



City of Seattle

Gregory J. Nickels, Mayor

Seattle Public Utilities

Chuck Clarke, Director

City of Seattle Recycling Rate

2007 Update

July 1, 2008

City of Seattle Recycling Rate – 2007 Update

Introduction

Scope of the Report

This report comprises the first annual recycling report submitted to the Seattle City Council as called for in 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."

It summarizes 2007 recycling progress in Seattle's two major waste streams: Municipal Solid Waste (MSW) and Construction and Demolition Debris (C&D). The report also describes the new actions, or special focus within existing programs, SPU is taking to meet the 60% goal that are different from the base programs in place prior to 2008.

The report concludes with where to find more detailed information about Seattle's solid waste system and data. Comments on the report from the Solid Waste Advisory Committee also required by the resolution are attached.

What's in the Recycling Rate

The recycling rate is measured as the percentage of total municipal solid waste that is recycled and composted.

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 an aggregate of separate goals for each of the four primary MSW sectors: single family, multi-family, commercial, and self-haul. The recycling goal for each sector is different because of different material characteristics in their waste streams, different opportunities to recycle, and different expectations about participation.

Seattle does not currently include C&D in its recycling goal, largely due to the historical difficulty of measuring the amount recycled. Nor does it include Moderate Risk Waste, which includes household hazardous waste (HHW) like garden pesticides, and small quantity generator waste (SQGW). Seattle's moderate risk waste is managed through the Local Hazardous Waste Management Program (a joint program supported and implemented by Seattle, King County, the Seattle/King County Department of Public Health, and the Suburban Cities). The Seattle Municipal Code prohibits disposal of HHW and SQGW in the garbage. Also not excluded from the recycling goal are other special categories of waste such as: biomedical wastes, biosolids, asbestos, and dangerous (generally industrial) waste.

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 SPU and the City Council jointly conducted the *Seattle Solid Waste Recycling, Waste Reduction, and Facilities Opportunities* study to examine 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, establishing a longer term goal of 70% by the year 2025, and outlining some additional actions and strategies for achieving the goals. These actions are key additions into SPU's solid waste work plan for the next few years. Progress on the action items is described in the following relevant sections.

Funding for 2009-10 actions will be requested with the rate and budget proposals coming to Council this summer/fall.

Progress and Actions

Overall Performance

The following chart summarizes Seattle’s recycling progress 2007 and the years prior.

City of Seattle Overall Recycling Rates - 2007 Update

Year	Single Family	Multi Family	Total Residential	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%	52.8%	48.4%
Goal 2012	70.0%	37.0%	60.0%	39.0%	63.0%	60.0%

In 2007, Seattle’s total recycling increased from 47.6% to 48.4%, an increase of 0.8

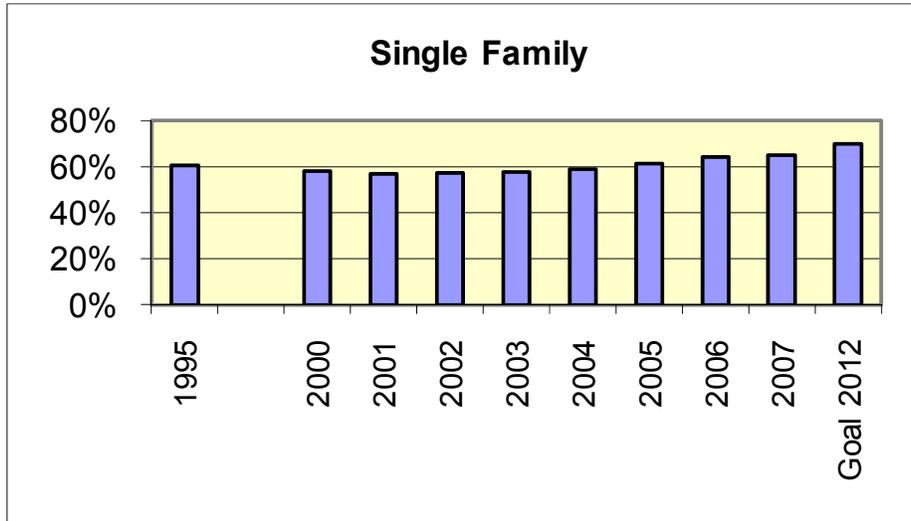
The following table shows how many tons of material was generated, and of that amount, how many tons disposed (landfilled) and how many were recycled.

