

2006

Solid Waste Division **Annual Report**



King County

Department of
Natural Resources and Parks

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this material in alternate formats
contact the **King County Solid
Waste Division**

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Letter from the Division Director

2006 was a year of planning and preparation for the future of the solid waste system. All roads forward for the Solid Waste Division lead to the most substantial changes we have made to our system's infrastructure and operations since the 1950s to 1960s. The primary drivers are the expected closure of the Cedar Hills Regional Landfill in 2016 and the need to modernize our transfer stations to accommodate a growing population and respond to industry changes.

To prepare for this sweeping transition, we have been working closely with our employees, the Solid Waste Advisory Committee, the Metropolitan Solid Waste Management Advisory Committee, and other stakeholders to plan and evaluate all aspects of our facilities and programs. In collaboration with the cities and advisory committees, the division prepared a series of milestone reports to evaluate the solid waste transfer and waste export system.

After looking closely at the existing transfer station network and assessing ways to ensure we provide the most efficient service to county residents both now and in the future, a final report was submitted to the King County Council with a number of recommendations to guide our future work programs, one of which is to modernize our transfer station network. This work has already begun with the rebuilding of the First Northeast transfer station in Shoreline, expected to reopen in 2007.

Closing the landfill will affect all facets of our operation. Division financial studies show it is more costly on a per ton basis to export its solid waste than to dispose of it at the Cedar Hills landfill. Therefore,

it will be of paramount importance that our waste prevention and recycling programs are as effective as possible in reducing the amount of waste we throw away. The less material we dispose as garbage, the less we have to export for disposal – which will keep costs to ratepayers as low as possible. This past year, the division's Recycling and Environmental Services section has launched a number of wide-reaching campaigns to educate and maintain public awareness about the importance of recycling and resource conservation.

Over the last few years, we have implemented several employee suggestions aimed at extending the life of the landfill by making changes in operational practices. Combined with increases in waste prevention and recycling and the natural settling of the landfill, our efforts appear to be successful. The division's projection of when the landfill will reach its permitted capacity and close has changed from 2012, projected in 2004, to 2016 – extending the life of this valuable asset.

This annual report highlights the strides we've made in preparing for the future of the solid waste system. Most importantly, we have successfully engaged the cities and other stakeholders early in the planning process to build regional consensus on the path ahead. We look forward to continuing with this process as we shape the future of the solid waste system in the region.

Theresa Finnings





Waste Prevention and Recycling

The Solid Waste Division has an overarching policy to work toward zero waste of resources in all of its waste prevention and recycling programs. This means that materials with value will not be discarded as waste, but rather managed as a resource to be recycled back into the economy. The division estimates that more than half of the materials currently disposed have economic value. Thus, one of the division's primary goals is to focus on removing these materials from the waste stream.



Recycle More, It's Easy to Do Campaign

In 2006, the division kicked off a recycling education campaign to teach residents how to make recycling more convenient and to recycle more. Through advertising, the division is reaching out to families who know what and how to recycle, but often don't recycle because it's inconvenient. The ad campaign offers some simple ways to make recycling easier.

In addition, in 2006 the division identified a number of multi-family complexes and businesses, such as hotels and large retail stores, for one-on-one assistance to study what they currently recycle and how they might recycle more. Realizing that a one-size-fits-all approach to recycling is not feasible, the division will use the findings to compile case studies that can be used by businesses and multi-family building managers to increase recycling.

Food Waste and Food-Soiled Paper Programs and Pilots

Food waste and food-soiled paper still make up about one quarter of the waste disposed. Properly managed, these materials can be turned into valuable compost. For several years, the division has promoted curbside collection of food waste and food-soiled paper along with yard waste. Through the division's combined efforts with the cities and collection companies, in 2006 more than 60 percent of the county's single-family residential customers have the new service available.

The division recently concluded a two-year pilot project for the collection of commercial food waste and food-soiled paper from small- and medium-sized

businesses. As a result, two cities plan to offer full-scale collection programs in early 2007. The division continues to work with the cities to target these commodities. The division is also studying methods for recovering edible food from commercial customers to support food rescue organizations in the county.

Residential Curbside Recycling

The recycling rate among single-family residents of King County was up 2 percent from 2005. In 2006, residents recycled 53 percent of their discarded materials. This increase in recycling is primarily attributable to the expansion of food waste recycling programs, the effectiveness of the Recycle More, It's Easy to Do education campaign, and other educational efforts by the cities and collection companies.

Recycling Guidelines

When in doubt, throw it out. Contamination increases the cost of recycling.
Empty all recyclables out of bags and boxes into your recycling container.

<p>Yes, put in recycling:</p> <ul style="list-style-type: none"> Flattened cardboard Clean paper Newspaper Magazines & catalogs Mail (<i>Window envelopes ok</i>) Paper egg cartons Phone books, paperbacks Milk cartons Juice boxes Frozen food boxes Laundry detergent jugs & bottles Plastic jugs, bottles, jugs (<i>No caps or lids</i>) Plastic dairy tubs (<i>yogurt, etc.</i>) <i>No lids</i> Glass bottles & jars (<i>clean, no caps or lids, labels OK</i>) Aluminum & tin cans (<i>clean, no lids, labels OK</i>) Scrap metal (<i>pans, tools, etc.</i>) <i>Limit 2'x2'x2'; 35 lbs</i> 	<p>Not accepted:</p> <ul style="list-style-type: none"> Produce boxes Food residue or food soiled paper Caps or lids Styrofoam blocks Styrofoam peanuts (<i>Take to mailing house.</i>) Paper towels, plates, napkins Tissues or toilet paper Disposable diapers or rags Shredded paper Plastic or styrofoam take-out containers Plastic trays (<i>bakery, meat, etc.</i>) Plastic cups, plates, utensils Film canisters or prescription vials Plastic food wrap Plastic bags (<i>Reuse or recycle at grocery store.</i>) Plastic packaging Plastic plant containers Toxic containers (<i>oil, pesticide, etc.</i>) Ceramics, dishes Light bulbs, mirrors, windows Aluminum foil or foil trays Aerosol cans Hangers Sharp or greasy scrap metal Knives, scissors Needles or syringes
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For information about disposing of household hazardous materials call the Household Hazard line at **206-296-4692**

For more information or to request this material in alternate formats contact:
King County Solid Waste Division:
 206-296-4466, 1-800-325-6165, ext. 6-4466,
 TTY Relay: 711, www.metrokc.gov/dnrp/swd

King County
Department of
Natural Resources and Parks
Solid Waste Division

Printed on recycled paper - 11/06

Multi-family curbside magnets were produced in English, Spanish, Russian, Korean, and Chinese.

