

Waste Prevention and Recycling Plan

*A Workplan for
Reducing Solid Waste
from Multnomah County
Government Operations*



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I. Executive Summary

Multnomah County government, located in the Portland Metro region of Oregon, employs approximately 4,500 people at 85 work sites and provides community services including libraries, public health, human services, and corrections. The county government facilities within Portland alone generated approximately 1,524 tons of solid waste in 2006¹. County facilities have recycling programs in place for common materials such as mixed paper, and 38% of the total solid waste generated is diverted for recycling². Multnomah County's adopted goals for sustainability and a resolution adopted in 2005 called for the preparation of a Waste Prevention and Recycling Plan (Plan) for County Facilities³. This Plan will help county government meet the goal adopted by this resolution; **to divert a minimum of 50% of total solid waste generated by weight to recycling and reach a 65% recycling recovery rate by 2010**. In order to meet these goals, Multnomah County's Departments need to be empowered to participate and select actions that are appropriate for them.

While waste disposal is a problem, the environmental impacts of producing the goods that eventually become waste are many times larger than the environmental impacts of the waste itself. For most manufactured goods, the real environmental benefit of recycling is not that it diverts materials from landfills, but rather that it displaces the use of new resources in industrial production. Ton-for-ton, waste prevention is even better for the environment than recycling is⁴. In other words, the most sustainable option is not to just keep stuff out of the landfill, but to use less stuff in the first place. And while preventing waste may not be the core mission of Multnomah County, it is part of supporting a sustainable community and providing community services while being accountable for the waste generated to provide those services. Waste prevention models in local government are working in places like Kitsap County, Washington and Kalamazoo County, Michigan. Other local governments have adopted longer-term "Zero Waste" goals, including the City & County of San Francisco.

Supported by a grant from Oregon Department of Environmental Quality (DEQ), the Multnomah County Sustainability Program worked with Portland State University's Community Environmental Services to develop the following Plan. Information was gathered from four "waste sorts" conducted at county facilities to determine typical composition of solid waste. Additionally, employees from all county departments were consulted and asked to identify and prioritize actions to prevent waste and increase recycling in their own departments' operations.

Recommended actions in this Plan include: Expansion of employee education on recycling and waste prevention; reduction of packaging waste, excessive paper use; proper recycling for waste materials including office furniture and electronic equipment; and promotion of "Waste Free Lunches", reusable office supplies; and compost of food waste. Waste reduction actions selected for this Plan fall into two primary categories: those that are countywide and affect all departments and those that are discrete actions selected by departments for their own implementation. The following pages identify these actions and outline how Multnomah County can integrate them into daily county operations.

Multnomah County departments have three years to implement this action Plan, from 2007 until 2010.

Assistance and free resources are available to departments throughout that time, and extra assistance will be available during the first six months after the Plan is adopted to help departments one-on-one. By adopting this Plan, Multnomah County formalizes its commitment to waste reduction from local government facilities, and also helps support the long-term waste reduction goals of the Portland Metro region.

Many thanks to the county employees who contributed their input to the following plan.

¹ Total waste generation (trash disposed plus materials recycled) hauled from county facilities within Portland.

² The Oregon Department of Environmental Quality (DEQ) defines "waste generation" as the sum of all solid waste discards, which includes waste disposed plus materials recovered for recycling. www.deq.state.or.us/lq/pubs/docs/sw/2005MRWGRatesReport.pdf

³ Multnomah County Resolution 05-102, "Setting Recycling Goals and Directing Preparation of a Waste Prevention and Recycling Plan for County Facilities".

⁴ Oregon DEQ, Waste Prevention and Reduction website. www.deq.state.or.us/lq/sw/wasteprevention/index.htm.

II. Waste Reduction & Recycling Plan

Why Waste Prevention?

