

2008 INTEGRATED SOLID WASTE MANAGEMENT EXCELLENCE AWARD NOMINATION



Submitted to

SWANA
Solid Waste Association
of North America

Submitted by



King County

Department of
Natural Resources and Parks
Solid Waste Division

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EXECUTIVE SUMMARY

The King County Solid Waste Division (the division) provides integrated solid waste management services, in concert with its regional partners, to more than 1.2 million residents in Washington state. The division works with the 37 cities in its service area, the private-sector collection companies, and a myriad of waste prevention and recycling businesses, processors, nonprofit organizations, and others to ensure that we respond to the ever-evolving needs of a growing population and a changing industry.

The division is currently undergoing a transition that will lead to the development of a new generation of solid waste facilities. As we pave the way for a sustainable future, we have strived to achieve regional consensus in all of our operations through the following means:

- Combining the infrastructure and services of both public- and private-sector entities in the region to provide long-term capacity for solid waste collection, transfer, and disposal, and waste prevention and recycling services
 - Involving the cities and other advisory groups, private collection companies, employees, labor representatives, and other stakeholders in the early stages of long-term planning
 - Incorporating the elements of waste prevention and recycling, product stewardship, and sustainable building into all facilities, programs, and services.
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OVERVIEW OF SYSTEM AND SYSTEM PERFORMANCE

integrate: to form, coordinate, or blend into a functioning or unified whole

The King County Solid Waste Division (the division) is managing an integrated solid waste management system in transition – transition that will lead to the development of a new generation of solid waste facilities. In concert with our regional cities and other stakeholders, the division is preparing for closure of the only operating landfill left in King County, modernizing its network of transfer stations, and building on established partnerships in the public and private sector to manage solid waste in a manner that preserves resources, minimizes waste, and leads the way in environmental innovation.

How does the division integrate this multi-faceted line of business into a functioning, unified system?

By —

- Combining the infrastructure and services of both public- and private-sector entities in the region to provide long-term capacity for solid waste collection, transfer, and disposal, and waste prevention and recycling services
- Involving the cities and other advisory groups, private collection companies, employees, labor representatives, and other stakeholders in the early stages of long-term planning
- Incorporating the elements of waste prevention and recycling, product stewardship, and sustainable building into all facilities, programs, and services

What follows are brief descriptions of the division's current solid waste management system and the major changes in progress to prepare the system for the future. These descriptions highlight the involvement of the public and private sector in the many facets of the system's operation both now and in the future. The remainder of Section 1 discusses how the three bulleted strategies above have successfully led the division through the planning and into the implementation stage of the most profound changes in our solid waste system since the 1960s. A final section discusses the division's approach to customer service and how we measure customer satisfaction and customer patterns of usage to aid in long-term planning.

Description of the Current System

The division provides solid waste transfer and disposal services for approximately 1.2 million residents and 637,000 employees across the county. The system serves 37 of the 39 cities in King County – the cities of Seattle and Milton are not part of the county's system. King County is the largest metropolitan county in the State of Washington in terms of population, number of cities, and employment. It is the 14th most populous county in the U.S. The total area of the county served by the division covers more than 2,000 square miles.

Collection

Under state law, the county is prohibited from collecting or contracting for the collection of solid waste. This responsibility is vested with the cities, or in the unincorporated areas with the Washington Utilities and Transportation Commission. The division does set collection standards through its comprehensive planning process. Most cities procure collection services through the private collection companies in the region, while two cities provide collection services themselves. Private-sector companies also provide curbside recycling and organics collection. From the curb, solid waste is transported by the collector to the county's transfer facilities; recyclables and organics are transported to private-sector processors.

Transfer

To provide the capacity to serve an area the size of King County, the division manages eight transfer stations (six urban and two rural) and two rural drop boxes. The transfer facilities are dispersed throughout the county to provide accessible and equitable services in both urban and rural areas. In addition to receiving solid waste from curbside collection, the facilities accept solid waste from self haulers. In 2007, the transfer facilities received more than 1 million tons of garbage through nearly 1 million transactions. Solid waste received at the transfer facilities is consolidated into larger loads for transport to the county's Cedar Hills Regional Landfill.



Curbside service is the preferred method for collection of primary recyclables (mixed paper, cardboard, newsprint, glass and plastic containers, and tin and aluminum cans), but these materials are also collected at most division transfer facilities. Yard waste is currently collected at three facilities, clean wood waste at two facilities, appliances at four facilities, and household hazardous waste at one facility.

Disposal



Cedar Hills Regional Landfill

The Cedar Hills Regional Landfill is the only remaining, active landfill in King County. It is located on a 920-acre site in rural King County. The landfill has been in operation since the 1960s, and is currently projected to close in 2016; however, recent engineering studies and projections indicate that it is possible to extend the life of the landfill for an additional three to four years, and perhaps more. This year, the division will revise the *Cedar Hills Site Development Plan*, seeking ways to maximize the life of the landfill. This is significant because in-county landfill disposal is less costly than exporting waste to a distant landfill or waste-to-energy alternatives. To extend the life of the landfill, a number of different alternatives will be considered, including regrading previously filled areas that have settled and developing new areas for disposal.

In the last couple of years, the division has made a number of changes to daily operations that will help maximize the life of the landfill. In 2005, the division began using tarps over portions of the active fill area as alternative daily cover, rather than the previous application of six inches of compacted soil. The division is also recycling rock used to build roads and tipping floors rather than burying it in the landfill as was the previous practice.

Over the years, the landfill has evolved into a state-of-the-art facility, meeting the highest standards for protecting public health and the environment. The Cedar Hills landfill began operations in 1964, before current regulations safeguarding the environment were in place. The division has invested considerable effort and resources to upgrade older disposal areas, while designing and operating new areas to meet or exceed regulatory requirements. In the last 10 years, the landfill has received national recognition for its advanced operations, including complex systems for collecting leachate and landfill gas and impermeable bottom liners. An integrated monitoring program is in place to ensure that environmental control systems for both older and new areas are operating in a manner that maintains the highest standards of environmental protection.

Earlier this year, the county signed a contract with a private-sector company to build a gas separation plant at the landfill. Currently, the methane gas collected from the landfill is burned in a system of flares. The new plant will convert the methane into pipeline-quality gas that will be marketed through the natural gas pipeline adjacent to the landfill (a press release about this project is provided under *Supplemental Materials*).

The landfill site also includes a shop and maintenance facility to service more than 450 pieces of rolling stock and other equipment used at the transfer facilities and the landfill.

Closed Landfills

The division also has custodial responsibility for nine landfills across the county that have closed during the last 35 years. Ongoing environmental monitoring of groundwater, surface water, wastewater, and landfill gas is performed at the properties to ensure they are protective of human health and the environment. While transfer stations were built at some of the landfill properties, the division has implemented beneficial reuse at others to provide services to the surrounding communities. The beneficial reuse projects are compatible with the monitoring equipment and environmental control systems; as programs and monitoring are expanded at these properties, the division is designing systems with beneficial reuse in mind.

Athletic fields were developed at one of the closed landfills, and another hosts a hobby model airplane club. At other landfills, measures are being taken to use sustainable remedial technologies to minimize environmental impacts, such as vegetative cover and passive gas treatment using natural filters. All of the closed landfill properties are open grassy areas that can provide habitat for birds and other migratory animals, and some are adjacent to woods. In the landfill buffers, efforts are being made to enhance habitat, restore wetlands, and attract local species of wildlife.

