



# 2014 Solid Waste Division Annual Report



**King County**

Department of  
Natural Resources and Parks  
**Solid Waste Division**

Waste  
Prevention

Resource  
Recovery

Waste  
Disposal

[www.kingcounty.gov/solidwaste](http://www.kingcounty.gov/solidwaste)

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# Acknowledgments

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**Cover Photo:** A Transfer Station Operator unloads of bin of scrap metal as part of the division's Resource Recovery Pilot Program.

# Table of Contents

<b>Message from the Director</b> .....	<b>1</b>
<b>Waste Prevention</b> .....	<b>2</b>
Recycle More Recicla Mas .....	2
Recyclable Materials in the Region .....	3
Product Stewardship .....	5
Take It Back .....	5
LinkUp Program – Improving Recycling .....	5
EcoConsumer Continues Outreach .....	7
Food: Too Good To Waste .....	7
Teaching the Next Generation of Environmental Stewards .....	8
Earth Challenge and Green Teams .....	8
Household Hazardous Waste School Program .....	8
King County Green Schools Program .....	9
Master Recycler Composter Program .....	10
Best Workplaces for Waste Prevention and Recycling .....	10
Green Building .....	11
Construction and Demolition Materials Diversion .....	11
Sustainable Cities Program – 5th Anniversary .....	11
Helping King County Build Green .....	12
Connecting Equity and Social Justice and Green Building .....	12
GreenTools on the Local, Regional, and National Stage .....	12
EcoCool Remodel Tool .....	13
<b>Resource Recovery</b> .....	<b>14</b>
Recycling and Transfer Station Improvements .....	15
Safety Improvements .....	17
Operational Excellence .....	17
Landfill Improvements .....	17
<b>Waste Disposal</b> .....	<b>17</b>
Capital Improvements .....	18
Factoria Replacement Project Moves Forward .....	18
Area 8 Development Project .....	19
South County Siting .....	19
Transfer and Waste Management Plan Review .....	19
<b>Service Excellence</b> .....	<b>20</b>
Public Information .....	20
Planning for the future .....	22
Solid Waste Projections .....	22
Financial Performance .....	23
Environmental Stewardship .....	24
Illegal Dumping Cleanups Continue .....	24
2014 Marks the 20th Year for Assessing Unsecured Load Fees .....	25
Lighting the Way to Efficiency .....	25



# Message from the Director

When 2013 ended, King County's Solid Waste Division was in a very good place. Tonnage was increasing, new capital improvement projects were completed on time and under budget, and the division was recognized as a leader in customer service, environmental protection, and operating excellence. We were proud, but not content, so in 2014 we aimed higher, reached farther, and learned the best interests of the region could be found in waste prevention, resource recovery, and waste disposal.

King County residents were encouraged to do their part when it comes to waste prevention. The "Food: Too Good To Waste" program demonstrated to community members how much food is wasted every day. The program recruited residents to participate in a four-week challenge to reduce their household food waste. Participants saw a 13 percent decrease in wasted food at the end of the challenge and pledged to keep working to waste even less.

To lead the charge in resource recovery, the division launched a Resource Recovery Pilot Program that targets recyclables in the waste stream, removes them, and puts those valuable resources back into the economic stream instead of into the Cedar Hills Regional Landfill. The first phase of the pilot saw a 250 percent increase in the amount of clean wood, scrap metal, and cardboard recovered from the waste stream.

In 2014 we were once again reminded that there is life after waste disposal. BioEnergy Washington, which contracts with the division to process landfill gas into pipeline-quality Renewable Natural Gas for sale to Puget Sound Energy, purified significant volumes of landfill gas into usable methane, and had its highest production value since gas processing began in 2010.

Though our focus may have changed, our commitments did not, and in 2014 the division elevated its devotion to customers, the environment, and excellence.

Both internally and externally, the division furthered the goals of the Equity and Social Justice Initiative. Public outreach education materials and documents were designed with target languages in mind, employees participated in awareness events and micro-aggressions training, and the division developed an ESJ High School Internship Program.

Thanks to new Interlocal Agreements and careful control of expenditures, the division was pleased to announce tipping rates and fees would remain flat. The current rate of \$120.17 per ton will remain in effect for the 2015/2016 biennium. This is the rate that was established in 2012.

After completing Phase 1 of the Transfer Plan Review, the division began work on Phase 2.

As 2014 began to wane, the division broke ground and began work to replace the 50-year-old Factoria Transfer Station in Bellevue with a larger, more efficient recycling and transfer station.

The present is bright, but the future will be brighter still, and in 2015 the division will complete Phase 2 of the Transfer Plan Review, the Resource Recovery Program will expand, and new lines of business will be identified and used to develop a sustainable 10-year business plan.

I am proud of this division, proud of what we have accomplished, and proud to present this 2014 Annual Report. Though we are one division, we could not have attained these feats alone, and I want to recognize our valued employees, customers, the King County Executive, King County Council, our partnering cities and advisory committees, and the many businesses and organizations we work with.

Together we will continue to lead by example, focus on the right things, work as a team, and get the right results.



# Waste Prevention

## Recycle More / Recicla Mas

The Solid Waste Division's "Recycle More. It's Easy to Do." campaign celebrated its ninth year of recycling outreach to King County residents in 2014. Advertising, community events, and city and retail partnerships are core elements of the program.

Outreach activities included promoting the community-based social marketing tactic, the "One Less Bag Challenge" pledge drive. In 2014, the challenge exceeded its pledge goal by 1,000 individuals, with 1,770 pledging King County residents who received recycling tools in person, at events, and by mail. Those who take the pledge receive a quarterly newsletter that helps the program continue the conversation with waste prevention, recycling, and composting tips.

In September, the campaign launched a month-long retail partnership with Bartell Drugs, BioBag, and the City of Seattle. The partnership promoted composting of household organics by providing discounts for the purchase of compostable bags and countertop food scrap containers for residents. As a result of this partnership, sales of these recycling tools increased by 46 percent compared to sales during the same period in 2013.

Recicla Mas. ¡Es facilísimo!, the Spanish-language curbside recycling education campaign, completed its fourth year in 2014. The program won the Washington State Recycling Association Recycler of the Year award for public education. The campaign continued to expand its Spanish-language website, improved its education materials, and recruited and trained community partner education staff - the Facilitadores de Reciclaje - who teach recycling basics to area residents. The Facilitadores doubled in 2014 to 18 members.

In 2014, the Facilitadores spoke to 1,541 Hispanic/Latino community members about recycling at community events and small gatherings. Recicla Mas also completed its second



*Retail partnerships help spread the word about King County's "Recycle More. It's Easy to Do." program.*

year in partnership with local Hispanic/Latino media including TV, radio, and print media. A new television advertisement was produced by KUNS Univision in the partnership with the division.

# Waste Prevention

## Recyclable Materials in the Region

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 that have a curbside collection program available throughout most of King County. Secondary recyclables are materials not currently collected in most curbside programs, but which have recycling options and markets. It is estimated that in King County in 2014 more than 945,000 tons were collected for recycling from residents and businesses. According to division modeling, this represents Greenhouse Gas emissions reductions equivalent to 1.5 million metric ton equivalents (MTCO<sub>2</sub>E) of carbon dioxide. This is the equivalent of removing annual emissions from 240,000 passenger vehicles or conserving 137,000,000 gallons of gasoline, which meet King County Strategic Climate Action Plan goals. The table below lists the types of materials that are recyclable in King County at this time.

### 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



Customers do their part to recycle materials at King County transfer stations.



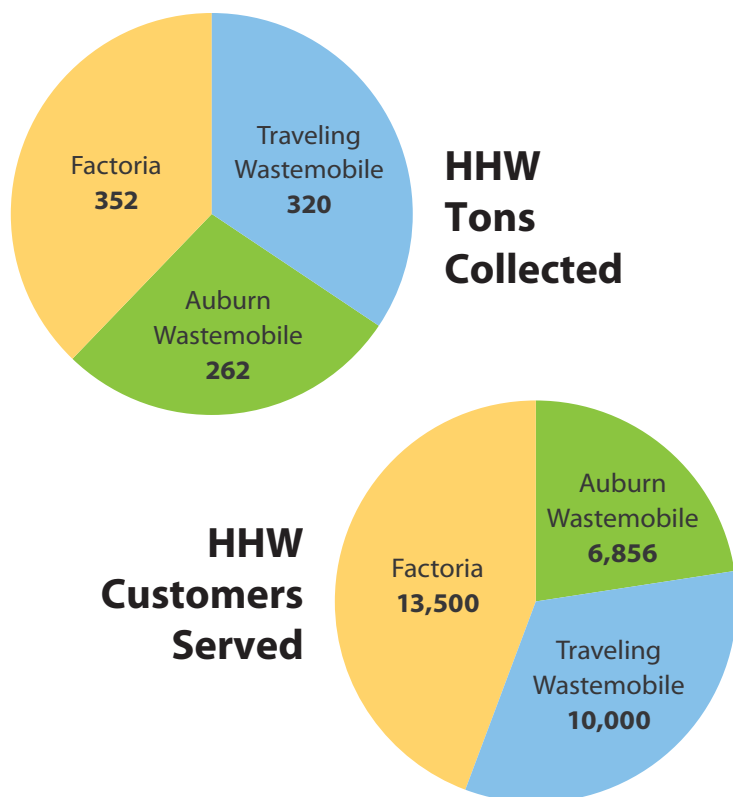
# Waste Prevention

## Wastemobile Celebrates 25 Years of Properly Disposing Hazardous Waste

Established in 1989, King County's Wastemobile was the first program of its kind in the U.S. Designed for the collection of household hazardous waste (HHW), the Wastemobile is a mobile service that travels to communities throughout King County and offers a convenient way for residents to dispose of HHW. During scheduled events, the Wastemobile stays in one location for three days, as well as providing regularly scheduled HHW collection at the Outlet Collection in Auburn.

