

Single-Cart Curbside Recycling: 2½ YEARS

Comparing 2005, 2006, and 2007

Pierce County Department of Public Works and Utilities Solid Waste Division, March 2008

Summary: This analysis compares 31 months of full implementation of the Single-Cart Program. It includes more cumulative statistics than other analyses, and evaluates the program against original goals and the collection companies' 2005 Company Recycling Plans.

Residents of Pierce County recycled an average of **116 tons per day** through the Single-Cart Curbside Program and glass drop-off sites in 2007. This is a **6.5% increase** over 2006. Over the course of the entire year, residents diverted **42,468 tons** from landfill disposal. Participation rates remain high with 94% of the haulers' customers setting out recyclables. Countywide, the average curbside monthly pounds per household was **49.11 pounds**, which is 2.5 pounds more per month than in 2006. The Single-Cart Program continues to exceed goals set in 2005 with minimal contamination, high participation rates, and increasing tonnage. Residents have recycled **97,187 tons** through curbside pickup in the 31 months of full implementation of the Single-Cart Program; and in the same period recycled approximately **6,000 tons of glass**.

Average Pounds Per

Household: Curbside recycling rates continued to increase during 2007; however, the rate of increase was less than the increase from 2005 to 2006 when the Single-Cart Program first began. For 2007, the average curbside pounds per month per recycling household was **49.11 pounds**. This is 2.5 pounds more per month (5.3% more) than in 2006 which had an average of 46.60 pounds per month. This 2007 average is 25% above the goal of 39 pounds established at the beginning of the program. It is about 68% above the monthly average of the old three-bins-and-a-paper sack system.

City-town residents maintained their recycling lead over residents within franchise-regulated areas with an increase in their monthly average to **53.07 pounds** per month (5.7% increase). Residents of the franchise-regulated areas increased their recycling to **46.83 pounds** per month (5.3% increase).

Charts 1, 2, 3, and 4 illustrate the change in the average pounds per month per household from the beginning of the program in 2005 through 2007. **Chart 1** illustrates how recycling increased when the program was fully implemented after all carts were delivered in June 2005 and shows that the program easily achieved the start-up goal of 39 pounds per month. **Chart 2** depicts the differences between the monthly averages for 2006 and 2007. **Chart 3** illustrates the differences in recycling monthly household averages between residents in cities and towns and residents of the franchise-regulated areas. There is very little difference between the two residential groups in terms of types of materials collected. City-town residents recycle about 3% more cardboard during the year.