Overall Seattle MSW Tons				
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	850,959	439,407	411,552	48.4%

Sector Performance and Actions

Residential – Single Family

In 2007, recycling in the single family sector increased from 64.0% to 64.8%, an increase of 0.8%. The fourth straight year of significant growth, single-family recycling is up more than seven percent over the four years since 2003.



Single Family Tons				
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	58.6%
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%

Selected Statistics

About 87% of the total curbside materials available are currently recycled. Individual material recovery rates vary, with high of 97% for newspaper. In this sector the recovery rate for mixed paper is about 81%, glass bottles and jars is 92% and aluminum cans is about 67%. We are currently recovering about 40% of the food waste from the residential single family sector. 98% of the yard waste is diverted from the landfill to either centralized or backyard composting,

representing about 60,000 tons of material. Customers signed up for 4,000 new yard/food waste (organics) subscriptions in 2007. Compliance in this sector with the ban prohibiting the disposal of recyclables is good with a very low rejection rate.

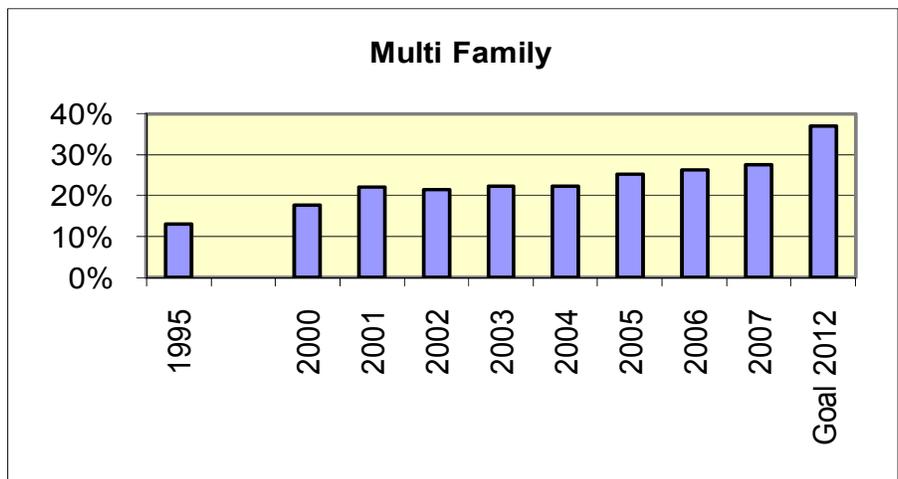
New Actions and Existing Program Special Focus

Looking ahead, the new collections and processing contracts contain provisions for increasing recycling. In 2007 SPU built options into the new contracts for adding electronics and waste motor oil to curbside collection. Regardless of whether or not electronics are collected curbside, there will be a new electronics free drop-off program created by the new state electronics recycling law and industry agency Washington Materials Management and Finance Authority. SPU will assess how customers respond to the state depot program during its first year 2009. More plastics will be recyclable with the new recyclables processing contract which will include most landscaping containers. Weekly organics collection including all foods was successfully integrated into the contracts as well. The new collection contracts start March 30, 2009.

Rate incentives (for example SPU could set the cost of three cans higher than the single can rate times three) to encourage all sectors to produce less waste and recycle more of what's left will be addressed in the 2009-2010 rate proposal coming before Council this year.

Residential – Multi-Family

In 2007, recycling in the multi-family sector increased from 26.3% to 27.6%, an increase of 1.2%. This represents a significant increase especially considering this sector's low base recycling rate.



Multi-Family Tons				
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%

Selected Statistics

In the multi-family residential sector, about 66% of the total curbside materials available are currently recycled. Individual material recovery rates vary, with a high of 83% for newspaper. The recovery rate for mixed paper is about 57%, glass bottles and jars is 70% and aluminum cans is about 28%. The multi-family curbside materials recovery rate needs to increase from 66% to 85% to reach its goal, which does not presently include food waste. While conducting the recycling potential analysis, which SPU will be doing in 2008/2009, the utility will look at potentially changing the goal for this sector to include food waste.