In 2014, the Wastemobile staged 21 events that resulted in more than 10,000 King County residents dropping off 320 tons of HHW. The Saturday and Sunday Auburn Wastemobile service at the Outlet Collection had 6,856 customers dispose 262 tons of HHW.

The Wastemobile also hit a major milestone and celebrated its 25<sup>th</sup> anniversary in 2014. Within those 25 years, the Wastemobile collected and properly disposed of an estimated 32 million pounds of HHW. That's 32 million pounds of household cleaners, insecticides, batteries, fuels, oils, and other hazardous material kept out of our environment.



To commemorate the anniversary, the Solid Waste Division held a Facebook contest where residents could win prizes by posting a photo of the HHW they were bringing to the Wastemobile.

In addition to the Auburn and travelling Wastemobiles, the Factoria Transfer Station in Bellevue is the busiest HHW collection service in the county. HHW collection occurs six days a week, and the facility sees the most customers of any HHW collection facility or event in King County. In 2014, nearly 13,500 customers brought 352 tons of HHW to that facility.

Small businesses have an opportunity to dispose of hazardous waste at both Factoria and the Wastemobile, and in 2014 the business collection program served 276 small-quantity generator business customers who brought in 19 tons of hazardous waste.



*Since 1989, the Wastemobile has kept 32 million pounds of household hazardous waste out of the environment.*



# Waste Prevention

## Product Stewardship

The terms *product stewardship* and *extended producer responsibility* are often used interchangeably because both describe a long-term solution to managing products that are toxic or difficult to dispose or recycle.

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 there is an environmentally sound system in place to collect, transport, and properly manage potentially hazardous products. Product manufacturers that take responsibility for products at end of life have an incentive to design products that are more recyclable, environmentally friendly, and less toxic.

The division continues to chair and provide resources to the Northwest Product Stewardship Council (NWPSC), a group of counties, cities, and other governmental agencies whose mission is to integrate product stewardship into the policy and economy of the Pacific Northwest.

In 2014, the division and the NWPSC focused efforts on product stewardship legislation for unwanted architectural paint and mercury lights.

Two product stewardship bills were introduced to the Washington Legislature in 2014. Engrossed Substitute House Bill 2246, regarding financing for stewardship of mercury-containing lights, amends the 2010 Washington Mercury-containing Lights Stewardship Law and is a negotiated agreement between stakeholders that the National Electrical Manufacturers Association supports. The passing of this bill ensures adequate financing for the stewardship program, and meant the stewardship program could begin Jan. 1, 2015.

Senate Bill 5424/House Bill 1579, introduced at the request of the paint industry's American Coatings Association, would have created a collection program for the recycling or proper disposal of architectural paint in Washington. Though the bill did not pass, it remains a division priority.

## Take It Back

The Take It Back Network is a partnership of King County area retailers, repair shops, charitable organizations, and recyclers that provides consumers with safe and cost-effective recycling opportunities for



electronics and other waste containing hazardous components.

The Take it Back Network recycles computers, monitors, televisions, cell phones, printers, fax machines, fluorescent bulbs and tubes, and mattresses.

Members of the network sign a commitment to recycle their products in an environmentally sound manner. The division publicizes a list of network members on its website, in brochures, and through the media.

Type of Unit	2014 Totals
TVs	99,295
Monitors	33,465
CPUs	54,050
Cell Phones	23,038
Other Electronics	167,657
Fluorescent Bulbs and Tubes	118,194
Abandoned Materials	325
Mattresses	13,414
<b>Totals</b>	<b>509,438</b>

## LinkUp Program – Improving Recycling Infrastructure and Markets

LinkUp works to eliminate market barriers such as a lack of recycling infrastructure and limited markets. In 2014, LinkUp collaborated with public and private partners to advance reuse and recycling of post-consumer textiles; collection and processing of mattresses and carpet; and markets for compost and asphalt shingles.



**Asphalt Shingles:** Based on the success of the *Shingles in Paving* demonstration—a LinkUp and King County Road Services Division project—and resulting recommendations to expand the use of recycled asphalt shingles (RAS) in King County, Roads developed a special provision allowing the use of Roads on selected King County roads. In August, Roads, LinkUp, and Seattle Public Utilities hosted a special event on recycling asphalt shingles and paving with RAS. More than 50 asphalt and asphalt mix producers, recyclers, project managers, pavement engineers, and public works representatives from around the region attended, indicating increasing interest in the use of this valuable material resource in paving

# Waste Prevention

projects. At its annual meeting and banquet, the Washington Asphalt Pavement Association gave the King County Solid Waste Division its 2014 Special and Innovative Use Award for incorporating RAS in the pavements used in construction of the Bow Lake Recycling and Transfer Station.

***Carpets:*** LinkUp sponsored, participated in planning, and organized key presentations for the annual meeting and conference of the Carpet America Recovery Effort, which was held in Seattle in May. In partnership with Seattle Public Utilities, Zero Waste Washington, and the Washington State Department of Ecology, LinkUp conducted a series of stakeholder engagement activities including publishing the results of the *Increasing Carpet Recycling in Washington Stakeholder Survey* and completing 17 in-person interviews with representatives from diverse stakeholder types. In October, a Washington-focused stakeholder meeting was held to share the story arc of carpet recycling, and survey and interview results; discuss what is needed to advance carpet recycling in Washington state; and set the stage for next steps.

***Compost:*** To stimulate demand among farmers for commercial compost made from food and yard waste, and support the local compost economy, LinkUp partnered with Washington State University (WSU) to conduct 15 demonstration trials of

the use of compost on five farms in King County. Participating farms received and incorporated compost on crop land, some for spring application and others for fall. WSU conducted pre- and post-application surveys with the farmers, and initial results indicate improved crop production and soil quality. This project will also include a cost-benefit analysis of the use of compost for agriculture, for which a scope was developed and data collection methods established. The King County farms involved in this project are Dr. Maze's Farm, 21 Acres, Sammamish River Farm, Cheu Chang Farm, and Chae Garden Farm.

***Mattresses:*** LinkUp continued to focus on expanding mattress collection infrastructure and processing capacity with private businesses and nonprofit organizations in 2014. Two mattress processors closed and another two opened this year, bringing the total processors in the region to four, and the number of collection locations to six. With these increased options, LinkUp conducted mattress recycling outreach to consumers via a Facebook and Google advertising campaign during annual mattress sales events, which showed an above average response rate and increased traffic to the What Do I Do With...? website. Stakeholders attending LinkUp's second Mattress Recycling Summit at the ShoWare Center in Kent,



Compost is spread on a field at a King County farm participating in demonstration trials of compost for crop production and soil improvement.



# Waste Prevention

reiterated the point made at the first Summit in 2011, that public transfer stations must raise their disposal fees to make mattress recycling fees competitive, or mattresses will continue to be thrown away.

**Textiles:** To address the estimated 26,000 tons of textiles disposed of in King County each year, LinkUp worked with Seattle Public Utilities to develop the Threadcycle campaign. Threadcycle will educate residents that clothes, shoes, and linens—as long as they are not wet, mildewed, or contaminated with hazardous materials—can be donated to organizations that collect textiles for reuse or recycling. The campaign involves partnerships with eight area organizations and business that collect textiles, all of whom will promote the message that they accept worn, torn, or even stained clothes and linens, as well as “singles” of items that are normally paired, such as shoes and socks. These items can be sorted and sold into export markets for reuse, or recycled into the raw materials from which new products can be made. The campaign will launch in 2015. Threadcycle participating collectors include Big Brothers/Big Sisters of Puget Sound, Goodwill, Northwest Center, Salvation Army Family Thrift Stores, SightConnection, TexGreen, Value Village, and USAgain.

## EcoConsumer Continues Outreach

For more than 10 years, King County’s EcoConsumer public education program has been a public and media resource for information on waste prevention, recycling, climate change, green products, toxics reduction, and other pressing environmental topics. The program’s media outreach includes the EcoConsumer column in the *Seattle Times*, regular segments on KOMOTV, and other television and radio appearances and print articles. The EcoConsumer Twitter feed now has more than 5,600 followers, up from 2,500 just a couple years ago.

In 2014, the EcoConsumer program’s project manager spoke at and participated in events and activities throughout King County.

One focus of the EcoConsumer program in 2014 was providing communities with technical assistance and other support for setting up tool lending libraries, a waste prevention strategy gaining popularity in the Northwest. The EcoConsumer program also targets seasonal interests, with active and visible Green Holidays and Earth Day campaigns that teach residents how to celebrate the holidays without negatively affecting the environment.



*Volunteers aid King County's efforts to inform residents the importance of wasting less food.*

## Food: Too Good To Waste

It is estimated the average family throws away approximately 390 pounds of food each year.

Since 2013, King County’s Food: Too Good To Waste program has informed residents about the importance of proper food storage, buying what you need, and how to “love the leftovers” – all things that help residents reduce the amount of food wasted. The program is a collaborative effort between King County, the U.S. Environmental Protection Agency, and more than 25 other government partners.



