7

Solid Waste System Finance

Solid Waste System Finance

Policies

FIN-1 Utilize the assets of the King County Solid Waste Division exclusively for the benefit of the solid waste system, and fully reimburse the solid waste system for the value associated with the use or transfer of its assets.

FIN-2 Maintain a Solid Waste Division financial forecast and cash-flow projection of three years or more.

FIN-3 Keep tipping fees as low as reasonable, while covering the costs of effectively managing the system and providing service to customers.

FIN-4 Assess fees for use of the solid waste transfer and disposal system at the point of service.

FIN-5 Determine the tipping fees using a rate structure based on weight.

FIN-6 Charge the same Basic Fee at all transfer facilities.

FIN-7 Maintain the following reserve funds:
- a. Landfill Reserve
- b. Landfill Post-Closure Maintenance
- c. Capital Equipment Recovery Program
- d. Construction

FIN-8 Maintain the Landfill Post-Closure Maintenance Fund at a level to ensure that environmental monitoring and maintenance of the closed landfills for which the county has responsibility will be fully funded through the end of their post-closure maintenance periods, as defined by applicable law.

FIN-9 Routinely evaluate all reserve funds for long-term adequacy and set contributions to maintain reasonable rate stability.

Solid Waste System Finance

Summary of Recommendations

Responsibility		Action	Detailed Discussion
1	**County**	Continue to evaluate and implement operational changes that control costs.	Page 7-10
2	**County**	Study the advantages and disadvantages of alternatives to the current rate methodology, such as incorporating a transaction fee into the rate structure.	Page 7-10
3	**County, cities**	Continue to explore new revenue sources to help finance the solid waste system.	Page 7-11

SOLID WASTE SYSTEM FINANCE

Solid waste fees in King County are among the lowest in the region. Even as the division embarks on its most extensive capital program in 50 years, keeping fees low and stable remains a fundamental objective.

Due to the effects of the global economic downturn, since late 2007 the division has seen unanticipated reductions in garbage tonnage and corresponding revenues. The division is responding to this economic trend by adjusting expenditures accordingly. This recent, sudden drop in tonnage accentuates the importance of considering all of the elements that will influence both costs and revenues in the future.

This chapter provides a brief summary of the division's financial structure, including descriptions of funding sources, revenues, and expenditures. The remainder of the chapter describes a range of influences expected to have a financial impact on the division in the future.

FUNDING OF SOLID WASTE SERVICES AND PROGRAMS

King County's solid waste transfer and disposal system is a public-sector operation that is funded almost entirely by fees collected from its customers. The division is an enterprise fund, managing nearly all of its expenses with revenues earned through these fees.

Tipping fees are collected at the scalehouse at each transfer station.

