



**CITY OF KIRKLAND**  
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## MEMORANDUM

**To:** David Ramsay, City Manager

**From:** John MacGillivray, Solid Waste Coordinator  
Erin Leonhart, Public Works Facilities & Administrative Manager  
Daryl Grigsby, Public Works Director

**Date:** February 19, 2008

**Subject:** ANNUAL SOLID WASTE & RECYCLING REPORT AND MULTI-FAMILY WORK PLAN

The purpose of this memorandum is to 1) provide the City Council with a comprehensive discussion of Solid Waste program activities, achievements, and performance over the course of 2007; and 2) to provide a framework for the development and implementation of a more effective multi-family recycling program in 2008.

### SERVICES WE PROVIDE

With the support of the City Council, Kirkland has continued to be a regional leader in garbage collection and recycling by providing a basic package of services and incentives that meet or, in many cases exceed, established industry standards. The 2007 services included:

- Commingled Recycling
- Embedded Rate Structure
- Battery Recycling Program
- Single-Family Residential Curbside Electronics Service
- Single-Family Residential Yard and Food Waste Recycling
- Residential and Business Recycling Collection Events
- Commercial Organics Recycling
- Business and Multi-family Outreach and Assistance

### WHOM DO WE SERVE?

The above services are provided in whole or in part to over 12,000 total single-family, multi-family, and commercial accounts. Approximately 90 percent of the accounts are single-family customers with the remaining 10 percent comprised of multi-family (4%) and commercial (6%). By comparison, the waste stream by population data shows that the commercial sector (40%) and the multi-family sector (24%) comprise approximately 64 percent of the average daily population and produce 63 percent of the total waste stream. Kirkland's average daily population of over 76,000 consists of best available data and is defined by a 2005 estimated population of 26,987 single-family residents, 18,753 multi-family residents, and an estimated 2003 daily workforce of 30,865.

**HOW DO WE PAY FOR IT?**

As shown in Table 1, the Solid Waste utility generated \$7.84 million in revenue in 2007, 95 percent of which was received from service fees. Expenditures made were primarily for costs related to the collection and disposal of waste and recyclables and secondarily for administrative and billing costs.

Revenue Sources		Expenditures	
Service Fees	\$7,441,871	Collection/Disposal	\$6,396,672
KC Hazardous Waste Fees	\$231,828	Administration/Billing	\$923,031
Grant Revenue	\$140,250	Taxes	\$345,872
Investment Interest	\$27,351		
<b>Total Revenue</b>	<b>\$7,841,300</b>	<b>Total Expenditures</b>	<b>\$7,665,575</b>
		FY 2007 Budget Surplus	\$175,725
		SW Utility Fund Cash Balance 12/31/07	\$1,142,413

**HOW DO WE COMPARE?**

The recycling diversion rate is the primary performance measure used to gauge the long term success of a recycling program. For the purposes of this report, the recycling rate is defined as the percentage of recyclable material diverted in tons for recycling from the total waste stream. It is important to note that that recycling rate can vary significantly between sectors of the population due to difference in services and the specific recyclable materials counted in the rate. For example, in Kirkland, yard waste and food waste recycling is universally available at no extra charge to single-family customers but is typically not available to multi-family customers. Similarly, recycling diversion rates will vary between jurisdictions depending upon which materials are counted in the rate. For instance, the City of San Francisco has achieved a combined diversion rate of 67 percent by counting all conceivable materials in their rate to include construction and demolition (C&D) debris whereas King County only counts single-family, multi-family, and a portion of the commercial recyclables in the their rate. If C&D materials were counted in the King County rate calculation, a diversion rate of approximately 65.4 percent would have been achieved for 2006 - one of the highest in the nation.

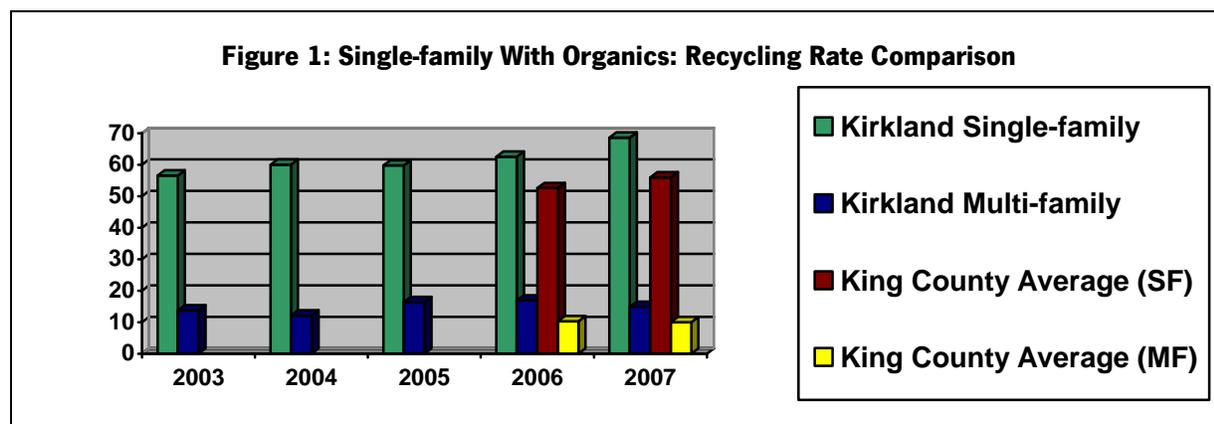
Year	Single Family		Multi Family		Non-Residential	
	Curbside Recycling Rate (%)	Curbside Disposal Rate (lbs)	Recycling Rate	Disposal Rate (lbs)	Recycling Rate (%)	
2007	68.6%	19.9	14.9%	30.9	13.3%*	Kirkland Actual
2006	50%	31.4	35%	20.8	43%	
2012	52%	30.7	40%	20.3	46%	
2018	53%	30.5	40%	20.1	48%	

