applied effectively, staff need to have training in this approach.

RECOMMENDATIONS

Recommendations

- 1. In order to align Division activities with the Metro Council's focus on sustainability:**
 - a. The Metro Council should adopt a sustainability framework that will guide how programs and policies should be changed to make sustainability the guiding principle.
 - b. Management should work with the Metro Council to clarify and prioritize recycling and waste prevention activities.
 - c. In the absence of a sustainability framework, the Division should use the waste management hierarchy to prioritize activities with the greatest environmental impact.

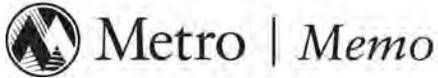
- 2. To improve the effectiveness of waste prevention activities:**
 - a. The Division should prepare a waste prevention strategy outlining priority materials and/or sectors and integrating separate prevention and reuse activities.
 - b. If the Metro Council prioritizes waste prevention, the Division should target additional resources to waste prevention activities and build waste prevention elements into its grants.

- 3. To measure program effectiveness more consistently and completely:**
 - a. The Division should adopt a waste generation goal as a key performance measure.
 - b. The Division should establish performance measures for the Waste Reduction and Education and Outreach Sections that are better aligned with the objectives in the Regional Solid Waste Management Plan.
 - c. The Division should develop a Division-wide data management system that will provide standardized data management and timely reporting.
 - d. The Division should standardize program evaluation tools (e.g. cost-benefit analyses, white papers, pro forma), processes, and procedures to facilitate regular evaluation of fiscal and environmental impacts and inform strategic decision making.
 - e. The Division should increase its capacity to analyze costs and environmental impacts of its programs through staff training or establishing Memorandums of Understanding with departments that have this technical expertise.

4. To promote efficient and effective operations:

- a. Metro management should review Division positions with 5-6 layers of management to identify opportunities to reduce layers of management.
- b. The Division should evaluate staff expertise and training needs in contract management and applying community-based social marketing techniques.

MANAGEMENT RESPONSE



Date: Nov. 4, 2008

To: Suzanne Flynn, Metro Auditor

From: Michael Jordan, Chief Operating Officer
Scott Robinson, Deputy Chief Operating Officer
Jim Desmond, Director, Sustainability Center

Cc: Matt Korot, Program Director, Resource Conservation & Recycling

Re: Waste Reduction & Outreach Audit

This memorandum is management's response to the final audit report transmitted by your office on Oct. 17, 2008. We appreciate receiving your thoughtful input at an opportune time for the Waste Reduction & Outreach programs. The integration of these programs into the new Sustainability Center, the renewed agency-wide emphasis on performance measures, the pending initiation of the Regional Solid Waste Management Plan's (RSWMP) long-term goals development process, and the agency's increasing engagement in actions to address climate change are all elements that create fertile ground for implementing the audit's recommendations.

Overall Comments

The report's primary conclusion is that the Waste Reduction & Outreach programs should place more emphasis, and thus devote more resources, to waste prevention activities relative to those for recycling. The report also points out that program prioritization decisions and allocation of budgetary resources would be even more effective if guided by an overall sustainability framework. We agree with both of these conclusions, believing that waste prevention goals and programs should be priorities, but subsumed within a broader sustainability framework. This approach would help guide Waste Reduction & Outreach programs toward the greatest environmental benefit.

Clarification of Objectives

After reviewing guiding documents such as the RSWMP and Metro program budgets, the report finds that it is unclear whether the Waste Reduction & Outreach program's primary objective is waste prevention or recycling. As a consequence, the report concludes that the program's decisions may lack a "well defined organizational strategy."

We agree that a clearer and more consistent statement of Waste Reduction & Outreach's mission and priorities would be of value. In practice, the program has tried to make strategic decisions and avoid establishing conflicting directions. Its core programs reflect the priorities set forth in the RSWMP and implemented through work plans that include waste prevention and toxics reduction elements. We

agree, though, that better integration of our strategies, and linking them to goals, are critically important.

A key step in that direction is the long-term goals project identified in the RSWMP. It calls for moving beyond using the number of tons recycled and disposed as the primary measuring tool, and for Metro to develop goals that meet the Plan's vision of sustainable resource use. These goals could include reducing greenhouse gases, product toxicity and waste generation. Staff has begun initial scoping work on this long-term goals project in consultation with members of Metro's Strategy Center.

Data Management & Analysis

The report found that the Waste Reduction & Outreach program's information systems are insufficient to accurately report and maintain program data, specifically noting that the use of different systems by different program staff may hinder the program's overall ability to produce consistent and accurate program data. We recognize that there are some inconsistencies and are committed to working to align the data tracking methods to the greatest degree possible.