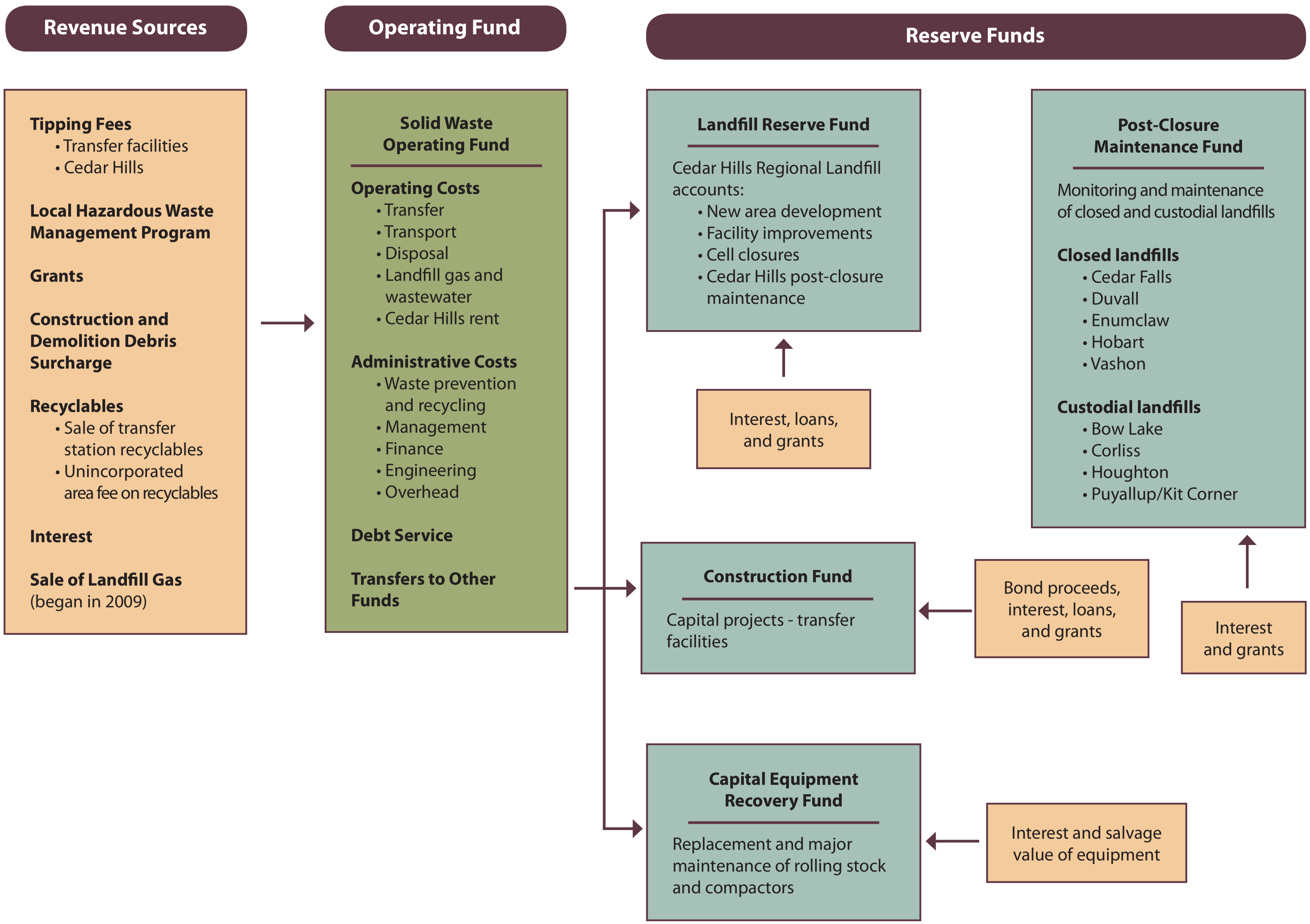
The fees charged at county facilities, called tipping fees, pay for the operation and maintenance of transfer and disposal facilities and equipment, education and promotion related to waste prevention and recycling (WPR), grants to cities to support WPR efforts, and administrative operating expenses 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 primarily by tipping fees.

As discussed later in this chapter, through transfers into reserve funds, the fee paid for each ton of waste entering the system today covers all expenses involved in disposal of that waste, even if the costs are incurred decades in the future. Using this financial structure ensures that the full cost of solid waste handling is paid by the users of the system.

A summary of the fund structure is illustrated in Figure 7-1 and discussed in the following sections.

Figure 7-1. Solid Waste Division fund structure



Solid Waste Division Revenues

As mentioned earlier, the solid waste system is funded primarily by the tipping fees charged at division facilities. The tipping fee is charged to the commercial collection companies that collect materials curbside and to residential and business self-haulers who bring wastes to the transfer facilities themselves. In accordance with KCC 10.12.021, the King County Council establishes the fees charged at county solid waste facilities.

There are four main types of tipping fees:

- **Basic Fee** – The per-ton fee charged to customers disposing of municipal solid waste at transfer facilities; the basic fee accounts for more than 95 percent of tipping fee revenues
- **Regional Direct Fee** – The fee charged to commercial collection companies that haul solid waste directly to the Cedar Hills landfill instead of to a transfer facility; the fee is based on the Basic Fee, less the marginal cost of transfer and transport
- **Organics Fee** – The fee for clean wood waste, yard waste, and food scraps and food-soiled paper
- **Special Waste Fee** – The fee charged for waste that requires special handling or clearance before disposal, such as industrial wastes, asbestos-containing materials, and contaminated soil