\*Data reported from Waste Management accounts only. Rate does not include data from other recycling haulers. Disposal rate: pounds per household per week.

As shown in Table 2, Kirkland is well ahead of the established King County Solid Waste Management Comprehensive Plan 2006 single-family residential recycling rate goal of 50 percent. Kirkland is also well ahead of the King County averages for both the single- and multi-family sectors. Only one city in King County (Sammamish) has achieved the 2006 Comp Plan goal of a 35 percent multi-family recycling rate.

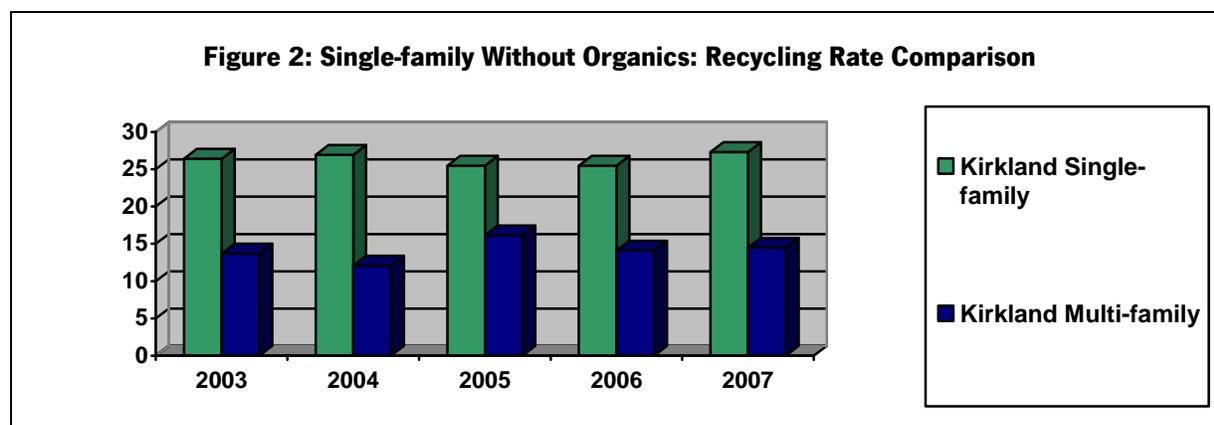
The commercial sector or non-residential recycling diversion rate numbers are not complete given that State law allows commercial properties to individually negotiate with third party haulers for recycling services. Waste Management provides recycling services to 82 percent of the commercial accounts in Kirkland, so the reported commercial recycling diversion rate of 13.3 percent is lower than the actual rate. The City does not receive reports of recycling tonnages collected by third-party haulers. As such, we are not at this time able to present an accurate picture of the commercial sector's recycling diversion rate. King County's extrapolations from Washington State data indicate that the regional non-residential recycling rate was 56 percent in 2006.

Figure 1 below illustrates an "apples versus oranges" comparison between the Kirkland single- and multi-family sectors where yard and food waste tonnage is included in the single-family recycling rate calculation.



Sources: 2007 Waste Management Waste Stream Summaries, 2001 KC Comprehensive Solid Waste Management Plan, Final 2006 and Preliminary 2007 hauler-reported data to King County Solid Waste Division

