

Acknowledgments

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Cover Photo: Solar panels on the roof of the new Bow Lake Recycling and Transfer Station help reduce energy use at the station.

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Whitetail deer are a common sight at the Cedar Hills Regional Landfill.

Message from New Division Director Pat McLaughlin

First, I would like to say how privileged I feel to be a part of the Solid Waste Division, with all of its opportunities and challenges. When I joined the organization in September 2012, what I discovered was a dedicated and capable workforce, an engaged network of stakeholders, and an evolving solid waste system in the midst of a vast array of changes. What I envision for the future is continued collaboration and forward thinking to align our priorities and programs with the best interests of the region.

In close collaboration with our city partners, the *Solid Waste Transfer and Waste Management Plan* (Transfer Plan) was developed to guide the modernization of a nearly 50-year-old solid waste transfer system. Adopted by the Metropolitan King County Council in 2007, it set in motion a series of transfer facility renovations and rebuilds that pave the way for future growth in the region and sets high standards for the development of an environmentally sustainable transfer network. Each renovation or rebuild incorporates innovative technologies for saving energy and water, compacting waste for transport to reduce the number of trucks on the road, and expanding recycling and reuse opportunities to match current market capabilities while maintaining flexibility for the future.

As this \$300 million modernization has moved forward, it has brought long-awaited station enhancements to our system's customers. We are nearly finished with the second of three transfer station rebuilds, with the Shoreline Recycling and Transfer Station completed, the Bow Lake Recycling and Transfer Station headed for completion in 2013, and the Factoria station slated to break ground in 2014. The siting of a new transfer facility, in south King County, began in 2012 with a comprehensive public process to identify possible locations to replace the current facility in Algona. In 2013, a similar siting process will begin for a northeast King County site to replace the current Houghton facility in Kirkland. Important renovations have also been made at the Vashon and Enumclaw facilities.

In 2012 we adjusted the rates at our facilities – increasing the basic garbage fee, decreasing the fee for yard waste, and raising the fee for customers who deliver potentially dangerous, unsecured loads to county facilities. The increase in the basic garbage fee will help fund the needed renovation of the transfer system and, in so doing, will continue to improve the return on our customers' investment.

In addition, after extensive negotiations with our city partners, a city-county team has developed an Amended and Restated Interlocal Agreement (ILA), which will foster cooperation in the regional solid waste system and support the long-term sustainability of our shared system. Many agreed-upon changes were made to the ILAs, including an extension of the agreement's

term for 12.5 years, through December 2040. This extension will keep rates lower by allowing for longer-term bonding for the transfer system modernization and maintaining the economies of scale provided by city participation in our regional system. Cities are anticipated to take action on the new ILA by late April 2013.

We are committed to building upon the valued relationships with our customers, our advisory groups, and our city partners. Together, we are crafting a sustainable, affordable, and advanced system for managing solid waste in the region. Nowhere is that more apparent than in our waste prevention and recycling programs, which are among the most innovative in the country. The effective outreach and partnerships built through these programs are continually chipping away at the amounts and types of reusable resources that would otherwise end up in the garbage stream.

I am proud to present this 2012 annual report, which describes the year's major developments in these and other areas. And I would like to recognize those who made progress possible – including our valued employees, customers, the County Council, partnering cities and advisory committees, and the many business and nonprofit organizations that we work with in the region. I am committed to

ensuring that our division continues to lead by example, focus on the right things, work as a team, and get the right results.

Pat D. McLaughlin, Division Director



The new Bow Lake Recycling and Transfer Station is open for business.

Solid Waste Transfer and Disposal

Proper management of the region's solid waste supports each of the primary goals of the *King County Strategic Plan*, with particular emphasis on environmental sustainability and service excellence. The division manages the only operating landfill in King County - the Cedar Hills Regional Landfill (Cedar Hills), where all municipal solid waste generated in the service area is disposed. Located on a 920-acre site in the Maple Valley area, Cedar Hills has provided for the safe and efficient disposal of the county's solid waste since 1965. In 2012, the division disposed of about 807,000 tons of solid waste at Cedar Hills, a decline of approximately one percent from 2011.

Transfer stations are the public face of the solid waste system. In 2012, transfer facilities received more than 782,000 tons of garbage through nearly 720,000 customer visits. The transfer system operates 362 days per year – closing only on Thanksgiving, Christmas, and New Year's Day. Specific operating hours at each location are determined by customer use patterns to maximize customer convenience and operational efficiency.

Planning, design, and construction are well underway in the development of a new generation of solid waste transfer facilities. The aging transfer system is in need of extensive improvements after nearly 50 years of service to a growing region. Progress on these improvements is described in *Capital Improvements*.



The larger, open design of the Bow Lake tipping floor makes it safer and easier to use for self-haul and commercial customers.

The division works closely with the cities in King County to continue its national leadership in waste prevention, recycling, and environmental stewardship. Each year, the division responds to changes in markets, technologies, and consumer needs to develop programs that will effectively prevent the disposal of usable resources, and bring the region ever closer to our Zero Waste of Resources goal.

King County's Recycle More Campaign Completes Its Seventh Year of Outreach

The division's Recycle More. It's Easy to Do. campaign has completed its seventh year of recycling outreach to King County residents. Through advertising, community events, city partnerships, retail partnerships, and outreach to Spanish-speaking communities, the division hopes to increase the residential recycling rate throughout the county.

For the past four years, the Recycle More campaign has formed partnerships with selected cities in King County that have residential recycling rates of less than 35 percent. These partnerships have helped to more efficiently leverage outreach resources in areas where it is needed. In consultation with these cities, a more tailored approach is developed that involves focused one-on-one outreach to residents in the community and coordination of messaging in the local media, such as community



In-home recycling workshops help the whole family Recicla Más.

newspapers and city newsletters. For example, city partners Des Moines, North Bend, Auburn, and SeaTac launched new garbage collection contracts or changed their collection services in 2012. To get the word out, the division produced educational videos on the changes, which were featured on the cities' public television stations. Other city partners included Tukwila, Black Diamond, Covington, and Maple Valley.

In addition to working with selected cities, the division formed promotional partnerships with the local



Recicla Más tattoos are very popular among the younger recyclers.

Bartell Drug stores and BioBag, a compostable bag manufacturer, to combine television and radio advertising with in-store promotions. The result was a dramatic increase in sales of food-scrap containers and compostable bags.

In 2012, the Recycle More campaign promoted basic and food scrap recycling using television, radio, and on-line advertising and launched a new campaign – the *One Less Bag Challenge*. The goal of this new campaign was to help King County's single-family households reduce their garbage from an average of 25 pounds to 24 pounds per week by asking residents to take a recycling pledge. Eight hundred residents took that pledge in 2012. At community events and small-group presentations, the division's volunteer Master Recycler Composters (MRCs) answered citizens' questions about recycling and passed out free samples of compostable bags to encourage the recycling of food scraps and food-soiled paper. In 2012, the MRCs spoke to 8,000 residents at community events and held 42 small-group presentations as part of the Recycle More campaign.

In June 2012, Recycle More launched its Spanish-language outreach campaign, *Recicla más. ¡Es facilísimo!* Using radio advertising, a new Spanish-language website (your.kingcounty.gov/solidwaste/reciclamas/index.asp), and other educational materials, Recicla Más is working to engage Spanish-speaking residents, both one-on-one and through workshops, to learn more about recycling. In 2012, the Recicla Más program completed 27 workshops and reached 325 residents.

List of Recyclable Materials in the Region Continues to Grow

New markets and collection systems for recyclable and reusable materials are continually evolving. As specified in the *Final 2001 Comprehensive Solid Waste Management Plan*, materials designated as recyclable in King County are divided into two categories – primary and secondary. Primary recyclables are materials for which there is a curbside collection program available throughout most of King County. Secondary recyclables are materials not currently collected in most curbside programs, but for which there are recycling options and markets in the private and public sectors. The table below lists the types of materials recyclable in King County at this time.

Household Hazardous Waste Services Still Popular in the Region

Created in 1989, the county's Wastemobile was the first program of its kind in the nation designed for the collection of household hazardous waste (HHW). It is a mobile service that travels to communities in King County, staging collection of HHW at each site for three days at a time. The Wastemobile has also provided regularly scheduled HHW collection at the SuperMall in Auburn on the first and third full weekends of each month.