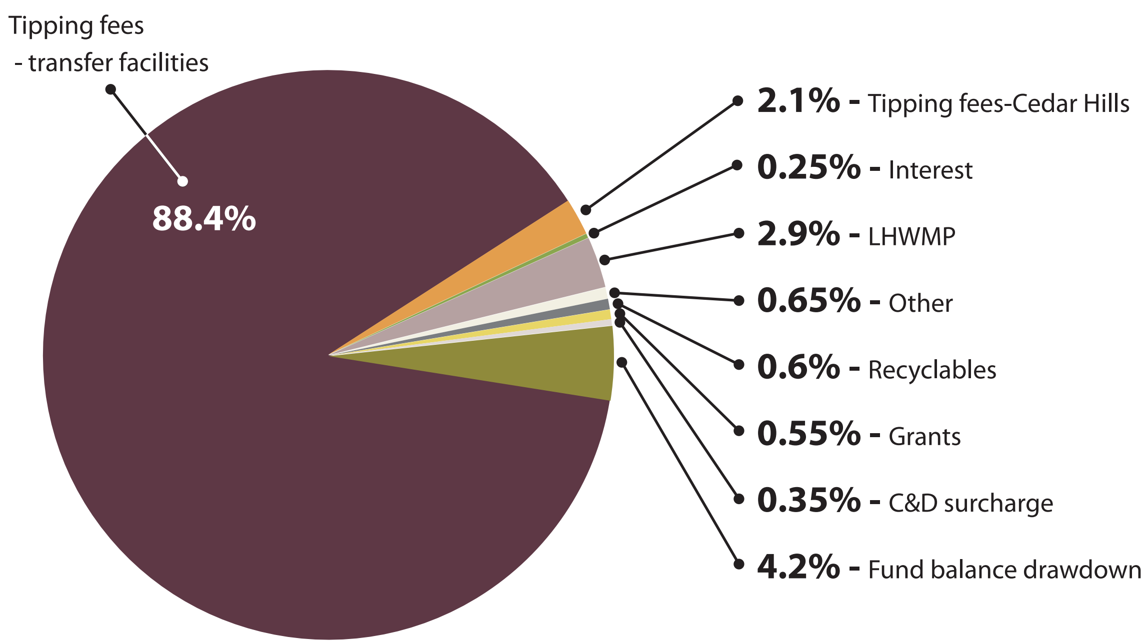
Funding for the Cities

Cities fund their solid waste and WPR programs in a variety of ways, and the resources available to the 37 cities in the King County system vary widely. One potential funding source is the revenue that some cities receive from fees paid for solid waste collection services. These fees may be paid directly to the city or to the collection company depending on who provides the collection service – the city itself or a commercial collection company – and what contractual arrangements have been made. In some cases, the collection companies charge a fee that is passed on to the city to fund their programs. Some cities also charge a utility tax. Another funding source for cities is state and county grants (see Chapter 3, *Waste Prevention and Recycling*, for more information about grants). For cities that do not receive any revenue from collection, grants and the cities' general funds are the only revenue sources.

Other fees are charged for recyclables, such as appliances. KCC 10.12.021.G authorizes the division director to set fees for recyclable materials for which no fee has yet been established by ordinance; these fees may be set to encourage recycling and need not recover the full cost of handling and processing. In accordance with state law (RCW 70.93.097), the division also charges a fee to vehicles with unsecured loads arriving at any staffed transfer facility or landfill in the jurisdiction of King County.

Figure 7-2 shows the breakdown of revenues received by the division in 2008. As shown, more than 90 percent of the division's revenue comes from tipping fees charged at transfer facilities and the Cedar Hills landfill, and the remainder comes from a few additional sources. The most significant of those is the funding received from the Local Hazardous Waste Management Program (LHWMP). Other sources of revenue include interest earned on fund balances; the construction and demolition debris (C&D) surcharge (see page 7-5); recyclables revenue, including revenue from both the sale of recyclable materials received at division transfer facilities and from a fee on recyclables collected in unincorporated areas; and Washington State Department of Ecology grants to help clean up litter and illegal dumping throughout the county, as well as to support WPR. Based on economic and market conditions, revenues from the sale of recyclable materials and interest earned can vary considerably. Beginning in mid-2009, the division also began receiving revenue from the sale of landfill gas from the Cedar Hills landfill.

Figure 7-2. Sources of revenue in 2010 ($88,139,018)



In late 2007, the division began to see reductions in garbage tons delivered to the division's facilities, stemming primarily from reductions in consumer spending and overall business activity in the region. Since 2007, solid waste tons have decreased about 20 percent overall. While the division has not seen a return to the higher tonnage levels of early 2007, the declines have begun to moderate. Over the last few years, the division has implemented budget controls to balance expenses with the steady declines in tonnage attributable to the economic downturn.