Wood Markets Project

In 2006, the division's Wood Markets Project planning team, which includes recycling, field operations, and engineering staff, developed a recommended strategy to increase the recycling of urban wood waste – wood from construction and demolition, pallets, crates, and other sources – generated in King County.

The Urban Wood Strategy consists of 17 short-, medium-, and long-term approaches to improving urban wood recycling, each of which addresses a stage in the supply chain: supply, processing, or markets. In September, implementation began on several of the approaches – in particular, those that will help inform and guide solid waste planning. The Urban Wood Strategy will be implemented as part of the LinkUp program, the goal of which is to develop local markets for recyclable and reusable materials.



Pile of wood pallets ready for processing.

Take it Back Network

The Take it Back Network is an ongoing recycling program the division coordinates with retailers, repair shops, charitable organizations, and recyclers that provide consumers with options for recycling certain wastes – and their hazardous components (such as mercury) – in a safe and cost-effective manner. Take it Back Network locations accept electronic equipment and compact fluorescent bulbs and straight tubes. In 2006, network members collected about 55,807 computer monitors, 38,360 computers, 36,800 peripheral components, 12,400 televisions, 2,000 cell phones, and 8,290 fluorescent bulbs and tubes.



Electronic Product Recycling Law

The division assisted in drafting state legislation that will require manufacturers to help consumers recycle certain electronic equipment beginning in 2009. The legislation, which passed in 2006, requires manufacturers of computers, monitors, and televisions offered for sale in Washington to develop a system for taking back, transporting, and processing these used products. This effort was coordinated with a coalition of nonprofit environmental organizations, a large international electronics manufacturer, the Washington Retail Association, Seattle Goodwill, and local governments.

The legislation requires a system of “shared responsibility” that requires electronics manufacturers to establish and pay for the collection, transportation, and recycling of computers and televisions throughout the state. It allows retailers, charities, haulers, and local governments to voluntarily serve as collection sites and receive reimbursement for their recycling costs. Residents, small businesses, government agencies, charities, and schools can then bring their old televisions and computers to the collection sites for free recycling. The system will provide a convenient, safe, and environmentally sound recycling option. The system must be in place by January 2009 when the law takes effect.

The division continues to work with the Washington Department of Ecology (Ecology) on developing rules to help implement this law. In addition, the division is providing Take it Back Network members with information about how they can become part of the new recycling system.



Household Hazardous Waste

The Household Hazardous Waste (HHW) Collection Service at the Factoria transfer station in Bellevue continues to be widely popular among eastside residents. In fact, due primarily to the establishment of HHW collection at Factoria, the number of county customers using our HHW services has increased by more than 70 percent since 2001. In mid-2006, service at Factoria increased from four to six days per week, providing 50 percent more hours of operation to county residents. Activity increased more than 16 percent, with nearly 18,000 customers and 800 tons of HHW collected.

Collection of HHW by the traveling Wastemobile continues to be a successful service as well, with an additional 18,000 customers and more than 1,000 tons of HHW collected. The collected HHW is recycled, beneficially reused, or incinerated when necessary; none is disposed at the Cedar Hills Regional Landfill.

Natural Yard Care Landscaper Training

In November, King County offered *The Business of Natural Yard Care*, a workshop designed to show landscape companies how they can increase revenues and reduce costs by implementing natural yard care practices. Attendance was double that from last year's workshop.

During the half-day session, industry leaders presented information and practical worksheets to attendees showing them how natural yard care can be profitable, while providing their clients with a yard that is safe, healthy, and beautiful. Attendees were surveyed after the training session to help the division tailor the course to their needs in future years. The three most highly rated topics were 1) methods to achieve savings through mulch mowing, 2) ways to use natural yard care as a marketing tool, and 3) additional King County resources available to support their natural yard care efforts. Most attendees said they planned to add natural yard care to their business practices.



The traveling Wastemobile served 18,000 customers and collected more than 1,000 tons of household hazardous waste in 2006.

Waste Prevention and Recycling Programs

Program Name	Intent of Program	Results
Educational Programs		
Green Schools Program	<p>Helps schools begin or expand conservation practices in:</p> <ol style="list-style-type: none"> 1. Waste reduction and recycling 2. Hazardous waste management and reduction 3. Litter reduction 4. Environmental purchasing 5. Water conservation 6. Energy conservation 7. Reduction of greenhouse gas emissions 8. Environmental education 9. Indoor air quality 10. Green building <p>Both individual schools (public and private) and school districts may participate. Each participant receives assistance in waste reduction and recycling, and selects up to 3 additional categories to work on. For each category, the participants set measurable goals for their school or district. The division provides technical assistance to help the schools meet their goals, as well as useful supplies such as recycling containers and signs.</p>	<p>In 2006, the division completed a 2-year program for the Federal Way School District; provided continued assistance to the Issaquah and Lake Washington School Districts; and began a program for the Auburn School District. These four school districts represent 126 individual schools. The division also worked with two private schools and an outdoor education center, which is part of the Highline School District.</p> <p>The Federal Way School District completed the Green Schools Program in August 2006, upon achieving the following goals:</p> <ul style="list-style-type: none"> • Establishing an effective recycling program in each of its 36 schools, with some schools saving as much as \$5,000 annually on garbage disposal costs • In addition to paper, bottles, and cans, developing programs to recycle printer cartridges, fluorescent lamps, and computer equipment • Reducing energy costs by more than \$75,000 per year by installing high-efficiency lighting, monitoring boiler efficiency, modifying vending machines, installing programmable thermostats in all portable classrooms, and training custodians to turn off unneeded equipment during non-school hours and holiday breaks
School Recycling & Waste Reduction Assistance Program	<p>Helps schools improve their waste reduction and recycling practices. The division visits the schools to evaluate their needs, provide written recommendations, and supply schools with recycling containers and signs. Through the program, schools receive hands-on help to initiate recycling programs, add new materials to existing programs, and promote recycling and waste reduction efforts within the school.</p>	<p>In 2006, the division provided assistance to eight schools to expand their recycling practices through education campaigns about what can and can not be recycled. In addition to increasing the amount of paper they recycle, each of the eight schools began recycling plastic bottles, aluminum cans, milk cartons, and other materials. Six of the schools significantly increased their recycling levels.</p>
Schools Education Program	<p>Teaches resource conservation messages to elementary, middle, and high school students through assembly programs, classroom workshops, and assistance in forming Green Teams to carry out environmental projects.</p>	<p>The Elementary School Program presented assemblies to 90 schools, reaching 20,730 students; presented 142 classroom workshops to 3,500 students; and supported 51 Green Teams totaling 1,248 students.</p>
	<p>Middle and high school students receive classroom workshops based on the DNRP video <i>Natural Connections</i>. Green Team assistance is also offered at the middle and high school level.</p>	<p>191 <i>Natural Connections</i> workshops were presented to 5,408 students. Assistance was given to 6 Green Teams totaling 340 students.</p>
	<p>Middle and high school students receive classroom workshops through the division's Waste Busters Program.</p>	<p>264 Waste Busters workshops were delivered to 6,608 students.</p>