Waste Prevention and Recycling

One of the division's top priorities is to provide programs and services for waste prevention and recycling (WPR). The division works with the cities in its service area and local, state, and national organizations to design and implement innovative programs and services to increase waste prevention and diversion through recycling, reuse, and product stewardship initiatives. Each year, the division partners with the cities on numerous collection events, pilot collection projects, and promotional events. The estimated overall recycling rate for the county's service area is 45 percent. This figure does not include the nearly 2 million tons of materials diverted from the construction, demolition, landclearing, agricultural, and industrial waste streams.

Since the late 1980s when WPR programs began in King County, the infrastructure and markets have flourished to divert a myriad of commodities from the disposal stream. In fact, since 1987 the amount of waste diverted annually from the landfill has increased by about 390 percent. These programs have added nine years to the life of the Cedar Hills landfill.

WPR has been a topic of discussion at planning meetings of the division and its stakeholders. Since 2006, the focus of the meetings has been to develop goals and recommendations that will be incorporated into the next comprehensive solid waste management plan to increase the success of our WPR efforts.

The division has numerous programs to promote recycling, reuse, and product stewardship. One example is the Take It Back Network, a popular program managed by the division to provide residents and small businesses with recycling opportunities for their electronic products and fluorescent lamps (a brochure is provided as a separate supplemental item). The division has agreements with retailers, recyclers, repair shops, and charitable organizations to recycle these products in an environmentally sound manner. The network members are publicized on the division's Web site, in brochures, and in paid media. Another popular program during the holiday season is Waste Free Holidays. The theme of the program is "Give experiences instead of stuff." Businesses and organizations participate in the program by offering discounts on gift certificates, tickets, and memberships for plays, concerts, museums, sports events, fitness, massages, meals, and more. In 2007, 160 discounted gift offers were available to the public.



Waste Free Holidays

Give experiences instead of stuff

Product stewardship is another strategy being pursued by the division to conserve resources and minimize waste. This strategy is used to encourage environmentally friendly product design and to shift the responsibility for managing the product at its end of life from government to manufacturers and retailers. Recently, the division and other jurisdictions within Washington worked together to get a product stewardship bill adopted for computers, monitors, and televisions. In addition, the division is assisting in implementing or pursuing product stewardship strategies for pharmaceuticals, paint, telephone books, and fluorescent lamps.

Planning Process

Overall system planning is accomplished through regional consensus building. In addition to working with other local jurisdictions and the private-sector solid waste collection companies, the division has a well-established network of advisory groups. The Solid Waste Advisory Committee (SWAC) has been operating in an advisory capacity to the division since 1985. The SWAC represents the interests of local elected officials, the waste management industry, recycling businesses, public interest groups, labor, and citizens of the county, including citizens from the unincorporated areas. The SWAC meets with the division monthly to discuss solid waste management planning and decisions that affect county residents and the services they receive.

In 2004, the county enacted legislation to establish a process for collaborative participation by the 37 cities that are part of the division's solid waste management system. The original intent was to involve the cities in significant decisions on the horizon. The Metropolitan Solid Waste Management Advisory Committee (MSWMAC), which consists of elected officials and city staff, began meeting with the division on a monthly basis in 2005. The legislation also formalized a cities staff working group – the Interjurisdictional Technical Staff Group (ITSG) – to provide technical assistance to MSWMAC. ITSG comprises staff representatives from the cities, the County Council, and the division.

The work of these advisory groups has been integral to the planning process over these last few years. They have offered tremendous support in helping the division develop plans and gain approval of the King County Council to modernize the division's transfer network, continue to enhance waste prevention and recycling efforts in the region, and prepare for the eventual closure of the Cedar Hills Regional Landfill.

The Need for Change

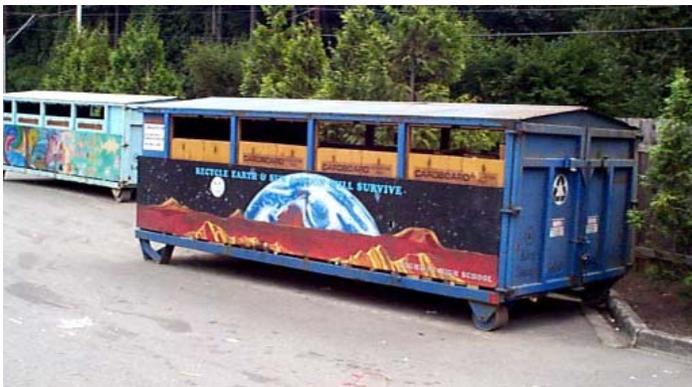
King County's solid waste system is immersed in transition that will prepare us for the future of solid waste handling in the region. First, the county-owned Cedar Hills Regional Landfill is expected to reach its permitted capacity and close within the next 20-year planning horizon. The division will be exploring an alternate disposal method capable of handling the more than 1 million tons of solid waste generated each year. Options could include waste export to an out-of-county landfill or the implementation of a waste conversion technology, such as incineration, gasification, or pyrolysis. These options will be explored further as the timeframe for landfill closure approaches. In the meantime, the division's goal is to maximize the lifespan of the Cedar Hills landfill, as current studies show that disposal of solid waste at the county's landfill is the most cost-effective disposal method for the ratepayer when compared with all future alternatives.

Any selected disposal alternative will require contracting for private-sector facility and/or transportation services, such as railroads for long-haul transport, privately operated landfills in the region, or the owner/operator of a waste conversion facility. Discussions have already begun with other jurisdictions that have made the transition to waste export, the railroad industry, and the operators of landfills in the region with the capacity required to handle the county's solid waste stream. In addition, the division had a consultant prepare a comparative evaluation of waste export to an out-of-county landfill and various

waste conversion technologies as future disposal options. The division will continue to monitor all of the options over this planning period. Under any scenario, the division will transition the public-sector disposal operation at the county-owned landfill to one or more private-sector entities.

A second major change on the horizon is the modernization of the division's transfer system to increase future capacity and better meet customer needs for more recycling services. Five of the division's transfer stations, located in what has become the urban portion of the county, have been operating since the 1960s. While these stations were built to meet the highest standards of environmental quality and technology in the 1960s, they are no longer able to keep pace with the region's population growth and industry changes. Population growth alone has been staggering, from about 400,000 in the 1960s to 1.2 million in 2006.

Operational constraints have also come about with changes in the industry. Commercial collection trucks have become larger, making space tight where the commercial trucks and self-haul vehicles share the transfer station tipping floor. In addition, roofs at many stations are not high enough to accommodate the larger truck beds as they tip upward to unload.



An additional challenge came in the late 1980s when recycling became a high priority in the management of solid waste. Recycling bins were placed at transfer stations wherever possible to collect materials brought by self haulers. However, space constraints at the stations continue to limit the number of bins and commodities that each site can accommodate and to prohibit the expansion of services to keep up with this growing sector of the industry.

Recycling bins at the Houghton Transfer Station

Significant advances in waste prevention and recycling, environmental stewardship, and sustainable building practices have reshaped the role of solid waste management and created the need for a more diverse and flexible transfer system that goes well beyond the goal of safe transport and disposal. More space is needed at the stations not only to add recycling bins for new marketable materials, but to provide the capability to separate recyclable material, such as metals, from solid waste on the station receiving floor. These measures will help preserve valuable resources and reduce the amount of garbage that reaches the landfill. With a new, proposed recycling goal of 50 percent by 2016, it is estimated that an additional 1 million tons of materials could be diverted from the landfill over the next eight years, extending the life of the landfill another year.

Another upgrade required for the transfer stations is the installation of waste compactors to increase efficiency and reduce costs by compressing the same amount of garbage into fewer loads for transport to the landfill. It also means fewer trips through host city neighborhoods, meaning less traffic and wear on local roads, less fuel use, and a reduction in greenhouse gases. The addition of compactors will also help contain costs to the ratepayer after the Cedar Hills landfill is closed.