In 2012, the traveling Wastemobile staged 21 events that drew more than 9,800 King County residents, collecting 300 tons of HHW. In addition, the Wastemobile service at the Auburn SuperMall was increased from twice monthly to weekly service

each Saturday and Sunday. It now provides service to an additional 5,300 customers, bringing in an added 241 tons of HHW. The county's Factoria Transfer Station offers HHW drop-off service six days a week. In 2012, more than 14,400 customers brought about 329 tons of HHW to Factoria.

Since 2008, the division has also accepted Moderate Risk Waste (MRW) from small businesses at the Factoria transfer station and the Wastemobile. Prior to 2008, only residential customers were offered this service. In 2012, the MRW program served 187 small-quantity generator business customers, who brought in 15 tons of MRW.

In 2012, the division received a national achievement award for the King County Battery Recycling Program from the National Association of Counties. The award recognizes the division for its innovative efforts to capture alkaline batteries for recycling at a local steel mill.

Primary Recyclables

- Newspaper
- Cardboard
- · High-grade office paper
- Computer paper
- Polycoated paperboard
- Mixed paper (may include paper grades listed above)
- Plastic containers #1 through #7, excluding #6 expanded polystyrene
- Yard waste (including woody materials less than 3 in. in diameter)
- Food scraps and food-soiled paper
- Glass containers
- Tin cans (steel cans)
- Aluminum cans
- Ferrous and non-ferrous metals (subject to size limitations)

Secondary Recyclables

- All other single-resin plastics not included as primary recyclables
- Electronics
- Textiles
- Photographic films
- Toner/ink cartridges
- Reusable household and office goods
- Fluorescent lamps
- High-intensity halide lamps
- Plate glass
- Ceramic materials
- Appliances (white goods)
- Toilets
- Carpet and pads
- Latex paint
- Bulky yard waste
- Untreated wood
- Landclearing debris
- Stable wastes (animal manure and bedding)
- Reusable building materials



King County helped support legislation that would provide a convenient, statewide take-back program for mercury-containing lights.

Product Stewardship Efforts Continue

Product stewardship and extended producer responsibility are terms that are often used interchangeably to describe a long-term solution to managing products that are toxic or difficult to handle at the end of life. Product stewardship policies shift the financing for managing these products from ratepayers and government agencies to the product manufacturers and consumers. The manufacturers are responsible for ensuring that there is an environmentally sound system in place to collect, transport, and properly manage their products. By authorizing the product manufacturers to take responsibility for their products at end of life, they have an incentive to design products that are more recyclable, less toxic, and more environmentally friendly.

One of the division's objectives is to enhance resource conservation efforts by integrating waste reduction and recycling with other programs and promoting product stewardship. The division continues to chair and provide resources to the Northwest Product Stewardship Council (NWPSC). The NWPSC is a group of counties, cities, and other governmental agencies whose mission is to integrate product stewardship into the policy and economic structures of the Pacific Northwest.

In 2012, the division and the NWPSC focused efforts on product stewardship policies for unwanted architectural paint, small rechargeable batteries, and carpet, and the implementation of the mercury-containing lamp stewardship law.

In the 2012 legislative session, the division supported product stewardship bills for unwanted medicines, paint, batteries, and carpet. While all four bills met with challenges in the legislature, the division will continue to pursue stewardship options for the proper management of these products. A disposal law for mercury-containing lights that passed in 2010 was legislated to be implemented by January 2013. The manufacturers of mercury-containing lamps were authorized to finance a statewide stewardship program for their proper disposal. The Washington State Department of Ecology finalized the rules in November 2012 and secured a firm to develop the implementation plan. The final rule was challenged by the National Electrical Manufacturers Association, which has put its implementation on hold.

The division has developed informational fact sheets and updated the NWPSC website (www.productstewardship.net). In addition, the division prepared a product stewardship report titled the Management of Unwanted Architectural Paint in Washington, which compares the existing paint recycling programs in Washington State with a product stewardship system modeled after the successful pilot program in Oregon operated by PaintCare, the paint stewardship organization. The division also helps to inform and encourage communication among Washington local governments about product stewardship legislation and bills that may have an impact on their solid waste management systems.

Take it Back Network Continues to Thrive

The Take it Back Network is a partnership that King County has formalized with area retailers, repair shops, charitable organizations, and recyclers to provide consumers with recycling opportunities for certain wastes – and their hazardous

components – in a safe and costeffective manner. Products currently recycled through the Take it Back Network include electronics (e.g., computers, monitors, televisions, cell phones, printers, fax machines) and fluorescent bulbs and tubes. In late 2012, mattresses were added to the list of accepted products.



The members of the Take it Back Network are required to sign an agreement with the division obligating them to recycle their products in an environmentally sound manner. The division publicizes the network members on its website, in brochures, and through the media.

The Take it Back Network includes 20 locations in the county that accept electronics, 69 that take fluorescent lamps, and two that accept mattresses for recycling. The table below shows the number of products that were recycled by network members.

Type of Unit ¹	Totals (number of units)
Televisions	73,274
Monitors	37,741
CPUs	71,726
Cell Phones	7,939
Other Electronics	198,126
Fluorescent Bulbs	81,138
Fluorescent Lamps	89,956
Other Fluorescent Lamps	5,346
Abandoned Materials (electronics)	608
Total	565,854
1 No data for mattresses.	

LinkUp Program – Improving Recycling Infrastructure and Markets

The LinkUp program works to expand markets for recyclable and reusable materials by facilitating an interactive community of businesses, public agencies, and other organizations. LinkUp works to eliminate market barriers such as a lack of recycling infrastructure and poor end markets. In 2012, LinkUp continued to focus on asphalt shingles, carpet, and mattresses, which have been identified as priorities for King County.

Asphalt Shingles: Local markets for recycled asphalt shingles (RAS) are limited, but there is growing use of this material in hot mix asphalt pavement in the central Puget Sound region and great potential for that use to expand. Local processing capacity is developing, and the division has worked in partnership with state and local transportation agencies and hot mix asphalt producers to test and use RAS locally and develop the market for the material.

In 2009, the division's LinkUp program and the King County Road Services Division conducted a controlled experimental study to demonstrate the use of RAS in hot mix asphalt pavement on a public roadway. Annual assessments show that the demonstration pavement is performing as well as traditional pavement, and indicates that using RAS in hot mix asphalt has no significant effect, favorable or detrimental, on pavement performance. Since 2009, the division has led by example by using hot mix asphalt containing RAS for its Bow Lake Recycling and Transfer Station project and for ongoing maintenance paving at its facilities, including the Cedar Hills Regional Landfill.

In 2012, in response to the paving industry's interest in using RAS in hot mix asphalt, the Washington State Department of Transportation published a general special provision allowing the use of RAS in pavements in order to study the performance of the material on state roadways.

Carpet: The division's LinkUp program has collaborated with Seattle Public Utilities and other local and state governments in Washington and nearby states to develop the Northwest Carpet Recycling Strategy. The objectives of the strategy are to 1) bring carpet processing capacity to the Pacific Northwest and 2) increase end markets for recovered carpet material. Many elements of the strategy are underway, with government working cooperatively within and across agencies, as well as hand-in-hand with private industry. Since implementation began, carpet processing has been established in the region, with several companies separating carpet constituent materials to be sold into

commodity markets. A partnership between LinkUp, Seattle Public Utilities, and the **Washington State** Department of Commerce has focused on ensuring that the state has the infrastructure and complement of businesses to support and participate in the carpet recycling value chain. During 2012,





During an EcoConsumer-sponsored event at the Central Market in Shoreline, participating families competed to shop for supermarket products with the most eco-friendly packaging.

LinkUp has also worked with the carpet and recycling industries and regulatory agencies to develop carpet removal best practices, supported product stewardship legislation in the Washington State Legislature, and co-hosted a highly successful Washington State Recycling Association carpet recycling event, bringing together participants from around the region and the nation to learn about how carpet recycling is developing in the Pacific Northwest.