Waste Prevention and Recycling Programs (continued)

Program Name	Intent of Program	Results
Educational Programs Continued		
Household Hazardous Waste School Program	Provides workshops to help teachers include information on household hazardous waste (HHW) in their lesson plans. Teachers can request follow-up support through classroom presentations and assistance on projects with their students. Parents of young children also receive presentations about HHW.	45 teachers, responsible for 8,962 students, were trained in HHW. Fewer resources were directed toward classroom presentations in 2006 with only 14 delivered to reach 400 students. Assistance was provided to 8 teachers on projects which affected 1,628 students. 19 presentations to parent groups reached 336 parents. In 2006, a workshop was held for school district staff on pesticides, cleaners and indoor air quality.
Outreach Programs		
Northwest Natural Yard Days	Promotes natural yard care to residents by educating about practices such as mulch mowing, conserving water, using compost and organic slow-release fertilizer, and hand weeding.	The division and 25 agencies partnered to provide discounts on natural yard care tools at 80 retail locations between April 15 and May 15 and September 1-30. Residents purchased 99,654 bags of compost, 2,326 mowers, 819 weed pullers, 8,527 bags of organic fertilizer, 3,178 containers of insecticidal soap, and 8,692 water conservation tools, such as soaker hoses and water wands.
EcoConsumer	This innovative public education campaign, launched in 2005, serves as a "gateway" to environmental information offered by Solid Waste Division programs, other King County programs and additional sources. Using television, radio, print, and other media, this program helps the public consider environmental impacts when making	Media coverage for this project in 2006 included: Project Manager Tom Watson's monthly EcoConsumer column in the Seattle Times; four appearances on television news shows; 18 radio interviews, running on about 30 stations; and 16 group presentations throughout the county and in Seattle. County agencies that the EcoConsumer program worked with directly to help deliver their messages, included the Wastewater Treatment Division, Public Health, and the County Executive's Global Warming Team. In addition, more than 300 EcoConsumer advertisements ran on KOMO4-TV. In this paid campaign, nine different television ads covered EcoConsumer topics including toxics reduction, "using less stuff," and junk mail reduction. The EcoConsumer television ads and newspaper columns can be viewed at www.KCecoconsumer.com .
EcoDeals	EcoDeals.org is a newly launched Web site designed to help raise consumer awareness about products made with recycled and other environmentally preferable materials. Products such as appliances, home office supplies, household staples, clothing, and personal care items are featured on the Web site with coupons that can be downloaded and redeemed at selected retail stores in the region. The program is designed to help residents make purchasing choices that are good for the environment and save money at the same time.	During its first year of operation, EcoDeals.org was featured at more than 20 events, including Earth Day at the Westlake Center, Sustainable Ballard, and the Green Living Expo. The program reached more than 20,000 people in King County, and the Web site received more than 12,000 visits last year. About 60 retail partners at 75 locations participated in the new program, offering coupons for more than 100 products.

Waste Prevention and Recycling Programs (continued)

Program Name	Intent of Program	Results
LinkUp Program	Provides technical and marketing assistance to businesses that process recyclable materials, use recycled materials in the products they manufacture, or make reusable materials available. The goal of LinkUp is to develop local markets for recyclable and reusable materials.	LinkUp worked with five partner businesses, conducting technical and marketing assistance projects. The projects included conducting market research and media campaigns, developing marketing plans and materials, facilitating retail sales of recycled products, and outreach to target audiences. In addition to the business assistance projects, the program team has restructured LinkUp so that it will address a smaller number of focus materials in 2007. These focus materials are asphalt shingles, gypsum wallboard, urban wood, and container glass. The new LinkUp Program will facilitate an interactive community of businesses, public agencies, and other organizations to meet its goal.
Waste Free Holidays	During November and December, encourages people to give experience gifts rather than "stuff" that creates waste. Businesses participate by offering discounts on gift certificates, tickets, and memberships for plays, concerts, sports events, museums, massages, meals, and more.	In 2006 - the program's 11th year - the King County Waste Free Holidays Web site (which lists all the discounted offers) received about 21,000 visits - an increase of 60 percent from 2005. More than 140 businesses and organizations (up from 110 in 2005) participated in Waste Free Holidays by offering discounts on experience gifts.



Project Manager Tom Watson during the filming of one of his EcoConsumer ads.



Sustainable Building

The division's Green Building Program supports internal county agencies, cities, the building community, and the public in designing buildings and structures that have less impact on the environment, are energy efficient, and use recycled materials. In 2006, the division began to re-brand the program as "GreenTools" to reflect the wide variety of resources available.



