



Office of the City Manager

INFORMATION CALENDAR

November 13, 2012

To: Honorable Mayor and Members of the City Council

From:  Christine Daniel, City Manager

Submitted by: Andrew Clough, Director, Public Works

Subject: Solid Waste Management: Accomplishments & Operational Improvements

SUMMARY

In recent years, Public Works has cut Solid Waste Management (SWM) – Refuse & Recycling – annual operating costs by approximately \$2.5 million, increased our waste diversion rate, negotiated numerous more favorable contracts, and did so without layoffs, raising rates or reducing service levels. The Refuse Fund is projected to be balanced by FY 2015 primarily through additional expenditure reductions and some new revenue through the annual CPI adjustment to refuse rates. Once the major operational changes have been completed, additional measures will involve the development of a sustainable refuse rate that supports both the annual operating expenses and the City’s efforts to implement additional zero waste goals.

The City continues to make progress toward meeting the goal of zero waste. At the Transfer Station, improved recovery and diversion operations already in place include new contracts for landfill disposal, improved diversion of construction and demolition (C&D) materials, and a more equitable contract with Community Conservation Centers (CCC) for material processing. In addition, new contracts have been executed with the Ecology Center, Urban Ore, St. Vincent de Paul for mattress recycling, and Sims Metal for appliance recycling.

The residential recycling split-cart program improved operational efficiency, material quality and increased residential recycling tonnage by 20% over pre-cart tonnage. Recently-acquired RouteSmart software has been utilized to redesign all collection routes in the City. New 1-person collection vehicles have been delivered, drivers have been trained, and the vehicles have been in use on routes since August. These vehicles have greater efficiency and capacity than the old equipment, and are a key operational improvement for realizing cost reductions. In preparation for the new vehicle operations, in June 2012 the City Council adopted an Ordinance repealing and reenacting Chapter 12.34 of the Berkeley Municipal Code regulating Curbside Refuse Collection, and establishing new placements for carts.

CURRENT SITUATION AND ITS EFFECTS

Service Delivery: Solid Waste Management has added customer services, such as a new Work Order System and the option for online refuse payments, introduced operational efficiencies and upgraded equipment (split carts for curbside recycling, and new clean energy diesel vehicles), and reduced operating expenses, while moving toward our goal of zero waste. Complementing these service improvements, the City's 311 Customer Call Center now provides direct and efficient response to service requests. To continue improving, Public Works is working with the Zero Waste Commission on strategic planning to establish a sustainable rate structure; develop an efficient and effective Materials Recovery Facility (MRF); and execute beneficial commercial franchise agreements.

Refuse Fund: As reported to [Council on November 8, 2011](#),¹ staff has introduced significant expenditure reductions to address the several million dollar structural deficit in the City's Refuse Fund. Between FY 2007 and FY 2010, expenses to the Refuse Fund grew by \$5.5 million, while revenue only increased by \$2.9 million. Adding to this, approximately \$3.6 million in mandated repairs to the City's closed landfill and Transfer Station were identified, creating a fund deficit between \$3-4 million annually. Beginning in FY 2010 Public Works has made significant changes that move us closer to balancing annual revenue and expenses. While many of these changes have already been implemented, and annual expenses reduced by approximately \$2.5 million as a result, further expenditure reductions are planned over the next few fiscal years as we complete implementation of major operational changes and repay loans required to purchase capital equipment and complete repairs to the closed landfill and Transfer Station.

Waste Diversion: The Solid Waste Management Division continues to expand and improve the programs to divert materials that would otherwise be sent to landfill. Various economic factors influence how much waste is generated and available for potential diversion. Over the last 5 years, the City has seen a 41% reduction in landfilled waste, while seeing an increase in the tons of materials recycled and composted. This reduced waste generation, combined with our continually improving diversion programs and ongoing community involvement efforts, contributed to a 74% diversion rate in 2011, up from 62% in 2007. While this diversion percentage is an indicator that we are on track with our Zero Waste goals, 2 factors are used to calculate it: population, and tons land-filled. Therefore, as the economy improves, and consumption and waste generation increase, the ongoing challenge will be to expand diversion programs to insure that tons to landfill continue to decrease as they have over the 5 year trend. The Solid Waste Division is dedicated to diverting as much of this waste tonnage through mandatory recycling, improved multi-family programs and expanded organics and C&D programs.