Even though the Portland Metro region has one of the best recycling participation rates in the country, solid waste generation is on the rise. Every day, the average American discards about four pounds of solid waste⁵. And recycling, with its economic and environmental benefits, still requires energy and financial resources. That's why the old adage of "reduce, reuse, and recycle" has merit even now. According to the U.S. EPA, waste prevention methods create less waste in the first place—before recycling.⁶

Additionally, the state of Oregon's policy recognizes recycling as preferable to disposal, but prevention and reuse as preferable to recycling. It also explains why the state has two sets of waste reduction goals: first to reduce waste generation (*all* discards, including recycling) and second to divert more discards to recycling.⁷

It is assumed that Multnomah County will do its best to prevent and reduce waste, with the understanding that many county facilities are open to the public and that some of the waste generated at these locations cannot be controlled. In these cases, departments should make a good faith effort to provide recycling collection points for recovery of recyclable material, such as magazines and newspapers from waiting rooms.

This Plan below consists of actions which were selected by employees at Multnomah County departments. These employees were asked to list the waste materials generated in their own department's operations, identify possible ways to prevent or reduce that waste, then prioritize which actions to include in this action plan. These suggestions were then grouped into similar categories and collated into the following list of countywide and departmental actions.

PART A: Countywide Actions - All Departments

The following four actions affect all county departments, and therefore will be implemented for all county government operations. Since many of these actions entail providing education for county employees on recycling and waste prevention, the timeframe for completion of these actions is set within 2007. Education for 4,500 county employees will go a long way toward building a culture that wastes less at work.

Action 1. Education on Recycling System

Problem: County employees lack basic information is lacking on what materials can be recycled at county facilities, how to properly sort materials for collection, and where to find additional materials or assistance.

Solution: Make information easily available to all county employees on what can be recycled, and how to obtain updated recycling collection receptacles and signage.

Action: **Sustainability Program to post recycling information on the "Multnomah County Recycles" MINT intranet webpage, and set in place procedure for fulfilling requests for new recycling collection materials, posters, and labels. All departments to identify when mini-trainings on "Recycling 101" for staff meetings could be hosted, and provide information on basic recycling and waste prevention to all new employees. Departments to encourage all employees to participate in recycling program at their work sites.**

Timeframe: Begin in March, 2007



⁵ U.S. EPA waste prevention website. www.epa.gov/epaoswer/non-hw/reduce/prevent.htm

⁶ U.S. EPA, WasteWise program website. www.epa.gov/wastewise/wrr/prevent.htm

⁷ Oregon DEQ, Waste Prevention and Reduction website. www.deq.state.or.us/lq/sw/wasteprevention/index.htm

Action 2. Waste Prevention Training

- Problem:** Employees lack knowledge about how to use waste prevention techniques at work.
- Solution:** Provide basic training for county employees on waste prevention techniques.
- Action:** **Sustainability Program to create waste prevention training primer (such as a short PowerPoint presentation) that all employees can view on the MINT intranet, at staff meetings, or posted on employee bulletin boards. Include five to 10 easy techniques that everyone can use in their day-to-day work. Departments should make information accessible to employees who rarely work at computer stations. Provide a train-the-trainer session for department representatives who can spread the word at their departments' worksites. Add incentives (such as small prizes) for employees who make a personal commitment to waste less.**
- Timeframe:** Begin in April, 2007

Action 3. "Waste Free Lunch" Campaign

- Problem:** The presence of disposable food containers, coffee cups, and plastic bags in the trash were identified by all departments. Significant volumes of disposable coffee cups are also found in county facilities. While the amount of waste generated by county employees at lunch is not known, significant clues were found in the waste sorts. The environmental impact of producing and shipping packaging used for lunches is many times larger than disposing the waste itself.
- Solution:** Provide incentives to behavior change through a lunch waste reduction campaign. Aim to significantly decrease the number of to-go food containers, plastic bags, and coffee cups generated.
- Action:** **Sustainability Program to develop and sponsor a "Waste Free Lunch" campaign for county employees, including information on how to prevent waste from packed lunches, and coffee vendors. Host Waste Prevention Fairs at largest county facilities, open to county employees during lunch. Departments to encourage all employees to reduce their lunch waste. Departments with high employee presence in downtown or near coffee shops should promote employees' use of reusable travel mugs to integrate this practice into the culture of the organization.**
- Timeframe:** Begin in May, 2007