Chart 1. 2005 Average Recycling Pounds Per Household Per Month

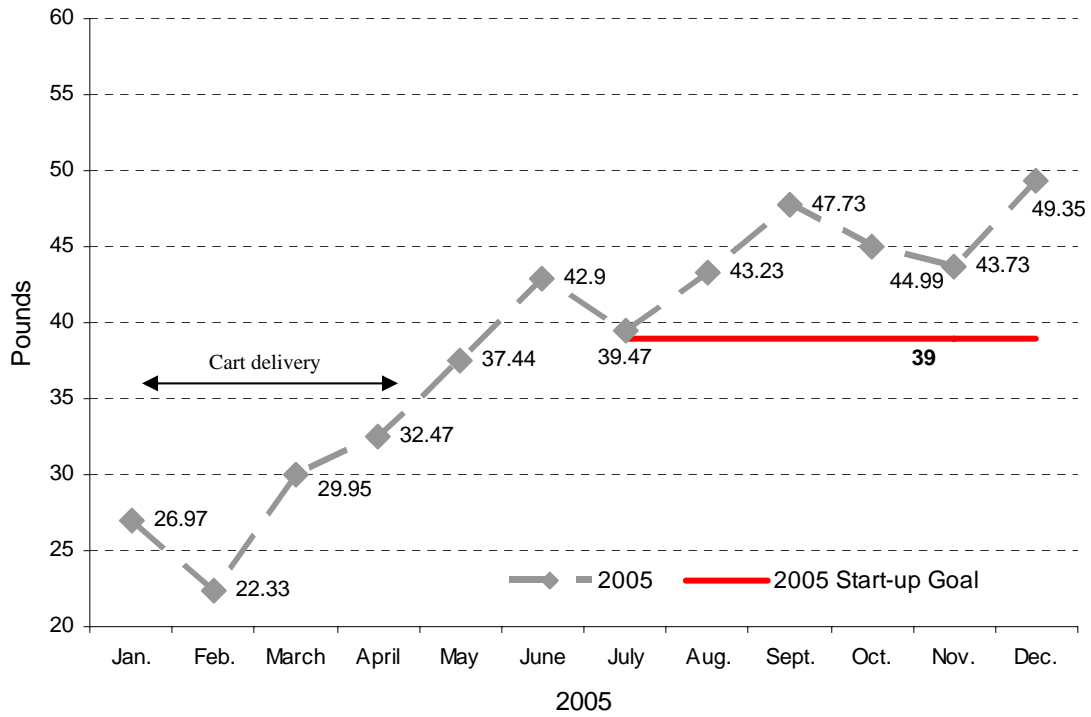
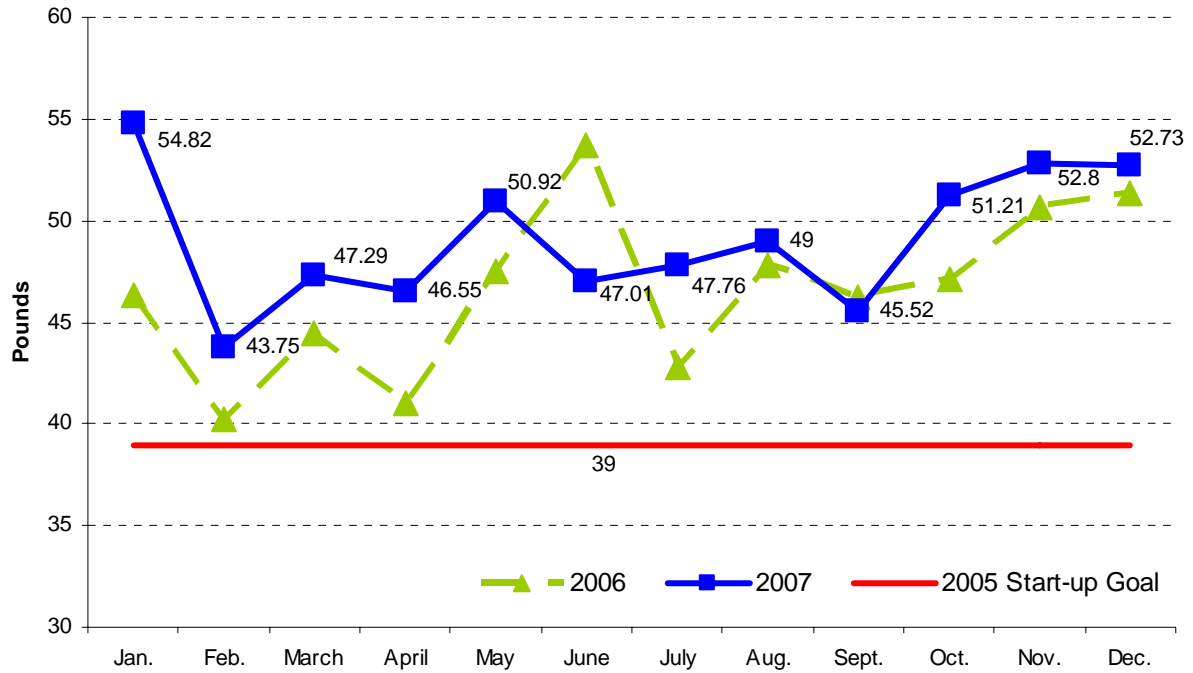