Mattresses: Working with stakeholders who attended the King County Mattress Recycling Summit in December 2011, LinkUp facilitated the expansion of private collection and recycling locations for mattresses in 2012, including two new Take it Back Network locations. LinkUp conducted research on end markets for mattress components and is exploring market development opportunities to support mattress recycling.

The division's 2011 Waste Characterization Study, released in 2012, quantified, for the first time, mattress disposal at King County transfer stations. The study showed that more than 3,000 tons, or about 85,000 mattresses, were disposed in 2011, not including mattresses disposed directly at the Cedar Hills Regional Landfill. LinkUp is assisting businesses and organizations to expand the mattress collection infrastructure and processing capacity. Washington Correctional Industries continues to be the sole processor of mattresses in Washington.

EcoConsumer Program Drives Home Green Messages

The King County EcoConsumer public outreach program continued to grow in 2012, providing information and resources to the public about recycling, waste reduction, product stewardship, toxics reduction, climate change, and more. This program's innovative use of mainstream and social media includes the EcoConsumer column in *The Seattle Times* every two weeks; television segments on KOMO4 and radio segments on KOMO radio, both running about every three weeks; and more than 20 additional television and radio appearances every year.

With more than 2,200 followers on Twitter and an active blog, the EcoConsumer program shines on-line as well. The EcoConsumer project manager responds directly to many questions and comments from the public, and makes more than 20 public presentations a year.

This program also helps residents reduce waste directly, through the King County EcoConsumer Junk Mail Opt-Out Service. Developed in partnership with the national organization Catalog Choice, this service makes it easier for county residents to remove themselves from mailing lists. Since its launch in August 2011, this service has successfully processed more than 65,000 opt-out requests from King County residents outside Seattle.

The EcoConsumer program's annual Green Holidays public education campaign, which helps residents reduce their environmental impact during the consumption-heavy winter



holidays, had its biggest year ever in 2012. Visits to the revamped Green Holidays website, loaded with colorful how-to photos, increased by 50 percent over the previous year. The Green Holidays program was also featured in television segments by all four of the major Seattle-area stations that provide local news (KOMO4, KING5, KIRO7, and KCPQ13), which is almost unheard of for any environmental outreach program.

Regional School Programs Reach Out to Students, Parents, and Educators

The division designs and coordinates waste prevention and recycling programs to help educate our region's students in the importance of being good environmental stewards. From elementary to middle and high school, students learn proper methods for recycling and reuse, how to conserve resources such as energy and water, how to safely manage household hazardous wastes, and more. The school programs are engaging and fun for students, who participate in school assemblies, workshops, role-playing exercises, and team challenges. The programs also reach out to parents and educators who help support good environmental practices in the home and the classroom. The increasing level of participation by the region's school districts and enthusiasm of the students speak to the success of these programs.

Schools Education Program on Recycling and Resource Conservation: Under the division's county-wide education program, elementary school students learn about recycling and resource conservation through assembly programs and

classroom workshops. The current assembly show is called *Our Planet, R Choices*. With fun props, entertaining dialogue, role playing, and a game show, the show's actors convey to students that each of us can conserve natural resources through reducing, reusing, and recycling. All schools that host the assembly can receive up to three classroom presentations on topics such as waste-free choices, recycling leadership, habitat stewardship, and environmental leadership. All schools are eligible to receive assistance in forming Green Teams to carry out environmental projects.

In the 2011-2012 school year, assemblies were presented at 52 elementary schools. Many of these schools received both the primary and intermediate versions of the assembly, bringing the total to 83 assemblies that reached 22,678 students. In addition, 179 classroom workshops were presented to 4,498 students, including 642 students through a community watershed festival. The program registered 77 Green Team classrooms, involving 12,069 students.

Middle and high school students participate in EcoConnections classroom workshops on topics such as biodiversity, overconsumption, food waste, and product stewardship as they relate to waste prevention and recycling. Several of the workshops make the connection between recycling and climate change. All middle and high schools can receive assistance in forming Green Teams to carry out environmental projects. In the 2011-2012 school year, 525 workshops were presented to 17,769 secondary students, and 17 classrooms were registered as Green Teams, which involved a total of 666 students.

Green Schools Program: The King County Green Schools Program provides K through12 schools and school districts with the assistance and tools they need to:

- Initiate and expand waste reduction, recycling, and other conservation practices
- Involve the whole school community, including students, teachers, other staff, and parents, in environmental stewardship
- Operate environmentally efficient facilities

For each school and district, the three-level program provides tailored recommendations for their programs, recycling containers and signs, information and referrals, and ongoing support. Level One focuses on waste reduction and recycling. Level Two includes energy conservation strategies as well as maintaining and building upon the waste reduction and recycling practices started in Level One. Level Three includes water conservation and pollution prevention, as well as maintaining Level One and Two practices.



Westwood Elementary Green Team members assist other students with proper recycling in the school cafeteria.

In the 2011-2012 school year, the program assisted a record number of schools and school districts, with the following results:

- 12 school districts received assistance
- 155 individual schools located in 15 school districts and 30 cities throughout King County received assistance
- In the 155 participating schools, 95,203 students had opportunities to learn about and engage in recycling, waste reduction, and other conservation actions
- 65 schools and 2 school districts completed program Levels One, Two, and/or Three
- Of the 155 schools, 37 have reached recycling rates of 40 to 49 percent, 45 have reached recycling rates of 50 to 59 percent, and 33 have reached recycling rates of 60 percent and above
- 88 participating schools collected food scraps and other compostable materials to be composted at a regional facility

Four King County Green Schools were named as U.S. Green Ribbon Schools in April 2012 by the U.S. Department of Education. The award recognizes K-12 schools that excel in three pillars: environmental impact and energy efficiency, healthy school environments, and environmental and sustainability education. Each state was asked to nominate up to four schools. All four schools nominated by Washington State have participated in and received assistance from the King County Green Schools Program.

Household Hazardous Waste School Program: There are three main audiences for the Household Hazardous Waste (HHW) School Program: teachers and their students, parents of young children, and adult English language learners.

Workshops for teachers of grades 4 through 12 provide information on HHW and ideas for incorporating HHW information into lesson plans for a variety of subjects. Teachers who take the training can request follow-up support through classroom presentations and assistance on projects with their students.

In 2012, four Hazards on the Homefront teacher workshops were held. A total of 67 teachers attended. Of these, 25 teachers requested and received follow-up support, which resulted in 55 classroom presentations that reached 1,453 students. Two of the presentations were provided to a teen group supported by Seattle's Environmental Justice Network in Action program. These teens will share what they learned with residents in their community. Other follow-up support consisted of a mini-grant for a project conducted by 21 students on safe cleaning products, and teaching materials to 11 educators and the Shoreline School District.



Hazards on the Homefront workshops help educators teach students safer alternatives to chemical products and how to use this information on projects, such as growing a pesticide-free garden.

Presentations to parents of young children focus on the effects of hazardous products on children's health and provide easy, practical steps that parents can take to protect their children. During the presentation, parents learn why children and pregnant women are at special risk for the effects of household hazardous products, which products are of greatest concern and how to identify them, and how to lessen their risk by using safer alternatives and properly disposing of dangerous products. Fourteen presentations were provided to 175 parents and 7 parent group coordinators.

Presentations to adult English language learners (ELL) provide the same information presented to other parent groups, but use many more visuals to describe the concepts. After being presented with the basic information, the participants practice identifying hazardous products and sorting them by signal words on the product label. In 2012 presentations were made to 15 adult ELL groups that included 211 adults and 23 instructors or interpreters. The most frequent native language represented was Spanish, followed by Chinese, Russian, and Vietnamese, with smaller representation from Amharic, Arabic, Bengali, Farsi, Korean, Portuguese, Somali, and Thai.

Volunteer Master Recycler Composters Continue to Reach Out

King County's Master Recycler Composter (MRC) volunteer program provides free community education about waste reduction and recycling. MRC volunteers receive free training about waste reduction, recycling, and solid waste impacts on climate change, with a primary focus on King County's Recycle More. It's Easy to Do. campaign. In return, the MRCs agree to provide program outreach by volunteering at community events.