Public- and Private-Sector Cooperation

As previously discussed, the King County solid waste management system comprises a diverse mix of public- and private-sector operations. Whether through a competitive process or legislative mandate, it is generally seen as a way to encourage high-quality and innovative services at the best price for the ratepayer. While the county has statutory oversight and authority for long-term planning and handling of solid waste, various elements of the operation, such as collection, are conducted by the private sector. Waste prevention and recycling programs and services provide the greatest cooperation and interdependence, employing the services of and partnering with the private sector, other public entities, local businesses, nonprofit organizations, and local, regional, and national programs and initiatives. The division maintains its commitment to sustaining a balance of public- and private-sector involvement as we move forward with the modernization of the solid waste system in the next 20 years.

Collaborative System Planning

With the transition from local landfill disposal on the horizon, and the renovation of the transfer system at hand, the need arose for comprehensive planning and collaboration with SWAC, MSWMAC, ITSG, and other stakeholders. In particular, because of the broad nature of the changes anticipated and the potential effects on the existing host cities, surrounding cities, and possibly new host cities, it was important to ensure city participation, through the newly formed MWSMAC and ITSG, in the early stages of planning.

Through this process, significant strides were made in building a new foundation of trust and cooperation between the cities and the county. The process helped the various stakeholder groups work together to resolve solid waste planning issues in an atmosphere of consensus-building and to begin the development of reports and policies to guide future system planning. In these last few years, SWAC has worked in concert with MSWMAC to advise the county in solid waste planning from their unique perspectives. The division has also consulted the expertise of division employees, private-sector haulers, and labor representatives in the review of planning reports developed by the advisory and staff groups. In the last year, this collaborative planning process has begun to yield positive results as plans and recommendations have been approved by the King County Council for implementation.

Together, the division and its advisory groups developed analytical reports to evaluate alternatives for the upgrade and/or relocation of transfer stations; determine the most efficient mix of public-private ownership and operation of solid waste facilities; and look at extending the life of the landfill as long as feasible. The advisory groups worked closely with the division over a period of years to conduct analyses that would culminate in a set of recommendations to prepare the solid waste system for the future.

The first collaborative effort of the division and its advisory groups was to develop four analytical milestone reports. The reports were developed through an iterative process over the course of two years through frequent meetings and discussions. The King County Council reviewed and adopted each milestone report.

The first milestone report developed level-of-service criteria for evaluating the existing transfer system. The report presented 17 evaluation criteria considered essential to meet operational standards of performance, customer needs, and the interests of the host neighborhoods. Milestone Report 2 applied these criteria to five urban transfer stations. One of the urban transfer stations, the Shoreline



The rural Enumclaw Transfer Station

Recycling and Transfer Station, was not included because it was under construction, and would meet or exceed all of the criteria; the rural Vashon and Enumclaw transfer stations were not included because they were built in the 1990s and already met or exceeded the criteria. By applying these criteria to the five remaining transfer stations, the division and its advisory groups prepared recommendations to reconstruct or build newly sited facilities to replace all five of the outmoded transfer stations.

The third milestone report examined alternatives that would create the most efficient mix of public- and private-sector participation in the solid waste system. The fourth milestone report identified a range of system alternatives based on the previous analyses and the projected costs to implement them.

Using the analyses and data presented in the four milestone reports, the division and its advisory groups developed a cohesive set of system recommendations to modernize the solid waste transfer system and prepare for the closure of the Cedar Hills landfill. The recommendations were presented in the *Solid Waste Transfer and Waste Management Plan* (the Transfer Plan), which was approved by King County Council in December 2007. In advance of its approval by the Council, motions supporting this plan were passed by both the SWAC and MSWMAC. The approved recommendations gave the division the go-ahead to completely reconstruct or build newly sited facilities to replace the outmoded urban transfer stations, and to explore opportunities to extend the life of the landfill. During this collaborative process, the division also developed a proposal to increase its rates to fund these system improvements. The cities participating in MSWMAC voted unanimously to support the division's first rate increase since 1999. The rate increase was ultimately approved by the County Council.

Along with SWAC, MSWMAC will continue to work with division staff and the County Council to develop the next update of the comprehensive solid waste management plan, expected to be completed in 2009. Because the process discussed above has been so successful in developing mutually agreed-upon recommendations for the division's transfer and waste management system, this model will be used for future division planning. The process has proven to be an equitable approach to meeting the needs of the cities and other stakeholders as well as those of the region as a whole.

Major construction projects are already underway or planned to modernize the division's system of transfer stations. The Shoreline Recycling and Transfer Station was constructed to meet or exceed the criteria developed through the collaborative process (a brochure about the new facility is provided as a separate supplemental item). The second of the modernized stations planned for construction, the Bow Lake Recycling and Transfer Station, is currently in the design phase. It will replace the current Bow Lake transfer station and have similar design features to those at the Shoreline station, with the addition of a green roof over a portion of the station.

Shoreline Recycling and Transfer Station



The first of the new state-of-the-art urban transfer stations opened its gates in February 2008. This station will serve as a model for our future transfer station construction approved in the 2007 Transfer Plan. The Shoreline Recycling and Transfer Station was built to meet the highest standards of environmental sustainability, and is the first transfer station built in the U.S. to be registered with the U.S. Green Building Council. Their nationally recognized rating system – Leadership in Energy and Environmental Design® (LEED®) – evaluates buildings in the areas of protection of human and environmental health, sustainable site development, water savings, energy efficiency, materials selection, indoor environmental quality, and innovation in design. A few of the many features incorporated in the Shoreline station design include:

Natural daylighting – windows and skylights that allow natural light to filter into the building. Sensors also detect the levels of daylight and adjust the lighting accordingly. This feature has the potential to reduce annual energy use by as much as 50 percent.

Solar energy – panels installed on the south-facing roof to generate electricity even on cloudy days, providing about 5 percent of the building's energy needs.

Rainwater collection and reuse – rainwater collection from the rooftop and stored in tanks to provide water for washing station floors and equipment and for flushing toilets. This feature is expected to reduce water needs by 57 percent.

These and other features are projected to earn the Shoreline station a Gold rating under the LEED® rating system.

Running through the Shoreline site is Thornton Creek, which hosts a diversity of wildlife, including salmon, river otters, frogs, salamanders, and great blue herons. Great care was taken to protect and restore the creek corridor:

- Invasive plants were replaced with a buffer of drought-tolerant native vegetation to conserve water, protect creek banks from erosion, and provide habitat for birds and other wildlife



Photovoltaic panels



Rainwater barrel

- Paved areas were removed and the buffer around the creek increased
- Runoff from roadways was channeled to a stormwater filtration system and detention pond; this system releases stormwater to the creek at a rate that prevents erosion or flooding

An educational kiosk, which features a mosaic representation of the creek made of recycled glass, was placed overlooking the creek to share three key messages:

- Thornton creek information and protection – “we all live in a watershed”
- Green building features of the station
- Environmental stewardship and sustainability



Educational kiosk

The Shoreline station was also designed to maximize the space available to accept more than the standard recyclable materials. The division met with the host city and three other nearby cities to determine the list of commodities to collect initially at the new station. Materials added include clean wood, organics, cell phones, scrap metal, and household batteries. And the station has the built-in flexibility to accept more recyclable materials as markets continue to develop and customer needs change.

To minimize the impacts of the transfer station on the host community, the division collaborated on an agreement with King County’s Metro Transit to allow the large, solid waste transfer trailers to share the Metro bus’s dedicated access ramps to and from the adjacent Interstate 5. This arrangement will keep solid waste trucks off the neighborhood streets.