In the past, the division has planned its solid waste rates based on the average costs and revenues anticipated over a three-year rate period; the revenues and expenditures were balanced across this period. In year one, revenues would exceed costs, so the additional revenue was reserved in the division's operating fund. Typically during the second year, costs and revenues would be about even. During the last year, however, costs typically exceeded revenues, so the reserved operating fund balance was used to make up the difference. In 2011 the division changed this practice, and now plans its solid waste rates to maintain a 45-day fixed operating cost reserve.

Construction and Demolition Debris Surcharge

King County has contracts with two private companies – Allied Waste and Waste Management – to manage the majority of the county's C&D. Customers disposing of C&D at any of the facilities operated by these companies pay a per-ton fee based on the type of material.

Allied Waste and Waste Management pay the county a $4.25 per ton surcharge for all C&D debris generated in the county's jurisdiction; the surcharge is established by county code (KCC 10.30.050). The surcharge is used to pay incentives to these companies based on the amount of C&D material they recycle. To date, the total amount paid to the county has surpassed the amount paid back in incentives. The surcharge is set to expire in 2014 when the current C&D contracts expire.

Solid Waste Division Expenditures

Division expenditures, paid through the Solid Waste Operating Fund, can be divided into four broad categories: operating costs, administrative costs, debt service, and transfers to other funds. Figure 7-3 uses 2010 data to illustrate the breakdown of the various division expenditures, which are described in the following sections.

Operating Costs

Operating costs include the day-to-day expenses for transfer, transport, and landfill operations, which includes the maintenance of equipment and facilities, and management of landfill gas and wastewater. It also includes rent the division pays to the county for use of the Cedar Hills landfill property.

Equipment repair and maintenance is included in the division's operating costs.