Powered by King County

Green Building Grants

The division kicked off a new incentive program in 2006 to encourage sustainable building in the private sector by offering grants for commercial projects to help attain Leadership in Energy and Environmental Design™ (LEED™) certification. The LEED™ Green Building Rating System is a voluntary, consensus-based national standard for developing high-performance, sustainable buildings. The division selected four projects to receive the first round of grant funds in 2006:

- Mercer Slough Environmental Education Center in Bellevue
- O'Dell Environmental Education Center near Kent
- 21 Acres Agricultural Learning Center near Woodinville
- Lofts at Kent Station in Kent

King County Green Team

As required by county ordinance, the division coordinates the county-wide Green Building Team. In 2006, the division initiated the first annual Green Building Summit that was attended by more than 100 county and city employees. Several training classes were also offered to county staff on topics such as green building project management, building materials, solar energy, and deconstruction. The division provided assistance to the county's Marymoor Maintenance Facility and South Treatment Plant Administration Building to help them achieve LEED™ certification.

Sustainable building site on Vashon Island.

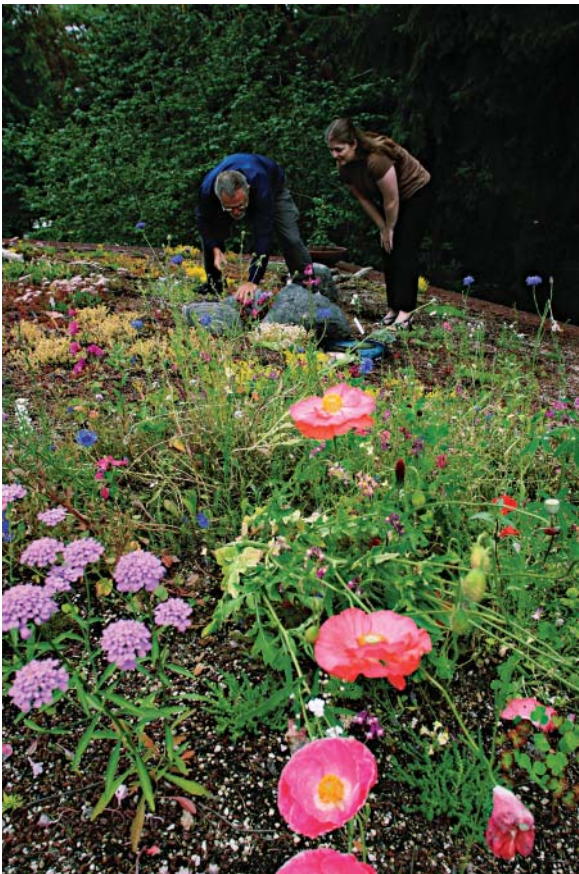


Residential Building

King County chaired the 2006 annual Built Green™ Conference. Six hundred people attended the event, which is double the attendance at the 2005 conference. Executive Sims and three division employees were honored at the event with Built Green™ Hammer awards for their contributions to residential green building in the region. The division also participated on the Built Green™ executive and steering committees and assisted in developing the newly revised checklist of steps to attain certification. King County led a custom home tour and developed material case studies for builders.

The Built Green™ program has resulted in the following achievements:

- 10,111 homes certified since 2000
- 4,000 homes certified in 2006
- 435 Built Green™ member companies



Construction and Demolition Debris Management

The purpose of this program is to provide education and information to contractors, project managers, and property owners on how to manage construction and demolition debris as a resource rather than a waste.

In 2006, due to popular demand, 5,500 more Construction Recycling Directories were printed for distribution, five case studies on deconstruction and salvage were developed, and the Design for Disassembly document was released, which provides information on how to construct a building so that it is easier to recycle materials when it is demolished. The division's green building Web site was modified to provide additional data on recycling facilities in King County, including information on whether the processing facilities are meeting recycling goals.

The division received grant funds from Ecology in 2006 to evaluate the technical feasibility and cost effectiveness of various methods for salvaging materials for reuse during building demolitions. The 2006 grant funds were used to assist the Greenbridge public housing redevelopment project. The division also provided consultant resources on deconstruction and salvage for other projects such as the Brightwater and Renton treatment plants, North Recovery Facility, and the Doubletree Hotel in Tukwila.

Assistance to Permitting Agencies

The division assisted with development and implementation of the 2006 Sustainable Development Work Program for the county's Department of Development and Environmental Services (DDES). The division worked with DDES permit staff and more than 60 permit applicants to help incorporate green building elements in their project designs. The division presented the results of their collaborative work with DDES in promoting green building strategies at the national U.S. Green Building Conference in Denver.

Owner demonstrating the variety of plant species on his green roof project.



Environmental Stewardship

Community Litter Cleanup Program

This program funds the cleanup of litter and illegal dumpsites on public lands and waterways in King County, as well as prevention and education programs. In 2006, more than \$61,000 in grant money from Ecology was spent, with an additional investment from the division of \$27,000.

In 2006, crews cleaned up approximately 103 tons of debris from 114 sites. About 20 percent of the debris was recycled. Items included tires, appliances, and junk vehicles. Litter prevention messages reached 21,531 students.



Deer browsing at the Cedar Hills landfill.

Secure Your Load Campaign

Across North America, more than 25,000 accidents are caused each year by litter that is either purposefully dumped by motorists or that falls out of vehicles with unsecured loads. Nearly 100 of those accidents are fatal. In 2006, the division launched the Secure Your Load campaign to increase public awareness and enforcement to keep these preventable accidents from occurring.



One of the incidents that served as a catalyst to the division's program involved a tragedy right here in our own backyard. In February 2004, Maria Federici was critically injured on I-405 in Renton when an entertainment center fell from the back of a trailer being pulled by a vehicle in front of her. A 2- by 6-foot piece of particle board flew through her windshield, hitting her in the face. Maria permanently lost her eyesight and has endured numerous surgeries including complete facial reconstruction.

The Secure Your Load campaign was initiated through a wide-ranging media campaign involving radio, television, and Web advertisements; targeted distribution of thousands of information brochures; and media events with local elected officials. Assisting in the communication and enforcement efforts were division employees at the transfer stations, county communications staff, the Washington State Patrol, the King County Sheriff's Office, Ecology, and Robin Abel (Maria Federici's mother). Ecology provided funding to help with the enforcement efforts.