¹ Refuse Fund Update: www.cityofberkeley.info/uploadedFiles/Clerk/Level_3_-_City_Council/2011/11Nov/2011-11-08_02_Worksession_Item_Refuse_Fund_Update.pdf

New Contracts Executed

SWM has executed new contracts for Landfill, Construction & Demolition, Materials Recovery Facility Recycling, Residential Curbside Recycling, Appliance Recycling, Mattress Recycling, Reusable Salvage, and Organic Waste. The process leading up to execution of these contracts included an analysis of existing agreements; drafting and issuing requests for proposals (RFPs); and reviewing, rating and selecting the most suitable and responsive proposals. Other contracts, for recycling materials processing, residential recycling collection services, and salvage operation services at the Transfer Station, were all renegotiated.

- Landfill and Construction & Demolition (C&D): The new long-term contracts for landfill and C&D have resulted in an annual savings of \$400,000. These contracts were released as separate Requests for Proposals (RFP), and 4 proposals were submitted to the City. The selected vendor, Waste Management, Inc., offered the best combination of processing, location and ability to recycle, along with reduced costs for landfill.
 - Landfill: Reduced the price per ton in the new landfill contract by 20%. The City now pays just under \$40 per ton, down from what would have been about \$50 per ton under the old contract, based on its built-in price escalators.
 - C&D: Reduced the price per ton in the new contract for C&D processing by 24%, or approximately \$14 per ton, from \$59/ton under the old contract to \$45/ton.
- Materials Recovery Facility (MRF) Recycling: A new contract was negotiated with Community Conservation Centers (CCC), providing the City 7.5% of the commodities sales revenue, while allowing CCC control of its own operating costs. Average annual income for the City is projected at \$270,000. CCC recently completed an upgrade of their facility, at their expense, which will expand its capacity to recover additional recyclable materials.
- Residential Curbside Recycling: The new contract with the Ecology Center provides a more efficient collection operation. As part of the new contract, the City purchased and delivered new split recycling carts to residential customers, replacing the old open tubs and increasing the capacity.
- Appliance Recycling: A new contract was awarded to Sims Metal to pick up appliances from the Transfer Station for recycling. Formerly an expenditure contract costing about \$10,800 a year, the City is now paid by the ton and generating annual revenue projected at \$60,000. The metals and refrigerants are recycled locally.
- Mattress Recycling: The City executed a new contract with St. Vincent DePaul to recycle used mattresses and box springs. The City provides hauling with existing underutilized equipment.

- Reusable Salvage: A new contract with Urban Ore to salvage reusable household items and building materials from the Transfer Station, and resell them at Urban Ore's retail store in Berkeley, will create annual savings of \$30 – 40,000.
- Organic Waste: This new contract results in a \$90,000 annual savings to the City and reduces the generation of greenhouse gases through their aerobic composting process. An RFP was issued for organic waste processing for Berkeley's plant debris and food waste. Recology/Grover was awarded the contract and has continued to transport and process Berkeley's organic waste into nutrient rich certified organic agricultural products. They also continue to deliver finished compost back to our community where it is provided free of charge to residents, and used by the Parks, Recreation & Waterfront Department.

Operational Improvements

Improvements in SWM operations have resulted in increased efficiencies, reduced costs, and a modernized fleet of collection vehicles. When improvements are fully implemented, Refuse & Recycling Services will be operating at industry standards. The City has also invested in capital improvements at the Transfer Station for stormwater and wastewater run-off. Pollutants generated from activities at the Transfer Station will be routed for treatment.

The Solid Waste Division has undergone significant staff restructuring, reducing the work force by a total of 16 positions. These employees were transferred within Public Works or to another Department, or left through retirement. Through the use of improved operations and modernized equipment, existing staff have absorbed the work duties of these positions.

Routes

- Commercial Routes: Efficiencies were gained by working with customers to increase on-site container capacity. With larger capacity containers, truck collection efforts were reduced, resulting in lower operating costs and increased route efficiencies.
- RouteSmart Software: All collection routes have been re-routed to gain efficiencies and offer better customer information. The new routes have resulted in the reduction of 3 routes and an increase in operational efficiencies on remaining routes.
- Route Books: RouteSmart captures Customer Service information and is used to update route books. This is now done electronically and can be applied in a timely manner to our customers' accounts.
- 1-Person Collection Vehicles: New equipment has been delivered and has been put into initial use; full operation will be in place in early calendar year 2013. When the transition is complete, these 11 automated side loaders will collect residential carts in the gutter with the use of an hydraulic arm, rather than manual collection. This change will result in operational cost savings and a reduction in crew injuries.

Customer Service

- Work Order System: The City implemented a new work order system (Lagan) in October 2010 that provides improved accountability, tracking and efficiency of customer requests and service needs. Using Lagan, Customer Service personnel in the City's central 311 Call Center initiate a service request (case), which is electronically routed to the appropriate Supervisor for action and documentation of case resolution. The use of Lagan has increased response time and customer satisfaction.
- Customer Satisfaction: A customer satisfaction survey will be distributed later this year to gather feedback and ideas from our residential customers.
- Online Service Center: A recent addition to the City's Online Service Center is the option for customers who do not pay their refuse charges on property tax bills to make a Refuse Bill Payment online.² This offers our customers a convenient way to pay their refuse collection bills.