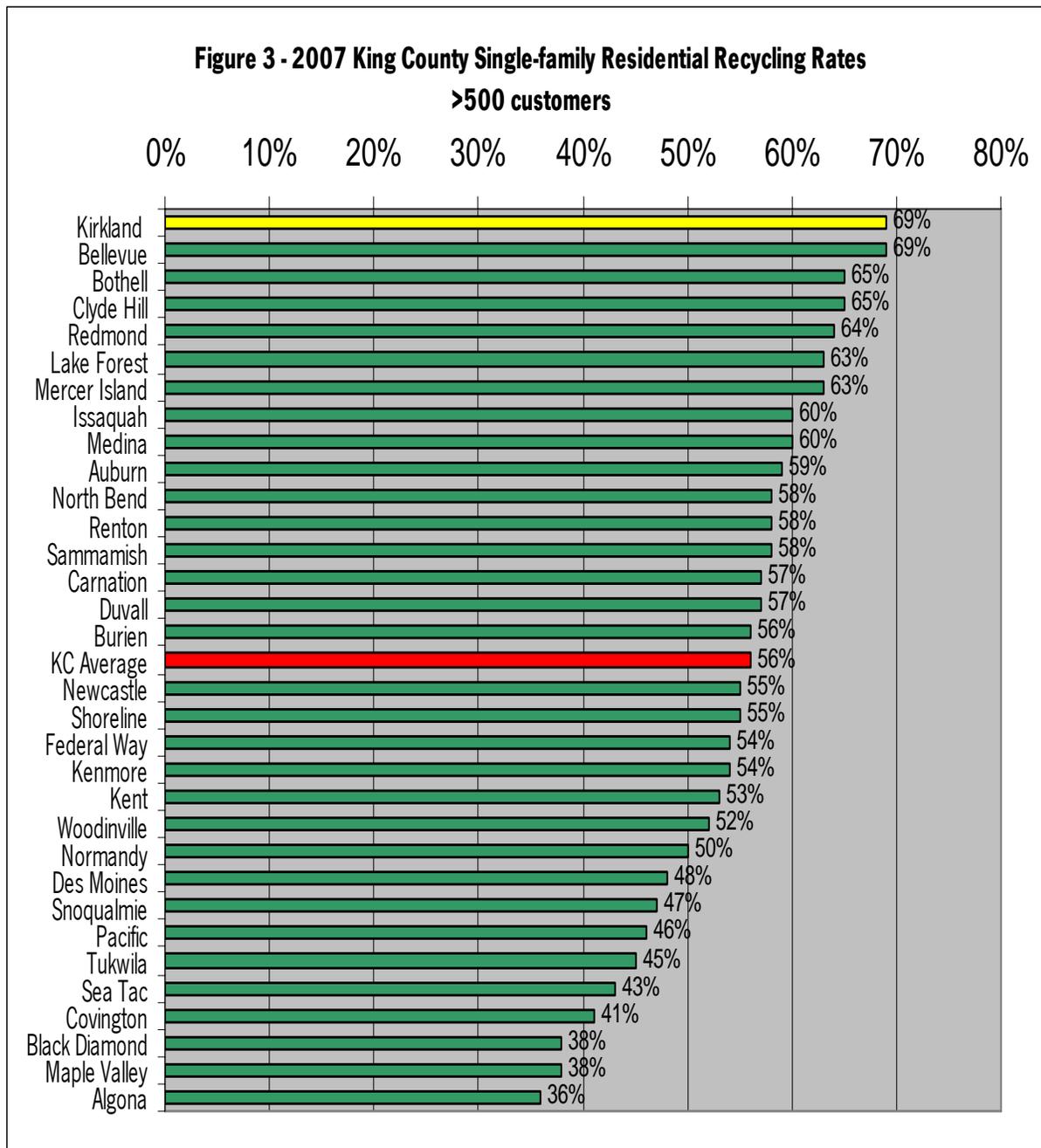
In contrast, Figure 2 below shows an "apples versus apples" comparison between the single- and multi-family sector with yard and food waste excluded from the single-family rate calculation. *Yard and food waste accounts for 60 percent of the total diverted single-family recycling tonnage.* The 2007 single-family curbside recycling diversion rate *exclusive* of yard/food waste is 27.3 percent compared to the multi-family 14.5 percent rate.



Source: 2007 Waste Management Waste Stream Summaries

In terms of the 2007 King County single-family recycling diversion rates, Kirkland residents achieved a 69 percent recycling rate and ranks number one in a tie with the City of Bellevue out of 32 cities with more