In 2014, the program recruited residents in the community to take a challenge to reduce their household food waste. Fifty-three residents completed the

# Waste Prevention

four-week challenge. Residents were recruited through King County's One Less Bag newsletter, Recycle More Facebook page and booths at farmers markets.

For the duration of the challenge, participants measured their food waste and, using tips from King County, worked to reduce that waste. At the end of the challenge, food waste was decreased by an average of 13 percent.

Food: Too Good To Waste also engaged in an education campaign by visiting community farmers markets 14 times in the summer and fall. Recipe cards, shopping list templates, storage guides, and other education materials were distributed to more than 1,500 residents, and a photo booth was set up where participants could share their strategies for wasting less food and have their photo taken. Photos were shared on the Recycle More Facebook page.

Event	People Reached
Issaquah Farmers Markets	507
Lake Forest Park Farmers Markets	407
Renton Farmers Markets	401
Boeing Environmental Health and Safety Fair	205
Sammamish Farmers Market	40
<b>TOTAL</b>	<b>1,560</b>

## Teaching the Next Generation of Environmental Stewards

The division designs and coordinates programs to teach students to be good environmental stewards. Elementary, middle, and high school students learn proper methods for waste reduction, recycling, and reuse; how to conserve

resources; how to safely manage household hazardous waste; and more. Participation in school assemblies, workshops, role-playing exercises, and team challenges makes the program fun and engaging for students. The programs also reach out to parents and educators who help support good environmental practices in the home and the classroom. Growing participation by the region's school districts and the enthusiasm of the students speak to the success of these programs.

## Earth Challenge and Green Teams

To help students understand the importance of preventing waste and recycling, the division operates an assembly program called "Earth Challenge," which focuses on sustainable choices students can make at home and at school. An intermediate version of the assembly includes a segment on how the use and disposal of products is related to climate change.

Teachers have been overwhelmingly supportive of the assemblies, and elementary school students have been observed making significant gains in identifying behaviors that benefit the environment.

Each school that receives an assembly can engage in up to three classroom workshops that include topics such as waste reduction and recycling basics, habitat stewardship, climate change, and composting. Secondary level classroom workshops cover how overconsumption of resources, food waste prevention, and biodiversity are related to waste reduction and recycling.

With inspiration from the Earth Challenge assemblies, students are encouraged to form a "Green Team" and take on environmental projects to benefit their school and community. In 2014, 81 schools formed 94 Green Teams and developed projects that included creating awareness of environmental problems and solutions; providing opportunities to increase waste reduction, recycling, and reuse of materials; and adding food-scrap collection to lunchroom recycling programs.

## Household Hazardous Waste School Program

In 2014, the division trained 33 teachers on the health and environmental effects of household hazardous waste (HHW) using lessons from the *Hazards on the Homefront* guidebook. After training, teachers used the lessons in their own class-



# Waste Prevention

rooms. Together, those 33 teachers represent 2,550 students in grades four through 12.

Parents also have access to HHW education, and presentations focus on the effects of hazardous products on children's health and provide easy, practical steps parents can take to keep their children from coming in contact with toxic materials.

With King County's diverse population, the division has made efforts to reach adult English language learners. Those presentations include more visual aids for teaching, such as signal words, principal hazards, and proper disposal.

Groups consisted of English as a Second Language classes at schools, community centers, and community organizations. More than 25 languages were represented by the 233 participants in 2014. Among the most frequently encountered were Spanish (72), followed by Arabic (25), Somali (20), Vietnamese (19), Amharic (10), and French (10). At one workshop, an Iraqi interpreter attended to assist two Iraqi participants.

The program advanced Equity and Social Justice efforts in 2014 by providing funds to the Somali Youth and Family Group to conduct five workshops for members of a Somali community in south King County. More than 100 community members attended and benefited from the workshops that were presented in both English and Somali.

## King County Green Schools Program

King County Green Schools Program provides K-12 schools and school districts with assistance and tools to initiate and expand waste reduction, recycling, and other conservation practices. Students, teachers, faculty, parents, and the entire school community learn about environmental stewardship and how to operate environmentally efficient facilities.

During the 2013-14 school year, 200 schools from 30 cities throughout King County participated in the program, roughly 38 percent of the K-12 schools in the county, compared to 34 percent during the 2012-13 school year. Nearly 122,000 students had opportunities to learn about and engage in waste reduction, recycling, and other conservation practices.

Level One of the program focuses on waste reduction and recycling. To be recognized as a Level One Green School, schools must achieve a 40 percent recycling rate. In addition to maintaining and expanding Level One practices, Level Two



*Solid Waste Division programs have helped students, teachers, and parents understand the importance of being green, preventing waste, and recycling.*

includes energy conservation and Level Three includes water conservation and pollution prevention. Other program areas are green building, healthy schools, litter reduction, and transportation.

During the 2013-14 school year, a total of 186 schools – 35 percent of K-12 schools in King County – received recognition for completing Level One. Of those 186 schools, 108 also completed Level Two and 67 completed Level Three.

The program directly supports King County's 70 percent recycling goal. With assistance from the program, school participants reduced garbage volumes and increased recycling rates and nearly 50 percent of participating schools reached recycling rates of 50 percent or more.

# Waste Prevention

Success stories about each school and school district can be found on the program website. The success stories include information about schools and districts that won state and national awards due to achievements through the Green Schools Program.

Activity	Number	Reach
<b>School Education</b>		
Elementary Assembly	52	21,748 students
Elementary Classroom Workshop	164	3,931 students
Elementary Green Teams	62	2,115 students
Secondary Classroom Workshop	502	14,854 students
Secondary Green Teams	32	848 students
<b>HHW School and Parent Outreach</b>		
Teachers Trained	33	2,550 students
Classroom Presentations	69	1,880 students
Parent Presentations	15	249 parents
English Language Learners Presentations	13	233 adults
<b>Green Schools Program</b>		
Participating Districts	12	294 schools
Participating Schools	200	121,977 students

## Master Recycler Composter Program

King County's Master Recycler Composter (MRC) volunteer program provides free community education about waste reduction and recycling to individuals who want to inspire others to reduce waste and recycle more. 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, volunteers provide information about curbside and food scrap recycling by staffing information booths and distributing recycling tools, such as samples of compostable food scrap bags and kitchen food scrap containers, at community festivals and at farmers markets.

In 2014, MRC volunteers participated in 61 outreach events throughout King County, making contact with more than 17,000 residents.



*In support of the Green Team program, Tolt Middle School held a parents night where students could inform their parents about proper household hazardous waste disposal.*

## Best Workplaces for Waste Prevention and Recycling

Now in its eighth year, King County's "Best Workplaces for Waste Prevention and Recycling" is a recognition program for businesses that have successful waste prevention and recycling programs in place. To qualify, each business provides a profile describing what makes their business a Best Workplace and then offers advice and suggestions to other businesses. From practices such as donating excess edible food to food banks to offering printer toner recycling and reuse services to its customers, Best Workplaces show that being environmentally conscious can be good for the bottom line.

In 2014, King County honored 97 local companies for adopting business practices that reduce waste and increase recycling, naming them the Best Workplaces. This was the highest number of businesses listed since the program began in 2007. Honor Roll Businesses, those that have been on the list for five or more consecutive years, were also recognized.

In addition, the program honors a single business each year with the "Re-Innovator Award" for having exceptionally innovative waste reduction programs in place. For 2014, the "Re-Innovator Award" was given to Kirkland-based accounting firm Voldal Wartelle & Co., P.S. for going paperless and eliminating the use and need of storing paper files offsite.

# Waste Prevention

## Green Building

The division's green building program supports internal county agencies, cities, the building community, and the public in designing buildings and infrastructure that have fewer impacts on the environment, are energy efficient, and use recycled materials. Under the umbrella of GreenTools, the division works toward sustainable cities, encourages construction and demolition recycling, improves building codes, and provides technical assistance to a variety of audiences.



assistance to county projects, including on-site assessments and contract specification development.

King County GreenTools, in partnership with Island Press, coordinated a panel session at the 2014 annual Built Green conference

that explored some of the more difficult issues currently confronting the C&D industry. This was done in order to gather stakeholder guidance in development of the proposed C&D ordinance. The session brought together a panel of local building industry representatives who are working at the forefront of C&D recycling in King County and other areas of the Pacific Northwest. Solid Waste Division Director Pat D. McLaughlin made the opening remarks. A report has been developed that compiles the information and feedback gathered during this session.

## Construction and Demolition Materials Diversion

The focal point for construction and demolition debris (C&D) in 2014 was the development of a draft ordinance to guide the county's C&D diversion policies in order to achieve the county's goal of a zero waste of resources by 2030. The GreenTools program worked with King County cities and other regional municipalities to refine a complimentary boilerplate jobsite permitting ordinance that individual municipalities can implement. In addition to providing stakeholder outreach to the construction industry and cities, the division discussed the draft ordinance with the Metropolitan Solid Waste Management Advisory Committee and the Solid Waste Advisory Committee and obtained support for the proposed approach for increasing recycling of C&D. Support for development of a Salvage Lumber Warehouse (a regional collection and processing facility for salvaged wood) continued in 2014, and a facility is expected to be operational by the end of 2015. GreenTools also provides ongoing deconstruction technical

## Sustainable Cities Program – 5th Anniversary

The Sustainable Cities Roundtable celebrated its fifth anniversary on March 13 at the Bullitt Center in Seattle, with King County Executive Dow Constantine highlighting the county's ongoing commitment to addressing climate change and implementing green building.

