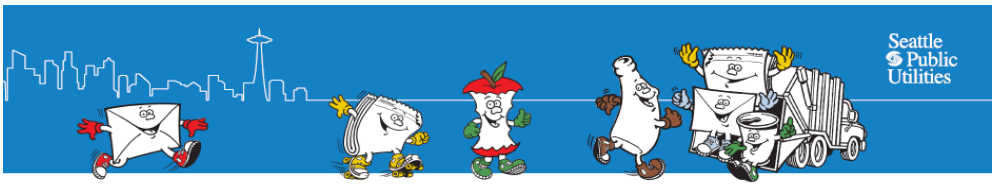
CITY OF SEATTLE

Michael McGinn, Mayor



2009 Recycling Rate Report

City of Seattle 2009 Recycling Rate Report

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City of Seattle 2009 Recycling Rate Report

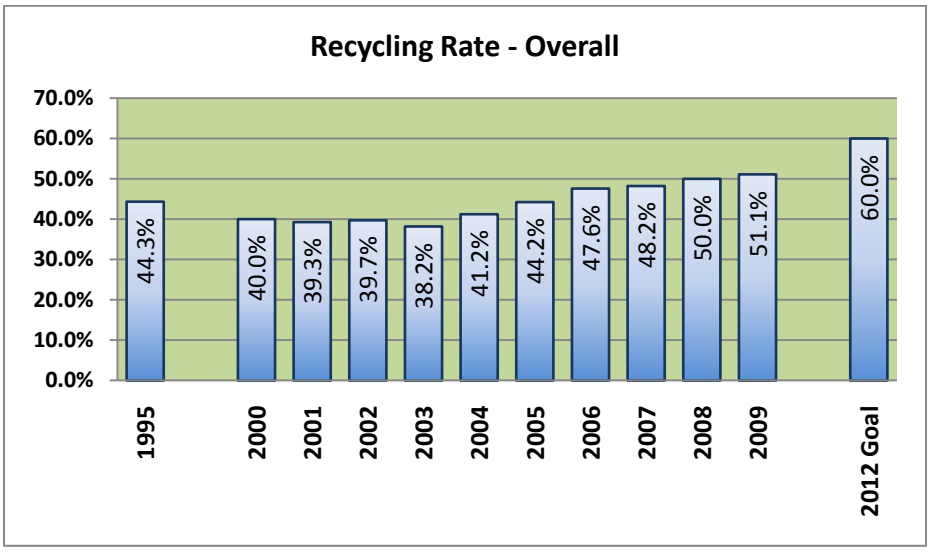
INTRODUCTION

SCOPE OF THE REPORT

This is the third annual recycling report for the City of Seattle. The report is called for in the 2007 Seattle City Council Resolution 30990.

> *"SPU will report to Council by July 1 of each year on the previous year's progress toward recycling goals, as well as further steps to be taken to meet goals in the current and upcoming years."*

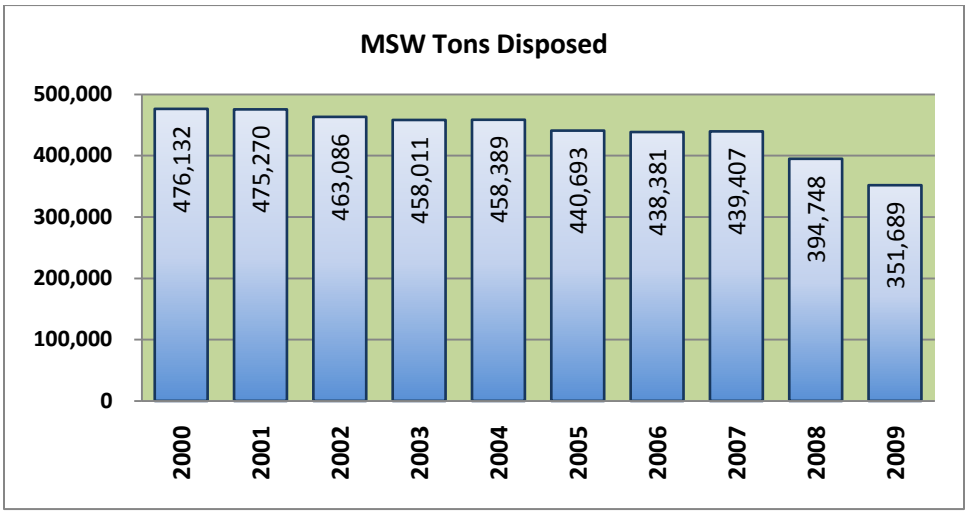
Seattle's goal is to reach 60% recycling of municipal solid waste (MSW) by the year 2012, and 70% by 2025. In 2009 Seattle recycled 51.1% of its MSW, an increase of 1.1 percentage points compared to the year before, as illustrated below. Since 2003 the overall recycling rate has risen 12.9 percentage points.



The overall MSW rate is composed of different sectors: single family residential, multi family residential, self haul, and commercial. After a brief review of how Seattle calculates its recycling rate, the report's first section describes the recycling results of each sector. Sector descriptions also include both new actions to meet the recycling goal as well as changes to existing programs.

The second section covers the non-MSW set of efforts addressing construction and demolition debris, and waste prevention which has programs active in all sectors.

The final section summarizes Seattle's progress toward another solid waste goal, which is reducing total MSW tons disposed by one percent each year. 2009 disposed tons dropped almost 11% compared to 2008.



Lists of references and links for further information are at the end. Comments on the report from the Seattle Solid Waste Advisory Committee are attached, as required by the resolution.

ABOUT THE RECYCLING RATE

WHAT'S INCLUDED, WHAT IS NOT

Seattle's recycling rate is the percentage of municipal solid waste (MSW) diverted from the landfill by reuse, recycling, and composting.

Seattle's municipal solid waste (MSW) includes:

- Organic debris managed onsite by residents (yard debris and food scraps)
- All garbage, organic debris, or recyclables that businesses and residents set out for collection
- All garbage, organic debris, or recyclables hauled to the city's recycling and disposal stations

Seattle's 60% goal is a combination of separate goals for each of the four primary MSW sectors: single family residential, multi family residential, self haul, and commercial. The recycling goals for each sector are different because material characteristics in their waste streams, opportunities to recycle, and expectations about participation vary.

There is currently not a goal for recycling in the construction and demolition (C&D) waste stream. It is anticipated a goal will be set as part of the update to the solid waste comprehensive plan that is now in development. C&D tons recycled will be counted in the C&D stream, not in the MSW recycling goal.

The MSW goal also excludes other special (usually dangerous) wastes. Moderate Risk Waste (MRW) includes household hazardous waste (HHW) like garden pesticides, and small quantity generator waste (SQGW) like solvents used at a small business. Seattle's moderate risk waste is managed through the Local Hazardous Waste Management Program (a joint program supported and implemented by Seattle, King County, Public Health - Seattle & King County, and the Suburban Cities). The Seattle Municipal Code prohibits disposal of HHW and SQGW in the garbage.

Also excluded from the MSW recycling goal are other special categories of waste such as: biomedical wastes, biosolids, asbestos, petroleum contaminated soils; and Dangerous Waste (generally industrial) as defined by state regulation as excluded from municipal solid waste.