In 1973, King County adopted legislation creating the 1% for Art program, where capital construction projects set aside funds for public artwork. The artist selected for this project worked with the Shoreline/Lake Forest Park Arts Council, the Public Art Committee, the City of Shoreline, and the division to develop artistic design elements for the new station. The artist’s design concepts call for us to question how our choices affect the environment and consider other uses for items before we throw them away. The art was placed at key locations throughout the site to make the experience of visiting the transfer station more thought-provoking for customers.

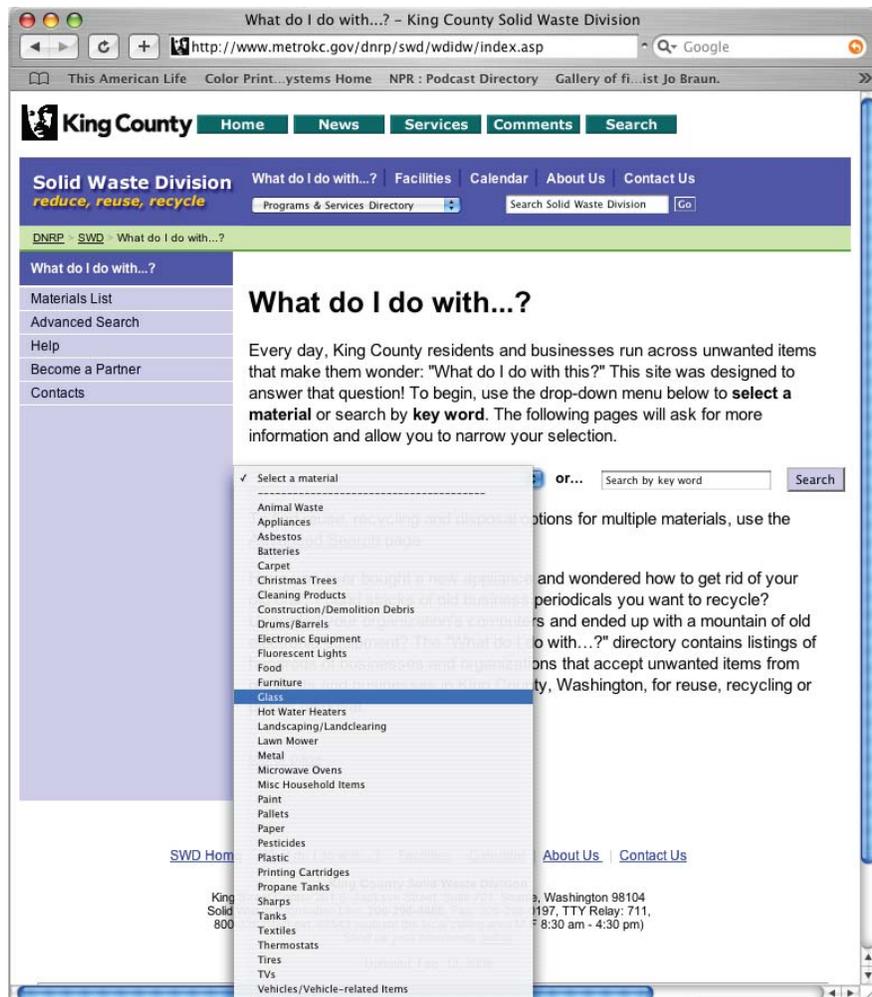
Customer Service

The division employs many tools to stay in touch with the citizens to whom we provide services to answer questions, provide service options, gather comments and input, and measure overall customer satisfaction. The division's customer service unit answers questions from citizens about solid waste and recycling services via telephone and our Web site comment form. In 2007, the unit answered more than 60,000 queries. The Web site has also grown in popularity, with about 600,000 visitors in 2007. The most popular feature on the site is a drop-down menu called "What do I do with ...?" The menu lists a myriad of materials that customers commonly ask about. Clicking on an item opens a page with the location, details, and contact information for the reuse, recycling, or proper disposal options for the material.

To help King County provide efficient and effective services, plan for future needs, and track progress toward county recycling goals, the division manages a Waste Monitoring Program, which includes waste characterization studies, customer surveys, market analyses, and other studies, as needed.

To provide information on the level of customer satisfaction with customer service, waste services, and the county-owned transfer stations and drop boxes, the division contracts for two types of customer satisfaction surveys – one telephone survey of King County residents and one survey of customers at the transfer facilities. In 2007, 89 percent of single-family residents surveyed by telephone indicated they were "satisfied" or "very satisfied" with their solid waste service. Customers surveyed at transfer facilities in 2006 were asked to rank the quality of service on a scale of 1 (extremely dissatisfied) to 5 (extremely satisfied). More than 90 percent rated their experience at the transfer station as 3 or higher, with an average rating of 4.6.

Waste characterization studies are also conducted to analyze the waste stream through the collection and sorting of sample loads from customers who bring materials to transfer facilities in King County. These studies help the county determine program needs and develop goals through understanding of the overall waste stream.



FINANCIAL AND BUSINESS MANAGEMENT

The primary goal of the division is to provide the citizen's of King County with efficient and reliable solid waste transfer and disposal services that protect human health and the environment and provide value for the ratepayer. The division also has the responsibility to be a conscientious steward of the environment, supporting waste prevention and recycling programs, green building, and sustainable development.

Financial Management

In 2003, the King County Executive directed that all county departments focus on ways to operate more efficiently and become more entrepreneurial. This was a sweeping directive aimed at addressing serious budget challenges of the time. In response to the Executive's direction, the division developed a business plan and budget that would, through operational efficiencies, result in the delay of some capital projects, the realignment of staff, and the postponement of a planned fee increase from 2005 to 2007. As with any successful business, improving efficiency was not a new concept for the division, and previous studies and projects had resulted in a variety of improvements to operations, but what began in 2003 and 2004 initiated a period of sweeping change and a new vision for the future of the solid waste system that continues today.

Through the ongoing work of all employees, the division was even more successful in postponing fee increases than we originally thought possible. It wasn't until January 1, 2008 that the disposal fee was increased from \$82.50 to \$95.00 per ton. This was the first increase in the disposal fee since 1999. Both SWAC and MSWMAC sent their endorsement of the rate proposal to the King County Executive and County Council (the letter from MSMAC is included under *Supplemental Materials*). In addition, in an unprecedented action, the Suburban Cities Association, a nonprofit corporation representing 37 of the 39 cities in King County, voted unanimously to support the proposal to increase solid waste fees and advised the County Council of their support. The new 3-year rate increase was approved by the Council in July 2007.

The fee increase will help finance major capital improvements to the county's aging transfer system, as well as cover rising costs for fuel, equipment, labor, and maintenance. The increase represents an average increase of 1.6 percent per year, compared with the actual average rate of inflation of 2.8 percent per year since 1999. The bill for the average customer with one-can weekly garbage collection service will increase by \$0.73 per month.

After the fee increase, King County's disposal fee is still one of the lowest in the area, as shown in the chart below.