Chart 2. Average Recycling Pounds Per Household Per Month: 2006 & 2007



**Chart 3. 2007 Recycling Differences Between Residents
 Cities vs Franchise-Regulated Areas**

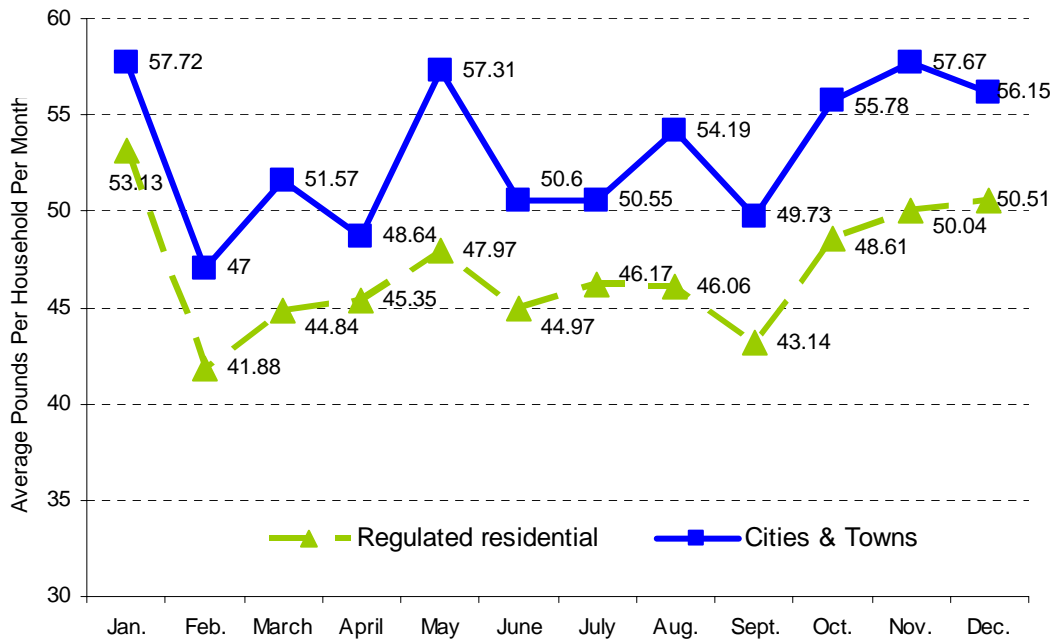
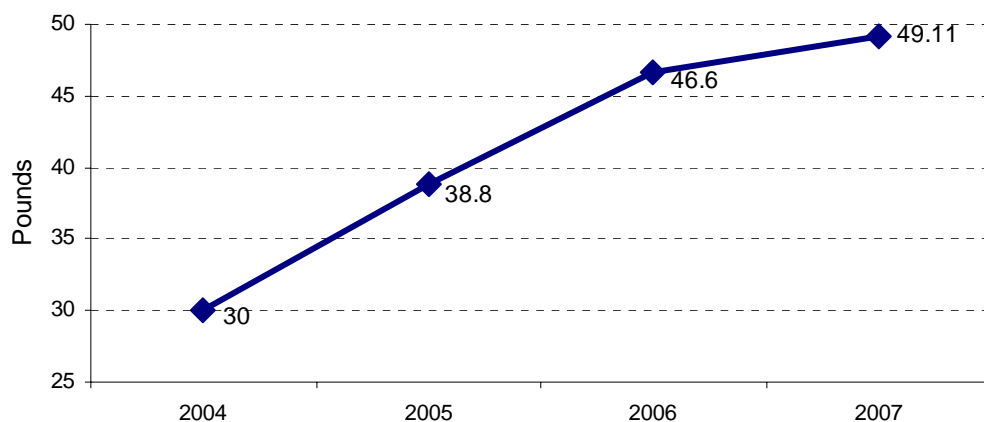


Chart 4 depicts the changes in curbside recycling from 2004 through 2007. Evaluating the annual average pounds per household per month is the easiest way to track how the program is doing from one year to the next. Individual months are difficult to compare from one year to another because one month may have more pickup days in one year than in another year and there are seasonal differences which are influenced by holidays and vacation habits.

**Chart 4. Annual Average Recycling Pounds
 Per Household Per Month 2004 - 2007**



Recycling tonnages:

The tonnage picked up at the curb increased by **7.5%** while the amount of glass tons collected at drop-off sites was 193 tons less than in 2006. This dropped the overall increase in collected recyclables to **6.5%**. There was a **7%** increase in total paper commodities – newspaper, mixed paper, and cardboard. There was an apparent drop in newspaper tonnage which was solely because of a definitional change by one processing company when it refined its marketing mix for newspaper and mixed paper.

Commodity tonnage is illustrated in **Table 5**. Residents recycled **42,468 tons** through the curbside and glass drop-off site system. This represents about **116 tons per day**.