Transfer Station

- Transfer Station Recycling: Increased C&D diversion from 86% to 93%. New methodologies on the tipping floor have improved recycling operations and increased recovery of cardboard, metals, and C&D. For C&D, diversion increased from 86% to 93% recovered recyclables in loads delivered to the recycling processor. Cardboard recycling alone has increased from 300 pounds to 1 ton per month. These additional tons of recyclables are retrieved by City staff from loads delivered to the tipping floor, and would have been land-filled prior to this effort. In addition to the recovery of recyclables as a benefit to the environment, the City receives revenue for the recovered materials.
- Transfer Station Scale House: New software has resulted in more efficient deliveries and return trips, reducing travel time by a total of 2 ½ hours a day for the fleet of long haul trucks, or about 650 hours each year. The new PCScale software is installed, resulting in faster customer entry and exit; less waiting time for City vehicles; and improved material tracking weights. A feature that helps make this improvement possible is use of a transponder on the collection trucks. This captures the weights of the trucks as they enter and leave the Transfer Station, calculating the amount of materials delivered to the tipping floor, increasing the efficiency of vehicles moving through the facility and electronically recording the necessary data for billing. Previously, all these steps would have been manually performed by the Scale House operator. In addition, using PCScale software, the City can certify and transmit truck weights leaving the Transfer Station for the landfill, allowing these deliveries to be made without an additional stop at the landfill scales.

² City of Berkeley Online Service Center webpage: <http://www.ci.berkeley.ca.us/onlineservicecenter/>

- Transfer Station Landfill Hauling: City long haul trucks destined for the landfill or the C&D recycling facility are now more efficiently loaded to maximize the legal payload (weight capacity). These efficiencies resulted in the transfer of 2 driver positions to the “pool” for other Solid Waste duties.
- Transfer Station Materials Recovery Facility (MRF): as noted above, a new contract with CCC for the MRF simplifies the former payment process and creates a revenue sharing opportunity: the City receives 7.5% of all material sales revenue; and CCC has responsibility for most capital expenses. CCC has also improved their public Drop Off Center by accepting additional materials, and has upgraded their container sorting line to increase glass capture and accommodate sorting and marketing of additional plastics.

BACKGROUND

The City’s Solid Waste Management, refuse and recycling operations have been incorporating incremental changes for several years, and accelerated these changes and improvements since late 2010. The City’s Refuse Fund has had a structural deficit, which has been slowly reduced, reflecting the impact of more efficient operations, equipment upgrades, contract revisions, and staff restructuring.

In order to support management and staff efforts, and to gain an outside professional perspective on creating a sustainable program, the City retained Sloan Vazquez, LLC in July 2010 to conduct an analysis of the City’s Solid Waste Management programs and services. The study was scoped to “emphasize staffing and organization, program administration, systems analysis, customer service and sustainable revenue.” After analysis during 2010, the [Sloan Vazquez Report: Assessment of the Solid Waste Management Division](#)³ was issued in February 2011 and distributed to Council in March 2011. The Report offers recommendations relevant to various SWM operations; some of their recommendations are included in those already implemented, and others are still being reviewed by staff and the Zero Waste Commission as part of a strategic planning process. Recommendations still under consideration include:

1. Outsource recyclable material processing.
2. Convert commercial routes to single operator.
3. Discontinue 13-gallon refuse option.
4. Change to an exclusive commercial franchise system.
5. Conduct an audit of commercial routes billing and services in calendar year 2013.
6. Eliminate commercial food waste discount.

FUTURE ACTION

Public Works will continue to improve Refuse and Recycling services, including: introducing 1-person collection vehicles on commercial routes; working with the Zero

³ SloanVazquez Report: Assessment of the Solid Waste Management Division:
[www.cityofberkeley.info/uploadedFiles/Clerk/Level_3 - City Council/2011/03Mar/2011-03-08%20Worksession%20Item%20001%20Solid%20Waste%20Recycling%20Assessment%20Report.pdf](http://www.cityofberkeley.info/uploadedFiles/Clerk/Level_3_-_City_Council/2011/03Mar/2011-03-08%20Worksession%20Item%20001%20Solid%20Waste%20Recycling%20Assessment%20Report.pdf)

Waste Commission on a strategic plan for developing a sustainable rate structure; evaluating the options for operations of the MRF; and reviewing options for commercial collection.

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