The roundtable series is a monthly cross-jurisdictional conversation where government officials come together to address challenges in the built environment. It has resulted in the Climate Collaboration and Regional Code Collaboration programs, where jurisdictions in the county align policy initiatives to address environmental challenges.

The celebration was a retrospective of accomplishments and a look forward to future goals. Speakers included Time Magazine's "Hero of the Planet" Denis Hayes; Island Press author Tim Beatley; and Lynne Barker of EcoDistricts. Attendees received a tour of the Bullitt Center, the world's greenest office building.

"Every major metropolitan area is talking about sustainability, but with its GreenTools Sustainable Cities Roundtables, King County is walking the talk," Island Press Vice President Denise Schlener said. "Island Press is proud to play a role in connecting the county's decision makers with the best thinkers on the policies and practices that can create a sustainable future."



Local and regional contractors receive training on proper C&D disposal.



# Waste Prevention

During the event, regional champions were recognized at the *2014 Outstanding Leadership in Green Building Award* ceremony. Awardees included:

- Roundtable Founder – Brad Lilejquist, International Living Future Institute
- Early Adopter – Judd Black, City of Redmond (retired)
- Leadership in Green Building and Climate Collaboration – Kris Sorenson, City of Renton
- Outstanding Leadership in Green Building – International Living Future Institute
- Outstanding Leadership in Green Building – Bullitt Foundation
- Community Partnership – Island Press
- Green Building Advocacy – Cascadia Green Building Council
- Government Leadership – City of Shoreline
- Green Building Legacy – The Honorable Ava Frisinger, Mayor of Issaquah (retired)

## Helping King County Build Green

The division coordinates the countywide Green Building Team. This multi-agency team is charged with helping King County optimize green building principles in all capital projects.

In 2014, King County's green building activity consisted of eight Leadership in Energy and Environmental Design (LEED) projects and 296 projects using the Sustainable Infrastructure Scorecard. The average diversion of construction and demolition materials from landfills was 71 percent for completed projects.

King County agencies benefited from GreenTools services and increased technical assistance for capital projects by \$211,000 in 2014, an increase from \$33,000 in 2012. Services included eco-charrettes, research on sustainable materials, commissioning, specification review, analysis of green stormwater infrastructure, green building handbook for permitting staff, and assistance with building reuse and historic preservation. In addition, more than 200 county staff attended the five technical trainings produced by GreenTools to support project managers who implement the Green Building Ordinance requirements and improve on sustainable development practices such as C&D diversion strategies.

## Connecting Equity and Social Justice and Green Building

Green building and sustainable development are inclusive of equity and social justice (ESJ). Solid Waste Division and ESJ

staff facilitated the Equity and Social Justice Imperatives For Our Built Environment – King County case studies workshop at Living Future '14, sponsored by the International Living Future Institute. Using recent progress in King County as a case study, participants learned about emerging best practices, new tools, and approaches that support stakeholders of the built environment toward pro-equity approaches to project engagement, siting, design, construction, and operations. In addition to presenting at Living Future '14, other ESJ efforts include improvements to the ESJ credit in the Sustainable Infrastructure Scorecard. Updated guidance, practices, and resources will enhance existing efforts.

As a new policy in the Green Building Ordinance, GreenTools is partnering with the King County Department of Community and Human Services to report on green building efforts King County funds in affordable housing projects. In 2014, six affordable housing projects helped create and preserve more than 400 units of housing, serving seniors, people with disabilities, homeless young adults, veterans, and chronically homeless people. These projects must meet Evergreen Sustainable Development Standards, which emphasize energy efficiency, tenant health, and long-term sustainability.

## GreenTools on the Local, Regional, and National Stage

The division gave a presentation at the Solid Waste Association of North America Evergreen Chapter 2014 North West Region Symposium in the King County Minimizing Environmental Footprint Workshop. The presentation focused on how sustainability is fully integrated throughout the division's business practice, capital project management, operations, and maintenance culture to deliver reliable service that is financially, socially, and environmentally sound. Highlights included LEED Platinum projects, use of Sustainable Infrastructure Scorecard, and Green Operations and Maintenance Guidelines.

GreenTools was invited by the U.S. Green Building Council to speak at the Green Build International Conference and Expo 2014, on the Sustainable Cities Program and King County's Green Building Ordinance, the second jurisdiction in the nation to include LEED Platinum as a capital project standard. Highlights included collaboration with surrounding cities to advance code changes, increase regional green building programs, and raising the bar for high performing green building standards.



# Waste Prevention

## EcoCool Remodel Tool

The award winning EcoCool Remodel Tool was updated in 2014 with current green building strategies. This online application helps residents and contractors generate ideas to increase environmental improvements on home remodeling projects by creating a virtual house tour. The tool helps users find tips and resources ranging from healthy paint products to what they should consider when replacing a furnace, upgrading kitchens, or landscaping the yard. With the recent update, the application is now more user-friendly for Android, iPhone, and Windows handheld devices.



# Resource Recovery

## Resource Recovery Pilot Program Puts Recyclables Back into the Economy

Resource recovery is a focus of the Solid Waste Division. It is estimated that 78 percent of the materials found within the Cedar Hills Regional Landfill could have been recycled. With King County's goals of achieving a 70 percent recycling rate and a "Zero Waste of Resources" by 2030, the division decided to launch a Resource Recovery Pilot Program in 2014.

In addition to the goals of increasing recycling, recovering recyclable materials from the waste stream reduces greenhouse gas emissions, conserves resources, and saves room in the landfill.

The current target materials for the program are clean wood, scrap metal, and cardboard because those materials are prevalent in the waste stream, are easily sorted, and have established markets.

The program began at the Shoreline Recycling and Transfer Station in April. Shoreline was chosen because it is a newer facility, has many design features that facilitate materials recovery, and because self-haulers who use that station are active recyclers.

Recovery efforts at Shoreline resulted in 1,888 tons of clean wood, scrap metal, and cardboard collected at the station from April to December. This was a 250 percent increase compared to the 708 tons collected at the station over the same period of time in 2013.

Following the success of the program at Shoreline, the division decided to expand resource recovery to the Enumclaw Recycling and Transfer Station in October. At that facility, the division emphasized customer engagement – a key component of success.



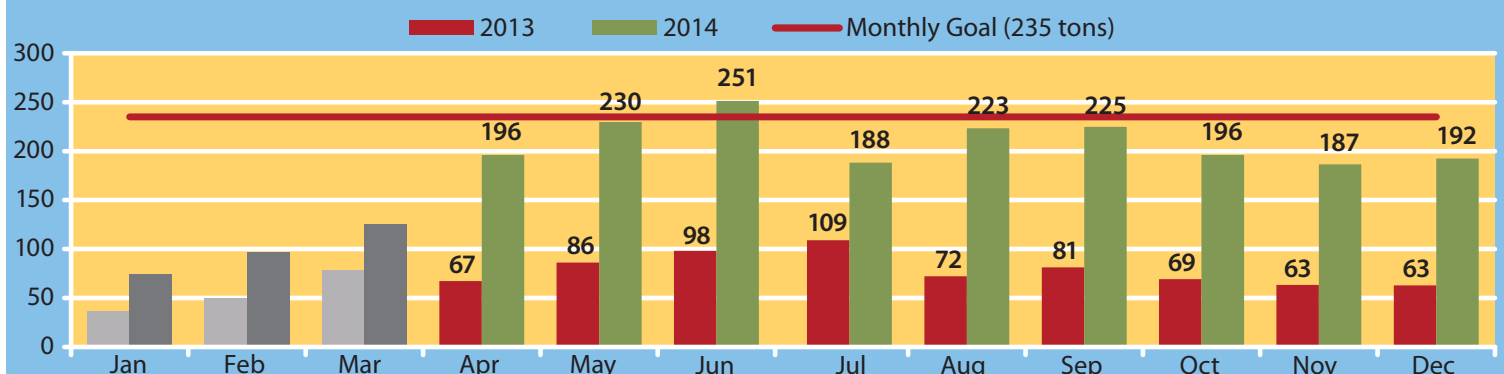
*Transfer Station Operators at the Shoreline Recycling and Transfer Station separate cardboard as part of the Resource Recovery Pilot Program.*

To actively involve self-haulers and change the way they think about disposing waste, signs were placed at Enumclaw encouraging customers to "Sort It Out" by placing the right materials in the proper bins. Receptacles were color-coded – green for cardboard, blue for metal, and orange for clean wood – so customers can help sort recyclables instead of dropping these recyclable materials directly onto the tipping floor.

Based on the success of the program so far, the division hopes to continue to expand the Resource Recovery Pilot Program across its network of recycling and transfer stations so these valuable recyclables can continue to contribute to the economy and the county's recycling efforts.

## Resource Recovery Pilot - Shoreline Dashboard (December)

Cardboard, Metal & Wood Tons Diverted



# Resource Recovery

## Recycling and Transfer Station Improvements

The division is always looking at ways to enhance operations at the county's recycling and transfer stations. In 2014, several improvements were made to county solid waste facilities to improve safety, efficiency, and customer service, as well as reduce costs.

In October, the division installed a new cardboard recycling compactor at the Renton Transfer Station. In addition to being larger and capable of handling more cardboard, the new compactor is fully automated with larger disposal slots that make cardboard recycling easier for customers.

In 2014, the division hosted its first haulers' forum. Commercial haulers were asked to provide input on how the division could improve customer service, make tipping floor efficiencies, and reduce driver wait times.