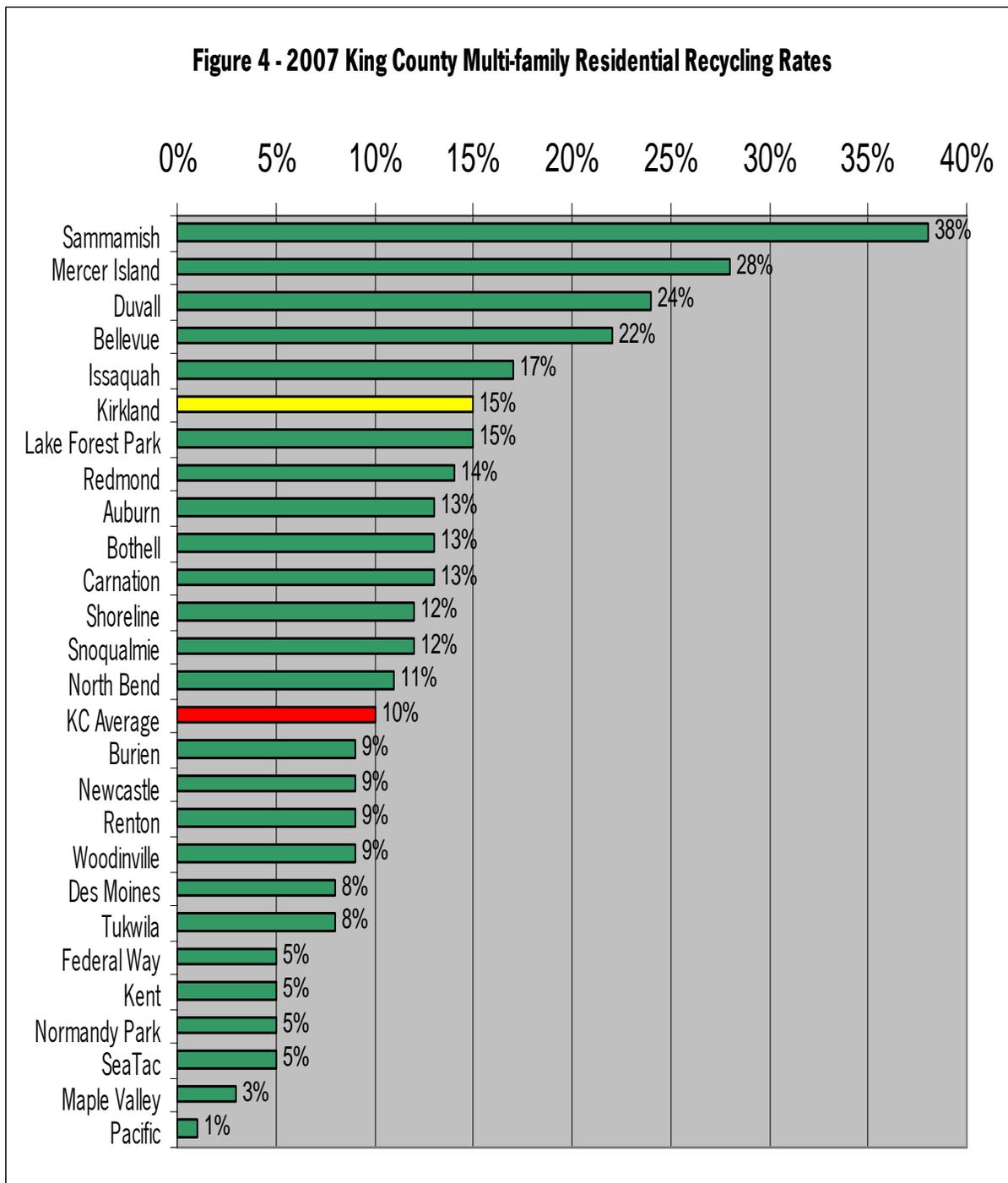
than 500 garbage customers. Three cities to include Beaux Arts (73%, 107 customers), Yarrow Point (65%, 347 customers) and Hunts Point (55%, 160 customers) were excluded due to statistically insignificant recycling statistics. For comparison purposes the cities of Kirkland and Bellevue have 10,890 and 26,737 single-family garbage customers, respectively.



Source: Preliminary 2007 hauler-reported data to King County Solid Waste Division. The cities of Enumclaw and Skykomish did not report data. King County average includes unincorporated areas.

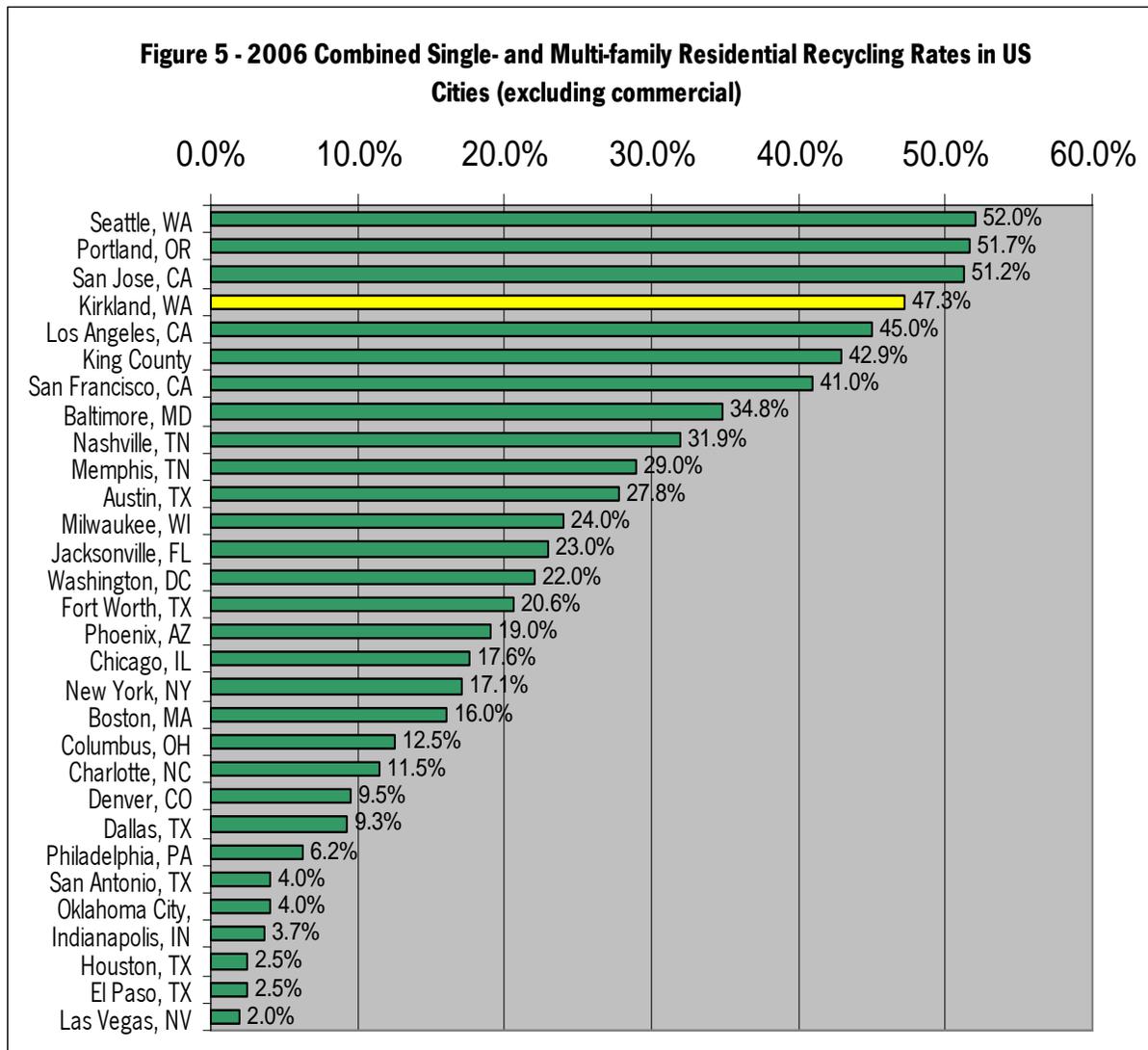
The Kirkland multi-family sector experienced a two percentage point decrease in the recycling diversion rate, dropping from a 16.9 percent rate in 2006 to 14.9 percent in 2007. As shown in Figure 4 below,