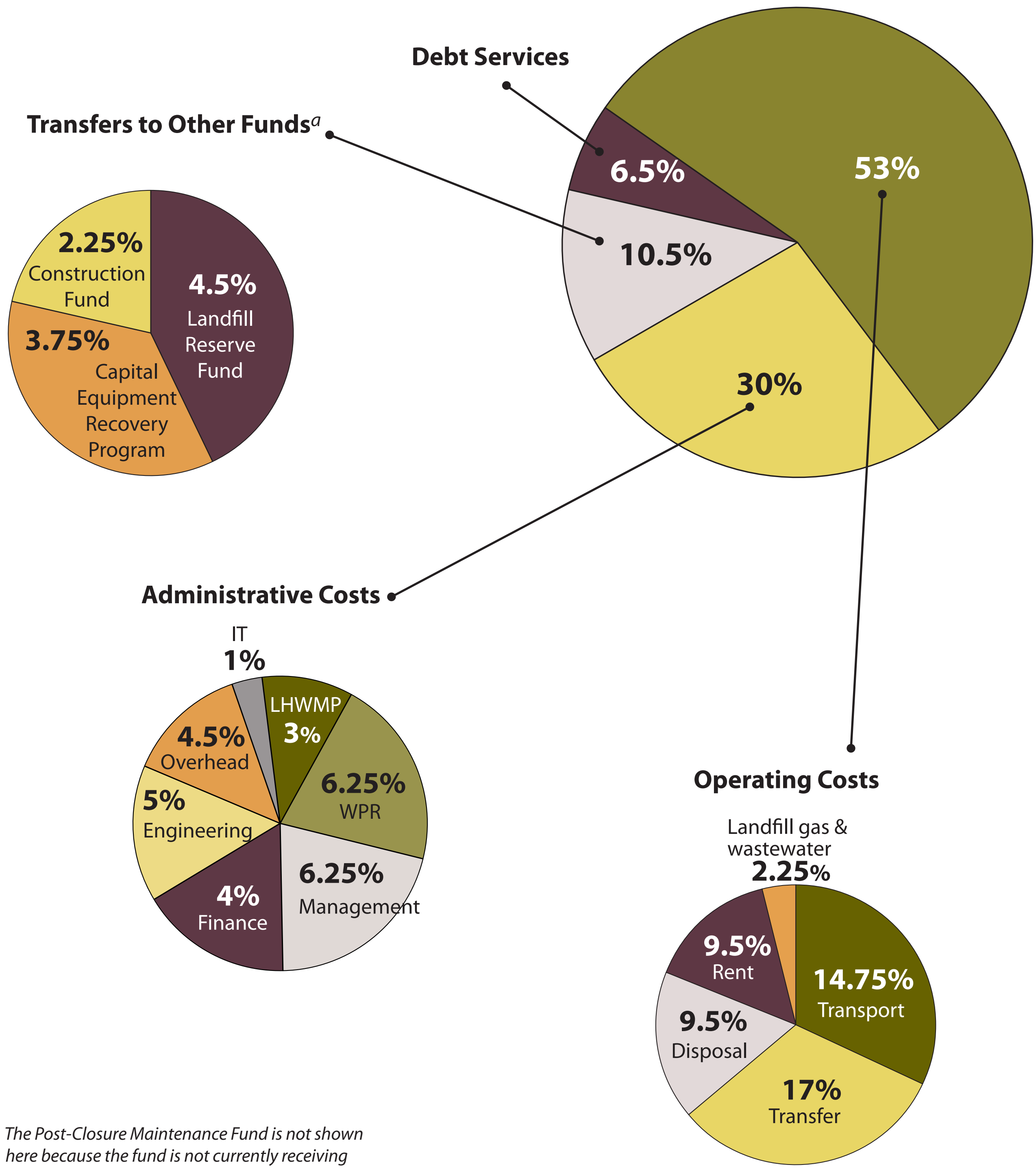
Administrative Costs

This cost category includes administrative functions that support operations, such as engineering, finance, and management. It includes the WPR programs and services provided by the division, including grants to the cities. It also includes support to LHWMP activities, such as household hazardous waste collection.

Debt Service

Debt service is the payment of interest and principal on bonds and loans. General obligation bonds have been issued by the county to pay for development of major transfer facility capital projects. We are currently paying interest and principal on debt from bonds that helped finance construction of the

Figure 7-3. Expenditures in 2010 ($94,517,927)



[a] *The Post-Closure Maintenance Fund is not shown here because the fund is not currently receiving transfers from the Solid Waste Operating Fund.*

Vashon and Enumclaw transfer stations in the 1990s, and on recently acquired new debt from construction of the Shoreline Recycling and Transfer Station, which opened in 2008.

Construction of new transfer stations, such as the Bow Lake station, is financed using general obligation bonds.

The county will continue to finance transfer station capital projects using primarily general obligation bonds backed by the full faith and credit of the county's General Fund, with approval of the King County Council, and is taking advantage of historically low rates and using bond anticipation notes in the short term. The county may consider using double-barrel or revenue bonds for large capital investments should it become advantageous to do so. The county will also investigate the feasibility of loans from the Washington State Public Works Trust Fund when they are available. Landfill capital projects are not funded through debt financing, but through the Landfill Reserve Fund discussed later in this section.

Transfers to Other Funds

A portion of the division's costs is transfers from the Solid Waste Operating Fund to reserve funds. These funds were established to ensure that the division can meet future obligations, or expenses, some of which are mandated by law. Contributions to reserve funds are routinely evaluated to ensure they are adequate to meet short- and long-term needs. Paying into reserve funds stabilizes the impact on rates for certain expenses by spreading the costs over a longer time period, and ensures that customers who use the system pay the entire cost of disposal. The four reserve funds are discussed below.

Bond proceeds and contributions from the Operating Fund to the **Construction Fund** are used to finance new construction and major maintenance of division transfer facilities. Contributions from the Operating Fund to the Construction Fund result in less borrowing, and consequently, a lower level of debt service.

The **Capital Equipment Recovery Program Fund** (CERP) is codified in KCC 4.08.280. The purpose of the CERP is to provide adequate resources for replacement and major maintenance of solid waste rolling stock and compactors. New equipment is purchased from the Operating Fund, but after the initial purchase, replacements are funded from the CERP.

By accumulating resources in the CERP, the division ensures that it is able to replace needed equipment even with fluctuations in revenue. Annual contributions to the CERP are calculated by projecting future replacement costs and salvage values based on equipment life and maintenence costs. Contributions are further adjusted to reflect changes in facilities and operations that affect equipment needs. The contributions are held in an account, earning interest, until needed.

The **Landfill Reserve Fund** (LRF), codified in KCC 4.08.045, covers the costs of four major accounts maintained for the Cedar Hills landfill, shown below. The cell closure and post-closure maintenance accounts are mandated by federal and state law.

The CERP fund helps the division maintain a fleet of long-haul tractors and trailers to transport solid waste to the landfill.