In 2012, MRCs participated in 40 outreach events, recording more than 500 hours of outreach to more than 4,837 King County residents, focusing primarily in areas of the county with low recycling rates. MRCs provided information on curbside and food scrap recycling through presentations to groups, information booths at community events (such as Issaguah Salmon Days), and farmers markets, where they distributed samples of compostable food scrap bags.



Volunteer Master Recycler Composters provide Recycle More outreach at Issaquah Salmon Days.

List of Best Workplaces for Recycling and Waste Reduction Grows

Best Workplaces for Recycling and Waste Reduction is a recognition program for businesses that have successful waste prevention and recycling programs in place. To qualify, each business provides a profile describing how their programs qualify their business as a Best Workplace and then offers advice and suggestions to other businesses.

In 2012, the division named 93 local businesses to its sixth annual Best Workplaces for Recycling and Waste Reduction list, and recognized Honor Roll businesses that have made the list for five or more years in a row. Innovative strategies included the Eastside Community Aid Thrift Shop's program that donates customer cell phones to domestic violence shelters; Safeway's Styrofoam recycling program; and Lake Washington School District's new composting efforts, which have helped reduce their garbage pick-ups by 50 percent.

Green Building

The division's green building program – GreenTools – supports internal county agencies, cities, the building community, and the public in designing buildings and structures that have fewer impacts on the environment, are energy efficient, and use recycled materials. In 2012, the division prepared a renewed strategic initiative for GreenTools to build upon

its current programs and establish new



benchmarks for success. The initiative is expected to be approved and implemented in 2013.

Sustainable Cities Program Receives Recognition

In 2012, King County's GreenTools program delivered 12 Sustainable Cities Roundtables, 5 technical trainings, and 3 tours, in addition to a presentation, in partnership with 7 cities, at the Living Future Conference in Portland.

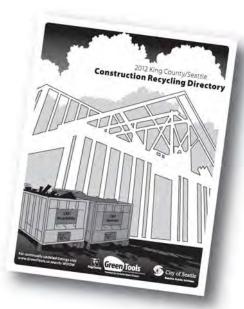
To top off a successful year, the program received the prestigious Harvard's Bright Ideas Award from the Ash Center for Democratic Governance and Innovation at the John F. Kennedy School of Government for the GreenTools Sustainable Cities Program. This award is given to programs that demonstrate a creative range of solutions to urban and rural challenges, with an emphasis on environmental challenges.



GreenTools was instrumental in securing the Pacific Northwest as the venue for the Building Material Reuse Association's biennial national conference (Decon '13), which will be held at Seattle Center from April 29 to May 1, 2013. The conference will focus on deconstruction and salvage activities occurring in this region.

The King County YouthSource Deconstruction Program had a great run during 2012, providing deconstruction services at 6 King County-owned projects and offering paid training for more than 15 previously incarcerated youth. King County currently has contracts in place with two private companies that salvage materials from buildings before they are demolished. Salvage of reusable building materials occurred at 20 King County structures during 2012.

GreenTools also released the updated 2012 Construction Recycling Directory, which incorporates the King County contractor's guide to provide on-the-job contractors and jobsite supervisors with a hands-on tool for determining how to structure their C&D programs and where to take materials for recycling.



Division Assists with Regional Green Building Code Development

In 2012, the GreenTools program convened the Regional Code Collaboration with the City of Seattle to develop a package of green code updates to further increase sustainable development initiatives. In late 2012, the City of Seattle passed a comprehensive ordinance to require the recycling and beneficial use of materials often considered to be waste products of the construction and demolition (C&D) industry. The division co-sponsored the research and helped coordinate policy development that led to passage of the ordinance. The policy development partnership paved the way for local municipalities to expand the diversion of C&D on a wider, regional scale and has sown the seeds for the introduction of several more C&D ordinances in 2013. The group also developed a cutting-edge demonstration ordinance for the Living Building Challenge, which will be unveiled in 2013.

Green Building Assistance Provided to Innovative Projects

In further support of equity and social justice in King County, GreenTools partnered with Habitat for Humanity Seattle, South King County Chapter to support further development of the House of the Immediate Future project. The project kicked off in 2011 with a workshop attended by more than 60 local experts who focused on four major topics – Construction, Energy,

Green Building



This artist's rendering of the House of the Immediate Future is now a home in an affordable-housing development in Columbia City.

Program, and Site – prioritizing repeatable solutions for nearterm Habitat for Humanity projects. In 2012, the House of the Immediate Future was constructed as a demonstration of green building technology at the Seattle Center for the Next 50 Program, celebrating the 50th anniversary of the 1962 World's Fair. During the Bumbershoot Festival over Labor Day weekend, more than 5,000 attendees toured inside the House of the Immediate Future. The 1,400-square-foot home was moved to a new affordable-housing development in the Columbia City neighborhood. The GreenTools Program worked closely with designers on procurement of recycled-content materials, salvaged wood, and flooring, and provided technical assistance on designing for disassembly.

Another highlight of the 2012 program included the development of Built Green's new certification system called Emerald Star. The new rating system exceeds prior levels of certification for the program and was designed to be a carbon-neutral prescription for building single-family and townhomes in the Pacific Northwest Region.

Green Building Team Assists Countywide Green Building

The division coordinates and staffs the countywide Green Building Team in accordance with King County Ordinance 16147. This multi-agency team is charged with helping King County optimize green building principles in all their projects.

In 2012, King County's green building activity consisted of 5 Leadership in Energy and Environmental Design (LEED) projects and 165 projects using the Sustainable Infrastructure Scorecard. On King County capital projects that reported the diversion of C&D materials, an average of 77 percent of construction materials was diverted from the landfill. Salvage and deconstruction assistance, including on-site building assessments, was provided on more than 30 different King County projects.

The division's recycling and transfer station program was showcased in the 2011 Annual Report of King County's Climate Change, Energy, Green Building, and Environmental Purchasing Programs, and was included in a presentation at the WASTECON '12 conference in Washington, DC. The successful

Green Building

implementation of green building and sustainable development at our transfer stations was used to illustrate how the county is reducing its environmental footprint.

The division provided other county divisions with increased technical assistance, including informative eco-charrettes, research on sustainable products and materials, commissioning, specification review, analysis of green stormwater infrastructure, and assistance with building reuse and historic preservation. With technical assistance from the LinkUp Program, a number of King County agencies were able to incorporate recycled asphalt shingles into their projects, including the King County Regional Aquatics Center parking lot and site paving at the Factoria and Bow Lake Recycling and Transfer Stations. In addition, King County Metro Transit paved an 800-foot-long stretch of a transitonly road with hot mix asphalt containing recycled asphalt shingles. The objective of the project is to test how the material performs under bus traffic.

In 2012, the internal Green Building Team began a comprehensive review of Green Building and Sustainable Development Ordinance 16147 to develop the content of a renewed ordinance to be adopted by end of year 2013. The team conducted extensive research of local and national policies, and discussed the need for improvements in the current ordinance through outreach efforts with other county agencies, jurisdictions, industries, and community stakeholders. The ordinance renewal process provides an opportunity to advance green building and sustainable practices, improve implementation strategies, and encourage innovative thinking. This process builds upon the leadership and extensive accomplishments that the county has achieved so far. In addition, green building practices were incorporated in countywide and regional policies through updates to King County's comprehensive plan and Strategic Climate Action Plan.

Environmental Stewardship

The division places environmental stewardship at the forefront of all its activities and plans. Through its participation on the countywide Climate Team, the division supports the King County Strategic Climate Action Plan (SCAP) through its operations and programs, as well as its participation on state and regional forums.

Climate Action Team Gets Results

Published in December 2012, the SCAP synthesizes and focuses King County's most critical goals, objectives, and strategies to reduce greenhouse gas emissions and prepare for the effects of climate change. Among the top priority actions in the plan are the division's key climate response efforts, which include continuing green fleet initiatives, supporting renewable energy, promoting green building and recycling, expanding recycling infrastructure, and supporting the reuse of resources.

Performance measures and targets for these priority efforts are tracked and reported in the county's Annual Report on Climate Change, Energy, Green Building, and Environmental Purchasing Programs.