Action 4. Packaging Waste Reduction

- Problem:** Packaging from products bought by county departments is often excessive and/or unrecyclable. According to Oregon DEQ, packaging comprises an estimated 20 – 30% of household and business waste in Oregon.⁸ The manufacture, transportation, and disposal of packaging all have the potential to impact the environment.
- Solution:** Reduce packaging from outside vendors through establishment of preference for reduced, reusable, or recyclable packaging in contract purchasing language.
- Action:** **CPCA (Central Contracts & Procurement Administration) to collaborate with Central Stores and Sustainability to establish effective procurement language that will facilitate reduced, reusable, or recyclable packaging when purchasing products. Priority should be given to reduced packaging, like packaging that can be reused by the distributor.**
- Timeframe:** July – December 2007

⁸ Oregon Department of Environmental Quality, Solid Waste and Packaging website, www.deq.state.or.us/lq/sw/packaging/index.htm.

PART B: Departmental Actions

The following actions were selected by departments as methods to prevent, reduce, or recycle waste. The timeframe for completion of these actions is 2007 – 1010. The actions listed below are organized by the number of departments willing to undertake the action, or the impact the action could have on preventing waste.

Action 5. Compost Food Waste

Problem: All departments identified food waste as a regular component of their daily waste stream, primarily from staff lunches. However, correctional facilities with large institutional kitchens generate so much food waste that it comprises nearly half of their facility's total garbage by weight. Combined, all three county detention centers generate approximately 88 tons of pre-consumer food waste annually from their kitchens⁹.

Solution: Focus on diversion of food waste from large institutional kitchens to an organics collection and offsite commercial compost facility.

Action: **Sheriff's Office and Department of Community Justice to implement a compost collection program for correctional facilities, where the generation of food prep and post-consumer food waste is greatest. Utilize the *Portland Composts!* collection program managed by the City of Portland and Metro. Aim to divert a minimum of 75% of pre-consumer food waste.**

Departments: Sheriff, DCJ

Action 6. Eliminate Extra and Unused Paper Copies

Problem: Paper waste from excessive numbers of outdated forms, extra meeting agendas, and extra printed reports was identified by multiple departments as a significant generator of paper waste, some of which goes directly into recycling without being used.

Solution: Provide education on paper use reduction to employees as a departmental priority, and remind employees of county's Policy on Paper and Paper Use (Resolution 03-092).

Action: **Department leadership to communicate to employees the importance of efficient paper use, providing tips on ways this can be accomplished. Examples include not printing meeting agendas, printing smaller, more frequent batches of forms, and sharing reports electronically instead of printing hard copies.**

Departments: DCM, DCS, Health, Sheriff, DCHS, Non-Departmental

Action 7. Reduce Reliance on Paper Forms

Problem: Most county departments rely heavily on paper forms to conduct regular business. These paper-based processes tend to be inefficient and create repetitive actions. Many forms support the needs of external customers (such as pet license renewal forms) and others support employee processes (like timesheets and training approval forms). The need for a written signature is often given as a reason that paper-based forms are still used.

Solution: Reduce reliance on paper-based forms by transitioning to electronic forms wherever possible.

Action: **Department of County Management, Finance Division, to investigate potential to create electronic signature capability and/or automated approval processes for internal forms that require a signature. Departments to identify which paper-based forms could be made**

⁹ Food waste data from waste sorts conducted at three county correctional facilities: Inverness Jail, Detention Center, and Juvenile Justice Center. One sort was completed in 2002 and two sorts completed in 2006.

electronic, as well as to encourage software improvements that reduce departments' reliance on paper forms wherever possible. Examples include timesheets, accident reports, pet license renewals, and training approval.

Departments: DCJ, DCM, DCS, Sheriff, DCHS, DA, Health, Non-Departmental

Action 8. Promote Reusable Office Supplies

Problem: Many departments reported ordering an abundance of disposable office supplies such as ink pens, binders, file folders and sticky notes. This sometimes results in employees taking more than they need.

Solution: Promote reuse and reduction of office supplies, specifically: pens, binders, file folders, and sticky notes.