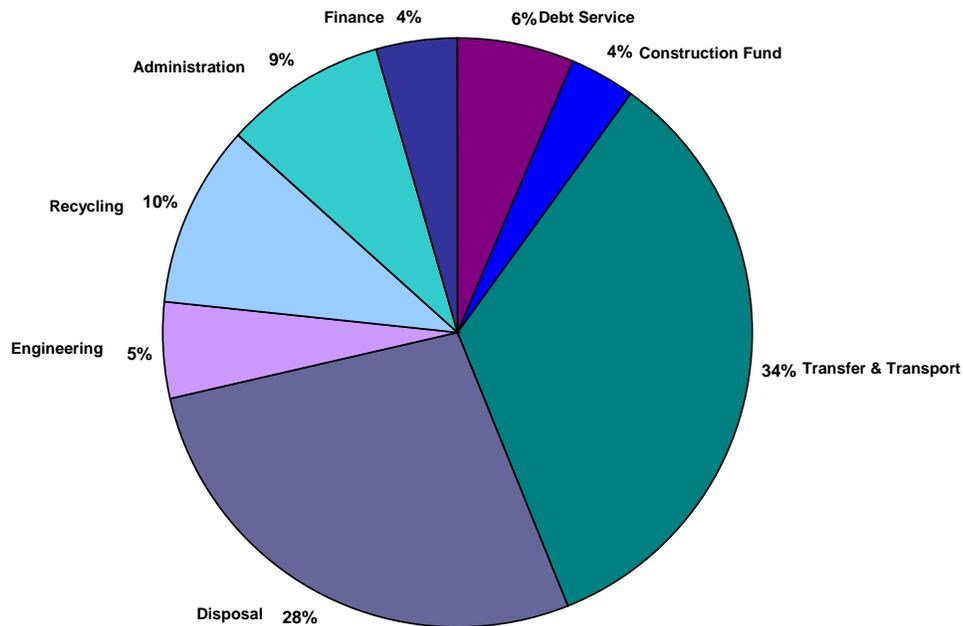
| Jurisdiction | Basic Fee Per Ton |
|---------------------|--------------------------|
| City of Seattle | \$130.00 |
| City of Tacoma | \$130.00 |
| Pierce County | \$105.62 |
| King County | \$ 95.00 |
| Snohomish County | \$ 89.00 |

The division is an enterprise fund operation. The majority of the division's revenue is collected through disposal fees; other revenue includes interest income, and grants. These revenues fund operations, maintenance, landfill reserves, debt service, capital equipment, and capital improvements to division facilities. The cost of major, new capital investments is supplemented by general obligation bonds

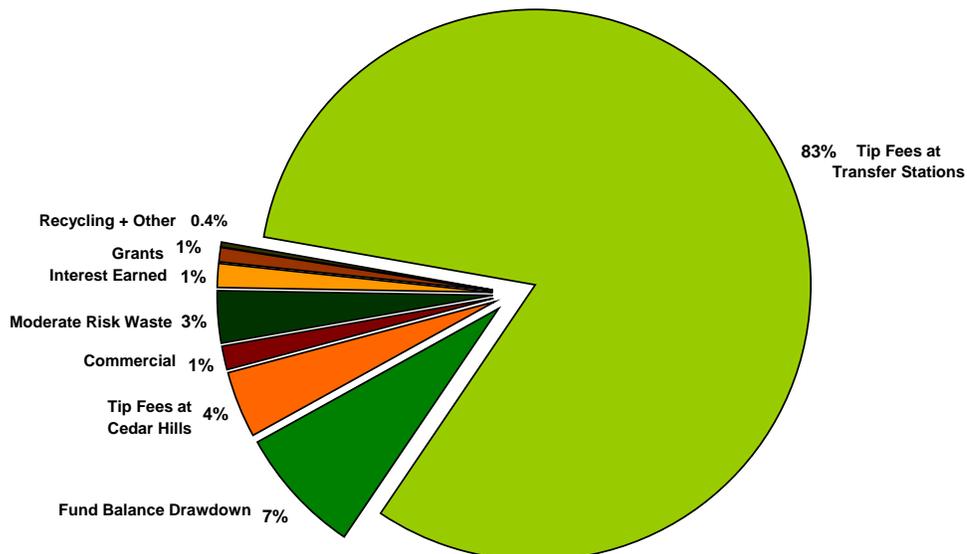
issued by the county. The division has established reserve funds to allow the purchase of major capital equipment and construction and closure of landfill disposal areas. Debt funding is only used for construction of assets with greater than 20 years of projected useful life.

In 2009, the division will begin receiving additional revenue from the sale of landfill gas. The county recently signed a contract with Ingenco, a Virginia-based company that will build a gas separation plant at the Cedar Hills landfill. Ingenco plans to generate pipeline-quality gas from the methane gas collected at Cedar Hills and market it through the natural gas pipeline adjacent to the landfill. The division will receive a guaranteed annual payment of \$1.3 million and will receive a bonus if natural gas prices increase beyond a certain amount. The division also retains the emissions credits related to this venture.

Solid Waste Division Expenditures 2007: \$97,771,362



Solid Waste Division Revenues 2007: \$97,771,742



Calculating the Disposal (or Basic) Fee

An econometric rate model is used to determine the disposal fee required to support operational and other costs. First, the division's expenditures over the rate period are estimated, including operating and administrative costs, and transfers to reserve, construction, and other funds. Next, revenue from all non-disposal fee sources is subtracted from the total expenditures to arrive at the amount of fee-based revenue that will be needed over the rate period. Then, that dollar amount is divided by the forecasted tons to determine the basic solid waste per ton disposal fee. The model ensures that when all revenues and expenditures are considered, the division retains a 45-day reserve in the fund balance.

Forecasting Tonnage

The tonnage forecast is a primary driver in determining the disposal fee. To forecast the amount of solid waste projected to be disposed in future years, the division applies an econometric model that includes the following variables, which explain the change over time of the solid waste disposed:

- Number of people living in the service area
- Number of jobs and structure of the job market (split of service-sector jobs vs. manufacturing jobs)
- Household size in persons per household
- Per capita income (in real terms)
- Disposal fees (adjusted for inflation)
- Percent of households with curbside recycling

In a first step, the division develops a "baseline scenario." This scenario takes into consideration current policies and new policies, including all effects and implementation schedules that are currently known. The model, based on a regression equation, uses information about the relationship between the variables above, policies, and the current and past disposal tons. Based on the projections for population, employment, household size, real income, and disposal fees, the division can estimate the future amount disposed for the forecasting period. The division uses the mean value of the lower and upper range as the projected amount disposed.

In a next step, the division includes all known events that might affect the disposal amount, such as temporary transfer facility closures or changes in recycling programs, and estimates a budget tonnage forecast that is used for a short-term financial forecast. Changes to the forecast are made during the year, as new information becomes available and real tonnage numbers are updated, e.g., if unexpected events affect economic development.

For other planning purposes, the division develops and maintains a long-term forecast. The same sources are used, but the horizon is expanded out to 25 years, depending on the information available.

The tonnage and transaction data for past years are collected and maintained by the division, and are the most accurate data available for forecasting purposes. Based on these and other data, the resulting disposal forecast has a 95 percent confidence interval.

Business Management

The division's work force is highly unionized, with more than 95 percent of employees belonging to 1 of 13 different unions and working under 1 of 10 different bargaining agreements. The division has a long-term commitment to working with labor and employees to meet division goals while minimizing negative impacts to employees to the extent possible. The division meets regularly with shop stewards and business agents to resolve differences, address needs of employees and the division, and discuss ideas

for improvement. The division dedicates a full-time position to employee and labor relations to ensure compliance with labor agreements, foster positive relationships with unions, and make the employee/management relationship meaningful.

Commitment from employees has contributed to many of the efficiencies that the division has been able to achieve. In 2003, in response to the Executive's direction, the division developed a suggestion system, encouraging all employees to submit any suggestions that could result in cost savings or added revenue. More than 650 suggestions were received, including ways to change work procedures, eliminate procedures that were no longer needed, and add new sources of revenue. Nearly all of the innovative efficiencies incorporated in the 2004 business plan and budget came from employees; many of those efficiencies continue to save the division money each year. The suggestion program is still in place.