The countywide 2012 King County Energy Plan required that by 2012 county agencies reduce energy use by 10 percent from reported energy use in 2007. In 2012, division facilities used 21,392 million British thermal units (MMBTUs), an 11 percent reduction from 2007, surpassing the county's goal. Energy use at the Bow Lake site was not included in the 2012 calculations because the site was under construction during the year.

The division is minimizing energy use at its facilities through innovative design features, new technologies, and employee ideas and collaboration. Examples include solar panels to supply power, rain-water tanks to capture water for floor wash-downs and toilets, minimizing run times for aerator pumps, occupancy sensors to control lighting, and automatic shut-off switches for

Environmental Stewardship

garbage compactors. It should be noted that the newer stations, such as Shoreline and Bow Lake, provide more services than the stations they replaced and will use more energy overall; however, because of the energy-saving designs, the stations will use less energy than comparable facilities of their size.

The division sells landfill gas generated by the decomposition of waste buried in the county's Cedar Hills Regional Landfill through a contract with Bio Energy (Washington), LLC (BEW). BEW in turn refines the landfill gas into pipeline-quality natural gas and sells it to Puget Sound Energy (PSE). In 2012, the BEW plant underwent some restructuring to improve the gas refinement process. When operations resumed mid-year, the plant produced about 5.7 million therms of pipeline-quality gas for sale to PSE. In addition, the plant produced about 7.9 million kWh of electricity to power the facility itself and sold about 2.8 million kWh of electricity to PSE. The production of pipeline-quality natural gas and electricity helped the county to reach its goal of producing, using, or procuring renewable energy equal to 50 percent of the county's total energy requirements by 2012.

The division also leads a number of initiatives that support the county's climate action goals. Waste prevention and recycling provide significant climate benefits by avoiding and reducing emissions associated with the mining, manufacture, and



Solar panels and skylights on the roof of the new Bow Lake station are reducing resource consumption at the facility.

processing of new products that we all consume. Composting yard and food waste minimizes methane emissions and, by applying it to the soil, sequesters carbon and reduces the demand for pesticides and fertilizers, which also require significant energy in their production. The Recycle More. It's Easy to Do. campaign is a regional education campaign focused on increasing residential recycling rates, particularly in areas of the county with lower recycling rates. In 2012, more than 860,000 tons of recyclable materials were collected from residents and businesses and more than 9,000 tons were received at county transfer facilities. Recycling these materials, instead of disposing of them in the landfill, reduced greenhouse gas emissions equivalent to more than 1.6 million metric tons of carbon dioxide.

Organics and food waste comprise the largest category of waste being disposed in King County and have a significant impact on the climate in their production, consumption, and disposal. On average, single-family households dispose of 42 pounds of food scraps and compostable paper per month. Over the last two years, a new program called Food: Too Good to Waste was designed in collaboration with the U.S. Environmental Protection Agency, the division, and more than 25 other state, city, and county government partners. The division was one of the first partners in the U.S. to initiate a pilot project to help prevent the disposal of edible food waste. In November 2012, the division partnered with Fall City Elementary School and invited 110 students and their families to measure and track food wastes in the home and to learn new strategies to reduce that waste. Over the five-week pilot study, 15 students and their families reduced their weekly food waste by more than 28 percent. The division plans to use what was learned in the Food: Too Good to Waste pilot in launching a county-wide public education outreach effort in 2013.

In 2012, division staff participated in the monthly brownbag series Responding to Climate Change, hosted by the Department of Natural Resources and Parks, and the Sustainable Cities Roundtable series, which focuses on climate change, communicating research results and division program activities.

Leadership in Illegal Dumping Cleanup Continues

The division continues to take a leadership role among the numerous agencies that share responsibility for handling cleanup of litter and illegal dumping in King County. Three of the division's programs deal with litter and illegal dumping: the Community Litter Cleanup Program, the Community Cleanup Assistance Program, and the Illegal Dumping Hotline.

Environmental Stewardship



Illegal dumping comes in all shapes and sizes.

The Community Litter Cleanup Program funds prevention and education programs, as well as the cleanup of litter and illegal dumpsites on public lands and waterways in King County. While continuing to clean up dozens of smaller sites throughout the county, this year the program emphasized the permanent clean up of major dump sites. Blocking access and removing tons of debris from these sites required on-going cooperation among several public agencies and adjacent landowners. In 2012, more than \$90,000 from the division was spent on the program, with an additional investment of more than \$59,000 in grant money from the Washington State Department of Ecology. This partnership allowed crews to clean up approximately 105 tons of debris from 204 sites. About 24 percent of the debris was recycled – recycled items included tires, appliances, and junk vehicles.

The Community Cleanup Assistance Program (CCAP) has been operating since 2008 to help keep our communities clear of litter and illegal dumping. Through CCAP, county and city environmental site inspectors can request solid waste disposal vouchers that waive the disposal fee for 1) victims of illegal dumping, 2) those on a limited or fixed income who need assistance cleaning up their properties, or 3) both. Throughout King County, 226 vouchers were redeemed in 2012. Residents in unincorporated King County and in 14 of the suburban cities used the program to clean up dumped waste on private property.

The voucher program has inspired tremendous good will between the county and the cities and between the county and its residents. Victims of illegal dumping appreciate that the

program removes the financial burden from the frustrating situation of having to clean up someone else's garbage. The program saves agencies and residents money by getting problem sites taken care of guickly and decreasing the need for repeat inspections and costly enforcement actions.

The division manages the Illegal Dumping Hotline, which is staffed around the clock, and maintains the database that tracks all calls and on-line complaints received. A computer application determines what jurisdiction should receive the complaint based on type and location, and sends the jurisdiction an e-mail with the complaint information attached. In 2012, the hotline took 690 calls. Nearly all of these were reporting the location of an illegal dump site.

Unsecured Loads Will Cost Customers More

In September 2012, the County Council approved an increased fee for customers arriving with unsecured loads at county transfer facilities or the landfill. The \$25 fee, effective January 1, 2013, supports safe roads and clean communities by acting as a deterrent to customers who continue to deliver unsecured loads to county facilities.

An unsecured load is one that has not been fastened in or attached to the vehicle with tarps, rope, straps, netting, or chains, so as to prevent any part of the load or the covering from becoming loose, detached, or leaving the vehicle while it is moving. According to the Washington State Department of Ecology, vehicle-related road debris causes about 400 accidents and 12 million pounds of litter on Washington roads each year.

To support the fee increase, the division updated its website, produced a new brochure, and increased signage at facilities (all in English and Spanish), and provided scale operators who are charged with assessing the fee with additional training.



Environmental Stewardship

Brownfields Work Continues to Enhance the Urban Environment

The purpose of the King County Brownfields program is to promote the cleanup and reuse of contaminated sites. The program uses grant funds from the U.S. Environmental Protection Agency to conduct environmental site assessments and provide technical assistance to businesses, municipalities, and nonprofit organizations in the county. The division contracts with the nonprofit Environmental Coalition of South Seattle and environmental consultant CDM Smith (CDM) to implement the program.

In 2012, CDM conducted the following environmental site assessments:

 Phase I assessment on behalf of the Seattle Chinatown International District Preservation and Development Authority (SCIDpda) to determine the potential for contamination on an

- auto repair site that SCIDpda wishes to purchase and redevelop into affordable housing. CDM also conducted a Phase II assessment on the site to investigate the presence of underground storage tanks (USTs) and then prepared a preliminary cleanup cost estimate.
- Supplemental Phase II assessment on behalf of the SuttonBeresCuller (SBC) artist collaborative to investigate the presence of USTs at a former gas station in the Georgetown neighborhood of Seattle that SBC wishes to purchase and redevelop into a community art project and park.
- Phase I assessment on behalf of the Lake Washington Girls Middle School to determine the potential for contamination on a site adjacent to a former dry cleaners in Seattle's Central District. The Phase I assessment revealed there had been a gas station on the property, so CDM also conducted a Phase II assessment on the site to investigate the presence of USTs.



An underground storage tank investigation was conducted at the former Perovich Gas Station property in Georgetown.