Kirkland still ranks sixth out of a total of 26 cities reporting preliminary multi-family data and is substantially ahead of the average King County multi-family diversion rate.



Source: Preliminary hauler-reported data to King County Solid Waste Division. The cities of Enumclaw, Clyde Hill, and Algona did not report data. King County average includes unincorporated areas.

Figure 5 below describes the *combined* single- and multi-family residential recycling rates for 30 U.S. jurisdictions. Kirkland's combined recycling diversion rate for 2006 was 47.3 percent and marginally increased to 47.8 percent in 2007



Source: Waste News, 2/19/2007

### HOW ARE WE DOING?

In 2007, the Public Works Department implemented or enhanced the following programs and events:

#### Battery Recycling Program

This new program was introduced in June 2007. Its success is evidenced by the number of pounds of batteries collected at the three collection sites – the Kirkland Library, City Hall, and the North Kirkland Community Center. A total of 2,763 pounds were collected from these sites at a cost of \$1/lb. Batteries collected include dry cell batteries intended for household use (e.g. alkaline batteries, nickel cadmium, and cell phone batteries). Based upon the outstanding response to the program, particularly at the Kirkland Library site, a new collection site was added at the Peter Kirk Community Center in January 2008.

Commercial Organics Program

The commercial organics program was established in early 2007 and outreach began with letters to participants from the pilot program. In late September, each organics-producing Kirkland business received an informational postcard in anticipation of a personal contact by the City's consultant, Wilder Environmental. The businesses' response to the new outreach strategy was positive and the program is building momentum with a current total of 48 businesses enrolled. Some of the new businesses now participating in the program include Tully's Coffee, Quizno's Subs, Subway, Houghton Market, Pagliacci Pizza, and Bungie Studios.

Residential and Business Recycling Collection Events

The City conducted two residential recycling collection events at the Houghton Park and Ride. A total of 922 participants attended the fall event and brought over 55 tons of material to be recycled. Between the two 2007 events, a total of 1,898 residents participated - a 51 percent increase over 2006 and almost twice as many participants that attended both events in 2002. A total of 112.30 tons of material was recycled at the 2007 events - a 44 percent increase over the 2004 recycled tonnage. The free collection of fluorescent lamps and bulbs was added to the fall event and, by popular demand, will be offered again in 2008. The 2008 events are tentatively scheduled to be held on April 19 and October 11. For a detailed statistical summary of residential recycling events, please refer to Attachment A.

On September 20<sup>th</sup>, the annual Business Recycling Collection Event was held at the Totem Lake Mall. The event resulted in all-time highs for the number of businesses participating (226), the total material collected in tons (25), and highs in seven out of twelve categories of materials collected. The 2008 event is scheduled to be held on September 18.