Since April 2006, the King County Sheriff's Office and Washington State Patrol have stopped about 867 vehicles to educate and inform drivers about securing their loads and issued 219 tickets. At county transfer stations, 749 customers were assessed unsecured load fees.

Illegal Dumping

In 2004, the King County Illegal Dumping Task Force identified four recommendations to improve and better coordinate the response to illegal dumping by the many county agencies involved. Recommendations were made to 1) establish a Hotline for reporting illegal dumping, 2) increase training for field investigators, 3) make the county's enforcement methods more effective, and 4) develop an outreach program for illegal dumping prevention and education. The division is lead coordinator for implementing the recommendations made by this task force.

The first recommendation to be implemented was the development of a 24-hour Illegal Dumping Hotline, which is now in its second year of operation. The purpose of the Hotline – 205-296-SITE (7483) – is to establish a single point of contact for citizens to report illegal dumping. The division set up and manages the Hotline and has been promoting the number through press releases, Public Service Announcements, road and truck-trailer signs, and Web postings. In the first full year of operation, the Hotline received 672 reports of illegal dumping, which were forwarded to the appropriate agency or agencies for follow up.

The division has also been working with the Interagency Resource for Achieving Cooperation, the U.S. Environmental Protection Agency (EPA), King County Safety and Claims, and others to arrange a series of safety training courses for field investigators. Quarterly courses are held on topics such as site safety, how to testify about a site in court, and the hazards and handling of specific chemicals or metals (such as lead) found at many illegal dump sites.



WasteWise Program

King County's internal waste prevention and recycling program, led by the division, was named to the national EPA WasteWise Hall of Fame in 2004, based on years of continued excellence. As of 2006, King County is still the only local government in this national hall of fame. Private-sector WasteWise Hall of Fame members include Kodak, General Motors, and Anheuser-Busch.

In 2006, the King County WasteWise program performed its annual evaluation of results for 2005. This evaluation documented that King County agencies recycled 1.7 million pounds of paper and 4.8 million pounds of metals, along with many other materials, in 2005. According to EPA calculations, King County's total internal recycling and waste prevention efforts for 2005 resulted in reductions of greenhouse gas emissions by 3,038 MTCEs (metric tons of carbon equivalent) – which is equal to removing 2,400 cars from the road for one year.

Contaminated Sites Program

Through the Contaminated Sites Program, the division provides technical advice and environmental assessment services to King County divisions and departments that own or acquire property that may be impacted by contamination. Established under King County ordinance, the program maintains a revolving fund to expedite assessments and cleanups through a task order contract with an environmental consulting firm. In 2006, the division provided sampling and assessment of pesticide residues on agricultural land being acquired for open space in Kent, and assisted in negotiations with the property owner during acquisition of a former gun shooting range in Black Diamond that was contaminated with lead.



Brownfields Program

The division applies for and receives grant funds from EPA to conduct environmental site assessments at Brownfield sites. The division contracts with the nonprofit Environmental Coalition of South Seattle (ECOSS) and environmental consultant CDM to implement the program.



Soil sampling in a test pit at Ellisport Creek site.

Over the last year, Phase I and/or Phase II Environmental Site Assessments were conducted at a number of locations, including:

- **Christensen Site/Enumclaw:** On behalf of the City of Enumclaw, the division conducted both Phase I and II assessments on this former oil distribution facility. The site is privately owned; however, the city would like to see it cleaned up and redeveloped into mixed-use retail and low-income senior housing. The assessment found petroleum contamination in soil and benzene and petroleum contamination in groundwater. The city is considering purchasing the site and applying for EPA and Ecology cleanup grant funds.
- **Ellisport Creek Site/Vashon:** The division conducted an initial Phase II assessment on this former oil storage site in 2005 and a supplemental Phase II assessment in 2006. The site abuts Ellisport Creek and Tramp Harbor on Vashon Island and is contaminated with heavy "Bunker C" oil. The supplemental assessment found that contamination had not migrated to the sediments in the creek or the beach; however, more work needs to be done to establish a cleanup level acceptable to Ecology. This additional work will be conducted in 2007 and a cleanup cost estimate will be prepared and made available to prospective purchasers for use in preparing a cleanup strategy.
- **Seattle Housing Authority – 12th Avenue Site/Seattle:** The division conducted a Phase II assessment on the former NuWay Cleaners site in Seattle's Central District on behalf of the Seattle Housing Authority (SHA). The former site of a dry cleaners and laundry facility, SHA wishes to acquire the site and develop it into mixed-use retail and affordable housing. The assessment identified solvent and petroleum contamination in soil; the results were used by SHA to apply for a cleanup grant from EPA.

Planning for the Future

System Planning through Regional Consensus

With significant changes in disposal on the horizon, the region’s stakeholders and the county recognized the need for a collaborative process to plan for the future.

In the last several years, the cities, the Solid Waste Advisory Committee (SWAC), the haulers, employees, and labor have worked closely with the division on system evaluation and planning.

To foster improved communications between the cities and the county, the Interjurisdictional Technical Staff Group (ITSG) and the Metropolitan Solid Waste Management Advisory Committee (MSWMAC) were formed in 2004-2005, comprising elected officials and staff from cities with Interlocal Agreements with the county. Together, these two groups worked with the division to develop four reports that evaluate alternatives for transfer station and disposal system requirements. These reports, which were adopted by King County Council, formed the basis for system recommendations presented in the Solid Waste Transfer and Waste Export System Plan. This plan was prepared and submitted to Council for adoption in 2006.

This collaborative process has set the stage for development of the next update to the comprehensive solid waste management plan, expected to be completed in 2008, during which stakeholder involvement will continue to be crucial.