UPDATING THE PRIOR YEAR RECYCLING RATE FIGURE

2008 recycling figures presented in last year's report remain unchanged. 2007 figures were updated for the 2008 report due to late reporting from the commercial sector.

Future annual reports will include updated numbers for the prior year only as needed.

OTHER NUMBERS ADJUSTMENTS

For 2009, the residential recycling contamination rates were increased. The revised contamination rates are based on five months of data from the recycling composition sorts underway in 2010. The sections on single family and multi family contain more detail about this.

For last year's report for 2008, the recycling rate calculation for the self haul sector was changed to stop including the wood and tires that end up being used as a fuel at pulp and paper mills or industrial boilers. This is considered to be "beneficial use," which is viewed as better than disposal, but still not true recycling.

ACTION PLANNING BACKGROUND

In 1998, the Seattle City Council adopted Seattle's Solid Waste Plan *On the Path to Sustainability*. It established a policy framework of sustainability and stewardship and adopted the maximum possible elimination of waste as a guiding principle. It also identified programmatic goals and programs for the future to achieve these goals. The 2004 Plan Amendment renewed Seattle's commitment to these policies and goals.

In 2007, Seattle Public Utilities (SPU) and the City Council jointly conducted the *Seattle Solid Waste Recycling, Waste Reduction, and Facilities Opportunities* ("zero waste") study. This study examined whether there were still other methods that Seattle could use to reduce the amount of solid waste and divert it from landfill disposal.

Subsequent to the study, the Mayor and City Council adopted Resolution 30990 re-committing the city to its 60% recycling goal, to be achieved by the year 2012, and establishing a longer term goal of 70% by the year 2025, as well as outlining some additional actions and strategies for achieving these goals. These

actions and strategies have been key additions into SPU's solid waste work plan for the past few years. Many actions are accomplished or well underway. A few others have had challenges, mainly due to budget constraints. Their progress is described in the following sector discussions.

Funding for 2009-10 actions was requested with the rate and budget proposals before the Seattle City Council in the fall of 2008, and again in fall 2009 during the 2010 budget update process. To keep the collection service rate increase as low as possible, some program plans were scaled own, delayed or denied. The sector discussions have more detail where program plans changed compared to prior plans.

PROGRESS AND ACTIONS

OVERALL MSW PERFORMANCE

The following table summarizes Seattle's recycling progress up through 2009.

Recycling Rate - Sector Summary						
	Residential					
Year	Single Family	Multi Family	Res Total	Self Haul	Commercial	Overall
2000	58.0%	17.8%	47.8%	17.2%	41.6%	40.0%
2001	57.0%	22.0%	48.5%	17.8%	39.6%	39.3%
2002	57.5%	21.5%	48.3%	18.1%	40.7%	39.7%
2003	57.5%	22.2%	48.4%	18.1%	37.3%	38.2%
2004	58.9%	22.2%	49.4%	18.8%	42.5%	41.2%
2005	61.4%	25.2%	52.1%	19.2%	46.6%	44.2%
2006	64.0%	26.3%	54.3%	18.8%	51.7%	47.6%
2007	64.8%	27.6%	55.1%	19.2%	52.5%	48.2%
2008	65.4%	28.3%	55.9%	18.4%	54.7%	50.0%
2009	68.7%	27.0%	58.4%	16.7%	54.9%	51.1%
2012 Goal	70.0%	37.0%	60.0%	39.0%	63.0%	60.0%

In 2009, Seattle's total recycling increased from 50.0% to 51.1%, an increase of 1.1 percentage points. This marks the sixth straight year of continuous recycling rate growth since 2003.

The next table shows how many tons of material was generated, and of that amount, how many tons were disposed (landfilled) versus recycled. Disposed tons also include beneficial use tons.

Tons of Municipal Solid Waste (MSW) - Overall				
Year	Generated	Disposed	Recycled	Recycle Rate
2000	793,842	476,132	317,710	40.0%
2001	782,809	475,270	307,539	39.3%
2002	768,346	463,086	305,260	39.7%
2003	741,094	458,011	283,083	38.2%
2004	780,044	458,389	321,655	41.2%
2005	790,457	440,693	349,763	44.2%
2006	836,499	438,381	398,118	47.6%
2007	848,759	439,407	409,352	48.2%
2008	789,608	394,748	394,860	50.0%
2009	719,424	351,689	367,735	51.1%

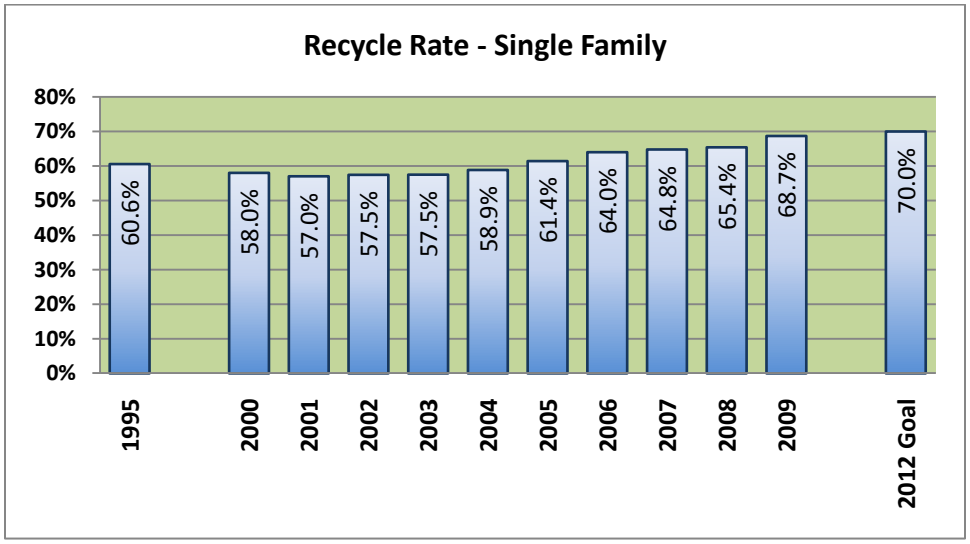
MSW SECTOR PERFORMANCE AND ACTIONS

RESIDENTIAL – SINGLE FAMILY

The residential single family sector includes tons collected for recycling, composting and disposal from residential households who are on a "can" (or cart) garbage service (as opposed to those having garbage dumpsters). These are mostly single family, and duplex to 4-plex households.

In 2009, recycling in the single family sector increased from 65.4% to 68.7%, an impressive increase of 3.3 percentage points, and just 1.3% short of the 70% goal for this sector. This is the sixth straight year of growth of this sector, for an average annual rate of growth of 1.9% since 2003.

Along with the record breaking single family recycling rate, 2009 saw an increase in total single family tons generated compared to 2008, slightly reversing the drop seen in 2008, and still 5,113 tons lower than the 2007 high. Compared to 2008, single family generated tons increased by 0.5% while disposed tons decreased by 9.1% and recycled tons increased by 5.6%.