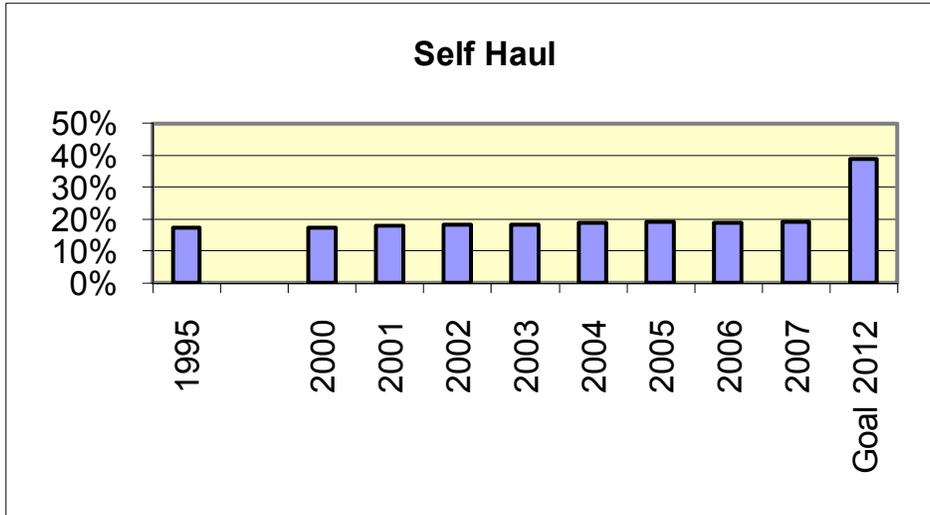
Citywide, 95.7% of all buildings are signed up for recycling service which represents 95.4% of all apartment units. In 2007 SPU issued 18 penalties to multi-family complexes for non-compliance to the ban on the disposal of recyclables—indicating enforcement is still important for this sector.

New Actions and Existing Program Special Focus

Food waste was added as a service to the yard waste service for multi-family residences beginning 2007, and is a targeted area for increasing program participation. Food waste and food contaminated paper are 36% of the multi-family waste stream. In late 2007 SPU launched a research project with nine properties to test out variables in food waste collection. This study will be expanded in 2008 to 35 properties, or about 3,000 units, to prepare for large scale promotion of multi-family food waste collection in 2009. The properties for the 2008 pilot are located in the Capital Hill, International District, Beacon Hill, Ballard, and Northgate neighborhoods.

Self-Haul

In 2007, recycling in the self-haul sector increased from 18.8% to 19.2%, an increase of 0.4%.



Self Haul Tons				
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%

Selected Statistics

Recycling in the self-haul sector includes yard waste and other recyclable material dropped off at the stations. Of the 25,447 tons diverted in 2007, 14,300 was yard waste, 1,860 tons wood waste, and 5,300 tons metals. 79% of self-haul yard waste is diverted.

New Actions and Existing Program Special Focus

The 2008 rate to dispose of self-haul garbage at Seattle’s recycling and disposal stations increased to fully recover the costs of this

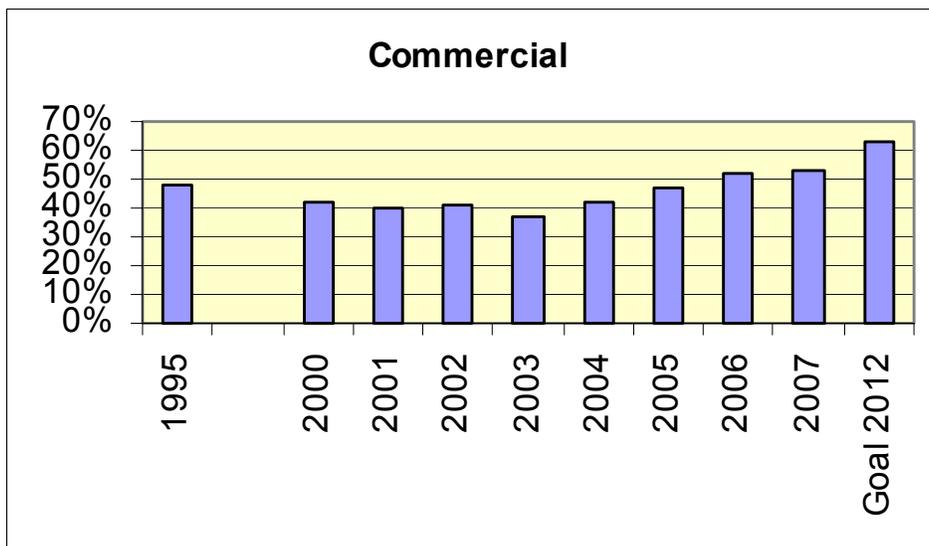
program. The per-ton rate for garbage went up about 18%, from \$110/ton to \$130/ton. The self-haul rates for organics (yard waste) and wood waste increased the same percentage, about 6.7% -- the same increase as other rates for residents and businesses in 2008.