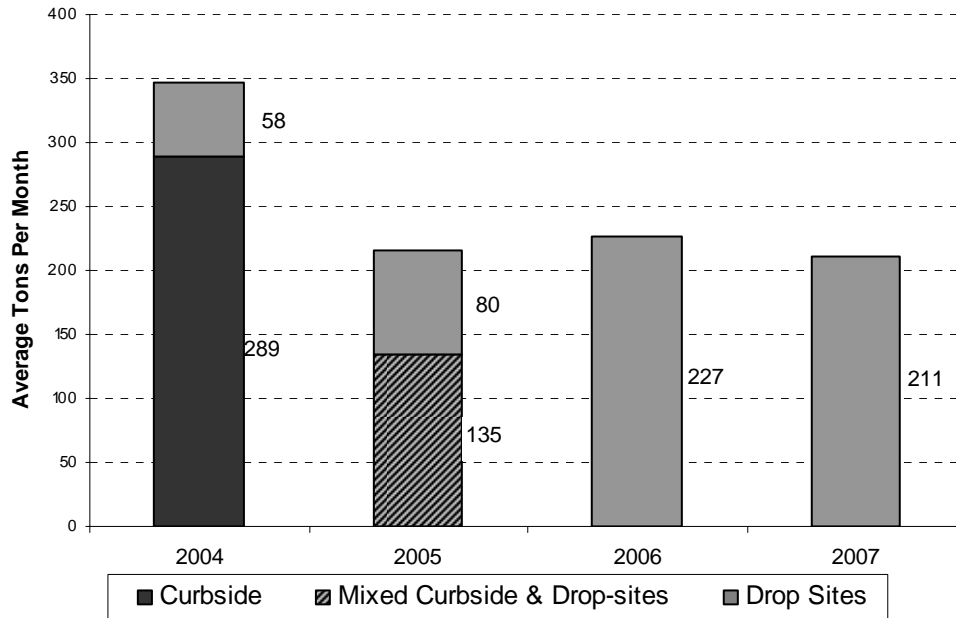
Part of the decrease in glass in 2007 was because a multi-material drop-off site in Eatonville was closed down part of the time because of the garbage that was being left illegally at the site overnight. Glass collection containers are now back on the site and the City is considering adding cameras linked to the police station to catch illegal dumping. One dump truck load of garbage was dumped on the site by someone living in Thurston County and police were able to identify the person and get it cleaned up, but the problem persists. A need has been expressed by the Mayor of Eatonville for the siting of a staffed recycling drop-site or transfer station nearby; perhaps at Barney’s Corner.

Table 5. Commodities	Recyclables Tonnage	
	2006	2007
Newspaper	10,018	9,934
Mixed Paper	17,927	* 20,996
Cardboard	6,094	5,646
Aluminum	683	723
Tin / Steel Cans	998	1,036
Plastics	1,411	1,602
Curbside Total	37,131	39,937
	Curbside increase: 7.5%	
Glass Drop-Off	2,724	2,531
Recyclables Total	39,855	42,468
Drop-off and curbside increase: 6.5%		
* One processing company re-defined its newspaper and mixed waste paper mix so the data implies that more mixed waste paper was collected in 2007 than in 2006.		

Participation: The **7.5% increase** in curbside tonnage is only partially attributed to an increase in the number of haulers’ customers. The number of customers only increased 2% in 2007 so the rest of the percentage increase was because individual households set out more material. Participation rates remain high with **94%** of the haulers’ customers participating in recycling collection.

Glass: In 2007, the glass drop-off sites collected about **61%** of the amount of glass that was collected in 2004 under the old three-bins-and-a-paper sack system. This is illustrated in **Chart 6**.