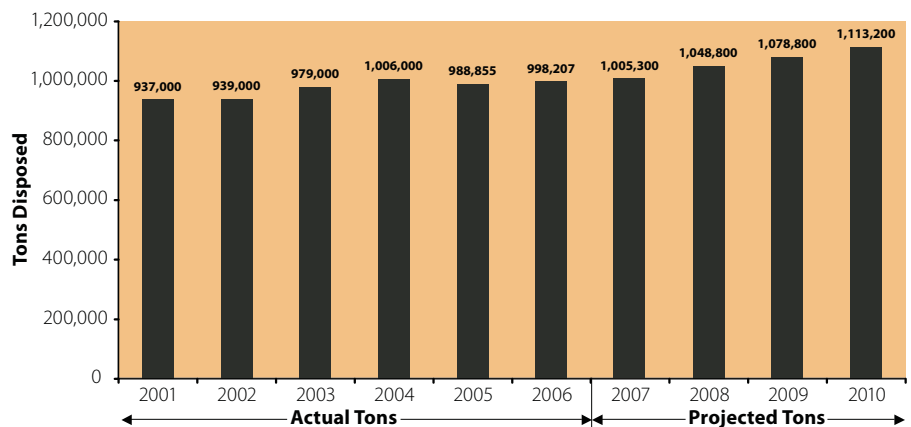
Under the current plan, the Cedar Hills Regional Landfill is expected to reach its permitted capacity and close in 2016. During this timeframe, the division must upgrade or replace the aging transfer stations and prepare for waste export to an out-of-county landfill, as directed under current county policy. As the division approaches this transition, successful waste prevention and recycling programs are more important than ever to reduce the amount of waste that has to be transported for disposal and keep costs to the ratepayer as low as possible.

The division is already working with the cities and SWAC in the early stages of system planning. This enhanced planning process has led to a positive foundation of trust and cooperation from which to build the future solid waste system.

Solid Waste Projections

Solid waste forecasts are an integral part of King County’s solid waste management system. The division uses an econometric model to forecast future waste tonnage. The model takes into account several variables including the disposal tipping fee, per capita income, employment, and population. Once the division’s waste prevention and recycling programs are developed, the projected effects of their success in reducing future tonnage are factored into the equation. Our estimated recycling rate for 2006 is 44.3 percent.

Tonnage Disposed at Cedar Hills: Actual and Projected



In 2006, tonnage disposed at Cedar Hills increased slightly – 1 percent – from the previous year to 998,207 tons. Because of the wind storms in November and December of 2006, the division received approximately 10,000 tons of flood-damaged materials from residents and businesses. Tonnage is expected to increase slightly in 2007 because of favorable economic conditions.

Rate Proposal

The division will propose a rate increase to take effect in 2008. If adopted by the King County Council, it will be the first rate increase for the division since 1999. The proposal would increase the per ton disposal rate from \$82.50 to \$95.00 – the effect on customers with weekly one-can collection service would be 73 cents per month. This increase represents an average of 1.6 percent per year since 1999.



Capital Projects

In the *2006 Solid Waste Transfer and Waste Export System Plan*, the division recommends modernizing the solid waste transfer system and preparing for the eventual closure of the Cedar Hills landfill and transition to waste export, as directed under current county policy. Some of the transfer station renovations are in progress, while planning for the transition to waste export is well underway.

First Northeast Transfer Station

The first facility being renovated is the First Northeast station in Shoreline. The existing station was closed in May 2006 for construction. When the old station was deconstructed, about 85 percent of the demolition material was recycled. The new station is well on its way, with the construction of the elevated tipping floor for the multi-level facility nearly complete. Sustainable design features of the new building include solar panels, a system for harvesting rainwater for dust control and other uses, and the use of recycled-content building materials. It also features expanded recycling areas, including separate yard waste recycling, and a garbage compactor that will lessen truck trips between the station and the landfill. The new station is slated for completion in November 2007.

The City of Shoreline and King County worked cooperatively to obtain approval from the Federal Highway Administration to extend Metro Transit's dedicated access ramps to and from I-5 to the First Northeast Station. Under the agreement, solid waste transfer trailers will share the freeway ramps with transit buses, allowing transfer trucks to avoid use of the neighborhood streets.



The new First Northeast transfer station under construction.

Bow Lake Transfer Station

The division is planning the construction of a new transfer and recycling station at the site of the existing Bow Lake Transfer and Recycling Station in Tukwila. The new station will also use adjacent property to the north that the division plans to purchase for this project.

The draft Facility Master Plan was prepared in 2006 for submittal to the King County Council in first quarter 2007, including the environmental review of the plan. Once approved by Council, facility design will begin, with the first phase of construction to start in 2008. The new Bow Lake station will have the same sustainable design features and expanded recycling areas currently being constructed at the First Northeast station.

Cedar Hills

Operation of the Cedar Hills Regional Landfill near Maple Valley is less costly to ratepayers than waste export or other disposal technologies. Therefore, every effort is being made to preserve this cost-effective disposal option as long as possible. The region's waste reduction and recycling efforts have extended the landfill's life at least eight years by reducing the amount of material disposed. Those efforts continue, focusing on recoverable resources that are still being disposed.

Operational practices that began in 2005 or 2006 are also helping extend the life of the landfill. One practice is the recovery and reuse of materials used for daily cover of the open, working area of the landfill. Another is the use of heavier machinery that compacts garbage in the landfill more efficiently.

Harbor Island

The Harbor Island property was purchased in 2003 as a potential site for a future intermodal facility. The site is being retained until decisions are made on the need for intermodal capacity once the Cedar Hills landfill closes and waste export begins. Until that time, the site is being leased to several industrial-use tenants to offset the costs for purchasing and maintaining the site until future decisions are made.

Public Information

The Customer Service Unit answers customer questions about solid waste disposal and recycling programs that come by telephone or through our Web site comment form. In 2006, the team answered an average of more than 210 calls each day, serving about 53,165 customers last year. The team also answers the Illegal Dumping Hotline on the weekdays. A summary of the types and numbers of questions received via telephone in 2006 are shown in appendix Table A-11.

The Customer Service Unit also responded to more than 1,850 comments received through the division's on-line Contact Us feature. About 34 percent of the comments and questions received fell into two categories: the disposal or recycling of various types of materials, featured in the "What do I do with ..." section of the Web site, and garbage collection and recycling services offered by the private haulers or at county facilities. The majority of the remaining comments and questions were about individual waste prevention or recycling programs offered by the division.