<b>Table 3 - Business Recycling Collection Events 2004-2007</b>				
	<b>2004</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>
Number of Businesses Participating	124	143	166	226
Total Material Collected (tons)	19.94 tons	20.8 tons	17.58 tons	25.16 tons
Pounds Per Business	321 lbs	291 lbs	212 lbs	223 lbs
Metal, appliances, elect.	18,203 lbs	16,455 lbs	17,554 lbs	24,080 lbs
Pallets and scrap wood	11,620 lbs	9,454 lbs	1,900 lbs	1,920 lbs
Paper for shredding	2,850 lbs	3,150 lbs	2,890 lbs	10,048 lbs
Computer monitors	2,520 lbs (63)	4,480 lbs (112)	4,920 lbs (123)	7,000 lbs (175)
Fluorescent lights	804 lbs (804)	650 lbs (650)	700 lbs (700)	1,200 lbs (1,200)
Used CFC appliances	700 lbs (2)	2,450 lbs (7)	1,750 lbs (5)	2,100 lbs (6)
Small TV sets	250 lbs (5)	450 lbs (9)	1,250 lbs (25)	850 lbs (17)
Large TV sets	0	100 lbs (1)	500 lbs (5)	0
Cardboard	2,660 lbs	4,120 lbs	3,330 lbs	2,800 lbs
Toner cartridges	72 lbs (36)	82 lbs (41)	90 lbs (45)	118 lbs (56)
Office plastics	96 lbs	145 lbs	195 lbs	80 lbs
Cell phones/batteries	108 lbs	56 lbs	78 lbs	125 lbs

#### Windstorm Debris Collection Sites

In response to the December 14, 2006 windstorm event, the Public Works Department, working in conjunction with the Parks Department, established two storm debris drop-off sites – one at Juanita Beach Park and the other at Crestwoods Park. Over 3,600 cubic yards of debris was collected at the sites and at curbside between December 20 and January 14 at a cost of over \$60,000 to the Solid Waste utility.

#### Single- and Multi-family Outreach

The Public Works Department conducted various types of outreach throughout 2007. Staff offered informational booths and/or presentations at several events, including Kirkland Uncorked, the Sustainable September Expo, the Wednesday and Friday Farmers Markets, and several Neighborhood Association meetings. Multi- and single-family *Reuse, Recycle, Conserve* newsletters were distributed in both the spring and fall. Outreach materials developed included an updated yard and food waste recycling brochure and multi-family “move in” kits. Materials, including recycling literature, reusable mugs and bags, and kitchen food waste buckets were distributed at all these events. “Did You Know” recycling and waste reduction tips continue to appear in the City Update, published monthly in the *Kirkland Reporter*.

The City’s Recycling and Solid Waste site was updated to increase ease of navigation through its pages and to reflect changes in materials that are accepted in our recycling programs, at special collection events, and at hazardous waste collection sites.

#### Kirkland Green Business Program

The Public Works Department spearheaded this collaborative effort between the City of Kirkland, Puget Sound Energy and the Greater Kirkland Chamber of Commerce. Intended to recognize Kirkland businesses for their efforts in sustainability in seven categories, staff introduced the program at the Sustainable September Expo. Since the rollout, 23 businesses have registered for the program of which 12 have been approved and received an award package which includes a letter of award from the City Manager, window clings, electronic logos for printed materials, and a listing on the participant recognition webpage.

#### Business Outreach and Assistance Program

Working in conjunction with the City’s contractor, Wilder Environmental Consulting, the City continued the successful Business Recycling Program by offering a variety of complimentary on-site services to the business community which included 61 recycling assessment visits to develop new or enhance existing recycling programs and to deliver recycling presentations to owners, tenants, and employees. The City provided material support to businesses by providing almost 600 deskside recycling containers, 800 recycling stickers, 52 Business Recycling Kits, and over 400 new business letters. Additionally, over 2,800 businesses received an annual business newsletter. In total, 54 businesses established new or enhanced existing recycling programs.

## 2008 MULTI-FAMILY WORK PLAN

### Multi-family Recycling Goals for 2008

The 2008 Waste Reduction and Recycling Outreach Work Plan identifies specific outreach and waste reduction tasks in order of importance. Topping the list is the Multi-family Waste Reduction and Recycling Outreach task. The two stated goals for the project are:

1. Increase the multi-family diversion rate to 20 percent by the end 2008
2. Research and develop innovative program options that may remove barriers to multi-family recycling

### Barriers to High Multi-family Recycling Rates

There are many difficult-to-breach barriers to recycling present in the multi-family sector that contribute to the sizeable discrepancy between the single- and multi-family recycling diversion rates in Kirkland and King County. The majority of the barriers are not insurmountable; in particular those that can be addressed by extending single-family programs to the multi-family sector in an effort to achieve parity in service levels and recycling opportunities. If combined with the utilization of social marketing and behavior change strategies, educational and material assistance, and, in some cases, legal mandates, many of the roadblocks to achieving higher multi-family recycling rates can be mitigated or removed.