Also in 2008, SPU is conducting a self-haul diversion study to develop strategies for reducing vehicle trips to the north and south Recycling and Disposal Stations. Possible recommendations may include some construction and demolition debris (C&D) routed to other processing or facilities, and more on-demand curbside pickup. The station flat fee rates now match curbside bulky item rates, and SPU has been promoting the curbside bulky item program, creating a drop in small loads to the stations.

We do not expect significant self-haul diversion gains until the recycling and disposal station rebuilds are accomplished. The first phase of the south rebuild will come on-line in 2011, with both new stations complete by 2014. Recycling and reuse drop-off areas will be separated from disposal areas, allowing easier access for recycling. The new south station will also include an area for recycling clean construction and demolition debris.

Commercial

Using the best available data to date, in 2007, recycling in the commercial sector increased from 51.7% to 52.8%, an increase of 1.1%. The fourth straight year of significant growth, commercial recycling is up more than fifteen percent over the four years since 2003.



Commercial Tons				
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	421,179	198,968	222,211	52.8%

Selected Statistics

The overall recovery rate in this sector for paper (including newspaper, high grade paper, corrugated and mixed paper) is almost 78%.

Four out of five businesses surveyed indicated support of the ban on disposal of paper, cardboard and yard waste in commercial garbage.

In 2007, Seattle businesses set out for composting 23% of the total amount of food waste generated or about 18,100 tons. This figure includes fats, grease and oils. Businesses signed up for 230 new food waste accounts in 2007 as a result of personal recruiting of large accounts and direct mail and industry promotion to mid-sized food generators. SPU expects emphasis on these types of efforts in 2008 to yield another year of increased program participation.

New Actions and Existing Program Special Focus

New efforts include a community waste prevention and recycling grant program starting 2008, which includes emphasis on food waste diversion. In 2008/2009 SPU will evaluate a new “heavy” rate—that is, a higher dumpster rate for businesses that have significantly heavier than average waste because of food waste—to encourage those businesses to sign up for the lower rates organics (composting) service.

In addition to the emphasis on outreach mentioned above, SPU is planning to expand commercial enforcement during the 2009-10 period. The Resource Venture continues to provide waste reduction and recycling audits for commercial accounts on behalf of SPU.

Another new program for this sector currently under evaluation is the Dumpster Free Alley program which would be phased in over a few

years. In this program, most customers in the designated commercial districts will be required to place their waste out for collection in pre-paid bags (or perhaps carts) instead of dumpsters. More waste reduction and/or recycling may result from this change as affected customers will have a more finely gradated price signal.

Since 2006 all businesses collecting recyclable materials originating in the city of Seattle or operating recyclable materials processing facilities within the city have been required to obtain a Recycler License and file an annual report of the quantities of recyclable materials handled in the previous year. While 2007 reporting compliance is improved, reporting delays and data reconciliation are the primary influence on the timing for finalizing Seattle's annual recycling rate.

Other Program Areas

Construction & Demolition Debris (C&D)



Construction, Demolition & Landclearing	
Year	Tons Disposed
2000	201,638
2001	160,621
2002	162,738
2003	178,296
2004	167,462
2005	153,461
2006	180,672
2007	175,104

In 2007, 5,568 fewer tons of C&D were disposed compared to 2006.

The majority of Seattle’s C&D is collected, transported to private transfer stations and disposed separately. (Only the C&D wastes delivered by self-haulers to the City-owned transfer stations are included in MSW.) Historically, Seattle has tracked the amount of disposed C&D but not how much C&D is generated and recycled. SPU views this area as an opportunity for more comprehensive and responsible waste management in the city.

Selected Statistics

In 2007 a partnership with ReStore at the North Recycling and Disposal Station (NRDS) resulted in the salvage of more building materials as did a demonstration house deconstruction for a Parks and Recreation Department project in Ballard, which diverted 50 tons for reuse or recycling. Salvage from other City projects saved 14 tons 2007.