Action: **Departments to set up a reuse area in supply rooms in county offices and promote conservative, waste-minimizing supply purchasing behavior among those who place orders. Remind employees of availability of reusable supplies available from Central Stores, such as refillable pens.**

Departments: DCJ, DCM, DCHS, Health, Library, Non-Departmental

Action 9. Eliminate Junk Mail

Problem: Many departments are inundated with junk mail, faxes, and periodicals. Paper resource extraction, production, and shipping cause significantly more negative environmental consequences than simply disposing of paper in a landfill and not recycling it into other paper products.

Solution: Reduce wasted paper from incoming periodicals, including newspapers, magazines, trade publications, and catalogs. All county offices and worksites can utilize the free Junk Mail Kit provided by Metro to request removal of an address from the mailing list.

Action: **Sustainability Program to obtain and distribute free Junk Mail Kits to County offices via Facilities Property Managers.**

Departments: DCJ, DCM, DCS, Library, Sheriff, DCHS, DA, Health, Non-Departmental

Action 10. Reuse, Responsibly Recycle all Electronic Waste (E-Waste)

Problem: Electronic waste (including computers, printers, monitors, fax machines, compact discs, and cell phones) are a growing part of the solid waste stream and some components are hazardous to the environment and human health. As technology continues to advance, electronic equipment quickly becomes outdated and some items are inadvertently discarded as trash.

Solution: Only purchase equipment when necessary, update equipment that is usable, and recycle all of it through environmentally and socially responsible recycling vendors.¹⁰

Action: **Promote electronics recycling programs available through IT and Central Stores. Encourage all employees responsible for disposition of electronics in their work units to utilize these electronics recycling programs.**

Departments: DCJ, DCM, Sheriff, Health, Library

¹⁰ Best practices for E-waste recycling include worker safety precautions. For example, many electronics recyclers follow the Basel Action Network's Pledge of True Stewardship. www.ban.org/pledge/electronics_recycler_pledge.pdf

Action 11. Recycle Alkaline Batteries, Promote Rechargeable Batteries

Problem: Multnomah County departments use roughly 32,000 disposable alkaline batteries every year (based on Central Stores sales records). This results in approximately 2,500 pounds of battery waste annually.

Solution: Recycle alkaline batteries, and increase use and subsequent recycling of rechargeable batteries.

Action: **Expand recycling collection for used alkaline batteries to all departments, and encourage use (and recycling) of rechargeable batteries by promotion of available products from Central Stores.**

Departments: DCM, Library, Sheriff, DCHS, DA, Health

Action 12. Discourage Printing of E-mail

Problem: At one department in particular, printing of e-mail communications by employees to the point of excess is noted to be a part of department culture.

Solution: File email electronically, instead of printing hard copies.

Action: **Communicate to department employees the importance of not printing email and follow-through with tips on how to save emails electronically in a trustworthy archive file on employees' computers or network.**

Departments: DCHS

Action 13. Promote Double-Sided Printing

Problem: While most of the county's copy machines have been set to duplex as their default setting, network printers' default is to print on one side, and some printers don't have the ability to duplex print at all.

Solution: Promote duplex printing for documents printed on duplex-capable network printers, and give employees ability and know-how to change print settings to reset their default to duplex.

Action: **Departments to encourage all employees to print documents on both sides by managing their own printer settings wherever these are accessible. Employees who order new printers should be sure to order duplex-capable printers when old network printers are due for replacement. IT Division should help employees to set the default setting to duplex print when setting up new network printers capable of duplexing.**

Departments: Library, DCHS, DCM (IT Division)

Action 14. Reduce, Reuse, and Recycle Plastics

Problem: Disposable plastic waste is ubiquitous in county government operations, and includes packaging, shrink-wrap, polystyrene, plastic tubs, and trash can liners. Plastics other than #1 (polyethylene terephthalate or PET) and #2 (high-density polyethylene or HDPE) plastic bottles with a neck are recyclable, but not through the regular curbside pickup program.

Solution: Reduce plastic packaging wherever possible. Then increase recycling options for wastes.