Tons - Single Family				
Year	**Generated**	**Disposed**	**Recycled**	**Recycle Rate**
2000	208,468	87,499	120,969	58.0%
2001	211,982	91,072	120,910	57.0%
2002	206,474	87,834	118,640	57.5%
2003	205,748	87,426	118,322	57.5%
2004	209,132	86,029	123,103	58.9%
2005	208,675	80,478	128,197	61.4%
2006	216,946	78,078	138,868	64.0%
2007	220,128	77,494	142,634	64.8%
2008	213,889	73,961	139,928	65.4%
2009	215,015	67,229	147,786	68.7%

Selected Statistics – Single Family

- Single family households set out almost 58,600 tons of curbside recyclables (not including organics) 2009. This is a drop compared to the 62,000 tons in 2008. The decrease is due to two factors. First, there is a new estimate for tons of contamination in the recyclables based on new data. The new contamination rate is higher (6.28% compared to 2.1%), resulting in lower overall tons which can be counted as recycled. The drop in recycling tons is also due to the recession which affects the generation of both recyclables and of waste.
- Organics collection saw a large increase due to the new collection system where residents receive collection weekly, all single family residents have organics carts (unless exempted) and non-vegetative food waste was added to the program. Organics tonnages rose by 32% to 73,000 tons. Approximately 23,900 of these tons are estimated to be food waste and compostable paper.
- The increase in total generation is partly from the increase in food and yard waste that is now set out for collection by customers who used to do more back yard composting or self-hauled the material to the transfer station.
- Tons disposed dropped by over 9% compared to 2008, the largest annual drop in this relatively stable waste stream since the curbside and yard waste programs started in 1988 and 1989. The drop was due to the new organics diversion but also due to the recession.

New Actions and Existing Program Special Focus – Single Family

Implementing changes to the new collections and processing contracts received major emphasis 2009. The change-over occurred as planned starting March 30, 2009. Highlights of changes implemented include:

- All single family accounts are now **required to sign up for food and yard waste organics service,** which is now **collected weekly** instead of bi-weekly customers who compost at home can apply for an exemption. Garbage is still collected weekly. Now all food scraps can go in the organics cart, including meat, fish and dairy. Key findings from SPU's recently completed 2010 Home

Organics Waste Management Survey shows some notable shifts in how our customers manage their food and yard waste. More are taking advantage of the curbside organics service and composting less in their yards. Compared to the previous home organics survey in 2005.

  - 3% more customers take yard waste to the curb
  - 7% fewer customers compost at home
  - 3% fewer customers typically or ever grasscycle
  - Three times as many people use the organics cart as their main method of disposing food waste (up to 72% from 25%)
  - On seven-point scale, 91% of customers rate the City's food and yard waste collection service a five or above.

- The changes to the 2009 subscription fees (**rates**) built in more **incentives** for customers to reduce garbage by making organics service a lower cost choice. In fact, more customers than expected signed up for a smaller garbage can, and more customers than expected stayed with a larger organics cart.
- The city implemented a **curbside electronics recycling** program. The City of Seattle is a registered collector under the new state agency, the Washington Materials Management and Finance Authority (WMMFA). For a $20 fee, city collectors pick up certain electronics at the curb by pre-arrangement. The fee covers the extra cost of curbside service that is not reimbursed to the city by WMMFA. In the first full 12 months of the program, SPU's collectors serviced 1,011 electronics pick up requests. Residents also have the option to drop off a more limited range of electronics for free at private sites authorized by WMMFA.
- Singe family residents may now also use the new **curbside waste motor oil** (WMO) service. In the first full year of the program city collectors picked up 9,291 gallons of waste motor oil placed out in gallon jugs on regular collection days. Not only does this program help keep WMO out of the waste stream, it should reduce WMO entering Seattle's drainage system, helping to keep this contaminant out of our local waters.
- With the 2009 collections changes **more paper, plastic and metal items can be recycled.** Including aluminum foil, all coated papers such as hot drink cups, and nearly all plastics including, for example, deli trays, cold drink cups and plastic plant pots. Glass bottles and cans now go in the recycling cart ("co-mingling")—no more separating.

While doing early budget and planning work in 2008, SPU had hoped to increase resources (inspectors) devoted to **enforcement** in 2009-10. However, budget constraints could not accommodate this increase. The collections contract transition dominated inspections work in 2009. In 2010, SPU is redirecting existing resources from education and outreach to enforcement.

For **outreach** in 2009**,** SPU leveraged (to the highest possible degree because of resource constraints) the education and outreach for the new collection contracts transition. This effort resulted in a substantial, multi-media public education and outreach program conducted from late 2008 through the first half of 2009. This outreach program included special attention to historically underserved customers through translated materials, ethnic and immigrant community news media, and targeted community presentations with translations.

A survey done shortly after the outreach for the collections changes showed the outreach was highly effective, with 82.6% awareness of changes and 94% recalling hearing messages about the new recycling services. The Washington State Recycling Association also awarded SPU the 2009 Recycler of the Year

Award for this educational work. SPU's focus for 2010 is to build on 2009's education and outreach achievements.

Budget constraints had forced an added years' delay for studying **mandatory organics composting** (or a "food waste ban") for the single family sector, pushing the planning for this work into 2010. Also, a pilot project to study changing garbage collection frequency to **every other week** (organics would remain weekly) has also been deferred, to 2011. The next opportunity in the collection contracts to change collection frequency is 2013.

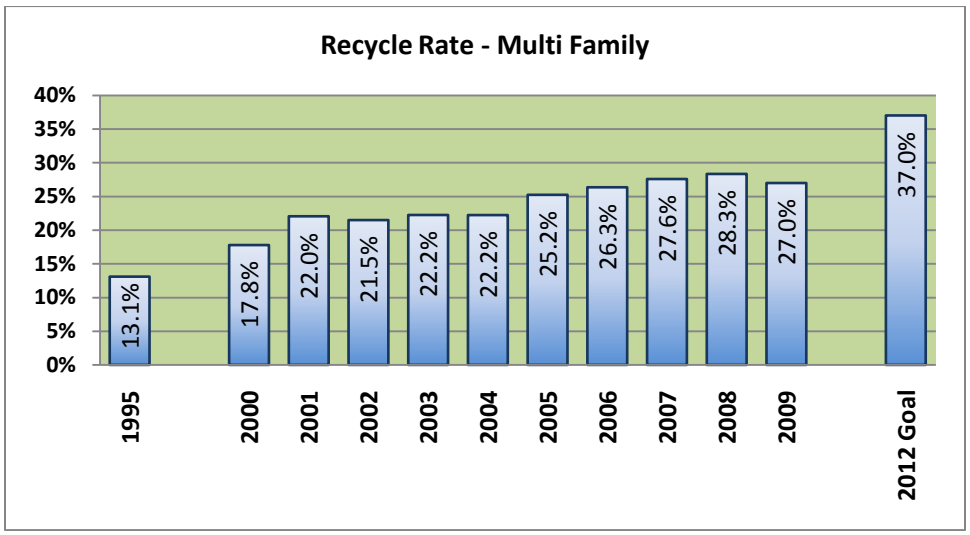
Possible steps to help close the (relatively small) gap to reach this sector's 2012 recycling goal include:

- More education to reduce contamination
- Spot checks by inspectors on the ban on the disposal of recyclables
- More organics promotion
- Consider banning the disposal of organics

RESIDENTIAL – MULTI FAMILY

The multi family sector includes material collected for recycling, composting and disposal from apartment and condominium buildings in Seattle which have garbage dumpsters. These are mostly buildings with five or more units in them. In 2009 recycling in the multi family sector dropped slightly from 28.3% to 27.0%, a decrease of 1.3 percentage points. Up until last year, this sector's recycling rate had risen steadily from 2004 through 2008, at an average of 1.5% per year.