New Actions and Existing Program Special Focus

A joint committee established with the Department of Planning and Development (DPD) has been looking at code and procedural changes to encourage, and incentivize more C&D reuse and recycling. DPD will be introducing an ordinance to the Council Planning, Land Use and Neighborhoods Committee in late summer that amends the Land Use Code so that deconstruction of residential housing can proceed more easily. The ordinance will also contain language that pertains to a Waste Diversion Plan with specified recycling levels for those who voluntarily choose to do deconstruction. Possible future permit changes include making a Waste Diversion Plan mandatory as part of the demolition plan for projects over a certain size. A possible next step might be to propose a mandatory recycling threshold for all projects.

In 2008 four or more houses will be deconstructed as SPU projects to gather cost and other metrics. House moving permits are under review to see about removing impediments to more house moving.

SPU is also conducting the 2008 Facility Options Study and expects to report the results of the study to City Council by September 2008.

Other possible future actions could include

- Banning the disposal of certain C&D materials which have well established markets and local processing capacity
- Requiring local private receiving and processing facilities to be “certified” as reaching certain minimum recycling rates
- Requiring the delivery of C&D waste to processing facilities
- Establishing financial incentives to encourage reuse and recycling

These will all be examined in the Facility Options Study as well.

Waste Prevention

Waste prevention programs include reuse, on-site organics (composting), sustainable building, product stewardship, green

purchasing, and general waste reduction. Actions in these categories reduce the quantity or toxicity of material entering the municipal waste stream by preventing waste from being generated in the first place, by extending the useful life of products, or by creating incentives for product redesign.

One of the greatest challenges associated with waste prevention is measuring success – it cannot be measured directly as tons handled in some way. A more satisfactory way to measure waste prevention is to track actual outcomes of specific programs or activities. SPU continues to refine data and evaluation methods to for measuring the costs and benefits of SPU-delivered programs and the private contributions of Seattle businesses and residents.

Selected Statistics & Actions

In 2008 SPU increased support to the Northwest Product Stewardship Council (NWPSC), including: developing communication materials; a study of what products/materials are the best targets for a product stewardship approach; paint product stewardship program participation; unwanted phone books; and a pharmaceutical take-back where SPU supports a pilot program and product stewardship legislation.

The new state electronics recycling law and industry agency, Washington Materials Management and Finance Authority, marks important progress in product stewardship, or producer responsibility, solutions for difficult to manage materials.

The current electronics take-back program Seattle supports in conjunction with King County – The Take-It-Back Network (TIBN)-- collected 1,120 tons in 2007, compared to 680 tons in 2006. TIBN sites focusing on (mercury containing) compact fluorescent lamps (CFLs) will expand thanks to a \$25,000 grant from Seattle City Light.

The SPU study on disposable shopping bags and disposable food service products, completed at 2007 year-end, led to an early 2008 proposal for a Green Fee on disposable bags and a ban on expanded polystyrene (EPS) food containers starting 2009, and in 2010 a ban on all disposable plastics in food service, and conversion to compostables and recyclables. SPU will complete the 2008 "Bans II" Study of hard to recycle and under recycled products, and as part of support for NWPSC described above, apply a product stewardship approach to the results.

SPU's market development activities continue on several fronts:

- SPU joined with King County Link-Up to support asphalt shingle, urban wood waste and gypsum wallboard recycling;
- Ground work laid for productive carpet industry conference in March, 2008, may result in local facility developed in 2008;
- In 2007 SPU helped found new intergovernmental-private sector organization, Seattle-King County Industrial Ecology Roundtable, to maximize waste capture as feedstock for other products;
- Possible asphalt singles pilot in late 2008;
- Work on wood waste and gypsum will continue.

Backyard composting remains the lowest-cost way to remove organics from the waste stream. We are estimating the backyard organics programs diverted in 2007 to be about 22,700 tons. However the study we perform to gather the data necessary to calculate this number is only performed every 5 years, the last year being 2005 and that year showed a decline in the tons. We expect actual tons diverted in the organics programs to be declining as customers increasingly choose to use their yard/food waste carts. Backyard composting will continue to be promoted as the new organics collection program is rolled out 2009.

Edible food waste recovery and Lean Path technical assistance to commercial kitchens diverted another 3,000 tons in 2007. These programs continue into 2008 and beyond.