A variety of intrinsic sociological, physical, and programmatic barriers contribute to low recycling rates including:

- The inherent transitory nature of the diverse multi-family population, which contributes to a lack of sense of community, ownership, and ecological stewardship;
- Communication issues due to language barriers;
- Inadequate recycling education and the consequential contamination issues;
- Poor container placement, lack of space, and restrictive enclosure design;
- The lack of under-sink kitchen containers or bags to encourage the collection and transport of recyclables;
- Service inequalities such as the lack of curbside electronics and food waste collection;
- Owner and tenants' inability to reap the same financial benefits relative to container size reduction enjoyed by the single-family resident.

In 2005, the City of Kirkland conducted a survey of 12,000 multi-family residents and 176 property managers/owners in an effort to identify the factors contributing to the comparatively low multi-family recycling rate. In general, the owner and tenants identified the same universally-recognized barriers to multi-family recycling.

### Multi-family Program Funding

Staff has laid the budgetary groundwork to grow the multi-family program through the grant application and award process by allocating a significant amount of 2008-09 grant funding to multi-family outreach and recycling programs. For the purposes of comparison, over the course of the 2006-07 grant cycle a total of \$28,868 was spent on multi-family outreach and recycling. In

2008-09, \$46,500 in grant funding will be applied toward multi-family programs, \$36,500 of which will be spent in 2008 alone to energize new multi-family recycling programs. This is a 61 percent increase over 2007. The increase in funding will allow staff to purchase the materials and consultant services required to increase the effectiveness of the multi-family program.

#### 2008 Multi-family Action Plan

In addition to the tasks listed below, the City of Kirkland has already pro-actively addressed many of the most basic barriers to multi-family recycling by implementing an embedded rate structure; maintaining a longstanding relationship with a reputable private hauler; requiring contractual, "recycling friendly" collection options such as a larger default recycling container size (>90 gallons), weekly recycling collection, accepting a large variety of materials for recycling; and by providing an annual education and outreach focus upon the multi-family sector.

To augment the existing programs, staff has identified several tasks that will be implemented in an effort to increase the multi-family recycling rate to 20 percent. These tasks can be put in place without legal mandates, policy change, or code revisions and include:

- Create and purchase "Move in kits" to be distributed to property managers. These kits consist of a durable recycling tote, an informational recycling refrigerator magnet, a map of recycling container locations on property, and other recycling information tailored to the multi-family customer.
- Implement a multi-family food waste recycling pilot program in advance of a full-scale program in 2009.
- Develop a partnership with condominium and apartment ownership association such as the Rental Housing Association.
- Distribute a letter to all property managers describing recycling resources and assistance that can be provided by the City.
- Arrange consultant presentations to apartment tenant or condo owner associations and groups.
- Compose and distribute a bi-annual multi-family edition of *Reuse, Recycle, Conserve* newsletter.
- Update and expand the City's multi-family website.
- Staff booths at the Kirkland Wednesday Markets, Juanita Beach Park Farmer's Market, and other public events.
- Develop recycling recognition methods for multi-family property managers and tenant stewards.
- Make recycling presentations at Neighborhood Association meetings.

In developing goals and anticipating the outcomes of our proposed outreach strategies, it is important to note one key difference between the single- and multi-family sectors that precludes the multi-family sector from likely ever attaining the same lofty recycling rate performance of the single-family sector: multi-family customers are not significant generators of yard waste and yard waste accounts for only 2.8 percent of their total collected recyclables. By comparison, approximately 60 percent of the recyclable material collected from single-family customers is yard and food waste.

Expected Outcomes

The goal is to increase the multi-family recycling rate to 20 percent by the end of 2008. Staff believes that the goal is reasonable and achievable, given that the single-family sector touts a 27 percent recycling rate exclusive of yard and food waste and the multi-family sector achieved a recycling rate of 17 percent in 2006 in the absence of any significant outreach campaign to increase diversion. It is important to note that staff does not anticipate implementing a full-scale multi-family food waste program until 2009 so any increases in the multi-family diversion rate in 2008 will come from the increased collection of non-organic recyclables. Based upon calculations, staff anticipates an overall 3-4 percentage point increase in the multi-family recycling rate in 2009 from a full-scale food waste program.

Beyond 20 Percent

There are a number of legal mandates and code revisions for the Council's consideration that, if implemented or enacted in 2009, could sustain the growth of the multi-family recycling diversion rate beyond the 20 percent threshold. As many of these would impact all customers, there would likely be an increase in single-family and commercial diversion rates as well.