Also in 2014, transfer station employees participated in customer service and recycling training to enhance customer relationships and assist customers as they work to improve their recycling efforts.



*A new cardboard compactor at the Renton Transfer Station is fully automated and capable of holding much more cardboard.*



# Resource Recovery

Over the years, the number of materials that can be recycled curbside and at private facilities has continued to grow. Recycling at transfer stations has been constrained by limited space. Newer facilities, such as Enumclaw, Shoreline, and Bow Lake, offer a full range of recycling services, as well as accepting additional materials, such as bicycles or electronics.

Facility and Address <i>by Area Served</i>	Year Opened	Recycling and Other <i>Services Provided</i>
<b>North County</b>		
Shoreline Recycling and Transfer Station 2300 N 165th St, Shoreline 98133	2008	Cardboard, mixed paper, cans and bottles, mixed plastic containers, glass, appliances, bicycles and bicycle parts, CD/DVD/VCR players, clean wood, fluorescent bulbs and tubes, scrap metal, textiles, yard waste, and flags
<b>Northeast County</b>		
Factoria Transfer Station 13800 SE 32nd St, Bellevue 98005	Mid-1960s	Household Hazardous Waste: batteries (household, vehicle, or marine), thermostats, thermometers, fluorescent bulbs and tubes, oil-based paints, thinners and solvents, motor oil, propane and butane tanks, household cleaners, lawn and garden products, glues and adhesives, automotive products, antifreeze, flammable liquids, and marine and road flares
Houghton Transfer Station 11724 NE 60th St, Kirkland 98033	Mid-1960s	Cardboard, mixed paper, cans and bottles, mixed plastic containers, glass, and textiles
<b>Central County</b>		
Bow Lake Recycling and Transfer Station 18800 Orillia Rd S, Tukwila 98188	2013	Cardboard, mixed paper, cans and bottles, mixed plastic containers, glass, fluorescent bulbs and tubes, appliances, bicycles and bicycle parts, clean wood, scrap metal, yard waste, and textiles
Renton Transfer Station 3021 NE 4th St, Renton 98056	Mid-1960s	Cardboard, mixed paper, cans and bottles, mixed plastic containers, glass, and textiles
<b>South County</b>		
Algona Transfer Station 35315 West Valley Hwy, Algona 98001	Mid-1960s	None
<b>Rural County</b>		
Cedar Falls Drop Box 16925 Cedar Falls Rd SE, North Bend 98045	1990	Cardboard, mixed paper, cans and bottles, mixed plastic containers, glass, textiles, and yard waste
Enumclaw Recycling and Transfer Station 1650 Battersby Ave E, Enumclaw 98022	1993	Cardboard, mixed paper, cans and bottles, mixed plastic containers, glass, appliances, fluorescent bulbs and tubes, clean wood, reusable household goods, scrap metal, textiles, and yard waste
Skykomish Drop Box 74324 NE Old Cascade Hwy, Skykomish 98288	1980	Cardboard, mixed paper, cans and bottles, mixed plastic containers, and glass
Vashon Recycling and Transfer Station 18910 Westside Hwy SW, Vashon 98070	1999	Cardboard, mixed paper, cans and bottles, mixed plastic containers, glass, appliances, fluorescent bulbs and tubes, scrap metal, and textiles



# Waste 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.

Total tonnage disposed grew in 2014 by 4.3 percent, about 34,155 tons, to 843,320 tons. Almost 12,000 tons came from Seattle residents and businesses because of the closure of the North Seattle Transfer Station for reconstruction. This puts the system-wide increase, based on better economic conditions in the service area, at about 22,000 tons. In 2014, the division collected almost 9,000 tons more yard waste compared to 2013, which was sent to be composted.

## Safety Improvements

Safety is always of the utmost importance to the Solid Waste Division. In 2014, the division continued its commitment to keeping employees, customers, and the public safe.

The division's DART rate (Days Away, Restrictions and Transfers) continues to improve year after year, with a 4.6 percent drop from 2013. Average costs for injury claims decreased from \$8,460 per claim in 2013 to \$6,261 per claim in 2014.

The division also enhanced its Safety Audit Program in 2014, which has resulted in an overall improvement in safety throughout the division's facilities.

## Operational Excellence

In 2014, the division's Operations Section underwent extensive changes to promote its cultural values, leadership accountability, collaboration with other King County divisions, employee engagement, and customer focus through forums, surveys, and employee training programs. In 2014, Group Health and Operations collaborated on an event that taught employees Lean principles, which resulted in implementation of several continuous improvements in logistics and dispatching.

## Landfill Improvements

The installation of a new, below-ground 24-inch transmission landfill gas pipeline, which feeds the onsite BioEnergy Washington facility for the purpose of generating renewable energy, was upgraded with new features.

Maintenance was completed on the top covers of areas 5 and 6 to enhance methane gas collection efficiency and reduce fugitive emissions.

In collaboration with the King County Road Services Division, the division relocated the King County Street Waste Alternative Project (SWAP) to Cedar Hills. Established in 2000, SWAP operations treat and stockpile material removed from roadways and drainage systems. After analyzing what types of materials are collected, the division and Roads learned the material could effectively be used as landfill cover. The use of these materials collected by Roads allowed the division to reduce the amount of cover material it had to use from its existing stockpile, and provided a safe and efficient place for Roads to dispose of materials.



*Landfill operators use heavy equipment to bury trash at the Cedar Hills Regional Landfill.*

# Waste Disposal

## Capital Improvements

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. New transfer and recycling stations that have been completed are the Vashon, Enumclaw, Shoreline, and Bow Lake facilities.

## Factoria Replacement Project Moves Forward

In September, King County began work to replace its 50-year-old Factoria Transfer Station in Bellevue with a larger, more efficient recycling and transfer station. Built in the mid-1960s, the Factoria Transfer Station does not meet several service needs, including room for collecting recyclable materials, minimum roof clearance needed by modern garbage collection vehicles, and the ability to compact waste.

The new station is being built to meet current building and environmental standards, and to accommodate projected future growth in the region.

Replacing Factoria will be done in phases to allow the old station to remain open and serve customers while the new station is being built, as was done for the construction of the Bow Lake Recycling and Transfer Station. To properly expand services offered at the station, the division purchased an adjacent 2-acre parcel, bringing the total area of the facility to 15.5 acres.

The design of the new station incorporates many new features, including:

- A new recycling collection area for yard waste, clean wood, appliances, and scrap metal, among other materials
- A more efficient household hazardous waste collection area
- An enclosed solid waste transfer building with adequate roof clearance that will minimize noise, dust, and odors



Construction to replace the old Factoria Transfer Station (background) began in 2014.



# Waste Disposal



*An artist's rendering of the new Factoria Recycling and Transfer Station.*

- Two garbage compactors that will improve the efficiency of payloads and decrease the number of transfer trailer truck trips required to and from the station
- A larger transfer building designed to reduce customer wait times
- Sustainable building design features that will improve energy efficiency and result in lower life cycle costs compared to a conventional building design
- Sufficient space to process projected future volumes of solid waste, to expand recycling as needed, and to allow for resource recovery efforts.

The division has set a goal of building the new recycling and transfer station to attain a LEED Green Building Rating System rating of gold. Some of the sustainable features for the new station include:

- Recycled content building materials in the walls, floors, roof, and other areas
- Rainwater harvesting and storage for use in washing down station floors and equipment, and for flushing toilets
- Passive ventilation
- Efficient energy usage
- Translucent windows that will provide ample natural light in work areas

Construction is expected to last until December 2017. At the end of 2014, the project remained on schedule.

## Area 8 Development Project

With Area 7 at Cedar Hills nearing capacity, the division began work to develop a new area for solid waste disposal – Area 8. The project will provide about 8 million cubic yards of additional space and be located on 56 acres in the southwest corner of the landfill.

## South County Siting

After an initial siting assessment in 2013 resulted in three potential sites for a replacement to the aging Algona Transfer Station, the process to site a new Southeast County Recycling and Transfer Station continued in 2014.

## Transfer and Waste Management Plan Review

In 2014, the King County Council accepted a report that reviewed the adopted 2006 Solid Waste Transfer and Waste Management Plan and then added a second phase of review to focus on the northeast service area and the Renton Transfer Station. Phase 2 of the review process, which began in July 2014, included meeting with advisory groups, a workshop to update stakeholders and hear comments and suggestions, and an on-line customer survey.



*The process of finding a suitable location to replace the aging Algona Transfer Station continued in 2014.*

# Service Excellence

## Public Information

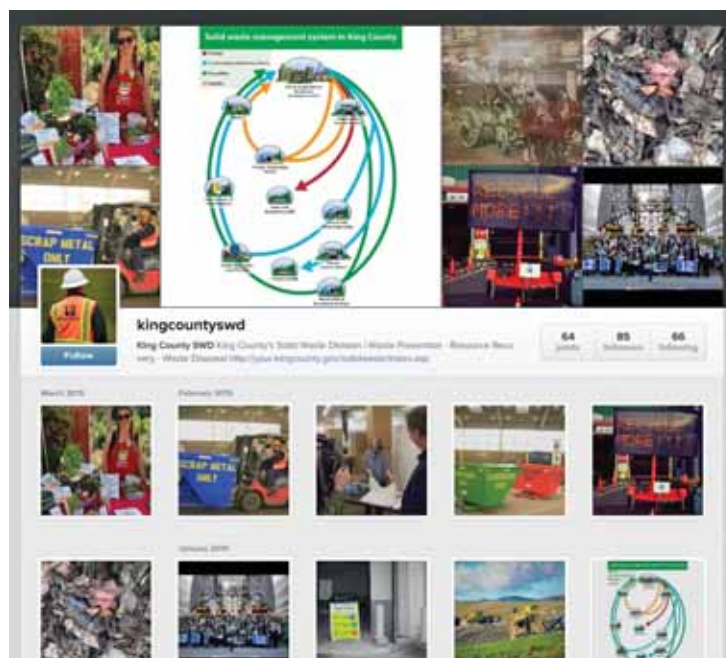
The division was an early adopter among government agencies using the full spectrum of communication strategies to engage the public. The division reaches out to customers and stakeholders through social media, as well as traditional communications like newsletters, public meetings, and surveys. This 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 continues to lead with its efforts to reach previously underserved populations.