With the Executive directive, it was clear that some of the changes would result in employee layoffs. The division developed a program to assist the 36 employees on the layoff list in finding other employment, both within and outside the county. A job hotline was established to inform employees of job opportunities within the county, and employees slated for layoff received first notice of the openings. In addition, classes and one-on-one assistance were provided. As a result, no actual layoffs occurred.

Employees in the division's Operations Section have been an integral part of facility design teams. Transfer station operators, scale operators, truck drivers, shop personnel, and others were essential in the planning and design of the new Shoreline Recycling and Transfer Station. As design of the Bow Lake Recycling and Transfer Station progresses, design team members are meeting with the new Shoreline staff to look at ways to make the Bow Lake station project even more successful.

Division employees are committed to minimizing any negative impacts of our activities on the environment. To strengthen this commitment, we developed an environmental management system (EMS) to guide our day-to-day environmental decisions. Our EMS, called the Environmental Awareness Program (EAP), was developed in stages as established by the International Standards Organization (ISO) 14001. The EAP team includes volunteers from all areas of the division, working to integrate EMS principles into the way we work on a daily basis – from the shop to the transfer station to the office. The diversity of the team brings a variety of perspectives and expertise to the task.

Every two years since 2000, the division has conducted an employee survey. The survey includes questions about:

- Overall satisfaction and morale
- Management and leadership
- Customer service
- Productivity and efficiency
- Environmental focus
- Safety in the workplace

On a scale of 1 to 5, with 5 being the highest, in 2006 the average score for the question "Overall, how satisfied are you with your job?" was 3.41. Questions with an average score higher than 4 included those about the importance of high-quality customer service, the importance of working in a cost-effective manner, and environmental responsibility.

A key component of employee relations is our internal communications program. During times of change, this has been particularly critical. During 2003 and 2004, when employees were feeling apprehensive and uncertain of the future, we developed a



Truck driver and supervisor coordinating

newsletter that focused specifically on change. The *Change News* focused on business developments, effects on employees, and explanations of what was happening and why. During the more stable period since then, the name of the newsletter has changed, to *SWD News*, but the focus remains on providing information about the business. Another internal newsletter, *Inside Trash*, has a lighter tone and is a mix of work-related and personal news (a sample is provided as a separate supplemental item). For breaking or time-sensitive news, announcements are e-mailed and faxed to all employees and work sites (an internal news bulletin is provided under *Supplemental Materials*). However important these written communications have been, they are just a supplement to daily interaction with supervisors, managers, and others throughout the division. Periodic work unit meetings are a chance for employees who work at a variety of sites to interact professionally and personally. Meetings that include briefings by division management and the chance to interact with the division director are particularly popular.

The Employee Safety Advisory Board and work unit safety meetings are another opportunity for critical communication. Through these employee-run meetings, potential and actual safety issues are discussed, recommendations for correction are made, and issues are tracked until it is determined that the problem has been corrected. In recent years, the division has stepped up its efforts to make safety a priority for everyone. A safety hotline encourages reporting of all safety issues, and a new safety newsletter and a weekly e-mail safety quiz are designed to keep safety at the forefront.

SAFETY BANNER
Safety is about people
April 2007 - SWD Safety Newsletter

EMPLOYEE SAFETY ADVISORY BOARD MEMBER/GROUP REPRESENTED

Alexandra Thompson - Chair, King Street Center
Larry Dowell - Chair Alternate, Secretary, Equipment Operators
Peggy Wolf - Secretary Alternate, Landfill Operations
Pam Bowen - Transfer Station Operator
Terry Brown - Shop Personnel
Dinah Day - Engineering Services
Pam Keller - Scale Operators
Don Kramer - Transportation Unit
Taci Yelverton - Operations Administration

ALTERNATES BY GROUP

Shannon Buchler - Scale Operators
Patrick Boyle - Transfer Station Operators
Anna Leske - Landfill Operations
Roxanne Malatesta - King Street Center
Mike McEwen - Engineering Services
Laina Bunnig - Transportation Unit
Henry Thompson III - Shop Personnel
Anne Vollze - Operations Administration

MANAGEMENT SUPPORT

Jim Scarr - Division Safety Officer
Brad Bell - Operations Manager
Thea Severn - Operations Manager
Dan Nwaeleke - King County Safety Officer

Safety Questions?
Call Jim Scarr at 206-296-0497

The Solid Waste Division's Employee Safety Advisory Board (ESAB) represents the division's diverse work groups to provide a conduit between employees and management to maintain and improve the safety of our workplace. The ESAB is responsible for ensuring that safety remains an ongoing priority in the division.

The *Safety Banner* will be published periodically to communicate approved safety practices, timely safety tips, and safety-related updates. In each issue, we will highlight the successful efforts of specific work units to improve safety.

We would like to share your safety tips, ideas, and practices. Talk with any ESAB member or call Division Safety Office Jim Scarr (206-296-0497) if you have suggestions for the *Safety Banner*.

HIGHLIGHTS OF SAFETY PROJECTS IN 2006

In 2006 the ESAB reviewed 111 division accident reports 1) to evaluate whether any of the accidents could have been prevented through enhanced safety measures and 2) to ensure that appropriate follow-up measures were taken, if needed.

Below are some of ESAB's projects in 2006:

Safety Topic: The upper parking area at the Cedar Hills landfill is on a bluff above the administrative employee trailers. Concern was raised about the lack of a barrier at the edge of the bluff.

Result: ESAB recommended a safety review, which resulted in the placement of ecology blocks along the edge of the parking lot to act as a barrier between the lot and the employee trailers below.

Safety Topic: Much of the soil excavated from the First Northeast transfer station site during construction has been hauled to the landfill for use as daily cover. Employees at Cedar Hills who handle the soil raised concerns about the potential for the soil to pose a health hazard.

Result: Soils removed from the First Northeast site have been undergoing routine inspection and/or testing since the construction project began. All soil is inspected and, if necessary, tested before it is cleared for transport to the landfill. Any soil that does not meet the acceptance criteria is hauled to a facility that accepts hazardous waste.

Employees at the landfill are now given the test results to provide them with added assurance that the soil is safe to handle and does not pose a health risk.

King County
Department of Natural Resources and Parks
Solid Waste Division

COMMUNITY RELATIONS

Community relations is an integral part of many facets of division operation, from system planning to facility updates to program activities. This section presents examples of the various types of outreach that are common practice within the division.

As discussed in detail in Section 1, a tremendous amount of outreach and collaborative planning is accomplished through the division's advisory and cities work groups. These groups represent the citizens of both incorporated and unincorporated King County. Provided at the close of this section is a discussion of the additional outreach the division conducts with those communities that host solid waste facilities.

What follows is a breakdown of the various types of community relations, outreach, and education carried out by the division:

System Planning: In addition to work with the advisory and cities work groups, the division conducts public meetings and produces outreach materials and surveys to guide long-term planning. For the last update of the Comprehensive Solid Waste Management Plan, the division held more than 10 public meetings in developing the draft and final plans to provide information and gather input from residents and businesses around the county. The division contacted the cities and Unincorporated Area Councils to offer presentations at their open public meetings and other events. Input from these meetings was central to the development of the plan. For development of the current plan, the division is planning to add a Web-based survey to reach an even larger audience.

Facility Updates: The division uses many venues for disseminating public information and seeking input from the public about activities and planning for our system facilities. The division's Web site provides an important avenue for posting alerts of facility closures or emergencies, construction project schedules, and plans (<http://www.metrokc.gov/dnrp/swd/>). The division also distributes fliers and other public notices to customers at our transfer stations when activities or changes in service are occurring. Both types of communication include a means of providing feedback to the project manager or designated spokesperson.