The division's Web site is proving to be an increasingly popular information tool. Total Web site visits topped 623,000 in 2006, representing a 27.9 percent increase

in Web traffic from 2005. Visitors were most interested in the following areas of the site:

- Transfer station- and facilities-related information, including hours of operation, directions, facility improvement projects, and station closures
- The "What do I do with ...?" feature, which includes locations, details, and contact information for organizations that accept a wide variety of materials for reuse, recycling, and/or proper disposal
- The Take it Back Network program, which provides information and options for electronics (and now fluorescent bulb) recycling
- The Online Materials Exchange site, a free on-line exchange program that helps keep reusable household items and building materials out of the waste stream

Web sites for seasonal programs, such as Northwest Natural Yard Days, Tree-Cycling, and Waste Free Holidays also drew significant traffic. The popular Waste Free Holidays site accounted for nearly 21,000 visitor sessions and more than 206,000 page views during November and December.

2006 King County Solid Waste Division Awards

Program or Project	Award Name	Sponsoring Organization
EcoConsumer Public Education Campaign	2006 Achievement Award	National Association of Counties (NACO)
Northwest Natural Yard Days	2006 Achievement Award	NACO
Green Tools (Solid Waste Division Green Building Program)	The Built Green Hammer Award	Master Builders Association of King and Snohomish Counties, Built Green Program
King County E-waste Recycling Ban Announcement & Staples Take it Back Network Partnership	Public Relations Society of America Totem Award	Public Relations Society of America, Puget Sound Chapter
Harbor Island Warehouses Deconstruction	Excellence in Building Green	King County

Appendices

Table A-1: 2006 Estimated Population and 2005 Housing Data

Jurisdiction	Population 2006	Single-Family Units 2005	Multi-Family Units 2005	Mobile Homes 2005
Unincorporated	367,070	109,396	19,327	7,523
Incorporated	908,930	221,443	139,158	11,500
Total	1,276,000	330,839	158,485	19,023

Sources: Washington State Office of Financial Management (OFM) April 1 Population of Cities, Towns, and Counties Used for Allocation of Selected State Revenues; State of Washington Annual Growth Report King County 2006, American Community Survey 2004.

Table A-2: 2006 Single-Family (1-4 units) Curbside Collection - Service Subscribers

Area	Curbside Garbage and Recycling	Curbside Yard Waste
Unincorporated	104,388	45,194
Incorporated	188,208	128,481
Total	292,596	173,675

Table A-3: 2006 Single-Family (1-4 units) Curbside Collection - Average Pounds per Month

Area	Garbage	Recycling	Yard Waste
Unincorporated	130	63	123
Incorporated	117	67	115
Countywide	122	65	117

Table A-4: 2006 Curbside Residential Recycling Tonnage

Area	Mixed Paper	News-Print	Card-Board	Glass	Tin & Steel	Alum.	Plastic	Yard Waste	Total
Unincorporated	15,294	11,081	3,177	5,703	739	342	790	33,227	70,353
Incorporated	29,549	20,571	5,803	10,802	1,379	644	1,474	88,452	158,674
Total	44,843	31,652	8,980	16,505	2,118	986	2,264	121,679	229,027

Table A-5: 2006 Transfer Station and Drop Box Tonnage Disposal

Transfer Stations & Drop Boxes	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	Total
Algona	36,313	40,276	39,871	37,140	153,600
Bow Lake	76,400	83,256	85,142	83,315	328,114
Cedar Falls Drop Box	934	1,241	1,401	1,024	4,601
Enumclaw	5,607	6,546	7,028	5,641	24,822
Factoria	39,232	42,848	43,515	43,198	168,792
First Northeast ¹	13,457	5,169	-	-	18,626
Houghton	42,674	46,058	46,133	46,878	181,743
Renton	17,413	18,943	18,817	18,300	73,473
Skykomish Drop Box ²	168	209	218	178	773
Vashon	1,910	2,266	2,432	2,027	8,636
Total Transfer Station Refuse	233,942	246,602	244,340	237,524	962,408

¹ The First Northeast station was closed May 1, 2006 for construction; most First Northeast station tonnage is going to a solid waste facility in Snohomish County.

² Solid waste transported to Houghton station; not added to totals.

Table A-6: 2006 Total Tonnage Disposed

System Origin	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	Total
Total Transfer Station Refuse	233,941	246,602	244,340	237,523	962,407
Total Regional Direct	-	-	697	2,684	3,381
Total - Other	3,937	8,248	10,159	10,074	32,418
Total Refuse Disposed	237,879	254,850	255,195	250,282	998,207

Table A-7: 2006 Transfer Station Disposal by Customer Type

Transfer Station	- Self Haul Customers -		- Collection Companies -	
	Tons Disposed	% of Total	Tons Disposed	% of Total
Algona	41,472	27%	112,128	73%
Bow Lake	49,579	15%	278,535	85%
Cedar Falls Drop Box	4,601	100%	0	0%
Enumclaw	15,015	60%	9,807	40%
Factoria	31,623	19%	137,170	81%
First Northeast ¹	9,254	50%	9,372	50%
Houghton	38,571	21%	143,172	79%
Renton	17,899	24%	55,574	76%
Skykomish Drop Box	611	79%	161	21%
Vashon	5,982	69%	2,655	31%
Total	214,607	22%	748,574	78%

¹ The First Northeast station was closed May 1, 2006 for construction; most First Northeast tonnage is going to a solid waste facility in Snohomish County. The division is picking up 4 compacted loads per weekday from the Snohomish station for disposal at the Cedar Hills landfill.

Table A-8: 2006 Transfer Station Transactions by Customer Type

Transfer Station	- Self Haul Customers -		- Collection Companies -	
	Transactions	% of Total	Transactions	% of Total
Algona	147,641	88%	20,587	12%
Bow Lake	153,123	73%	57,314	27%
Cedar Falls Drop Box	22,496	100%	0	0%
Enumclaw	51,752	97%	1,681	3%
Factoria	111,757	83%	22,647	17%
First Northeast	33,038	95%	1,570	5%
Houghton	124,434	84%	23,474	16%
Renton	75,341	88%	10,650	12%
Skykomish Drop Box	2,297	91%	218	9%
Vashon	23,987	98%	412	2%
Total	800,215	85%	137,154	15%