The report points out that it is difficult to determine the outcomes of many of the waste prevention and toxicity programs, noting that the number of people reached at each event is the standard performance measure published in departmental reports for these programs. This may point more to reporting deficiencies than methodological ones. These programs rely on a number of ways to measure outcomes, including participant surveys, focus groups, as well as participant numbers. We will commit to evaluating what would be the best measures of outcomes for any particular project, and to fully reporting on these measures and outcomes.

Response to Recommendations in the Auditor's Report

The following summarizes the Sustainability Center's response to the specific recommendations in the Auditor's Report.

Recommendation 1:

In order to align Division activities with the Metro Council's focus on sustainability:

- a. The Metro Council should adopt a sustainability framework that will guide how programs and policies should be changed to make sustainability the guiding principal.

Response:

This recommendation is directed to the Metro Council. The Sustainability Center could provide the Council with information on how its activities would fit within such a framework.

- b. Management should work with the Metro Council to clarify and prioritize recycling and waste prevention activities.

Response:

We agree and will work with Metro Council to address this recommendation through review of new goals identified through the RSWMP's long-term goals process, the annual budgeting process, and the establishment of performance measures.

- c. In the absence of a sustainability framework, the Division should use the waste management hierarchy to prioritize activities with the greatest environmental impact.

Response:

Even in the absence of a unifying, agency-wide sustainability framework, it is clear to us that sustainability is a core element of Metro's strategic direction. Accordingly, Waste Reduction & Outreach programs will focus on achieving the greatest environmental impact, with the waste management hierarchy helping to guide our evaluation of program options.

Recommendation 2:

To improve the effectiveness of waste prevention activities:

- a. The Division should prepare a waste prevention strategy outlining priority materials and/or sectors and integrating separate prevention and reuse activities.

Response:

We will work to integrate the various waste prevention strategies that are currently part of our programs into an overall integrated strategy.

- b. If the Metro Council prioritizes waste prevention, the Division should target additional resources to waste prevention activities and build waste prevention elements into its grants.

Response:

We concur that the Waste Reduction & Outreach program's budgetary resources and priorities should reflect its strategic priorities.

Recommendation 3:

To measure program effectiveness more consistently and completely:

- a. The Division should adopt a waste generation goal as a key performance measure.

Response:

We concur with the value of a waste generation goal as a key performance measure. We would like to do additional analytical work, in collaboration with the Oregon DEQ, to establish a goal that can be linked to waste prevention efforts, rather than to external forces. The Waste Reduction & Outreach program's past and current waste prevention work is, however, implicitly directed at helping contribute to meeting the State's statutory goals of no annual increase in per capita municipal solid waste generation and, ultimately, no annual increase in total municipal solid waste generation.

- b. The Division should establish performance measures for the Waste Reduction and Education and Outreach sections that are better aligned with the objectives in the Regional Solid Waste Management Plan.

Response:

Agreed.

- c. The Division should develop a Division-wide data management system that will provide standardized data management and timely reporting.

Response:

We agree with this recommendation as an objective. We will assess the feasibility of developing and using such a system, informed by Agency-wide efforts to achieve consistency in data management.

- d. The Division should standardize program evaluation tools (e.g. cost-benefit analyses, white papers, pro forma), processes, and procedures to facilitate regular evaluation of fiscal and environmental impacts and inform strategic decision making.

Response:

The Waste Reduction & Outreach program will work with the Deputy Chief Operating Officer and the Strategy Center to standardize these evaluation tools with those used elsewhere in the Agency.

- e. The Division should increase its capacity to analyze costs and environmental impacts of its programs through staff training or establishing Memorandums of Understanding (MOU) with departments that have this technical expertise.

Response:

We are committed to strengthening the capacity to do these types of analysis in the Sustainability Center, the Research Center, Finance and Administrative Services and, in fact, agency-wide. Building core skills and consistently using best practices are key goals of the Sustainable Metro Initiative (SMI) and the agency is now organized to better allow for this work to be done collaboratively.

Staff is also actively collaborating with Oregon DEQ and others to develop improved models for measuring the environmental impacts of waste prevention and recycling programs.

Recommendation 4:

To promote efficient and effective operations:

- a. Metro management should review Division positions with 5-6 layers of management to identify opportunities to reduce layers of management.

Response:

This was addressed through the Sustainable Metro Initiative.

- b. The Division should evaluate staff expertise and training needs in contract management and applying community-based social marketing techniques.

Response:

This evaluative work will be strengthened as a result of the Sustainable Metro Initiative's focus on improving management practices (e.g., contract management) and organizationally integrating like functions (e.g., solid waste and parks social marketing techniques).



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