Unlike the single family sector, 2009 is the second year in a row during which multi family tons decreased across the board. Generated tons decreased by 5.0%, disposed tons by 3.2%, and recycled tons by 9.5% compared to 2008.



Tons - Multi Family				
Year	**Generated**	**Disposed**	**Recycled**	**Recycle Rate**
2000	70,944	58,333	12,611	17.8%
2001	68,611	53,487	15,124	22.0%
2002	70,144	55,076	15,068	21.5%
2003	72,149	56,106	16,043	22.2%
2004	72,640	56,498	16,142	22.2%
2005	72,325	54,080	18,245	25.2%
2006	75,545	55,643	19,903	26.3%
2007	77,108	55,847	21,261	27.6%
2008	74,223	53,199	21,024	28.3%
2009	70,524	51,497	19,028	27.0%

Selected Statistics – multi family

- 5,500 apartment and condo buildings are signed up for garbage service. 2,200 buildings are signed up for curb-service organics (food and yard) carts. 180 are signed up for on-site organics carts (dumpsters).
- The multi family sector set out 17,732 tons of recyclables (not including organics) for collection, or about 24 pounds per multi family household per month.
- New recycling contamination rates (estimated using a study underway in 2010 and last done in 2005) found a substantial increase in contamination (8.35% compared to 2.4%). Since tons recycled are net of the contamination, the overall recycling tons decreased.
- The 1.3 percentage point drop in this sector's recycling rate is the first decline since the multi family recycling program started. The decreases in the multi family sector can be attributed to the increase in contamination found in multi family recycling.
- The multi family curbside recycling rate needs to increase from approximately 26.5% to 37% to reach its sector goal. This goal does not presently include food waste as recyclable. As part of the comprehensive planning process, the utility will look at possibly changing the goal for this sector to include food waste.

New Actions and Existing Program Special Focus – multi family

Finding ways to **increase organics recycling** continues as the main programmatic focus for multi family recycling. In 2010 SPU is doing more targeted outreach, including: single-focus mailers, participation recruitment, and a re-worked on-site stewards program. SPU developed these strategies based on findings from the food waste pilots SPU conducted 2008-2009. The pilots involved 41 buildings with a total of 2,464 units. The participating buildings were geographically and ethnically diverse

In 2010 SPU plans to make a recommendation of whether or not to require **mandatory multi family organics** subscription. Building managers may currently sign up for organics service on a voluntary basis. In 2010 SPU is doing an initial evaluation on whether the city should require multi family building managers to provide organics service to tenants. At the same time analysis will be done within the

Recycling Potential Assessment (RPA) modeling for the next update to Seattle's Comprehensive Waste Management Plan in 2010.

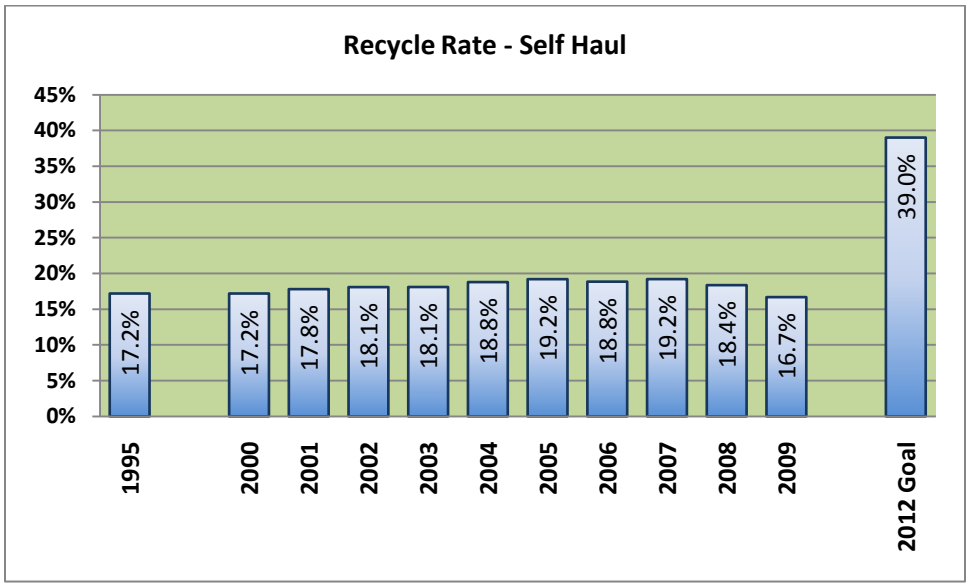
Possible steps to help close the gap to reach this sector's 2012 recycling goal include:

- More education to reduce contamination
- Increase frequency and intensity of monitoring for the ban on the disposal of recyclables
- Require all multi family customers to subscribe for food and yard organics service
- Tenant education for organics separation, including incentives for equipment needed to handle the material (for example compostable bags and kitchen containers).
- Consider banning the disposal of organics

SELF HAUL

The self haul sector includes material from residents, businesses and governmental agencies brought (or "self hauled") to the two city owned transfer stations. Recycling in the self haul sector includes organics (food and yard waste and clean wood), appliances and metals, and other recyclable material dropped off at Seattle's public and private transfer stations.

In 2009, self haul recycling decreased from 18.4% to 16.7%, a decrease of 1.7 percentage points. The 2009 recycling rate drop is accompanied by an across-the-board decrease in tons. Compared to 2008, total generated tons decreased by 12% (and 26% compared to 2007). Disposed tons decreased by 10.2% (and 24% less than 2007). And recycled tons decreased by 20.0% (and 36% less than 2007).



Tons - Self Haul				
Year	**Generated**	**Disposed**	**Recycled**	**Recycle Rate**
2000	123,024	101,883	21,141	17.2%
2001	124,453	102,305	22,148	17.8%
2002	125,710	102,981	22,729	18.1%
2003	123,597	101,232	22,365	18.1%
2004	122,819	99,750	23,069	18.8%
2005	124,364	100,499	23,865	19.2%
2006	127,444	103,429	24,015	18.8%
2007	132,545	107,098	25,447	19.2%
2008	111,229	90,814	20,415	18.4%
2009	97,893	81,565	16,328	16.7%

Selected Statistics – self haul

- The decrease in generated tons in this sector is the highest proportional change (decrease) of all sectors.
- Self Haul trips to the stations are also down--by 14% or 29,836 fewer trips in 2009 vs. 2008. In 2009 self haul organics tons are down by 25% compared to 2008, which is a greater decline than seen in the other sectors for organics tonnages. Rainfall affects yard waste generation and since rainfall was similar in 2008 and 2009, the decline in tonnages is more likely due to the economy and the deferral of landscaping work**.**
- The decline in yard waste tons from self haul also could be due to the new requirement in the single family sector where all households were delivered organics containers and the service level was increased to weekly collection. This resulted in an increase of about 12,000 tons of yard waste collected at the curb. Some of this increase could have come from residents putting yard waste at the curb instead of bringing it to the stations as they did in the past.

New Actions and Existing Program Special Focus – self haul

In 2009 the transfer station fee increased 3.8%, consistent with the 2009 **fee increase** for all sectors. This increase followed the 2008 18% increase that brought these fees in line with the actual cost to provide this service. Also in 2008 the stations' flat fee rates were changed to match curbside bulky item rates.