Some of the division’s most popular social networking sites:

- The *Recycle More. It's Easy To Do.* Facebook page, which encourages residents and businesses to recycle as much as possible, provides updates about division events and projects, partnering city events, and general information on

the environment. By December 2014, the Recycle More Facebook page had 4,233 followers, compared to its 3,265 followers in 2013, as well as receiving more than 700 likes. Using paid advertisements, the Recycle More Facebook page was able to reach about 40,600 people. As a testament to the quality of information wanted by the public and provided by the division, a post instructing readers that plastic bottle caps should go in the garbage rather than in the recycling bin reached more than 1,400 people without the aid of paid advertisements.

- The *Green Team* Facebook page posts information about Green Team accomplishments as well as project ideas, grant opportunities, and recent developments in environmental topics.
- The newest addition to the division’s social media exposure came late in 2014 with a new Instagram page. Since the account went live in December, the division has posted more than 50 pictures and videos featuring events, facilities, capital improvement projects, and wildlife at Cedar Hills. The account has been well received by the public, who gain an insider’s view of day-to-day operations, as well as some of the division’s programs in action.





While social media was a great way to deliver information in 2014, traditional communications methods have also served the public. With the replacement of the 50-year-old Factoria Transfer Station, the division actively worked to keep local residents and businesses informed about the status of the project via a *Neighbor Newsletter*. Issued each quarter, the newsletter is mailed to more than 5,100 residents and businesses surrounding the station. With the area's increasing diversity, the newsletter is transcreated, meaning the publication is designed with target languages in mind rather than just swapping in translated text.



Designed specifically for the division's city partners, *Solid Waste News* is another newsletter that emerged in 2014. The publication keeps cities updated on capital projects, recycling programs, meetings, and other division-related news. To further the newsletter's reach, it can also be accessed on the division's website.



The division's website continues to be a well-tapped source of solid waste information, with nearly 1.5 million unique page views in 2014. More than 75 percent of those visits were to the following sites:

- The *"What Do I Do With ...?"* web page: Guides the user to the many vendors that accept materials for reuse, recycling, or disposal. The six most frequent searches continue to be for appliances, electronics, batteries, furniture, landscaping/landclearing, and construction and demolition debris.
- 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 web page: 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 collection events. It also includes environmental education topics such as *Recycle More. It's Easy To Do.*, its Spanish-language counterpart *Recicla Más*, and the *What's in our Garbage* 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 website comment form. In 2014, the team responded to more than 30,000 telephone inquiries and 1,200 website e-mail requests. The CSU assists customers with website searches to help them download brochures and access detailed information about programs. They responded to about 400 of the inquiries that came in to the Illegal Dumping Hotline.

# Service Excellence

## Planning for the future

If we consider that we are dependent upon waste to fund our environmental mission, we quickly realize that this is not sustainable. The Great Recession was our first indicator of the changing times, and though the economy is recovering, we believe that tonnage will never reach the levels we were projecting prior to 2007. Additionally, as we actively pursue a goal of Zero Waste of Resources and a 70 percent recycling goal, we have committed to divert from disposal about 1 percent of our waste stream each year through 2030. To both meet those goals and to fund our mission we need a new path – a path that is sustainable from both an environmental and a financial perspective, and that meets the current and future needs of our customers and stakeholders. Today we are financially strong. Tomorrow depends entirely on how we choose to use our knowledge and resources.

Looking ahead toward the future, Division Director Pat D. McLaughlin saw the need for change and realized the division could no longer continue “business as usual.” Beginning in late 2014, the division underwent a reorganization with a focus on its three lines of business – waste prevention, resource recovery, and waste disposal.

Sections and workgroups were reorganized to streamline work efficiency and focus, and employees were asked to take ownership of their work and lead the division toward a brighter future.

To help lead the division through the coming years, three Product Family Champions were selected from a diverse group of internal applicants. Charged with focusing on waste prevention, resource recovery, and waste disposal, the champions are tasked with putting a 10-year business plan in place that will address value proposition, environmental impacts, competitive forces, required resources, and financial implications. The business plan is set to be completed by the end of 2015.

In 2013, the division began intense collaborative work with cities and other stakeholders to review its capital improvement plan. A draft report was released in October 2013 and remained open for public comment until February 2014. The division has continued to examine options for the northeast county and for service level options at the planned new Factoria Recycling and Transfer Station during the comment period. In 2014, after completing Phase 1 of the Transfer Plan, the King County Council directed the division to do supplemental work, Phase 2, on whether a new Northeast Recycling and Transfer Station should be built to replace the Houghton Transfer Station. The review also assesses the planned closure of the Renton Transfer Station and the effect on self-haul customers using that station. A final report is due to council in June 2015.

## 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 draft 2013 *Comprehensive Solid Waste Management Plan* sets a goal of 70 percent overall recycling rate for King County by 2030.

The overall recycling rate for King County in 2013 was 53 percent. While the 2014 overall rate will not be available until late 2015, the single-family residential recycling rate in 2014 was 55 percent. This is lower than the rate needed to meet long-term goals.

When the Great Recession hit in 2007 there was a precipitous drop in the amount of solid waste disposed. Tonnage continued to decrease until 2012, but then began to slightly increase in 2013.

In 2014, the division received about 34,000 more tons than in 2013. Approximately 12,000 tons were a direct result of the temporary closure of the North Seattle Transfer Station and were received at the Shoreline Recycling and Transfer Station. A stronger economy contributed to the increase of garbage disposed at Cedar Hills.

Though garbage tonnage saw a slight increase following the Great Recession, tonnage is expected to remain more or less flat over the next several years. While some increase in total waste generation can be expected due to improving economic conditions, it will be somewhat offset by additional recycling programs, which will divert waste from disposal.



Tonnage is expected to be offset by more recycling programs to get King County to a 70 percent recycling rate.

## Financial Performance

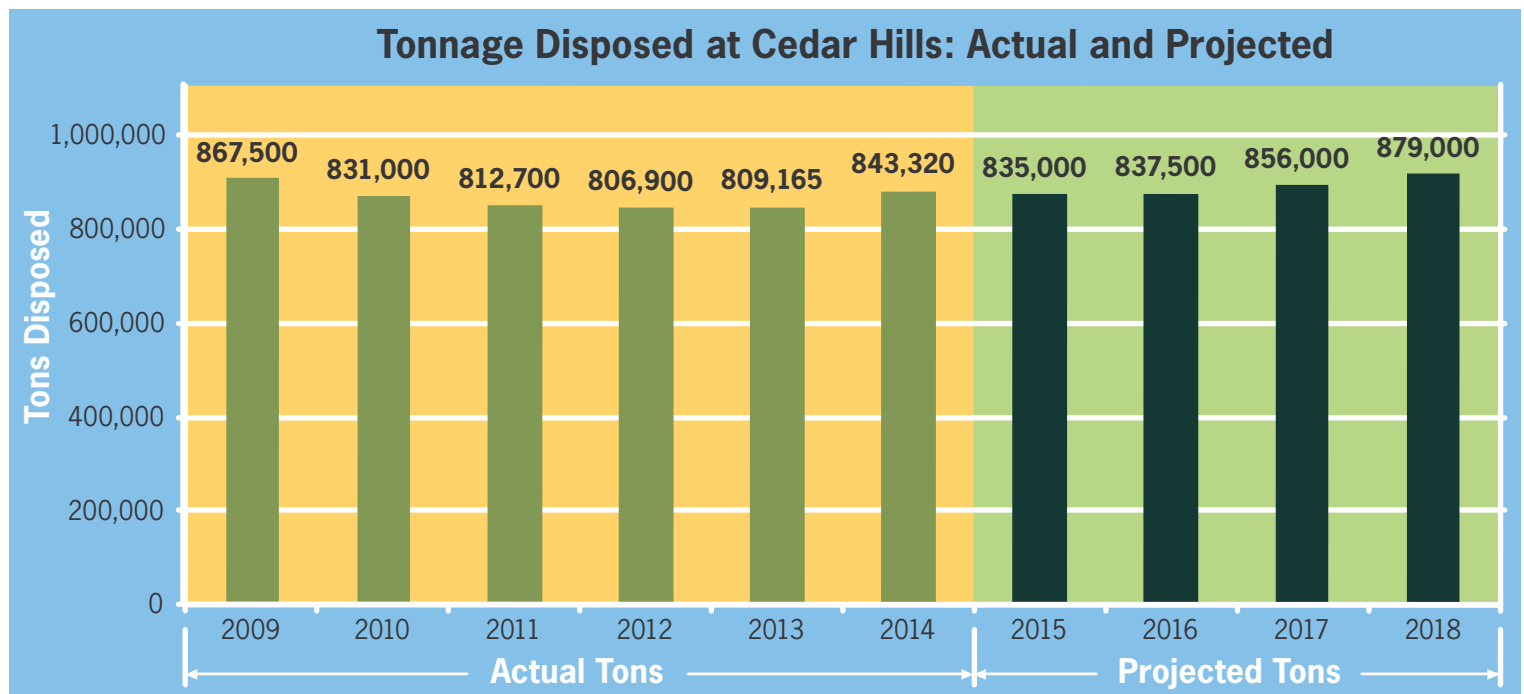
King County's solid waste transfer and disposal system is a public-sector operation that is funded almost entirely by tipping fees collected from its customers. The division is an enterprise fund, managing nearly all of its expenses with revenues earned through these fees. The fees charged at county facilities, called tipping fees, pay for the operation and maintenance of transfer and disposal facilities and equipment, education and promotion related to waste prevention and recycling, grants to cities to support waste prevention and recycling efforts, and administrative operating expenses and overhead. Tipping fees also pay for the construction of transfer facilities. Bonds or loans may be used for large projects, but repayment of this debt is funded by tipping fees.