- **New area development account** – Covers the costs for planning, designing, permitting, and building new refuse cells.

- **Facility improvements account** – Covers a wide range of capital investments required to sustain the infrastructure and operations at the landfill, such as enhancements to the landfill gas and wastewater systems.

- **Cell closures account** – Covers the cost of closing refuse cells, or operating areas, within the landfill that have reached capacity. These contributions help the division prepare incrementally for the cost of final closure of the entire landfill.

- **Post-closure maintenance account** – Accumulates funds to pay for post-closure maintenance of the Cedar Hills landfill for at least 30 years.

The sum of all four accounts, based on projected cost obligations, makes up the LRF rate charged as part of the tipping fee. Projected cost obligations are based on the current Site Development Plan for the landfill; changes to the current plan (discussed in Chapter 6, *Landfill Management and Solid Waste Disposa*l) will necessitate an update of the LRF calculation. When Cedar Hills closes, the division will discontinue its contributions to the LRF. At closure, the balance of the LRF will be transferred to the Post-Closure Maintenance Fund.

The **Post-Closure Maintenance Fund** is a separate fund that pays for the maintenance and environmental monitoring of nine closed and custodial landfills in the county for which the division has responsibility (see Chapter 6). Federal and state laws require this fund for closed landfills; the county has included funding for custodial landfills as well. Once the Cedar Hills landfill closes, the balance of the LRF will be transferred to this fund to pay for Cedar Hills' post-closure expenses.

At this time, the balance on this fund is sufficient to cover anticipated post-closure expenses, thus no money is currently being transferred to the fund. The division periodically reviews the fund to ensure that it remains ample for future needs.

Collecting landfill gas as the garbage decomposes over time is a crucial element of pre- and post-closure maintenance.

INFLUENCES ON FUTURE COSTS AND REVENUE

In addition to the unanticipated reductions in tonnage due to the economy, there are other factors that we expect to influence costs and revenues, which can be projected and budgeted for with varying degrees of certainty. Those influences are summarized briefly in this section.

Waste Prevention and Recycling

As discussed earlier, revenues from garbage tipping fees cover the costs of WPR services and programs. This financing structure requires the division to estimate the effects of WPR on garbage disposal to reasonably project future revenues.

While the revenue stream relies primarily on garbage tipping fees, the current priorities in solid waste management are waste prevention and recycling – which lead to reductions in the amount of solid waste disposed, and hence in revenues received. The reduction in the amount of waste received due to WPR has been gradual, and the system has adjusted to lower revenues. Further reductions through increasingly rigorous WPR efforts have or will continue to affect the revenues of King County and other jurisdictions across the state. The state's Beyond Waste group has taken note of this complex issue and has begun to seek "ways in which funding structures can reinforce rather than work against Beyond Waste goals" (*Washington State 2004*). The county is participating in these discussions with its regional planning partners.

Increased WPR efforts have had positive influences on the financial aspects of the system as well. As discussed in Chapters 3 and 6, WPR has contributed to extending the life of the Cedar Hills landfill, which will save money for ratepayers (see *Closure of the Cedar Hills Regional Landfill* on page 7-11). Another aspect of WPR that has had a positive financial effect is product stewardship. Product stewardship shifts the management of materials at the end of their life to the product manufacturer. This shift reduces the costs to cities and counties of managing products such as televisions, computers, and fluorescent bulbs and tubes, to name a few. The savings are most substantial for products that contain hazardous materials and are more difficult and expensive to manage within the public collection, transfer, and disposal system.

Operational Efficiencies

The division continues to search for ways to control costs through operational efficiencies. Examples of efficiencies that are producing significant and long-term results are discussed briefly below.

Landfill Tippers

In December 2008, the division began using tippers to empty garbage from transfer trailers at the landfill. The tippers replaced the use of older walking floor trailers (see Chapter 6, *Landfill Management and Solid Waste Disposal*, for more details). The new tippers are saving staff time and other resources, as well as reducing equipment and tire damage.

Solid Waste Compactors

As discussed in Chapter 5, the transfer system in King County is undergoing major renovations to update station technology, improve efficiencies, and enhance environmental sustainability. The installation of solid waste compactors at all transfer stations is one important component of that plan. The Enumclaw, Shoreline, and Vashon transfer stations currently have waste compactors. All newly constructed transfer stations will incorporate compactors as well.