Following recommendations from the 2008 study to develop strategies for **reducing self haul vehicle trips** to the city's stations, SPU is using its available customer information tools to tell the public how to avoid trips. SPU updated key web pages to emphasize alternatives to self-haul, such as bulky-item pickup, extra garbage set outs and use of larger organics (food and yard) carts. Also, the stations now have web cameras where customers can look at live pictures of how long the queue is before deciding to make the trip, thereby reducing street congestion around the stations.

SPU plans to pursue other programs to reduce trips to the stations, such as large loads of construction and demolition debris (C&D), when funding becomes available. The private transfer stations can accommodate large loads of C&D, particularly from self unloading trucks but not small loads delivered by homeowners who hand unload.

For the self haul loads that will continue to be brought to city transfer stations, SPU does not expect to see significant recycling rate increases until the **station rebuilds** are complete. The first phase of the south rebuild is now expected to come on-line in 2012, with the replacement of both stations completed by 2014. Separated recycling and reuse drop-off areas ahead of the scale will provide easier access for self haul customers and increase the incentive to recycle. Even then, it is unlikely that the self haul diversion goal will be met, as no C&D processing function was programmed into the new South Recycling and Disposal Station (SRDS) to save construction costs.

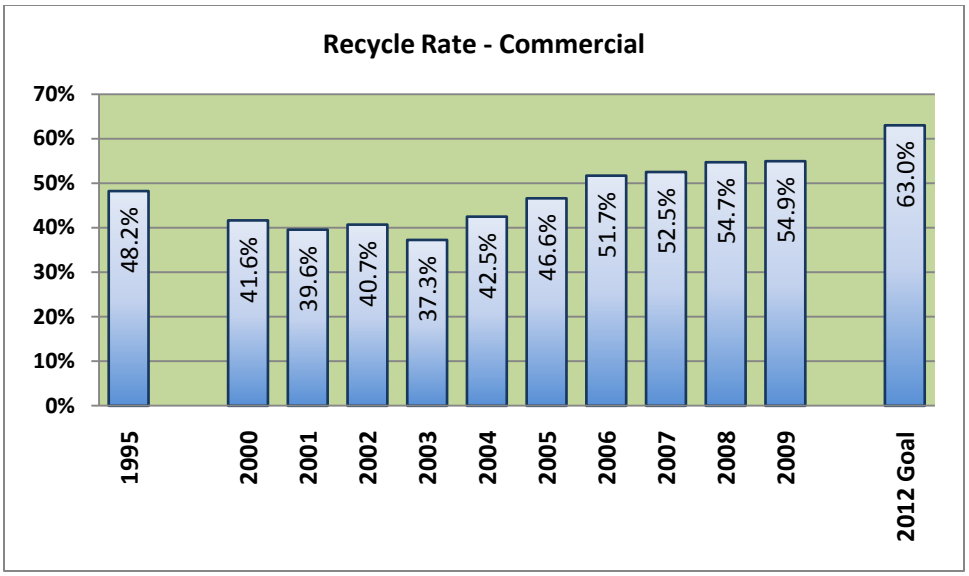
Possible steps to help close the gap to reach this sector's 2012 recycling goal include:

- After coordination with private facility owners, move to direct larger self haulers of C&D to private stations. This would increase diversion, but would more markedly reduce tonnage in the self haul MSW waste stream. This would reduce work, tonnage, and revenue to the stations.
- Develop a plan (with funding as needed), for a C&D sorting function at the new SRDS within the presently planned design.

COMMERCIAL

The commercial sector includes garbage, recyclables and compostable materials collected from commercial businesses at the place of business. Using the best available data to date, the commercial sector's recycling rate increased to 54.9%, up 0.2 percentage points from 2008. This sector's recycling rate is up 17.6 percentage points since 2003.

Similar to last year, commercial tons decreased across the board comparing 2009 to 2008: total generated by 13.9%, disposed by 14.4%, and recycled tons by 13.5%. Compared to the peak tons of 2007, total generated tons are down 19.8%, disposed tons are down 23.9%, and recycled tons are down 16.1%.



Tons - Commercial				
Year	**Generated**	**Disposed**	**Recycled**	**Recycle Rate**
2000	391,406	228,417	162,989	41.6%
2001	377,927	228,405	149,522	39.6%
2002	366,224	217,195	149,029	40.7%
2003	339,844	213,247	126,597	37.3%
2004	375,739	216,112	159,627	42.5%
2005	385,093	205,637	179,456	46.6%
2006	416,564	201,231	215,333	51.7%
2007	418,979	198,968	220,011	52.5%
2008	390,267	176,774	213,493	54.7%
2009	335,992	151,398	184,593	54.9%

Selected Statistics - Commercial

- The poor economy is evident from the large decreases in both tons disposed and tons recycled.
- On a positive note, the overall recovery rate in this sector for paper (including newspaper, high grade paper, corrugated and mixed paper) is holding steady at around 81%.
- In 2009, food waste tons set out for composting (recycling) continued to increase despite the poor economic conditions. Seattle businesses set out 38,800 tons of food waste for composting compared with 32,500 tons 2008. This figure includes fats, grease and oils collected for rendering, and including cooking oil and grease picked up for the manufacture of biodiesel.
- Businesses sign-ups for food waste collections are increasing: 584 in 2007, 1,090 in 2008, and 1,350 in 2009. Most of this increase was sign-ups with a private food waste collection company.

- Electronics collected for recycling more than doubled, increasing from 4,900 tons to over 11,200 in 2009. The new state electronics collection system gathers and reports its program data, but it is difficult to separate the tons dropped off by residents from tons from commercial sources. So all electronics are currently tabulated in the commercial sector.

New Actions and Existing Program Special Focus - commercial

The **Clear Alley Program** (CAP) began March 30, 2009 with the change to the new solid waste collection contracts, in all of downtown Seattle. The main goal of the program is to eliminate "cover" (dumpsters) for uncivil behavior in the city's alleys. Customers either manage their containers on private property or subscribe to pre-purchased bag service.

SPU completed an evaluation of the CAP in 2010, about a year after the program began. The feedback from stakeholders was generally positive and included recommendations for minor improvements. There are presently no plans to expand the program to other districts. However, individual businesses may voluntarily sign up for pre-paid bag service.

A study on a special **"heavy" rate** was deferred in the rate and fee setting process to late 2009/early 2010 for consideration in the 2011-2012 rate proposal. In concept a higher garbage rate would be charged to commercial customers whose waste is heavier than average, on the assumption the higher weights are from organics (food waste) in the garbage. The higher garbage rate would serve as an incentive to sign up for lower cost organics service. The study recommended that SPU not proceed with a heavy rate at this time.

In 2010, the **Food Plus** program has SPU actively working with quick-serve restaurants to convert to recyclable or compostable serve-ware by July 1, 2010. As a result of the city's **ban on expanded polystyrene** food service products, the restaurant industry, particularly fast food, has rapidly switched to compostable alternative products. SPU has made excellent progress working with the restaurant industry and expects nearly all quick-serve restaurants and food courts to have converted some, if not all, products to compostable or recyclable by the July 1, 2010 deadline.

Following on this change, SPU increased outreach activities to help restaurants develop in-store collection systems so customers can sort compostable food service products along with their leftover food into bins for food waste collection (composting).