Capital Projects

The division is in the midst of a more than \$300 million modernization of its 1960s-era network of transfer stations in order to meet the needs of the residential self-haulers, businesses, and garbage collection companies who use them. Replacement or renovation at the Vashon, Enumclaw, and Shoreline transfer stations has been completed. The new Bow Lake Transfer and Recycling Station building opened in July, while work continues on the expanded recycling area and other site features. The new Factoria station is proceeding through the design and permitting phase, with construction expected to begin in 2014. The siting process is well underway for the new south county station.

New Bow Lake Recycling and Transfer Station Opens Its Doors

Thanks to the hard work of operations staff, engineers, planners, and managers, in July 2012, solid waste transfer operations were smoothly transitioned from the old Bow Lake transfer station to the newly constructed Bow Lake Recycling and Transfer Station in Tukwila. The older station remained in operation throughout the three-year construction of the new building to allow for uninterrupted service to customers at the site. This single station receives about one third of the county's total garbage tonnage for transfer to the landfill. Interim recycling was introduced inside the new building until the expanded recycling area on the south side of the building is completed in 2013. Recycling is currently available for appliances, scrap metal, yard waste, clean wood, and bicycles (for reuse and recycling). The design of the new station incorporates many new features, including:

- · A larger tipping floor with additional waste unloading areas, which will reduce customer wait times
- An enclosed building that will protect customers and workers from weather conditions, as well as contain noise,
- Two pre-load compactors to improve operational efficiency and decrease the number of transfer trailer truck trips required to and from the station
- Sustainable building design features, such as solar panels and energy-efficient lighting, that will result in lower life-cycle costs than conventional building design
- · Environmental enhancements to the stormwater and wastewater systems



The new Bow Lake station accepts bicycles and bike parts for reuse and recycling.

The old transfer building was deconstructed in September 2012. In 2013, construction will continue on site retaining walls, the scale facility, the expanded recycling area, the transfer trailer parking area, and other site improvements. Throughout construction, the division continues to provide uninterrupted service to both commercial and self-haul customers. The project continues to proceed on schedule and within budget, and has maintained a stellar safety record with no lost-time injuries.

The division will seek Leadership in Energy and Environmental Design (LEED) Gold certification for this project. Green features include solar panels on the staff building, rainwater harvesting, and energy-efficient design. In addition, with help from the LinkUp program (discussed in Waste Prevention and Recycling), the Bow Lake station is the first public facility and the second public paving project in the state to use recycled asphalt shingles (RAS) in the site paving materials. In 2012, RAS was used to pave the road leading into the site and a portion of the trailer yard. To date, the use of RAS at the site has diverted 120 tons of asphalt shingles from disposal. As the trailer parking and other paved areas are completed around the site, the amount of RAS used at Bow Lake will more than double.

Capital Projects



Design of the new Factoria Recycling and Transfer Station is on schedule for completion in 2013.

Design Phase for Factoria Recycling and Transfer Station Surpasses Halfway Mark

The new Factoria Recycling and Transfer Station, slated for construction at the site of the existing facility, is progressing as scheduled through the design and permitting phase. Design of the transfer building reached 60 percent completion in 2012, and is expected to be finished in early 2013. The division has obtained the land-use (or conditional-use) permit that will allow for development of the new transfer and recycling station on the site, and has begun pursuing building and other required permits. The project is expected to break ground in 2014. Construction of the new station will proceed in phases, much like the Bow Lake project, whereby the old station will remain open while the new station is being built. This approach allows for uninterrupted service to customers throughout the construction period, maintaining continuity of service throughout the regional system.

Division Begins Siting Process for the First of Two New Transfer Facilities

In 2012, the division began a concentrated siting search to replace the aged Algona Transfer Station in south King County. The division looked at potential sites in or near the same communities that are served by the current Algona station, which include Algona, Auburn, Federal Way, and Pacific.

A Siting Advisory Committee (SAC) was formed to advise the division from a community perspective by identifying community concerns and impacts, developing criteria used to

evaluate potential sites, and expressing opinions and preferences. SAC members include representatives from cities, local agencies and businesses, chambers of commerce, school districts, commercial garbage and recycling collection companies, transfer station users, environmental and neighborhood groups, and interested citizens.

In addition to forming the SAC, the division worked to ensure that members of the communities to be served by the new station received information about the project and had opportunities to give input. Following the Solid Waste Facility Siting Plan and the county's equity and social justice ordinance, the division worked to include traditionally underrepresented communities in the siting process, translating written materials into Spanish, Korean, and Russian, and providing translators at public meetings.

The division cast a wide net in searching for suitable sites. By December 2012, the number of sites had been narrowed and environmental review began. An environmental impact statement (EIS) will evaluate the final sites and a "no-build" alternative. An EIS identifies probable significant adverse impacts of the proposed project and potential means for mitigating those impacts.

In 2013, the division expects to begin the process for siting a new recycling and transfer station in northeast King County to replace the Houghton Transfer Station. The division will use the experience gained in the south county to continue to refine its approach to siting, including equitable community involvement. Community siting criteria specific to the concerns of the northeast service area will be developed by members of that community.

Public Information

The division continues to reach out to customers and stakeholders through social networking, such as blogs, Facebook, and Twitter, as well as traditional communication approaches, such as brochures, fliers, web page updates, and telephone calls. This wide array of media avenues opens channels for learning from the public and others working in the field of solid waste, recycling, waste prevention, "green" living, and more. The division is a leader among public agencies in using the full spectrum of communication strategies to engage the public.

Among the popular social networking sites are:

- The Recycle More. It's Easy to Do. Facebook page, which encourages increased recycling among residents and businesses in King County. Updates include division events and projects, partner city events, and general information on the environment. By the end of December 2012, the Recycle More Facebook page had received 1,129 likes, with an average weekly reach of nearly 500 unique users.
- The Green Team Facebook page engages about one hundred school-based Green Teams in King County. By the end of December 2012, the Green Team Facebook page had received 47 likes.
- The "Go, Green Team!" blog, which highlights projects by King County school-based Green Teams, and provides ideas for projects, opportunities for funding, and tools for better recycling. In 2013, the blog will include posts on environmental issues related to various themes such as Black History Month, National Poetry Month, Women's History Month, and other themes students might be observing in classroom work.



The division added a Spanish-language component to its comprehensive outreach programs this year. Rather than simply translating existing materials, the division has worked directly with the local Spanish-speaking community to create new programs and materials in Spanish that respond to the questions and needs of the community. The division has created and implemented a Spanish-language website, and translated educational materials, brochures, and more into Spanish and other languages for the communities it serves.

The division's website continues to be a well-tapped source of solid waste information, with more than 1.3 million unique page views in 2012. Nearly 75 percent of those visits were to the following sites:

The "What Do I Do With ...?" website: Guides the user to the many vendors that accept materials for reuse, recycling, or disposal.

Transfer station- and facility-related information: Includes division hours of operation, directions, and station closures, as well as daily updates on the status of facilities during major weather events.

Garbage and Recycling site: Includes city-specific curbside hauler information, location and driving directions to the nearest transfer facilities, contact information for each suburban city and details about special recycling events. Also includes environmental education topics such as Recycle More. It's Easy To Do. and the Zero Waste website.

The Take it Back Network: A partnership of government agencies, retailers, repair shops, charitable organizations, and recyclers that provides consumers with options for recycling certain wastes - and their hazardous components - in a safe and cost-effective manner.

The division's Customer Service Unit (CSU) fields customer inquiries that come by telephone and through the Contact Us website comment form. In 2012, the team responded to more than 39,000 telephone inquiries and 1,334 website e-mail requests. The CSU assists customers with website searches to help them download brochures and access detailed information about programs. The CSU responded to 455 of the inquiries that came into the Illegal Dumping Hotline.

Planning for the Future

In 2013, the division will transmit the final Comprehensive Solid Waste Management Plan for approval by the Metropolitan King County Council and the cities. The plan builds upon the division's efforts to increase waste prevention and recycling and to advance green building practices in the region and in its operations. The division will continue to refine operational practices and facility designs in ways that further reduce its carbon footprint and promote the greening of the natural and built environments.