Action: **Multnomah County Waste Reduction Team to explore reduction or reuse opportunities for plastic products listed above. At a minimum, establish special recycling collections for #4 (low-density polyethylene) and #5 (polypropylene) plastics at facilities where these waste materials are generated in significant quantities.**

Departments: DCJ, Sheriff, DCHS

Action 15. Reuse or Recycle Old Office Furniture

Problem: Surplus or old furniture from office moves and changes is either stored indefinitely in premium storage space, or disposed in the trash as employees don't know of any reuse or recycling options. Even with Administrative Procedure FIN-13 (Sales, Donations & Disposal of County Personal Surplus Property), furniture waste continues to be a problem.

Solution: Utilize existing reuse and recycling options for old office furniture.

Action: **Educate county office managers about the website for internal office furniture redistribution and countywide contract for surplus furniture disposition (reuse/recycling). Departments could also create a distribution list of local non profit organizations that could use the furniture, in accordance with FIN-13.**

Departments: Sheriff, DCHS, DA

Action 16. Buy Remanufactured Toner, Recycle Toner Cartridges

Problem: Although few departments reported issues concerning printer toner and ink cartridges, the opportunity exists to expand education on the recyclability of these items. They are occasionally appearing in the garbage.

Solution: Buy remanufactured ink and toner cartridges from Central Stores, and recycle all used cartridges.

Action: **Remind employees of the printer cartridge recycling program available through Central Stores. Also remind them of the ability to purchase remanufactured toner cartridges through Central Stores.**

Departments: DCHS, Health

III. Implementation

Timetable for Completion

Multnomah County departments have three full years to implement actions in this Plan, from 2007 until 2010. By July 2007, departments should identify which actions will be taken over the course of the next three years in order to complete actions by 2010. Departments are encouraged to choose interim benchmarks for completion of these actions that result in completion of high priority actions in 2007, medium-priority actions in 2008, and lower-priority actions in 2009. By 2010, actions should be completed by all departments.

Free Assistance Available

Assistance and free resources are available to departments throughout the three-year implementation period, including leadership and assistance from the Multnomah County Sustainability Program, Facilities & Property Management, and the county's Waste Reduction Team, an interdepartmental team that meets monthly to track progress and troubleshoot solutions to support the County's recycling program. In addition, extra assistance will be available during the first six months after the Plan is adopted to help departments one-on-one. This support includes technical assistance from PSU's Community Environmental Services team.

Encourage Employee Participation

Since so much assistance is available to departments in accomplishing these waste reduction goals, minimal staff time should be needed. However, departments should encourage employees who have knowledge, experience, or enthusiasm in the area of waste prevention and recycling to assist with implementing these actions at their worksites.

Inter-Departmental Cooperation

Even though departments selected actions most appropriate for them, in fact many of these actions could be applicable to all county departments. All departments are welcome to participate or support other department's efforts as a way to build partnership between Multnomah County departments, and to reduce duplication of efforts.

Measure Progress

Progress will be measured using data collected through Multnomah County's garbage and recycling vendors. Initial progress in 2007 will be measured by comparing the weight of Multnomah County's waste and recyclables over a six-month period to a six-month baseline period from 2005. During the time of this six-month baseline, Multnomah County facilities had an average recycling recovery rate of 38% (weight of recycled materials divided by total waste generated).

Report on Progress

As is outlined in Resolution 05-102, subsequent reports on progress toward adopted goals will be given annually to the Board, prepared by Facilities Management in cooperation with the Sustainability Program and Departments. The report should include a summary of materials disposed and recycled at county facilities, recycling rates for all facilities as well as a countywide average, generation of waste per employee, costs of waste disposal and recycling, and documentation regarding recycled content of purchased goods. A final report on progress toward the goals of this Waste Prevention & Recycling Plan will be prepared in 2010.

IV. Appendix

Appendix A: Acronyms for county departments

Appendix B: Waste material focus areas & actions by department

Appendix C: Waste sort findings

Appendix A: Acronyms for Multnomah County Departments

DCJ	Department of Community Justice
DCM	Department of County Management
DCS	Department of Community Services
Library	Library Department
Sheriff	Sheriff's Office
DCHS	Department of County Human Services (includes School & Community Partnerships)
DA	District Attorney's Office
Health	Health Department
Non-Departmental	Not affiliated with a department: includes elected officials, county attorney, public affairs

Appendix B: Waste Material Focus Areas & Actions by Department

The following table summarizes waste material focus areas identified by county employees. Waste materials voluntarily identified by employees are listed below and correlating actions to prevent or reduce this waste are presented in the section *Waste Reduction & Recycling Plan*.