As a result of two years work with stakeholders, SPU learned of some aspects of the single-use food container regulations that needed to be more clear or expanded. Thus SPU introduced, and the Council passed in May 2010, Ordinance 123307. The ordinance makes clear that quick-serve restaurants and food courts are responsible for providing discard bins for compostable and recyclable food service ware in the areas where customers are served. They are also responsible for insuring that the collected materials go to a proper processor.

The ordinance responds to restaurant industry needs by requiring landlords to provide collection services as needed by their restaurant tenants. It also allows SPU to issue director's rules that would allow restaurants to push out the start date for required serve-ware in certain cases: where the alternate products don't perform to industry standard or can't be recycled through normal processing.

In 2009, SPU continued the strategy modified in 2008 where SPU's **commercial enforcement** inspector is now checking collection truck loads (for recyclables in garbage) at the transfer stations, and working back to the source of the material. This is in addition to conducting basic inspections out in the neighborhoods. 1,570 inspections were done in 2009 to enforce the ban against recyclables in the garbage. Five violations were found. In the 2009-10 budget process SPU proposed to add resources for **commercial enforcement** but budget constraints prevented this addition.

Also in the 2009-10 budget, SPU had hoped to maintain support for **education** and **customer-requested audits** for businesses. This service has been provided by the Resource Venture on behalf of SPU, but was significantly reduced in 2009 and 2010 due to budget constraints. The main focus for remaining resources is on increasing food waste diversion in the commercial sector.

Possible steps to help close the gap to reach this sector's 2012 recycling goal include:

- Expand and intensify enforcement of ban of the disposal of recyclables in the garbage
- Fully enforce Food Plus composting availability requirement
- Investigate plastic film recycling
- Ban the disposal of organics in the garbage

OTHER PROGRAM AREAS – NON-MSW SECTOR

CONSTRUCTION AND DEMOLITION DEBRIS (C&D)

The C&D sector is comprised of C&D materials which are not mixed with MSW and are collected by, either of the firms under contract with the city for C&D (sometimes "CDL") collection, or are self hauled to private facilities. It does not include smaller amounts of C&D materials which have been mixed in with the MSW stream (and are therefore counted as MSW) and delivered to the City transfer stations.

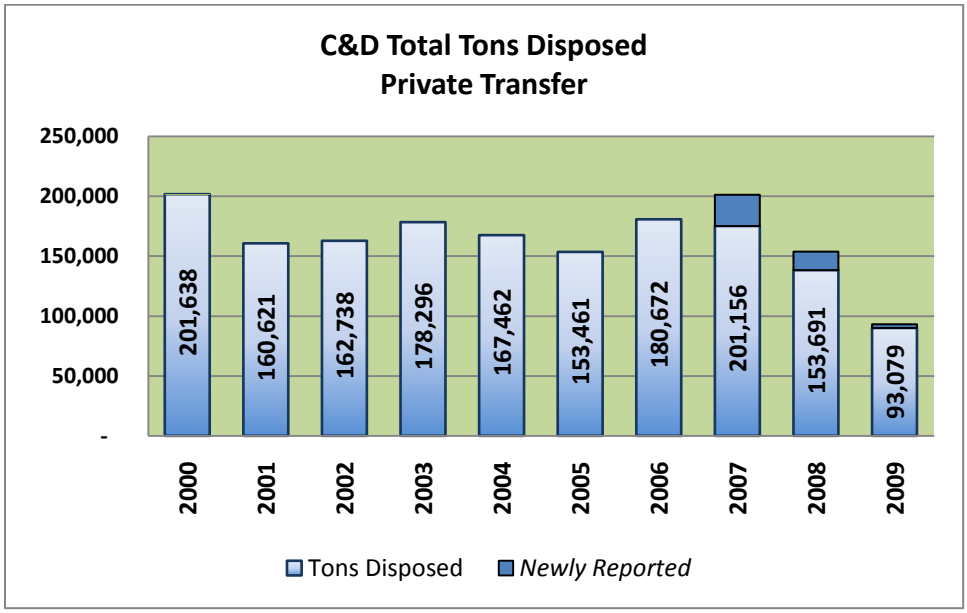
The means and methods for calculating a C&D recycling rate are in development and making progress as SPU works toward including C&D in comprehensive planning and annual tracking. A big step in this process was a study conducted for 2007 showing 49% was recycled, and 49% was disposed. The remaining 2% went for "beneficial use," which means that while it was neither recycled nor reused, it was used for some other purpose such as industrial boiler fuel. Further work in 2008 shows 48% recycled, and 3% beneficial use, for a total diversion rate of 51%. 2009 numbers for C&D are still being refined and will be available by the end of June 2010.

Disposed tons, on the other hand, have been tracked by SPU for many years. New in this year's report are tons that were not previously reported to the city. These newly included tons represent some material from construction job sites delivered directly to the rail yard in shipping containers.

In 2009, 60,612 fewer tons were disposed compared to 2008, a 39% decrease. This continues the drop that started in 2008. Compared to the peak in 2007, disposed tons have dropped 54% (or 108,077 tons).

In general, C&D generation correlates closely with economic and building activity cycles.

Construction & Demolition Debris			
Year	**Tons Disposed**	**Newly Reported**	**Total Tons Disposed**
2000	201,638	-	201,638
2001	160,621	-	160,621
2002	162,738	-	162,738
2003	178,296	-	178,296
2004	167,462	-	167,462
2005	153,461	-	153,461
2006	180,672	-	180,672
2007	175,104	26,052	201,156
2008	138,279	15,412	153,691
2009	90,025	3,054	93,079



C&D Program Highlights

New C&D Program Options Evaluation: SPU is currently looking at around fifteen different possible program options for C&D. The tool being used is the Recycling Potential Assessment (RPA) which is an econometric model that estimates how much material might be recovered by new programs and combinations of programs. Examples of possible programs include recycling mandates, disposal bans, and the expansion of current programs. Such analysis should help guide future recommendations for C&D program development through the Department of Planning and Development (DPD) and SPU. Discussion

of the most promising alternatives will take place through the Comprehensive Solid Waste Management Plan update process.

Joint Planning Committee: SPU and DPD have been working together since 2007 to address the C&D action items called for in Seattle City Council Resolution 30990. The joint committee is currently working toward a package of ordinances to propose later in 2010. The ordinances would set the framework for mandatory recycling requirements for DPD project applicants. Applicants for new construction, demolition and remodeling permits may be required fill out a Waste Diversion Plan showing how they plan to achieve certain minimum required levels of C&D recovery. They can meet such requirements if their loads are delivered to "certified" processing facilities that meet minimum goals for material recovery and are permitted.

SPU will undertake an administrative rulemaking process to set the standards and process for **C&D processing facility certification**. SPU will also seek legislative authority to ban from disposal C&D materials that are readily recyclable, such as concrete, bricks and asphalt paving.

Deconstruction activities have also been a joint effort with DPD. Deconstruction, or building salvage, is when a structure is carefully taken apart, saving building materials for reuse. Activities include:

- Six deconstruction pilot projects and one house moving pilot, tracking recycled and salvaged tonnage
- A deconstruction permit, approved early 2009, allowing builders to begin deconstruction before the building permit is issued
- A house moving study, identifying barriers and suggested changes to regulatory fees and practices
- A hybrid deconstruction business case, a Washington State Department of Ecology funded grant looking into a method where partial deconstruction happens on-site and the remainder is done at a central facility

The data gathered and lessons learned from these activities are key inputs into the program evaluation and recommendation development discussed above.