The division will continue to renovate and replace its aging transfer facilities according to the approved Solid Waste Transfer and Waste Management Plan (Transfer Plan). The new Bow Lake Recycling and Transfer Station building opened its doors in July 2012, while work continues on the new expanded recycling area and other site features. The station is scheduled for completion in 2013. Next on the horizon, the new Factoria Recycling and Transfer Station is proceeding through the design and permitting phase. In 2013, the procurement process will begin to select a construction contractor for the project.

In addition, the siting process is well underway for the new south county recycling and transfer station. The new station will replace the aged Algona Transfer Station. The list of viable sites has been narrowed, and an environmental impact statement, in accordance with the State Environmental Policy Act, will be prepared to evaluate the final sites and a "no-build" alternative. Through this public process, a final site will be selected. In 2013, the division expects to begin a similar process for siting a new recycling and transfer station in northeast King County to replace the Houghton Transfer Station.

The current interlocal agreements (ILAs) between 37 cities (all cities in King County except Seattle and Milton) and the county will expire in 2028. As the county prepares to issue bonds to finance the renovation of the transfer system, as approved under the cooperatively developed Transfer Plan, ensuring adequate revenue to repay the bonds is critical. Because tonnage and therefore revenue is guaranteed through the ILAs, all bonds must be repaid before they expire.

After months of intensive negotiations about this and other issues, a city-county team has developed an Amended and Restated ILA to foster cooperation in the regional solid waste system. Under the new ILAs, the term of the agreement was extended for 12.5 years, through December 2040, which would keep rates lower by allowing for longer-term bonding for capital projects and maintaining the economies of scale provided by our



Young recyclers will help shape the future of solid waste management in the region.

regional system. The county transmitted the new ILAs to the cities for adoption in December 2012; it is anticipated that the cities will take action by late April 2013.

Other amendments to the original ILAs include:

- An expanded cities' role in solid waste system planning, including financial policies and long-term disposal alternatives
- Acknowledgment that solid waste facilities are regional facilities, and host cities and neighboring cities may receive mitigation for impacts
- Measures for dealing more effectively with environmental liabilities, if and when they arise, including insurance and reserves
- A dispute resolution process between the county and the cities that includes non-binding mediation
- Updates to the ILAs to be consistent with current conditions and laws that have changed since the ILAs were issued in 1988

Planning for the Future

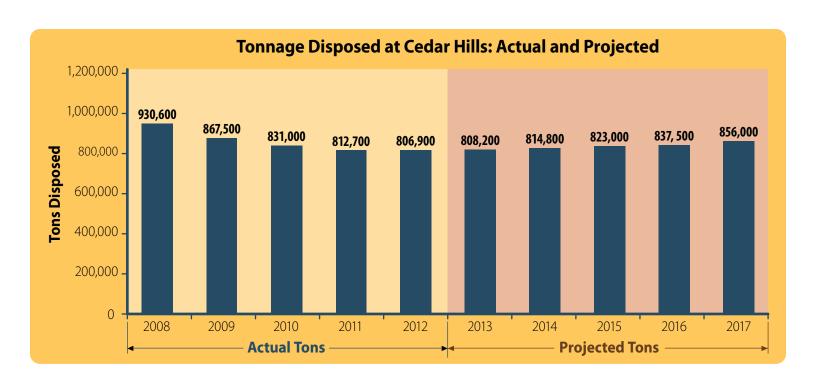
The division continues to pursue additional planning studies as needed to explore a variety of other topics including best practices in solid waste management, alternative disposal technologies, and sustainable system financing. The division is committed to the continued exploration of emerging waste conversion technologies and advances in established disposal methods, including landfilling and incineration with energy and resource recovery.

Solid Waste Projections

Projections of solid waste tonnage play an important role in planning, as fees for disposal are the division's primary source of revenue. These projections are developed using an econometric model that incorporates variables such as population, per capita income, employment, and the disposal tipping fee. In addition, efforts to increase recycling and waste prevention are considered as part of the tonnage forecast. The recycling rate in 2011 was 52 percent; the final overall rate for 2012 will be available in late 2013.

The Great Recession, which resulted in high unemployment, significant under-employment, lowered housing prices, and reduced consumer and business spending, led to an overall drop in waste generation. Disposal at the Cedar Hills landfill decreased about one percent from 2011, to about 806,900 tons. Since 2007, tonnage disposed at Cedar Hills has dropped by about 20 percent. Decreased waste generation means that recycling tonnage has also dropped.

After the precipitous drop in 2007, tonnage has continued to decrease slightly each year. Although tonnage began to increase in November 2012, the division does not anticipate a return to the higher tonnage levels that existed prior to 2007 for many years. Garbage tonnage is expected to remain more or less flat over the next several years. While some increase in total waste generation due to improving economic conditions is expected, it will be somewhat offset by additional recycling programs, which will divert waste from disposal.



Note: Throughout the appendices, totals in the table may vary slightly due to rounding.

	1: Total Refuse Tonnage		Cedar Hills Reg.	Cedar Hills Other	
Year	Rural Landfills	Transfer Stations	Direct	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	43,097	846,422	483,950	58,105	1,431,573
1991	28,553	842,083	258,319	53,014	1,181,969
1992	23,656	769,177	119,341	21,317	933,490
1993	21,020	710,077	144,974	24,740	900,811
1994	10,288	631,274	150,400	22,423	814,385
1995	7,388	642,498	146,089	26,610	822,585
1996	7,765	595,300	190,797	23,740	817,602
1997	8,180	610,941	229,007	24,449	872,577
1998	8,229	626,871	226,618	22,004	883,722
1999	3,949	692,921	214,422	18,015	929,306
2000	-	711,565	216,169	19,440	947,174
2001	-	696,665	222,664	16,982	936,310
2002	-	683,966	238,290	17,233	939,489
2003	-	704,128	257,283	17,426	978,837
2004	-	867,917	119,110	19,136	1,006,163
2005	-	944,100	25,304	19,451	988,855
2006	-	962,407	19,331	16,468	998,207
2007	-	956,549	37,099	16,781	1,010,429
2008	-	907,678	8,802	14,137	930,616
2009	-	847,386	5,192	14,902	867,481
2010	-	811,614	5,664	13,634	830,912
2011	-	796,187	6,103	10,393	812,683
2012	-	782,056	13,087	11,772	806,915

Transfer Stations & Drop Boxes	Total Tons	% Self-Haul	% Commercial
Algona	139,052	25%	75%
Bow Lake	241,013 ¹	19%	81%
Cedar Falls Drop Box	3,194 ¹	100%	0%
Enumclaw	19,235 ¹	55%	45%
Factoria	115,563	18%	82%
Houghton	151,824	19%	81%
Renton	61,883	26%	74%
Shoreline	42,738 ¹	53%	47%
Skykomish Drop Box ²	926	16%	84%
Vashon	7,554	65%	35%
Total	782,056	24%	76%

² Solid waste transported from Skykomish to the Houghton station; this row is not added to totals.

Table A-3: 2012 Transactions at Transfer Facilities					
Transfer & Drop Box Stations	Total Transactions	% Self-Haul	% Commercial		
Algona	132,611	87%	13%		
Bow Lake	161,950	78%	22%		
Cedar Falls Drop Box	17,475	100%	0%		
Enumclaw	40,478	97%	3%		
Factoria	90,924	82%	18%		
Houghton	113,537	82%	18%		
Renton	72,735	88%	12%		
Shoreline	67,424	94%	6%		
Skykomish	2,692	93%	7%		
Vashon	19,802	98%	2%		
Total	719,628	86%	14%		

Table A-4: 2012	Table A-4: 2012 Transfer Station and Drop Box Recycling Tonnage							
Origin	Organics	Paper	T-A-P-G ¹	Scrap Metal	Appliances/ Electronics	Wood	Misc ²	Total
Bow Lake ³	796			65	80	4	2	947
Cedar Falls 4,5	523	188	98				2	811
Cedar Hills				59	8		0	67
Enumclaw 4,5	571	368	206	64	137	50	3	1,399
Houghton ⁴		44	9				1	54
Renton ⁴		67	25				2	93
Shoreline 4	4,030	63	16	505	291	12	10	4,926
Skykomish		18	21				0	39
Snoqualmie		57	34				0	91
Vashon ⁶		222	516	4	47		2	790
Totals	5,919	1,027	923	697	563	66	22	9,218

¹ T-A-P-G = tin cans; aluminum cans; plastic bottles, jugs and tubs; glass bottles and jars.