Compacting solid waste at the stations reduces the number of trips necessary to transport the waste to the landfill or any other disposal alternative. In 2008, the division hauled approximately 46,000 loads of garbage from the Bow Lake, Factoria, Houghton, Algona, and Renton transfer stations to the Cedar Hills landfill. If those stations had had compactors, approximately 14,000, or about 30 percent, fewer trips would have been made. Fewer trips translate directly into lower costs for fuel, equipment, and staff.

Potential Changes in the Fee Structure

The 2001 comprehensive solid waste management plan proposed the possibility of adding a flat fee to customer transactions at the transfer facilities to cover the fixed costs associated with each transaction. This transaction fee would be based on the incremental costs of providing service that are constant regardless of the amount of waste disposed. The cost elements of the transaction fee would then be separated from the tonnage-based fee.

Before changes to the fee structure could be proposed, a number of factors would need to be studied, including the impact on revenue and cost, equity issues, and systemwide financing implications. These factors would be considered in a future rate study.

Closure of the Cedar Hills Regional Landfill

When the Cedar Hills landfill reaches capacity and closes, the division's solid waste tipping fee is expected to increase to cover the cost of using an alternate means of disposal. Whether it is waste export to an out-of-county landfill or disposal at a waste-to-energy or other conversion facility, a preliminary study indicates that the cost for disposal after Cedar Hills closes will be higher (R.W. Beck 2007).

Implementation of the approved development alternative in the Cedar Hills Project Program Plan (discussed in Chapter 6, *Landfill Management and Solid Waste Disposal*) will be financed through the landfill reserve fund. The cost for new area development, associated facility improvements, and area closure will total approximately $70 million (in current dollars). The cost to operate Cedar Hills is expected to remain consistent with current costs. Assuming costs similar to those paid by other regional governments for waste export, which vary greatly, the savings from continuing to operate Cedar Hills through about 2024 would range from approximately $12 million to $50 million (in 2009 dollars) over the six-year period 2019 to 2024. At this time, savings compared with waste conversion technologies, which have per ton costs ranging from $42 to $74/ton, would be greater (R.W. Beck 2007).

New Revenue Sources

The division is continually exploring new sources of revenue to help offset reductions in tonnage. Cities may also want to consider additional funding sources to support their solid waste and WPR programs.

Sales from the Landfill Gas-to-Energy Facility

In mid-2009, the newly built landfill gas-to-energy facility began operations at the Cedar Hills landfill, and the division began to receive revenues from the sale of landfill gas. The facility, which is privately owned and operated by Bio Energy (Washington) LLC, converts methane collected from the landfill into pipeline-quality natural gas. The gas is routed to the Puget Sound Energy grid through an existing natural gas pipeline adjacent to the landfill. The division will receive a minimum annual payment of about $1 million, with the potential for more revenue depending on the amount of gas delivered and its market price.

Carbon Emissions Credits

The landfill gas-to-energy facility produces revenue and environmental benefits for the division.

Carbon emissions credits, also called greenhouse gas offsets, from the new landfill gas-to-energy facility at Cedar Hills offer another promising source of revenue. The conversion of landfill gas to a renewable source of green energy will generate greenhouse gas offsets, which have value in the market. The division, rather than the owner of the landfill gas facility, Bio Energy (Washington) LLC, has contractually retained the offset rights associated with the project. In January of 2011the Metropolitan King County Council unanimously approved an ordinance authorizing the division to enter into a contract to sell carbon emissions credits associated with the landfill gas to energy project to PSE. The contract with PSE is structured so that the County shares in profits that PSE gets when selling the emissions credits associated with the gas. The County anticipates that the sale of the rights to the emissions credits should provide an estimated $500,000 annually. The division will also be investigating the possibility of attaining greenhouse gas offsets from other sources related to solid waste operations or programs.

The Federal American Recovery and Reinvestment Act

On February 17, 2009, President Obama signed into law the American Recovery and Reinvestment Act (ARRA) of 2009. The ARRA provides $575 billion in new federal spending intended to stimulate the economy. Federal, state, and local governments will carry out implementation of the stimulus package. King County has been awarded $6.1 million in funding through the U.S. Department of Energy's Energy Efficiency and Conservation Block Grant Program (EECBG). The division received funding for three EECBG-eligible projects and initiatives – a market transformation project for fluorescent tubes and bulbs, a community greenhouse gas inventory, and green schools recycling assistance program.