The recent reconstruction of the Shoreline Recycling and Transfer Station involved a wide array of well-timed public notifications and project updates. Long before construction began, notices were published on the Web site, in newspapers, handed out at the station, and sent to surrounding communities that use the station to inform them of the project plans, dates for station closure, and alternative stations for service during the closure. Signage was also posted at the station. Because the station was closed for more than a year, as the project proceeded, the division produced a quarterly newsletter sent to the surrounding communities with the status of the project, including accomplishments and upcoming work. As the station neared readiness, the division met with the host city and other nearby communities to determine which recyclable materials would be collected initially at the station.

To commemorate the opening of the first of our newly modernized urban transfer stations, a formal opening ceremony was held. It was attended by citizens of the host and surrounding communities, elected officials and other representatives from the host city, and city officials from many other cities, particularly those involved in MSWMAC. The event, including a ribbon-cutting ceremony, replete with speeches by the King County Executive, the County Council member representing Shoreline, the city's mayor, and the Solid Waste Division Director (a local newspaper article on the opening is provided under *Supplemental Materials*).

Littering and Illegal Dumping Prevention Programs: One of the programs initiated by the division's Environmental Compliance Unit is a wide-reaching campaign to raise public awareness about littering and illegal dumping and to provide a reporting mechanism for citizens who witness these activities or come across illegal dump sites.

In 2005, the division launched a comprehensive advertising campaign for a 24-hour Illegal Dumping Hotline. The hotline established a single point of contact for citizens to report illegal dumping. With the tag line, "Dumping is Awful – and Unlawful," the division promoted the hotline number through press releases, Public Service Announcements, road and truck-trailer signs, and Web postings. Cleanup of illegal dump sites is a multi-agency effort, depending on the location and nature of the materials dumped.



Through the hotline, calls are routed to the proper agency(ies) for follow-up, investigation, and cleanup. From 2006 to 2007, the number of calls to the hotline doubled to 701.



A second division program, launched in 2006, is the Secure Your Load campaign. Statistics indicate that in the U.S. each year more than 25,000 accidents are caused by litter that is either purposefully dumped by motorists or that falls out of vehicles carrying unsecured loads. The Secure Your Load campaign was initiated through a wide-ranging media campaign involving radio, television, and Web advertisements; targeted distribution of thousands of information brochures; and media events with local elected officials. Assisting in the communication and enforcement efforts were division employees at the transfer stations, the Washington State Patrol, the King County Sheriff's Office, and the Washington State Department of Ecology.

WPR Program Activities: The success of WPR programs in the county is due to the effectiveness of community outreach, education, promotional events, and pilot programs that seek to raise awareness and public participation throughout the region. A more comprehensive description of the wide array of WPR, environmental stewardship, and sustainable building programs and their individual outreach components is provided in the division's *2007 Annual Report*, provided as a separate attachment. A few major outreach efforts are described here.

- The division launched the Recycle More. It's Easy to Do education campaign in September 2006 to reinvigorate recycling throughout the county. It included a broad-ranging media campaign with advertisements on television and radio, print ads and media events, a retail partnership that provided discounts on recycling bins, and an updated Web site with an easy to remember URL: www.metrokc.gov/recyclemore. In addition, pilot programs were conducted to provide recycling assistance to selected businesses and multi-family communities. The division focused on ways to make recycling more convenient rather than the "how-to recycle" kind of information that is generally provided to the public.



Recycle More. It's Easy To Do.

Recycle Food. It's Easy To Do.



- Over the last year, a number of cities and unincorporated areas have integrated residential collection of food scraps and food-soiled paper with yard waste collected at the curb. About 57 percent of customers that have yard waste bins can now recycle food scraps, totaling more than 166,700 customers in the county. To help promote recycling of food scraps, the Recycle Food. It's Easy to Do. campaign was launched in the summer of 2007 to target areas where these collection services were added. A regional education campaign was initiated to raise awareness and increase participation, partially through television and radio ads. The group developed an education brochure on the "how to's" of food scrap recycling, which was distributed by the commercial collection companies to more than 76,000 customers. The division also formed retail partnerships with QFC grocers and Papa John's Pizza to promote food recycling and distribute educational materials to consumers in area stores. Educational outreach was also provided by the county's Master Recycler Composters at 45 local farmers' markets across the county.
- The division creates tailored educational programs for King County schools, both public and private, to help schools improve their practices in the areas of: waste reduction and recycling, hazardous waste management, litter reduction, environmental purchasing, and water and energy conservation, among others. The division provides technical assistance to help the schools or school districts meet individual goals which they set for themselves. In 2007, the division assisted 114 schools to improve waste reduction and recycling efforts and expand conservation efforts.

Host Community Relations: Being a good neighbor to our host communities is vital to the successful operation of the solid waste system. The division has a dedicated Intergovernmental Relations Liaison specifically to establish and maintain relationships with the cities, to understand their issues and concerns, and bring their perspectives to bear on system planning. The division provides routine services and mitigation, including litter cleanup, noise barriers and fences, pedestrian-friendly features adjacent to the facilities, public art at the stations to integrate them into the community, and more. All of the host communities are represented by members of either MSWMAC or SWAC. As part of the current planning process, the groups are considering options for additional host city compensation or other mitigation measures.

In addition to the advisory committees, the division forms project-specific Citizen Advisory Committees (CAC) to engage communities in the decision-making process for projects such as reconstruction of a facility and the siting and design of a new facility. For example, as early as 2002 (6 years before the new station opening), a CAC was formed for the reconstruction of the Shoreline Recycling and Transfer Station. Members included neighbors, host city staff, representatives of other cities in the surrounding area, the commercial haulers, self haulers, and local environmental groups. The CAC provided input on issues such as the establishment of a green belt, mitigation for nearby Thornton Creek, measures to reduce stormwater runoff from the site, and facility design. This public process resulted in wide community support for the project from design through construction. Throughout the process, an alliance was formed between the division and the stakeholders that was stronger than before the project began.

SUPPLEMENTAL MATERIALS



King County

Ron Sims

King County Executive

Department of Natural Resources and Parks

News Release

Date: July 23, 2007

Contact: Doug Williams, 206-296-8304

King County ramps up effort to convert landfill gas to green energy

Sims touts 'astounding' waste-to-resource and emissions reduction benefits

A new contract to generate “green energy” from decomposing garbage at the Cedar Hills Landfill is expected to help King County significantly reduce its greenhouse gas emissions and earn more than \$1 million annually.

King County Executive Ron Sims’ proposal to authorize approval of a new contract with renewable energy company Ingenco to generate energy from methane gas at the Cedar Hills Regional Landfill was approved by the County Council today. The landfill is in Maple Valley, about 20 miles southeast of Seattle.

“By treating landfill gas as a resource we earn money, reduce expenses and reduce emissions harmful to the environment,” said Sims. “It is estimated that our annual reduction in carbon dioxide (CO₂) emissions will approach 124,000 tons of CO₂ or roughly equal to the annual CO₂ emissions from 22,000 average passenger cars. That’s terrific news in our efforts to curb global warming here in King County.”

Sims said because landfill gas is considered a “green energy,” King County will also retain all carbon credits generated by the project. He said the county will operate the landfill gas collection system with a priority on environmental protection.

“The new landfill gas recovery contract is good for all residents of King County but it’s especially good for those who live around the landfill,” said Councilmember Reagan Dunn, who represents the district where the landfill is located. “We will no longer burn the gas that comes out of the landfill and the residents of the area will no longer have to

see those flares. The County will actually use the gas, make money and improve the environment. It's a win-win-win situation for everyone."