The Paper Cuts program reduced city-office paper use by 80 tons, almost 25 percent less than used in 2006. The Resource Venture is working to expand this program to the private sector. The Resource Venture continues to provide advice on waste reduction and recycling for commercial accounts.

SPU doubled its investment in promoting Waste Free Holidays in 2007.

Green purchasing activities produced upgrades to the EPEAT standard for electronics and higher standards for recycling toner cartridges.

Other Recycling Actions

In 2008, SPU is supporting a Parks and Recreation outdoor recycling pilot for cans and bottles at parks in the south end, starting in April through the end of year. The pilot will be evaluated in the first quarter of 2009 for viability of expansion city-wide.

Total Disposed

Resolution 30990 also set goals for waste disposed:

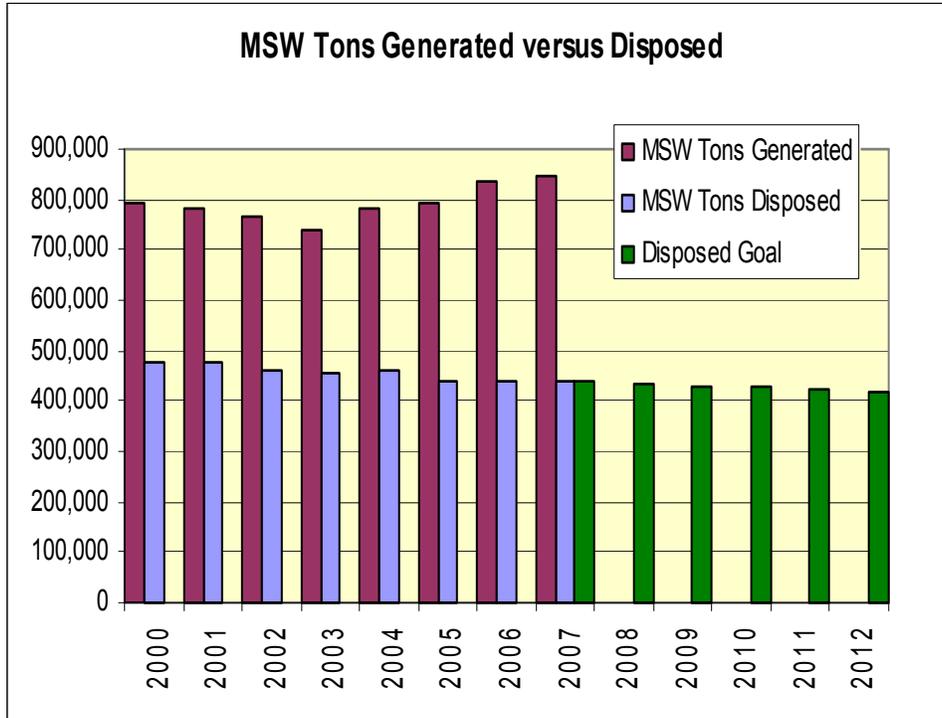
- The City will not dispose of any more total solid waste in future years than went to the landfill in 2006 (438,000 tons MSW),and;
- For the next five years, the City will reduce the amount of solid waste disposed by at least 1% per year (2008 – 2012).

The following table shows how many solid waste tons were generated, and the amount that was left over after diversion (recycling) that was landfilled. The table also shows percent change from the prior year.

Total Seattle				
Year	MSW Tons Generated	Percent Change From Prior Year	MSW Tons Disposed	Percent Change From Prior Year
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	850,959	1.7%	439,407	0.2%

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. Landfilled tons increased slightly (0.2%) 2007 compared to 2006. Comparing to 2001, annual disposed tons are down more than seven percent.

We anticipate that further growth in our recycling and 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. For instance, we are experiencing a drop of several percentage points in our disposal system in 2008. We suspect that a good share of this is due to the economic downturn.



Further Information

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

- Waste composition
- R&D Station tons and trips
- Construction, Demolition and Land-clearing Debris (C&D or CDL)
- Garbage
- Recycling Composition
- Curbside and Apartment (Multi-family) Recycling
- Recycling Market and Seattle Recycling Value
- Seattle’s Solid Waste Plan
- And more.

Conclusion

Each sector is at its highest recycling level ever, a proud achievement for all of Seattle’s leaders and citizens. Recycling continues to be a sound investment for the city as well as a key part of our climate action strategy.