Includes fluorescent bulbs and tubes, batteries, reusable household goods and building materials, textiles, and bicycles.

Bow Lake Recycling and Transfer Station opened in July 2012.

Paper and T-A-P-G services ended February 1, 2012.

Paper and T-A-P-G services resumed February 11, 2012.

Scrap metal services began October 22, 2012

	Limit residential disposal to 18.5 lbs per week or less per resident ¹	Limit non- residential disposal to 23.5 lbs per week or less per employee ¹	Single-family curbside recycling rate ²	Single-family lbs disposed per week per household ²	Multi-family recycling rate ²	Non- residential recycling rate
			Targets			
All years	18.5	23.5				
2006			50%	31.4	35%	43%
2012			52%	30.7	40%	46%
2018			53%	30.5	40%	48%
			Actual Results			•
2006	14.1	25.6	53%	28.0	10%	54%
2007	16.7	26.9	54%	27.7	10%	59%
2008	15.4	24.0	55%	26.1	10%	62%
2009	14.1	20.7	54%	26.4	10%	62%
2010	13.7	20.9	54%	26.0	11%	64%
2011	13.6	19.5	55%	24.8	12%	67%
2012	13.5	n/a	56%	25.0	13%	n/a

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Table A-6: 2012 Single-family and Multi-family Recycling and Disposal Rates ¹					
	Sing	Multi-family			
Jurisdiction	Recycling Rate	Pounds Disposed per Household per Week	Recycling Rate		
Algona	37%	29	0%		
Auburn	53%	22	16%		
Beaux Arts	63%	24	NMF ²		
Bellevue	65%	23	20%		
Black Diamond	50%	30	21%		
Bothell	63%	24	12%		
Burien	53%	25	8%		
Carnation	58%	25	22%		
Clyde Hill	62%	30	NMF		
Covington	44%	31	7%		
Des Moines	49%	26	15%		
Duvall	57%	26	10%		
Enumclaw	56%	25	NA ³		
Federal Way	53%	26	8%		
Hunts Point	57%	34	NMF		
Issaquah	56%	22	25%		
Kenmore	55%	27	20%		
Kent	54%	24	7%		
Kirkland	65%	21	16%		
Lake Forest Park	64%	23	18%		
Maple Valley	48%	28	5%		

Continued on next page

	Sing	Multi-family			
Jurisdiction	Recycling Rate	Pounds Disposed per Household per Week	Recycling Rate		
Medina	60%	29	NMF		
Mercer Island	65%	25	28%		
Newcastle	52%	26	7%		
Normandy Park	52%	27	12%		
North Bend	51%	28	10%		
Pacific	37%	24	10%		
Redmond	62%	22	15%		
Renton	62%	20	10%		
Sammamish	56%	27	21%		
SeaTac	44%	28	7%		
Shoreline	56%	23	25%		
Skykomish	no curbside recycling				
Snoqualmie	50%	26	9%		
Tukwila	44%	29	8%		
Woodinville	54%	25	10%		
Yarrow Point	59%	28	NMF		
Unincorporated - North	53%	28	21%		
Unincorporated - South	45%	29	8%		
Unincorporated - Vashon	5%	33	13%		
Countywide	56%	25	13%		

¹ These numbers are derived from tonnage and customer count data reported to the King County Solid Waste Division in monthly reports from commercial hauling companies. Reported tonnage has been adjusted to remove estimated quantities of non-recyclable materials placed in recycling and organic carts. Based on 2011-2012 sampling, recycling contaminants are estimated at 11.2% (northern County) to 12% (southern County), and organics contaminants at 2.1%.

² No multi-family housing.

³ Data not available.

Table A-7: Number of Telephone Inquiries by Type in 2012				
2012 Fee Increase	7			
Appliance Recycling	1,075			
Bow Lake Renovation	33			
Complaints	187			
Compliments	7			
Computer/Electronics Recycling	326			
Construction/Demolition/Landclearing	1,699			
Curbside Recycling	272			
Directions to Facilities	2,035			
Factoria Replacement Project	18			
Furniture	1,169			
General/Other Inquiries ¹	3,776			
General Recycling	1,433			
Hazardous Waste/Wastemobile	1,799			
Houghton Roof Project	25			
Hours of Operation	4,650			
Illegal Dumping	455			
Junk Vehicles	50			
Latex Paint Disposal Policy	442			
Metal	717			
Non-Assistance Transfers and Wrong Numbers	1,489			
Residential/Business Garbage Issues	1,773			
Special Collection Events	280			
Special Waste	461			
Television	452			
Transfer Stations	12,604			
Transfer Station Recycling Changes	619			
Yard Waste	1,469			
Total	39,322			
1 Other inquiries include calls about personnel, weather-related events, junk mail, school pro	ograms, composting, council contacts, storm debris, garbage strike, etc.			

Table A-8: Solid Waste Division Legislation Summary for 2012				
Name	Description	Approved by Council		
Interlocal Agreement with Kittitas County	Ordinance 17348 - Interlocal Agreement with Kittitas County to designate responsibility for solid waste collection in the Snoqualmie Pass Rural Town.	6/18/2012		
Supplemental Budget	Ordinance 17349 - Supplemental budget to fund transfer station operations through December 2012.	6/18/2012		
Proviso 1: Transfer Station Usage Patterns	Motion 13727 - Transmitted a report that 1) provides an analysis of transfer station usage patterns to inform any proposed reductions in services, 2) identifies periods of heaviest usage by transfer station and includes recommendations for changes in operating hours based on the usage pattern analysis, 3) includes an implementation plan for recommended changes in hours of operation or other reductions in service, and 4) describes outreach plans to affected constituencies.	9/5/2012		
Rate Proposal	Ordinance 17423 - Rate proposal to revise solid waste disposal fees, including the unsecured load fee, for the period 2013-2014.	9/24/2012		
Future Transfer Station Construction	Ordinance 17435 - Required the analysis of alternative procurement methods for the design and construction of new projects.	10/15/2012		
Factoria Recycling and Transfer Station Alternative Procurement	Ordinance 17437 - Sought authority to use an alternative procurement method under RCW 36.58.090.	10/15/2012		
Solid Waste Fee	Ordinance 17475 - Revised the fee charged at the Cedar Hills Regional Landfill (amends Ordinance 17423, Section 2, C).	11/12/2012		
Name	Description	Transmitted to Council		
Solid Waste Division Annual Report	Solid Waste Division Annual Report as required by KCC 10.14.080 and 10.24.020.	5/1/2012		
Capital Improvement Plan Reallocation Report	Report required by KCC 4.04.275.	5/15/2012		

	•Education	Expenditure
Waste Prevention & Recycling	Technical and financial assistance	\$8,206,8
and Mod. Risk Waste	•Collection services	26 FT
Landfill Operations	Operate and maintain active and closed landfills	Expenditure
	 Equipment replacement transfer 	\$27,869,8
	•Landfill rent	49 FT
	•Collect fees	Expenditure
Transfer Station Operations	Monitor waste	\$13,386,3
	Equipment replacement transfer	93 FT
Transportation Operations	•Transport garbage to landfill	Expenditure
	Haul leachate & maintenance material	\$9,817,8
	Equipment replacement transfer	62 FT
Maintenance Operations	Maintain facilities and equipment	Expenditure
	Procure and control inventory	\$8,442,7
	,	62 FT
Operations Administration		Expenditure
	Maintenance planning for operations functions	\$1,224,4
		8 F1
Capital Facilities ¹	•Plan and execute capital projects	Expenditure
	•Environmental monitoring	\$6,961,5
	Operations support	37 F1
		Expenditure
Debt Service		\$5,503,3
		0 F1
Administration & Fiscal Services	Manage fiscal functions	
	Administer customer service	Expenditure
	Personnel functions	\$13,545,6
	• Payroll • Planning	57 F1
	Communication	
Operating portion only of capital facilities budget; does not i.] [
ummary of 2012 Actual Activities (as of Ma		

2012 Solid Waste Division Annual Report



Department of Natural Resources and Parks Solid Waste Division