This project is managed by the county's Solid Waste Division and is a key component of the county's commitment to reduce greenhouse gas emissions and use the sustainable energy produced by the landfill.

Ingenco is a Virginia-based company and an industry leader in the design, construction and operation of renewable energy facilities. It is an expert in landfill gas technology and currently operates six landfill gas facilities with four more under construction.

This agreement will supersede a 2003 contract to produce electricity from the Cedar Hills methane. Because of the rapid changes to and the volatility of the electricity market, the county determined that a different approach would serve its needs better.

Ingenco is proposing to produce "pipeline" quality natural gas from the methane (produced from decomposing garbage) currently being flared at the Cedar Hills landfill. The gas would be distributed through an existing Puget Sound Energy pipeline that runs adjacent to Cedar Hills.

Sims said the income generated by the sale of the gas would be great news for Solid Waste Division ratepayers. "What had formally been an expense to manage would become a significant revenue source for Solid Waste," he said.

King County would receive a guaranteed payment of \$1.3 million annually as a result of the contract and will also receive 25 percent of gas sales above \$6.50 per MMBTU (Million British Thermal Units) as a bonus.

The project will produce no noise or traffic impacts to the adjacent communities.

Once the Council approves the contract, Ingenco will immediately begin the permitting process. There are minimal permitting requirements for the gas separation plant, and once those permits are obtained Ingenco anticipates having the facility online within 15 months. Target date for operations is the end of 2008.

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MSWMAC

Metropolitan Solid Waste Management Advisory Committee

FILE COPY

May 11, 2007

Hon. Larry Gossett, Chair
King County Council
King County Courthouse, Room 1200
516 Third Avenue
Seattle, WA 98104

RE: Solid Waste Division Rate Proposal

Dear Councilmember Gossett:

We are writing in support of the Solid Waste Division's 2008 - 2010 rate proposal.

The Metropolitan Solid Waste Management Advisory Committee (MSWMAC) has been meeting monthly since January 2005 to work with the division on long term plans for the King County Solid Waste Management System. With the development of the Solid Waste Transfer and Waste Export System Plan, MSWMAC acquired a thorough understanding of our regional system and its needs.

We believe the proposed rate adjustment from \$82.50/ton to \$95/ton will enable the division to begin the much needed improvements to the regional transfer system. These improvements are critical not only to the safe and efficient operation of the transfer stations but also to the need to prepare the system for the eventual closure of the Cedar Hills Regional Landfill. MSWMAC understands that the impact of the rate increase on the average one can customer will be approximately \$0.73/month.

The Honorable Larry Gossett
May 11, 2007
Page 2

We encourage the King County Council to approve the proposed rates as soon as possible to provide cities with sufficient time to begin notifying their ratepayers of the new rates.

Sincerely,



Jean Garber
Chair

Cc: Hon. Ron Sims, King County Executive
Carolyn Armanini, Chair, King County Solid Waste Advisory Committee
Theresa Jennings, Director, King County Solid Waste Division



Operations Completes Switch to Cleaner, Greener Diesel Fuel

Last week the Solid Waste Division switched to the use of cleaner and greener fuel for all diesel-run transfer trucks and heavy equipment. The new fuel, called B20, is an ultra-low-sulfur diesel mixed with 20 percent biodiesel, a naturally grown, alternative fuel source.

For a division that uses about 1 million gallons of fuel a year, moving from our current mix of 5 percent biodiesel (B5) to a 20 percent mixture is a big step. It effectively reduces our dependence on fossil fuels by an additional 15 percent. And the transition took some research and work on the part of our Operations staff to implement.

Thanks to Project Manager Frank van der Linden and Purchasing Specialist Jack Hanson, B20 is now fueling all division diesel-run vehicles, including transfer trucks, landfill compactors, bulldozers, loaders and scrapers, and other heavy equipment. The Bomag/Deutz landfill compactor delayed the transition until the use of B20 could be approved through the manufacturer. To ensure that the Bomag could be run on the new fuel, Operations conducted a pilot study, during which one of the Bomag compactors was run on B20 for 1,000 hours. Operations worked with the manufacturer to monitor the performance of the Bomag on the new fuel. Once we received approval, Bomag/Deutz certified the use of B20 fuel world-wide for the compactors.

In 2006, Executive Sims announced his goal to convert all of the county's diesel vehicles to 20 percent biodiesel; King County Metro Transit has already converted its bus fleet to the new fuel. The division is proud to join Metro in reaching the Executive's goal.

February 14, 2008

\$24M transfer station sets a new standard for county

By [KATIE ZEMTSEFF](#)
Journal Staff Reporter

This weekend, King County opens its star example of what it hopes to accomplish with green buildings. But the project isn't your usual mixed-use or commercial development. It's a recycling and transfer station.

The \$24 million Shoreline Recycling and Transfer Station officially opens for business Saturday. It replaces the First Northeast Transfer Station, built in 1967 and closed since May of 2006, and is on the site of the former Corliss Landfill.

King County Executive Ron Sims said, "This facility is simply a magnificent embodiment of what King County wants to achieve in green building in all its construction and renovation projects."

The 76,000-square-foot project is seeking a LEED gold rating, though it must operate for some time before being certified. Doug Brinley, principal architect with project architect KPG, said the team was able to try innovative approaches because this is such a large and open building. For example, the building's roof is inclined, creating a clerestory that allows air to move more efficiently than by using fans. This reduces the energy needed for ventilation by 80 percent, but only works in a large unheated space.

Another innovation came in daylighting. The building uses translucent plastic panels on the east and west walls, and a 184-foot-long, 32-foot-wide skylight, to light the space, which should reduce energy costs by 50 percent. "These products are really a new thing in this kind of application," Brinley said.

A roof-top water harvesting system will collect rain from the one-acre roof to wash floors and equipment, and to flush toilets. That should reduce water needs by 57 percent, saving 254,000 gallons of drinking water every year, the county says. Brinley said even a "small misting rain" that produces one-tenth of an inch of water will provide enough water to clean the building for two days.

The transfer station used green building materials, like Forest Stewardship Council-certified wood and recycled content steel. Brinley said by using fly ash

concrete, the project saved 83 tons of carbon dioxide pollution.

Thornton Creek, which runs parallel to the plant, was also a priority. Kevin Kiernan, director of King County's Solid Waste Division, said bioswales will filter stormwater, plants will filter contaminants and there is a 100-foot buffer between the plant and the creek.

"I think that now you'll find we have the best little piece of Thornton Creek either up or downstream from us for some way," he said.

The station will be a model for the county as it updates recycling and transfer stations. Brinley said the project is important because it connects green techniques in a new way. "This really brings everything together, all in one project."

The next station on the county's list is the Bow Lake Transfer Station at 188th South, also being designed by KPG. Construction should begin in 2009. The Factoria Transfer Station in Bellevue will follow. Sims is presenting a new green building ordinance to the King County Council today. It would replace a 2005 green building policy, soon to expire, that requires all King County buildings, renovations and remodels to seek LEED certification.

It would also require that all county buildings save energy and conduct energy audits. Buildings would also need green guidelines for operations and maintenance. The station owner is the Solid Waste Division of the King County Department of Natural Resources and Parks.

Lydig Construction was the contractor. The design team includes: KPG, architect, civil engineer, landscape architect and master planner; FSi Consulting Engineers, mechanical and plumbing design; ECS Engineering, electrical and photovoltaic design; CivilTech, geotechnical and structural engineer; Paladino and Co., sustainable design; KPFF Special Projects Division, construction management; Neudorfer Engineers, building commissioning; and Seattle City Light, green power and photovoltaic program for public facilities.