WASTE MATERIAL DEPARTMENTS CONCERNED

	DCJ	DCM	DCS	Library	Sheriff	DCHS	DA	Health	Non-Dep
Countywide Actions									
1. Recycling Education	<i>All departments</i>								
2. Waste Prevention Training	<i>All departments</i>								
3. Waste Free Lunch Campaign	<i>All departments</i>								
4. Packaging Waste Reduction	<i>All departments</i>								
5. Departmental Actions									
6. Food Waste	X				X				
7. Paper: Extra & Unused Copies		X	X		X	X			X
8. Paper: Forms	X	X	X		X	X	X	X	X
9. Office Supplies	X	X		X		X		X	X
10. Paper: Junk Mail	X	X	X	X	X	X	X	X	X
11. E-Waste	X				X			X	
12. Alkaline Batteries		X		X	X	X	X	X	
13. Paper: Printed Emails						X			
14. Paper: Double-sided printing				X		X			
15. Plastics	X				X	X			
16. Office Furniture					X	X	X		
17. Printer Cartridges						X		X	

Appendix C: Waste Sort Findings

In the spring of 2006, solid waste evaluations of four Multnomah County facilities were completed: Inverness Jail, the Multnomah County Courthouse, Mead Building, and Juvenile Justice Center. The evaluations were completed by PSU's Community Environmental Services. These locations were chosen due to their large size, as well as their representation of different types of county facilities.

The assessments were based on random samples pulled from the facilities' collected waste. The samples were then sorted into categories and then weighed. The following summarizes some of the findings.

Compostable Food & Fibers: This category represents the most significant opportunity for diversion of waste. Compostable food and fibers (such as waxed cardboard from frozen foods) made up 45% of the waste sample at one correctional facility. This category included pre-consumer food waste (kitchen prep), post-consumer food waste (plate scrapings), and compostable fibers (such as waxed cardboard, napkins, milk cartons, paper cups, and paper plates). This waste could be composted through the *Portland Composts!* program. (See top photo at right.)



Paper Towels: Paper towels, which are used in significant quantities at Multnomah County facilities. Future work on preventing this waste wherever alternatives are possible could dramatically reduce waste from office buildings especially. Multifold paper towels are primarily used in bathrooms and employee break rooms. For context, Multnomah County used 8,686 cases of multifold paper towels (nearly 34.8 million individual towels) in 2006¹¹.



Cups & Sporks: Waxed paper coffee cups were observed at such significantly high levels that they were weighed separately. These comprise nearly 5% of the building waste by weight at some downtown facilities. Styrofoam cups and plastic sporks comprise nearly 1.6% of correctional facility waste, despite their light weight, due to the large quantity in which they are used for food service. (See second photo at right).



Non-Recyclable Lunch Containers: Many county facilities that have access to take-out lunch vendors tend to have large quantities of non-recyclable food packaging waste. Despite the local ban on Styrofoam (#6 expanded polystyrene) to-go containers, many of the clear "clamshell" containers used now are ironically made from the same type of plastic (#6 styrene). (See third photo at right).

Plastic Film (bags): Film plastics included clear bags from clothing packaging, plastic bread bags and garbage bags. Some of this plastic is easily recyclable. As for trash can liners, repeated examples of "bags of bags" were found. These appeared to be can liners from daily janitorial collection of desk-side and other office waste containers. (See bottom photo at right.)



Mixed Papers: On average, 11% of the waste found at the four facilities sorted was mixed paper. Much of the mixed paper material observed was white office paper and newspaper, two easily recyclable materials.

To obtain the full text of the four waste sort reports from 2006, please email recyclinginfo@co.multnomah.or.us.

¹¹ Multifold paper towel usage based on Central Stores warehouse sales records from 2006 for internal county customer orders.