Table A-9: Total Refuse Tonnage Disposed, 1977- 2006

Year	Rural Landfills	Transfer Stations	Cedar Hills Reg. Direct	Cedar Hills Other Waste	Total Disposed
1977	55,100	264,100	-	48,800	368,000
1978	56,746	320,181	-	40,668	417,595
1979	54,498	428,187	156,554	36,342	675,581
1980	54,827	460,577	218,560	35,756	769,720
1981	44,280	509,680	244,417	50,755	849,132
1982	33,890	519,931	213,715	24,943	792,479
1983	32,318	498,643	206,691	9,566	747,218
1984	33,649	527,522	256,459	10,512	828,142
1985	36,862	568,342	268,795	13,592	887,591
1986	39,053	624,247	272,485	22,345	958,130
1987	36,979	681,472	595,058	28,165	1,341,674
1988	38,655	667,651	556,247	39,954	1,302,507
1989	41,614	712,156	476,602	55,462	1,285,834
1990	44,290	848,439	483,950	58,105	1,434,784
1991	28,553	814,919	258,319	53,014	1,154,805
1992	23,656	770,448	119,340	21,317	934,761
1993	21,020	716,437	144,973	24,740	907,170
1994	10,288	633,408	150,400	22,422	816,518
1995	7,388	642,498	146,024	26,610	822,520
1996	7,766	594,736	190,790	23,740	817,032
1997	8,110	607,256	229,007	24,448	868,821
1998	8,228	626,874	226,617	22,005	883,724
1999	3,949	692,921	214,422	18,015	929,307
2000	-	711,565	216,169	19,440	947,174
2001	-	696,664	222,664	16,982	936,310
2002	-	683,965	238,290	17,233	939,488
2003	-	704,127	257,283	17,426	978,836
2004	-	867,917	119,110	19,136	1,006,163
2005	-	944,100	25,304	19,451	988,855
2006	-	962,407	3,381	32,418	998,207

Table A-10: 2006 Transfer Station and Drop Box Recycling Tonnage

Facility	Mixed Paper ¹	Cardboard	T-A-P-G ²	Total
Bow Lake	764	643	286	1,693
Cedar Falls Drop Box	168	117	113	397
Enumclaw	415	119	230	764
First Northeast	127	138	83	347
Houghton	339	391	120	849
Renton	402	361	218	981
Skykomish Drop Box	18	13	24	56
Snoqualmie Drop Box	14	38	28	80
Vashon	260	134	508	902
Total	2,507	1,953	1,609	6,070

¹ Includes newspaper.

² T-A-P-G = Tin, Aluminum, Plastic, Glass.

Note: The Algona and Factoria transfer stations do not have recycling bins because of space and operational constraints.

Table A-11: 2006 Program Inquiries by Type

Phone Inquiry Types	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	Total
Appliance Recycling	328	462	698	510	1,998
Complaints	16	29	27	17	89
Compost	7	29	51	13	100
Construction/Demolition/ Landclearing Debris	307	586	756	478	2,127
Curbside Recycling	77	177	130	150	534
Customer Service General ¹	2,891	4,483	5,910	5,041	18,325
Electronics, including TVs	442	617	857	702	2,618
General Recycling	342	608	941	701	2,592
Hazardous Waste	254	516	754	469	1,993
Hours of Operation	686	1,516	2,546	2,269	7,017
Junk Vehicles	4	13	18	17	52
Special Collection Events	66	263	212	182	723
Transfer Stations	1,810	3,230	5,508	4,293	14,841
Treecycling	98		1	57	156
Total	7,328	12,529	18,409	14,899	53,165

¹ Includes questions about directions, rates, acceptance of materials, hauling companies, junk mail, illegal dumping, etc.

Chart A-1: Solid Waste Division Actual Revenues and Expenditures. Year ending 12/31/2006

Manager / Administration			
Waste Reduction & Recycling and Mod. Risk Waste	<ul style="list-style-type: none"> • Education • Technical and financial assistance • Collection services 	Expenditure \$11,547,958 27 FTEs	Revenue Disposal fees \$8,136,589 Haz. waste \$3,161,307 Uninc. household fees \$250,062
Landfill Operations	<ul style="list-style-type: none"> • Operate and maintain active and closed landfills • Landfill and equipment replacement transfer • Landfill rent 	Expenditure \$25,131,624 44 FTEs	Revenue Disposal fees \$24,109,328 Interest \$1,022,296
Transfer Station Operations	<ul style="list-style-type: none"> • Collect fees • Monitor waste • Equipment replacement transfer 	Expenditure \$12,027,183 105 FTEs	Revenue Disposal fees \$11,785,965 Recycle Material Proceeds \$241,218
Transportation Operations	<ul style="list-style-type: none"> • Transport garbage to landfill • Haul leachate & maintenance material • Equip. replacement transfer 	Expenditure \$9,973,271 83 FTEs	Revenue Disposal fees \$9,973,271
Maintenance Operations	<ul style="list-style-type: none"> • Maintain facilities and equipment • Procure and control inventory 	Expenditure \$9,715,768 72 FTEs	Revenue Disposal fees \$9,715,768
Operations Administration	<ul style="list-style-type: none"> • Maintenance planning for operations functions 	Expenditure \$1,269,980 10 FTEs	Revenue Disposal fees \$1,269,980
Capital Facilities¹	<ul style="list-style-type: none"> • Plan and execute capital projects • Environmental monitoring • Operations support 	Expenditure \$8,631,531 33 FTEs	Revenue Disposal fees \$6,743,816 CDL fees ² \$981,117 DOE and EPA grants \$906,598
Debt Service		Expenditure \$6,272,857 0 FTEs	Revenue Disposal fee \$6,272,857
Administration & Fiscal Services	<ul style="list-style-type: none"> • Manage fiscal functions • Administer customer service • Personnel functions • Payroll • Planning • Communication 	Expenditure \$9,172,390 49 FTEs	Revenue Disposal fees \$7,304,029 Interest \$1,256,269 Other \$612,092

¹ Operating portion only of capital facilities budget; does not include debt-financed design/construction costs.

² Supports Construction, Demolition and Landclearing Program costs in the Engineering Section.

Summary of 2006 Actual Activities	
2006 Total revenues	\$90,942,840
Fund balance added	\$2,799,722
2006 Total operating expenditures	\$93,742,562
2006 Total employees	423 FTEs

Acknowledgements

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Solid Waste Division Annual Report



King County
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