2013 was the first year of the division's biannual budget. While the division works for continuous improvement in its operations to maximize ratepayer value, numerous expenses in the budget are beyond the division's control and can be difficult to predict over a long period of time – for example, diesel fuel costs. At the end of 2013-14 biennium, the division's operating fund was approximately 6 percent under budget.

Notable areas of savings that allowed the division to remain under budget in 2014 include:

- **Debt service charges** – When the budget was developed in 2012, solid waste interlocal agreements were scheduled to expire in 2028. In 2013, new agreements extending to 2040 were signed by 32 cities. This allowed the division to sell longer-term bonds requiring lower payments. This helps to keep rates as low as possible.
- **Fuel costs** – Although the division has very good data about the amount of fuel required to operate its fleet of transfer trailers and heavy equipment, the per gallon cost of that fuel can vary widely over the two-year budget. In 2014, fuel costs were less than estimated, leaving the division with an under-expenditure.
- **Wastewater charges** – Wastewater rates also vary over time, although to a lesser extent than fuel rates, and actual charges depend on the amount of wastewater generated. Rainfall on the landfill contributes to the volume of wastewater that must be processed. Wastewater charges are therefore higher in wet years and lower in dry years. In 2013, wastewater volumes were somewhat lower than estimated.

The division has been performing analysis on a rate study for the next budget cycle.





# Service Excellence

## Environmental Stewardship

The division places environmental stewardship at the forefront of all its activities in support of the *King County Strategic Climate Action Plan (SCAP)*.

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, (BEW), which in turn sells the Renewable Natural Gas (RNG) to Puget Sound Energy. In 2014, the division received approximately \$2.2 million in revenue from the sale of landfill gas. The gas is being sold as RNG for transportation uses in Tacoma and in the California market. This end use for the RNG is proving to be the most lucrative option for the division. The RNG produced at the BEW facility in 2014 displaced the equivalent of 11.2 million gallons of diesel fuel.

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

## Illegal Dumping Cleanups Continue

The division continues to take a leadership role among the many agencies that share responsibility for handling cleanup of litter and illegal dumping in King County. Three division

programs deal with litter and illegal dumping – the Community Litter Cleanup Program, the Community Cleanup Assistance Program, and the illegal dumping hotline.

The Community Litter Cleanup 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 2014, the division spent \$69,000 in grant money from the Washington State Department of Ecology on the program, with an additional investment of nearly \$64,000 from the division.

In 2014, the division continued to focus cleanup efforts on sensitive areas, where dumped material can have a disproportionate effect on the environment, as well as on public access



*Illegal dumping occurs throughout King County, and three Solid Waste Division programs work to clean up sites and reduce illegally-dumped garbage.*



*King County employees work to remove the amount of illegally-dumped trash from public access areas like roads and green spaces.*

areas like roadsides and alleys. Crews cleaned up about 125 tons of material from 159 sites.

Approximately 20 percent of the materials collected were recycled, including tires, appliances, scrap metal, and junk vehicles.

The Community Cleanup Assistance Program (CCAP) is mandated by county ordinance and is very popular with municipalities, county agencies, and members of the public who have received vouchers through the program. In instances of illegal dumping, investigators work with property owners to make sure they know how to properly dispose of the material and that steps are taken to avoid repeat dumping. The voucher recipient has 45 days to redeem the voucher at a

solid waste facility. Residents in unincorporated King County and in 11 cities used 202 vouchers to clean up dumped waste on private property in 2014.

Those who take advantage of the program continue to express support for CCAP, specifically how the program helps remove the financial burden of cleaning up illegally dumped waste. The program also saves agencies and residents money by getting problem sites cleaned up quickly and decreasing the need for repeat inspections and costly enforcement actions.

The division also manages the Illegal Dumping Hotline, which is staffed around the clock and maintains a database that tracks all calls and online complaints about illegal dumping. A computer application determines what jurisdiction should receive the complaint based on type and location. Once that is determined, the proper jurisdiction is sent an email with the complaint information attached. In 2014, the hotline received 843 calls. Nearly all of these were reporting the location of an illegal dumpsite.

## **2014 Marks the 20th Year for Assessing Unsecured Load Fees**

Since 1994, state law has required counties and cities with staffed transfer stations and landfills to assess a fee for people arriving at the facilities with an uncovered or unsecured load. As a safety measure, properly informing customers about the importance of a secured load is of the utmost importance to the division. Unsecured loads have the potential to do damage to other drivers, block and impede traveling on roads, and create unnecessary litter.



*The Solid Waste Division has a zero tolerance policy when it comes to unsecured loads.*



*Installing long-life, efficient LED lights at transfer stations saves money and improves efficiency.*

In those 20 years, scale operators have assessed 20,649 unsecured load fees at King County's 10 staffed facilities. The division continued its "zero tolerance" approach toward unsecured loads in 2014 and scale operators assessed a fee of \$25 each for 3,388 unsecured loads.

## **Lighting the Way to Efficiency**

In 2014, two phases of lighting retrofit work at the Cedar Hills Regional Landfill took place. The result was a significant reduction in energy use and improved light quality. The new lights are a mixture of super high efficiency LEDs and long-life, efficient fluorescent lamps, which will reduce maintenance for a number of years. Throughout 2014, most of the outdoor and miscellaneous trailer lighting was replaced or retrofitted at Cedar Hills.

Beyond the environmental benefit of these projects, they are also a good financial investment – paying for themselves through the savings in just a few years. In addition to the deep energy savings the division began to capture at transfer stations, the county worked behind the scenes to ensure office computers are running more efficiently, thereby reducing energy use for division employees working at King Street Center.

# Appendices

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

**Table A-1: Total Solid Waste Tonnage Disposed, 1982 – 2014**

Year	Rural Landfills	Transfer Stations	Cedar Hills Reg. Direct	Cedar Hills Other Waste	Total Disposed
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
2013	-	786,072	9,393	13,700	809,165
2014	-	820,521	6,581	16,219	843,320



**Table A-2: 2014 Solid Waste Tons Disposed at Transfer Facilities**

Transfer Stations & Drop Boxes	Total Tons	% Self-Haul	% Commercial
Algona	134,226	24%	76%
Bow Lake	237,649	21%	79%
Cedar Falls Drop Box	3,579	100%	0%
Enumclaw	19,970	63%	37%
Factoria	114,245	19%	81%
Houghton	151,341	21%	79%
Renton	58,476	28%	72%
Shoreline	57,562	60%	40%
Skykomish Drop Box <sup>1</sup>	1,080	100%	0%
Vashon	7,334	70%	30%
<b>Total</b>	<b>785,462</b>	<b>27%</b>	<b>73%</b>

<sup>1</sup> Solid waste transported from Skykomish to the Houghton station; this row is not added to totals.

**Table A-3: 2014 Transactions at Transfer Facilities**

Transfer & Drop Box Stations	Total Transactions	% Self-Haul	% Commercial
Algona	123,011	86%	14%
Bow Lake	171,234	79%	21%
Cedar Falls Drop Box	19,413	100%	0%
Enumclaw	42,854	97%	3%
Factoria	91,280	82%	18%
Houghton	114,806	83%	17%
Renton	70,231	89%	11%
Shoreline	118,188	97%	3%
Skykomish	2,910	100%	0%
Vashon	19,533	98%	2%
<b>Total</b>	<b>773,460</b>	<b>87%</b>	<b>13%</b>

# Appendices

**Table A-4: 2014 Transfer Station and Drop Box Recycling Tonnage**

YTD	Card-board	Mixed Paper	TAP <sup>1</sup>	Glass	Metal	Yard Waste	Clean Wood	Non CFC Appliances	CFC Appliances	Misc. <sup>2</sup>	Total
Bow Lake	119	99	25	47	253	2,257	450	1	79	0	<b>3,330</b>
Cedar Falls	84	89	26	60	1	305	0	0	0	0	<b>565</b>
Cedar Hills	0	0	0	0	14	0	0	1	4	2	<b>21</b>
Enumclaw	168	202	62	130	129	220	29	34	62	0	<b>1,036</b>
Houghton	212	121	30	44	0	0	0	0	0	0	<b>407</b>
Renton	183	144	39	74	0	0	0	0	0	0	<b>440</b>
Shoreline	306	163	36	79	1,105	3,925	773	35	245	0	<b>6,667</b>
Skykomish	10	16	6	13	0	0	0	0	0	0	<b>45</b>
Snoqualmie	28	21	8	16	0	0	0	0	0	0	<b>73</b>
Vashon	58	432	137	339	101	0	0	1	29	0	<b>1097</b>
<b>Totals</b>	<b>1,168</b>	<b>1,287</b>	<b>369</b>	<b>802</b>	<b>1,603</b>	<b>6,707</b>	<b>1,252</b>	<b>72</b>	<b>419</b>	<b>2</b>	<b>13,681</b>

1 TAP = tin cans; aluminum cans; plastic bottles, jugs, and tubs

2 Includes fluorescent bulbs and tubes; batteries; reusable household goods and building materials; textiles; and bicycles



Large signs placed in school lunchrooms help students properly sort, recycle, and dispose of their waste.