**Chart 6. Glass: Average Tons Per Month
 Curbside and Drop Sites**

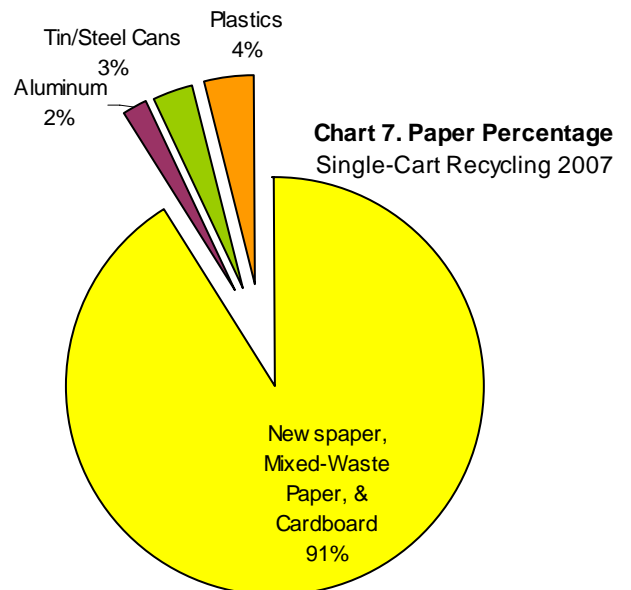


Single-Cart total tonnage

'05-'07: Since full implementation in June 2005, the Single-Cart Curbside Program has collected **97,187 tons** of recyclables, not including glass. Approximately 6,000 more tons of glass was collected at the glass drop-off sites. The curbside program has averaged about 3,135 tons per month for 31 months of full implementation. The monthly average for 2007 was **3,328 tons**.

Commodity mix:

The commodity mix remains the same as it has been since the Single-Cart Program began. This is illustrated in **Chart 7**. Almost **91%** of the commodities consists of newspaper, mixed-waste paper, and cardboard. The program was designed to target paper commodities.



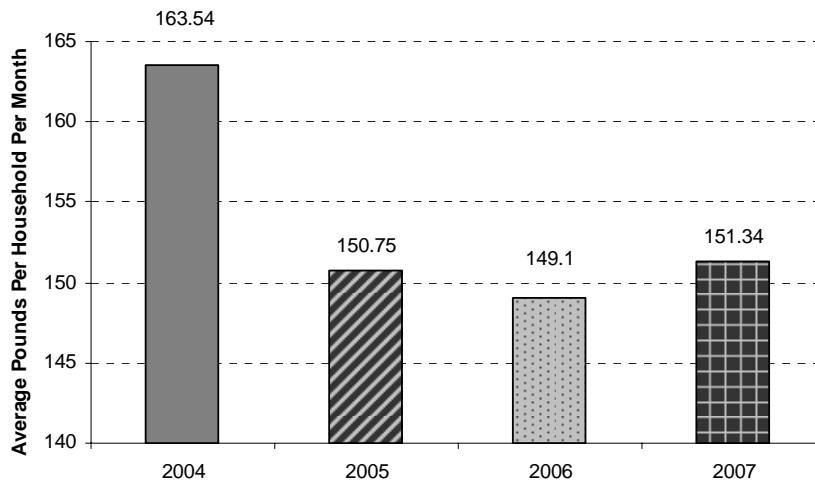
Contamination

rates: Contamination for the whole system remains very low for a commingled recycling system. The countywide average is **2.08%**. Haulers believe this low rate is attributed to the lack of glass, successful public outreach programs about preparation of recyclables, and residents' long-time familiarity with setting out recyclables at the curb. The first curbside program began in 1990.

Disposed

tonnages: Disposed garbage tonnages crept upward an average of **2.24 pounds** per household per month in 2007 to **151.34 pounds**. Despite an initial drop in disposal pounds, residents have not continued to improve and reduce the amount they generate even though they are recycling more. The average disposed pounds per single-family household is illustrated in **Chart 8**. This amount is for all households, not just for recycling households.

**Chart 8. Average Disposed Pounds
Per Household Per Month**



Commodity

credit: The commodity credit returned each month by collection companies to single-family households as a share of the revenue from recyclables ranges from \$1.90 per month for one company and \$3.13 for the other. Depending upon the collection company, residents are paying between 9 to 90 cents more per month for recycling collection than they were paying in 2004. Revenues from the program have off-set a large part of the initial increase of a \$1.67 per month to begin the program in 2005.

Company recycling

plans: Solid waste collection companies have met all the Pierce County revenue sharing requirements described in the Company Recycling Plans filed with the Washington Utilities and Transportation Commission (WUTC). Besides meeting the start-up implementation requirements in 2005, collection companies have demonstrated substantial increases in both paper fiber and total recycling and a decrease in the disposed pounds per month.