The **hybrid deconstruction** business case produced options for a public-private partnership or private sector enterprise for the highest level of building materials salvage and recycling. All of the options required cost-prohibitive levels of up-front investment and, therefore, SPU has no action planned. However, data from the study has shown that marketing reusable dimension lumber from deconstruction would greatly increase salvage and reuse tonnage. During 2010, SPU will work to spur the industry and building officials to develop a standard grading system for this lumber that will facilitate its use.

WASTE PREVENTION

SELECTED STATISTICS AND ACTIONS – WASTE PREVENTION

SPU continues to support the Northwest Product Stewardship Council (**NWPSC**), although at a reduced level compared to 2008 due to budget constraints. Examples of 2009 support and accomplishments build on prior year work and include:

- City leadership in supporting state legislation for product stewardship bills addressing mercury-containing lighting (CFLs), and medicines. These efforts established broad support and a bill (ESSB 5543) requiring producers to provide end-of-life management for mercury containing lighting devices was successfully passed in 2010.
- The new associates membership program whereby more local governments are connected to and stay current on NWPSC activities.
- Participation in efforts on paint, unwanted phone books, and the medicine take-back pilot.
- Focusing on product stewardship solutions in developing recommendations from SPU's study of problem products (more below).

In 2009 SPU was a Gold Level supporter of the 5th Annual Product Stewardship Forum held in Seattle, and contributed staff support and funding for other forum costs. SPU also supported other NWPSC activities throughout the year.

Although electronics are now being managed through the new state program, Seattle continues to support, in conjunction with King County, the **Take-It-Back-Network** (TIBN). One major focus of the TIBN is expanding take-back sites for mercury containing (fluorescent) lights. These sites will be needed to take back mercury lighting products until the 2010 legislation takes effect in January 2013.

SPU continues to encourage the use of **reusable shopping bags** as one of its waste reduction efforts following voter rejection of a "green fee" on disposable shopping bags in 2009. The bags handed out through city programs are targeted mainly to low income residents.

Following the 2007 study of disposable shopping bags and disposable food service products, Seattle Public Utilities (SPU) completed a second **study of other problem products** early in 2009. Problem products are those that are under recycled or hard to recycle. The study made a special effort to identify which problem products could be managed using product stewardship strategies. SPU prepared and presented to the City Council a slate of program recommendations stemming from the 2009 study, however there is currently no funding for implementing the recommendations.

The products that will be targeted for market development and other strategies when resources become available include:

- Plastic film from commercial and industrial sources
- "Styrofoam" block foam from packaging and roofing insulation
- Textiles

The new state law requiring a producer paid program for collection and safe processing of mercury-containing lighting products removed one of the most hazardous products on the study list and made City action unnecessary. Thus there is a clear benefit from SPU's strong support of product stewardship through the NWPSC.

SPU's **market development** activities continue on several fronts, though at a reduced level due to budget cuts:

- Alliance with King County Link-Up to support asphalt shingle, urban wood waste and gypsum wallboard recycling. A major pilot project using recycled asphalt shingles in hot-mix asphalt

paving was completed in the summer of 2009 thanks to collaboration with the King County Department of Transportation. More testing is planned for 2010.

- Work with carpet manufacturers to place a local recycling facility. Following the March 2008 carpet industry conference there was serious interest by national carpet manufacturers to build a carpet recycling facility in our region, but interest slowed during the recession. Meanwhile, SPU is playing a role in the update of the Carpet America Recycling Effort memorandum of understanding between the industry and government agencies. About 296 tons are being disposed of annually in Seattle's MSW.
- Support for the Seattle-King County Industrial Ecology Roundtable, an intergovernmental-private sector organization established in 2007 is part of SPU's efforts to maximize waste capture as feedstock for other products.
- Participation in By-Product Synergy's regional member exchanges.

Wood waste and gypsum market development is suspended due to budget cuts.

Backyard composting remains the lowest-cost way to remove organics from the waste stream. Backyard composting numbers are estimated based on a survey done every five years. SPU recently released the 2010 Home Organics Waste Management Survey based on data collected in 2009. As mentioned in the section on the single family sector, customers saying they compost yard waste at home dropped from 41% to 30%, with a corresponding increase who now put their yard waste out for curbside collection (82% to 85%).

The driver behind this change is the requirement that started in 2009 that all single family customers subscribe to curbside organics service. Residents are likely switching to the curbside program due to the convenience of putting the material at the curb compared with composting it in their back yards. This has increased total organics diversion but SPU will continue to promote backyard composting since that has the lowest environmental impact and lowest cost.

Edible food waste recovery and Lean Path technical assistance to commercial kitchens programs continued into 2009. 3,300 tons of edible food were diverted to food banks. Another 21 tons were prevented (not created) through the Lean Path commercial kitchen efficiency pilot program.

The Food Plus program description in the Commercial sector section of this report talks about increased diversion of food waste from quick-serve restaurants, by converting to recyclable and compostable serve-ware. This program stems from the **ban on expanded polystyrene (EPS) foam serve-ware** that began in 2008. Reducing the use of EPS reduces the release of this material into the environment as litter, where it becomes a problem for drainage systems and marine life.

Beginning in May 2008 a **reusable materials diversion** program was launched at the city's North Recycling & Disposal Station. This program, which focuses on building material salvage but also diverts other items, is a partnership with private companies who collect and resell the materials. In addition to the building materials, other reusable materials diverted from self-haul customers prior to disposal include furniture, bicycles, tools and other materials. The program expanded to the South Recycling & Disposal Station in January 2009. The tons diverted by this program are reported by the private companies and thus counted in the commercial sector.

In 2009 the **PaperCuts** program reduced city-office paper use by 99 tons, a 10-ton increase over the 89 tons reduced in 2008. The baseline is 2004 levels of office paper use. The reduced paper consumption plus continued use of 100% post-consumer-waste recycled paper eliminates about 400 tons of CO_2

equivalents (greenhouse gases). The city PaperCuts committee continued to work on three recommended measures for additional savings: reducing default margins in Microsoft Word documents, optional paystubs for employees with direct deposit, and increasing the number of and access to multifunction printers.

The Resource Venture continues to provide **advice on waste reduction and recycling for commercial accounts**, including Paper Cuts. However 2009-10 budget constraints significantly reduced this program.

The **Waste Prevention and Recycling Community Matching Fund** is suspended due to budget cuts. The program was launched in 2008. SPU received 50 applications for its 2008 and 2009 funding cycle, for a total request of $902,101. SPU awarded grants 2008-2009 totaling $200,000 to 17 community projects focusing on multi family recycling and composting, materials reuse, business waste reduction, pesticide reduction and education, food recovery, and school composting and education. The matching fund projects diverted more than 1,900 tons of waste and educated nearly 10,000 people about waste prevention, recycling and composting.