<b>Table 4 - 2009 Multi-family Program Enhancement Options</b>				
	<b>Option</b>	<b>Type</b>	<b>Description</b>	<b>Effect</b>
<b>1</b>	Disposal Ban	Mandate	Ban on disposal of recyclables in regular garbage. Similar to Seattle ordinance. Would have positive effect upon combined recycling rate.	High 4-6%
<b>2</b>	Mandatory Recycling Programs	Mandate	Multi-family properties required to establish recycling programs. Similar to Portland, OR law enacted 1995.	High 3-4%
<b>3</b>	Full-Scale Food Waste Recycling	Rate adjustment-Ordinance	Food waste collection program available to all condos/apartments. Dependent upon successful pilot in 2008.	High 3-4%
<b>4</b>	Linear Rate Structure (included in proposed 2009 rates)	Rate adjustment-Ordinance	Increased recycling rates result in smaller containers and lower rates	Moderate 1-2%
<b>5</b>	Staff Increase	Rate adjustment-Ordinance	Addition of full- or part-time staff specifically tasked with multi-family outreach program	Moderate 1-2%
<b>6</b>	Building Code Revisions	Code	Establish requirements for on-site recycling to include chutes in new buildings, dedicated space for recycling, and standard enclosure plans	Moderate 1-2%
<b>7</b>	Mandatory Recycling Plan	Mandate	All multi-family properties with over 10 units required to submit a recycling program plan to City for review	Moderate 1-2%
<b>8</b>	Tenant Incentives	Ordinance	Financial credits to tenants of high performing properties	Moderate 1-2%
<b>9</b>	Management Incentives	Ordinance	Financial credits to owners of high performing properties	Low <1%
<b>10</b>	Hauler Incentives	Contractual	Financial incentives to haulers tied to multi-family recycling performance	Low <1%

Some of these programs would have staffing or other funding implications so, upon Council direction, staff will submit service package requests during the 2009-2010 budget process.

#### Implementation Timeline

Work has already begun on the multi-family outreach project. A variety of different multi-family recycling containers have been delivered (1,000) and staff is retrofitting 1,000 previously purchased bags with current all-in-one recycling informational stickers. The outreach and educational materials to be delivered with the recycling containers have been developed. Staff has partnered with the Downtown Condominium Advisory Committee and the Rental Housing Association of Puget Sound which are providing webpage, listserv, and/or print advertisements in an effort to identify condominium association members and apartment managers and interested in receiving the free move-in kit recycling containers and/or participating in a multi-family food waste pilot.

Questions or requests for additional information can be directed to Solid Waste Coordinator John MacGillivray at extension 3804. We will continue to provide quarterly Reading File progress reports about all solid waste/recycling programs.

**Attachment A - City of Kirkland - Residential Recycling Events Summary - 2004-2007 (lbs recycled)**

Material	2004		2005		2006		2007		Totals
	Spring	Fall	Spring	Fall	Spring	Fall	Spring	Fall	
Scrap Metal, Appliances, Electronic Equip	7,140	39,444	16,250	42,600	7,700	37,580	18,560	40,200	209,474
CFC Appliances	0	4,450	0	7,350	0	5,950	350	11,200	29,300
Bulky and Scrap Wood	33,330	0	25,720	0	33,920	0	19,000	0	111,970
Computer Monitors	2,800	2,200	4,560	5,840	6,280	6,240	13,120	8,200	49,240
Televisions - Small	2,100	1,950	5,450	4,800	5,250	5,500	11,400	8,450	44,900
Televisions - Large	0	0	0	1,700	1,900	1,200	3,900	3,000	11,700
Fluorescent Lamps/Bulbs	0	0	0	0	0	0	0	908	908
Propane Tanks	2,500	2,750	1,850	2,500	2,350	1,900	2,400	3,800	20,050
Reusable Household Goods	8,100	7,300	7,900	9,500	18,550	9,600	20,550	14,400	95,900
Used Motor Oil/Petroleum Products	2,849	2,442	1,850	2,442	2,035	2,220	2,812	2,405	19,055
Used Oil Filters	244	187	215	255	560	125	175	100	1,861
Used Antifreeze	880	880	520	440	440	400	600	600	4,760
Used Tires	4,450	4,125	2,775	3,350	5,000	3,275	186	2,875	26,036
Lead Acid Batteries	4,002	4,323	3,295	2,887	3,610	3,303	4,850	2,573	28,843
Household Batteries	639	589	664	856	677	734	1,320	880	6,359
Toilets/Sinks	2,100	1,425	2,475	2,025	2,325	1,500	3,075	2,625	17,550
Cardboard	6,400	5,990	7,300	8,500	12,700	7,700	11,180	8,900	68,670
Total Pounds Collected	77,534	78,055	80,824	95,045	103,297	87,227	113,478	111,116	746,576
Total Tonnage Collected	38.77	39.03	40.41	47.52	51.65	43.61	56.74	55.56	373.29
Number of Participants	549	536	523	659	575	679	976	922	5,419
Average Pounds Per Participant	141.23	145.63	154.54	144.23	179.65	128.46	116.27	120.52	137.77
Event Cost	\$18,103.39	\$17,578.40	\$17,556.82	\$20,056.82	\$17,141.43	\$19,894.43	\$18,725.08	\$18,725.08	\$147,781.45
Cost Per Pound	\$0.23	\$0.23	\$0.22	\$0.21	\$0.17	\$0.23	\$0.17	\$0.17	\$0.20
Cost Per Ton	\$466.98	\$450.41	\$434.45	\$422.05	\$331.89	\$456.15	\$330.02	\$337.04	\$395.89

\*Bulky yard debris is collected only at the spring event. Scrap metals and appliances are collected only at the fall event. Funding for the events is provided by the King County Solid Waste Division Waste Reduction and Recycling Grant and the Local Hazardous Waste Management Program Grant