**Table A-5: 2001 Comprehensive Plan Targets and Results by Year**

	1	2	3	4	5	6	7
<b>Targets</b>							
All years	18.5	23.5					
2006			50%	31.4	35%	20.8	43%
2012			52%	30.7	40%	20.3	46%
2018			53%	30.5	40%	20.1	48%
<b>Actual Results</b>							
2006	14.1	25.6	53%	28.0	10%	n/a	54%
2007	16.7	26.9	54%	27.7	10%	n/a	59%
2008	15.4	24.0	55%	26.1	10%	n/a	62%
2009	14.1	20.7	54%	26.4	10%	n/a	62%
2010	13.7	20.9	54%	26.0	11%	n/a	64%
2011	13.6	19.5	55%	24.8	12%	n/a	67%
2012	13.5	18.6	56%	25.0	13%	n/a	67%
2013	13.4	n/a	55%	24.9	13%	n/a	n/a
2014	14.0	n/a	55%	25.2	13%	n/a	n/a

1 Limit residential disposal to 18.5 lbs per week or less per resident (includes self-haul disposal tons).

2 Limit nonresidential disposal to 23.5 lbs per week or less per employee (includes self-haul disposal tons).

3 Single family curbside recycling rate (self-haul tons not included)

4 Single family lbs disposed per week per household (self-haul disposal not included)

5 Multifamily recycling rate (self-haul tons not included)

6 Multifamily lbs disposed per week per household (self-haul tons not included)

7 Nonresidential recycling rate (self-haul tons not included)



# Appendices

**Table A-6: 2014 Single Family & Multifamily Recycling and Disposal Rates**

	Single Family		
Jurisdiction	Recycling Rate	Pounds Disposed per household per week	Multi-Family Recycling Rate
Algona	37%	27	0%
Auburn	51%	23	16%
Beaux Arts	61%	25	No MF
Bellevue	65%	23	18%
Black Diamond	49%	30	22%
Bothell	62%	25	13%
Burien	53%	26	8%
Carnation	52%	28	26%
Clyde Hill	61%	30	No MF
Covington	42%	29	8%
Des Moines	47%	27	17%
Duvall	56%	25	14%
Enumclaw	56%	26	n/a
Federal Way	52%	26	8%
Hunts Point	55%	35	No MF
Issaquah	54%	21	22%
Kenmore	53%	27	19%
Kent	53%	24	8%
Kirkland	64%	21	16%
Lake Forest Park	64%	23	19%
Maple Valley	47%	29	4%
Medina	61%	30	No MF

*Continued on next page*

**Table A-6: 2014 Single Family & Multifamily Recycling and Disposal Rates**

	Single Family		
Jurisdiction	Recycling Rate	Pounds Disposed per household per week	Multi-Family Recycling Rate
Mercer Island	65%	25	26%
Newcastle	52%	25	8%
Normandy Park	57%	24	11%
North Bend	54%	27	13%
Pacific	39%	24	2%
Redmond	61%	22	15%
Renton	61%	20	11%
Sammamish	56%	27	15%
SeaTac	41%	29	7%
Shoreline	55%	23	20%
Skykomish	no curbside recycling		
Snoqualmie	54%	25	7%
Tukwila	42%	26	8%
Woodinville	52%	27	11%
Yarrow Point	59%	29	No MF
Unincorporated - North	52%	28	18%
Unincorporated - South	45%	29	8%
Unincorporated - Vashon	7%	31	14%
<b>Countywide</b>	<b>55%</b>	<b>25</b>	<b>13%</b>

*These numbers are derived from tonnage and customer count data reported to the King County Solid Waste Division in monthly reports from haulers. 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%.*

# Appendices

**Table A7: Number of Telephone Inquiries by Type in 2014**

Appliance Recycling	973
Complaints	104
Compliments	6
Computer/Electronics Recycling	221
Construction/Demolition/Landclearing	1,363
Curbside Recycling	265
Directions to Facilities	1,920
Factoria Replacement Project	7
Fees/Rates	2,452
Furniture	702
General/Other Inquiries <sup>1</sup>	2,038
General Recycling	1,969
Hazardous Waste/Wastemobile	1,252
Hours of Operation	4,076
Illegal Dumping	415
Junk Vehicles	48
Latex Paint Disposal Policy	452
Metal	663
City of Seattle North Transfer Station Closure	470
Transfers and Wrong Numbers	1,149
Residential/Business Garbage Issues	833
Special Collection Events	269
Special Waste	238
Television	347
Transfer Stations/Drop Boxes	6,107
Transfer Station Recycling Services	923
Yard Waste	1,202
<b>Total</b>	<b>30,464</b>

1) Other inquiries include solicitations, calls about schools, personal items left at transfer stations, council contacts, tours, publications, mailing issues, and Secure Your Load.



**Table A-8: Solid Waste Division Legislation Summary for 2014**

Short Name	Short Description	Approved by Council
Green Building Audit	<b>Briefing 2014-B0078:</b> Audit to help determine how well the current Green Building Ordinance has been carried out before changes go into effect in August 2014.	5/13/2014
Factoria Recycling and Transfer Station	<b>Ordinance 17830:</b> An ordinance approving the construction and proposed vendor of the new Factoria Recycling and Transfer Station.	6/9/2014
Factoria Recycling and Transfer Station / Transfer Plan Review and Report	<b>Motion 14145:</b> No more than \$1.75 million shall be expended before the division completes a review and report of the 2006 Solid Waste Transfer and Waste Paste Management Plan.	6/9/2014
Factoria Supplemental Budget Request	<b>Ordinance 17832:</b> An ordinance requesting authority for a supplemental appropriation for the Factoria Recycling and Transfer Station.	6/16/2014
Interlocal Agreements	<b>Motion 14251:</b> A \$5 million expenditure restriction until a report addressing recommendations for ILA revisions, changes to disposal rates, potential alternative funding mechanisms for future capital investment facilities, and planning responsibilities for cities not committed to solid waste system after 2028 is submitted to council.	12/8/2014
Name	Description	Transmitted to Council
SWD Annual Report	Solid Waste Division Annual Report as required by KCC 10.14.080 - RPT0064	5/20/2014
Capital Improvement Plan Reallocation Report	Report required by KCC 4.04.273 - RPT0059	5/15/2014

# Appendices

**Chart A-1: Solid Waste Division Actual Revenues and Expenditures Year ending 12/31/2014**

Manager / Administration		
Waste Prevention & Recycling and Mod. Risk Waste	<ul style="list-style-type: none"> <li>• Education</li> <li>• Technical and financial assistance</li> <li>• Collection services</li> </ul>	<b>Expenditure</b> \$10,089,178 28 FTEs
Landfill Operations	<ul style="list-style-type: none"> <li>• Operate and maintain active and closed landfills</li> <li>• Landfill and equipment replacement transfer</li> <li>• Landfill rent</li> </ul>	<b>Expenditure</b> \$14,939,976 48 FTEs
Transfer Station Operations	<ul style="list-style-type: none"> <li>• Collect fees</li> <li>• Monitor waste</li> <li>• Equipment replacement transfer</li> </ul>	<b>Expenditure</b> \$13,380,345 91 FTEs
Transportation Operations	<ul style="list-style-type: none"> <li>• Transport garbage to landfill</li> <li>• Haul leachate &amp; maintenance material</li> <li>• Equipment replacement transfer</li> </ul>	<b>Expenditure</b> \$11,069,929 62 FTEs
Maintenance Operations	<ul style="list-style-type: none"> <li>• Maintain facilities and equipment</li> <li>• Procure and control inventory</li> </ul>	<b>Expenditure</b> \$9,341,905 62 FTEs
Operations Administration	<ul style="list-style-type: none"> <li>• Maintenance planning for operations functions</li> </ul>	<b>Expenditure</b> \$1,281,775 8 FTEs
Capital Facilities <sup>1</sup>	<ul style="list-style-type: none"> <li>• Plan and execute capital projects</li> <li>• Environmental monitoring</li> <li>• Operations support</li> </ul>	<b>Expenditure</b> \$6,152,534 39 FTEs
Debt Service		<b>Expenditure</b> \$9,050,108 0 FTEs
Administration & Fiscal Services	<ul style="list-style-type: none"> <li>• Manage fiscal functions</li> <li>• Administer customer service</li> <li>• Personnel functions</li> <li>• Payroll</li> <li>• Planning</li> <li>• Communication</li> </ul>	<b>Expenditure</b> \$25,438,487 44 FTEs

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

## Summary of 2014 Unaudited Actual Activities (as of February 20, 2014)

2014 Total revenues . . . . .	\$110,396,895
2014 Total operating expenditures . . . . .	\$100,744,238
2014 Total employees . . . . .	382

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# 2014 Solid Waste Division **Annual Report**



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