While most **green building** activities are done in relation to construction and demolition debris (C&D), SPU also supports a broader range of efforts, mostly by partnering in programs with the Department of Planning and Development (DPD) and King County. For instance, in cooperation with DPD, SPU offers a broad array of technical assistance programs for the building industry and do-it-yourself residential remodelers. In 2009, SPU joined as partner with the Seattle Housing Authority on the Yesler-Terrace large scale redevelopment. SPU is supporting the project's pilot projects in solid waste management for organics, and in developing resources for future deconstruction and salvage during construction.

SPU suspended investment in promoting **Waste Free Holidays** after 2008 due to budget constraints.

The **Green Purchasing** program includes activities furthering the city's commitment to environmentally preferable purchasing, including environmental best practices, Climate Action initiatives, toxin reduction, and other environmentally sustainable considerations in acquisition of city goods and services. Highlights of purchasing initiatives 2008-2009 include:

- Green Office Fair
- Vendor education days
- Green purchasing speaking engagements
- Green servers – reducing cooling needs
- Large scale printing – requiring 100% recycled paper
- Bio-based lubricants
- EPEAT for imaging equipment
- Office Depot "green" criteria
- Green Seal standard update – for janitorial products
- Green Fleets Initiative
- Paperless utility billing
- Green Seal application
- Social responsibility – an integrated, complementary strategy for green and social responsible purchasing

Possible steps to help close the gap to reach this sector's 2012 recycling goal include:

- Help fund private carpet processing facility with an eye to ultimately banning the disposal of carpet.

OTHER RECYCLING ACTIONS

PARKS OUTDOOR OPEN SPACE RECYCLING

For 2009, the outdoor open space recycling pilot collection cans were placed throughout parks citywide. Collection cans are strategically sited based on lessons learned during the 2008 pilot. Targeted materials include aluminum, plastic and glass beverage containers.

Large event recycling is required by state law. There may be an opportunity develop large event recycling policy and associated fees in conjunction with the City Council's 2010 Park User Fees project. SPU is also working with event promoters to insure that their food vendors comply with the regulation that single-use food ware and packaging be either compostable or recyclable and collected for proper processing.

PUBLIC PLACE RECYCLING

The public place recycling program pairs street side litter cans with beverage container recycling cans in business areas throughout the city. About one-third of all street side litter cans are paired with a recycling can.

POSSIBLE FURTHER STEPS—ALL SECTORS

Increasing funding for waste steam sampling would enable SPU to monitor the content of the waste more frequently than the 4-5 year cycles on which the sectors are currently sampled. The sampling tells us what materials remain in the waste stream.

TOTAL DISPOSED

Resolution 30990 also set goals for waste disposed:

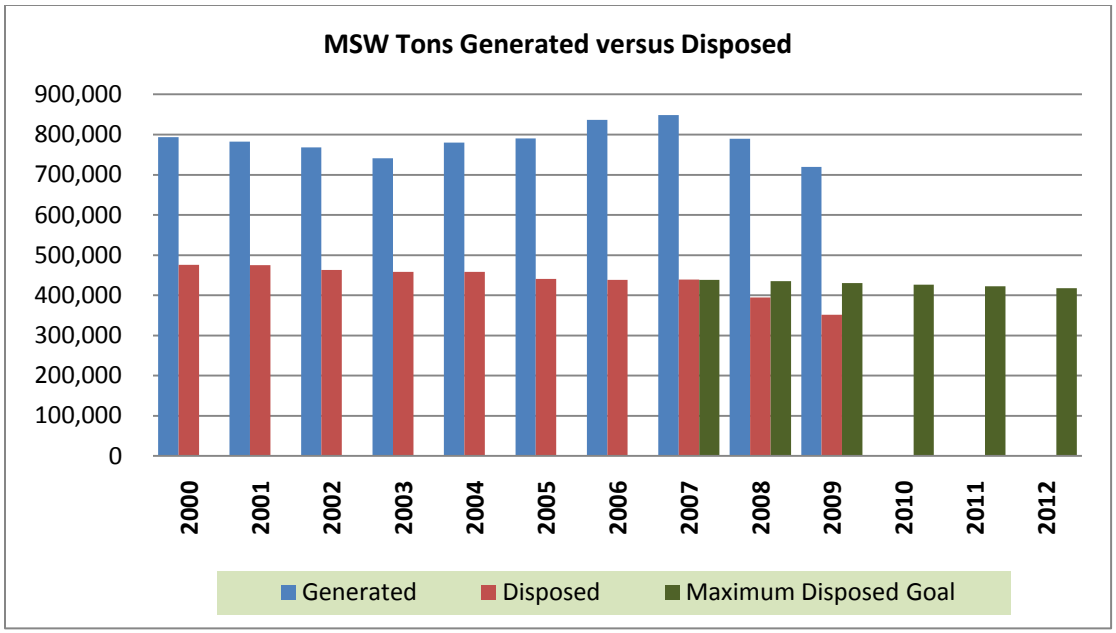
- The city will not dispose of any more total solid waste in future years than went to the landfill in 2006 (438,000 tons MSW),and;
- For the next five years, the city will reduce the amount of solid waste disposed by at least 1% per year (2008 – 2012).

The following table shows how many solid waste tons were generated, and the amount that was left over after diversion (recycling) that went to Seattle's contracted landfill. The table also shows percent change from the prior year.

MSW Tons - Overall Change from Prior Year				
Year	Generated	Percent Change	Disposed	Percent Change
2000	793,842	NA	476,132	NA
2001	782,809	-1.4%	475,270	-0.2%
2002	768,346	-1.8%	463,086	-2.6%
2003	741,094	-3.5%	458,011	-1.1%
2004	780,044	5.3%	458,389	0.1%
2005	790,457	1.3%	440,693	-3.9%
2006	836,499	5.8%	438,381	-0.5%
2007	848,759	1.5%	439,407	0.2%
2008	789,608	-7.0%	394,748	-10.2%
2009	719,424	-8.9%	351,689	-10.9%

The following chart displays the data in the above table in graphical format. The limit of 438,000 tons (2006 level) was adopted mid-year 2007. Comparing to 2001, annual disposed tons are down more than 26 percent. Comparing to the generation peak in 2007, disposed tons are down 20%.

We anticipate that further growth in our recycling and waste reduction programs will reduce MSW tons disposed. However, this effect can be muddled by factors in the overall economy which also drive MSW tons generated. We suspect that a good share of the sizable drop seen in the past two years is due to the economic downturn. For example, an analysis looking the decline in commercial tons between 2004 and 2009 indicated that about half the decline in tons disposed was due to factors related to the economy and about half due to new programs (paper ban, organics, etc.).



CONCLUSION

Seattle continues to make gains toward the 60% recycling goal. Moving forward, the city will concentrate its focus on the sectors that have the most potential to meet their goals--mainly multi family residential and commercial. For example, increased requirements to participate in composting organics, and increased enforcement of the paper ban should yield significant gains.

Even as the community continues to face uncertain times, and program funding is limited, we should continue to make progress. Recycling continues to be a sound investment by the city as well as a key part of our climate action strategy.

FURTHER INFORMATION

More detailed sector and historical information may be found on SPU's web site at *www.seattle.gov/util/About_SPU*, including reports and studies on:

- Waste composition
- Construction, Demolition and Land-clearing Debris (C&D or CDL)
- Garbage disposed by sector by month
- Recycling composition
- Organics programs
- Curbside and apartment (multi family) recycling
- Recycling market and Seattle recycling value
- Seattle's solid waste plan