

King County Multi-Family Recycling Education Pilot Program

Case Studies of Three Complexes

North Bend

Population 4,705, 19 percent live in multi-family housing. Nine percent speak a language other than English. Median household income \$61,500¹.

Multi-Family Complex Profile

Location	North Bend, WA
Number of Units	233
Rent comparison 2 bedrm/1bath	\$1,250-\$1,850, compared to the King County 2007 average of \$934 in North Bend.
Languages	Primarily English, but also Spanish
Garbage & Recycling Infrastructure	<ul style="list-style-type: none"> • Seven 4-yard blue recycling dumpsters • Seven 6- and 8-yard garbage dumpsters, roll-away design. • Once a week recycling pickup service • Twice a week garbage pickup service • Garbage and recycling dumpsters are located in seven locations.
Property description	<ul style="list-style-type: none"> • Twenty-eight townhomes on 60 acres. • Community center with a pool and workout room. • Common area mail station located outside complex center

Recycling Efforts Prior to the Pilot Program

The North Bend complex had recently changed from recycling bins to recycling dumpsters. Residents were notified of this change in their monthly newsletter, and all of the recycling bins at the complex were labeled with a “Recycle” sticker.

Pilot Program Strategies

- Large, weatherproof Do/Don’t signs placed next to recycling dumpsters.
- Do/Don’t posters placed in common areas throughout the complex.
- Program information distributed in six monthly newsletters.
- Do/Don’t bilingual refrigerator magnets distributed to every unit.
- A Master Recycler Composter (MRC) education volunteer monitored the recycling dumpsters and communicated with building manager.

¹ King County OFM, Chandler Felt, 2/1/2008

Results

A post-campaign waste sort of garbage and recycling was done in November 2007 and compared to the results of the November 2006 pre-campaign waste sort.

Description	Before pilot	After pilot
Capture Rate (proportion of recyclable materials recycled)	56%	62%
Overall Recycling Rate (recyclables/total waste including recyclables and garbage)	31%	33%
Contamination Rate (% of garbage in recyclables)	5%	15%
Diversion Potential (% of recyclables in garbage)	33%	25%

Cardboard, newspaper, mixed paper and scrap metal recycling was increased, and the apartment had among the highest recycling rates of all complexes in the program. However, along with this, the complex also experienced an increase in contamination toward the end of the pilot. When contacted by the MRC assistant, residents indicated that they were enthusiastic about the program, and saw value in the service being offered by King County.

Several factors worth noting about the pilot at the North Bend complex:

- **Responsiveness of complex management.** Management was willing to include information on the pilot program in their newsletter
- **Posters and signage.** Management allowed container signage and stickers around the common areas, and ensured that signage was up at the start of the program.
- **Bilingual materials.** Materials were provided in English and Spanish, which proved beneficial to reaching a diverse audience.
- **Contamination levels.** Contamination levels at this complex were very low during the initial months of the pilot, but inexplicably increased by 10 percent by the completion of the program.

Recommendations for future activities at this complex

- **Provide education about contamination.** Tenant communication should focus on reducing contamination. Provide information about how to avoid contamination and encourage residents to continue their success at paper recycling.
- **Consider containers or recycling tote bags for residents.** The North Bend complex residents expressed the desire to have recycling containers for each of their 233 units.

- **Provide a recycling container at outdoor mail station.** A collection container at the mail station could increase paper recycling.

Bellevue

Population 118,100, 27 percent live in multi-family housing. 32 percent speak a language other than English. Median household income \$76,800².

Multi-Family Complex Profile

Location	Bellevue, WA
Number of Units	213
Rent comparison 2 bedrm/1bath	\$750-1250 compared to the King County 2007 average rent for a 2 bedroom/1bath apartment in Bellevue which is \$1,100.
Languages Spoken	English, Chinese, Korean, and Japanese
Garbage & Recycling Infrastructure	<ul style="list-style-type: none"> • One 4-yard recycling dumpster and one 4-yard garbage dumpster. • Recycling pickup service is twice per week. • Garbage pickup service is four times per week.
Additional Information	<p>This complex had few tenants with children, and adults were primarily responsible for taking the recycling out to the dumpster.</p> <p>Many residents are corporate professionals who work in downtown Bellevue or nearby.</p> <p>The building is a mid-rise apartment complex. Most units are studio apartments and all units are in one, 5-story building located in downtown Bellevue.</p> <p>Both dumpsters are in the garage of the complex, although the recycling dumpster is in its own room. Both are inside, under cover and conveniently located.</p> <p>Common areas include two laundry rooms and the mail room, all of which have bulletin boards. The mail area has a recycling bin for junk mail.</p> <p>The complex has a monthly tenant newsletter.</p>

Complex Recycling Efforts Prior to the Pilot Program

Prior to the recycling pilot, the Bellevue complex had done very little to promote recycling other than to include recycling signs on the recycling dumpster.

Pilot Program Strategies

- Large, weatherproof Do/Don't signs were placed next to the recycling dumpster.

² King County OFM, Chandler Felt, 2/1/2008

- Do/Don't posters were placed in common areas.
- Special-emphasis signage focusing on the recycling of glass and newspaper and the need to break down cardboard were distributed.
- Bilingual magnets (English/Korean and English/Chinese) and recycling tote bags were distributed to every unit.
- A recycling bin and a garbage bin were labeled and placed in the indoor mail center.

Pilot Program Results

Description	Before pilot	After pilot
Capture Rate (proportion of recyclable materials recycled)	45%	57%
Overall Recycling Rate (recyclables/total waste including recyclables and garbage)	24%	33%
Contamination Rate (% of garbage in recyclables)	13%	17%
Diversion Potential (% of recyclables in garbage)	33%	31%

The Bellevue complex increased its capture rate by twelve percent, while experiencing a small increase in their contamination rate over the course of the pilot. It had among the highest recycling rate of the pilot complexes. The complex showed an overall increase in recycling of newspaper, mixed paper, plastic and glass bottles and jars, plastic dairy tubs, aluminum cans, and scrap metal. However, the complex showed a marked decrease in steel and tin can recycling (pre = 30 percent, post = 13 percent). Because the sample size by individual material is small, this could be anomaly in the data. On the whole, the pilot program greatly improved the recycling behaviors of the complex residents. The results indicate a fundamental understanding of recycling and increased participation by tenants.

Several factors contributed to this complex's success:

- **Distribution of materials.** Each tenant received a recycling tote bag and magnet.
- **Posters and signage.** Do/Don't posters were hung in the common areas and signage was placed near the recycling dumpsters.
- **Multi-language materials.** Materials were provided in English, Korean, and Chinese.
- **Low contamination levels.** Contamination levels at this complex were moderate and remained steady at 15 to 17 percent throughout the pilot program.

Recommendations for future activities at this complex

- **Narrow the focus of the education outreach.** Focus more on recycling steel and tin cans, as the recycling rate of these materials dropped by over 50 percent of their original during the pilot. Also focus on recycling of all types of paper and the importance of breaking down cardboard boxes.
- **Monitor recycling and garbage containers.** Have garbage and recycling containers distinguished from one another by color, size or shape and make sure signage is prominent.
- **Communicate recycling fundamentals in lease/rental agreements, newsletters or tenant letters.** Provide recycling program information to new tenants. Remind current tenants about recycling in newsletters, office signage and renewal letters.
- **Increase interest in recycling.** Consider hosting recycling contests or competitions between buildings in the complex.
- **Ensure that haulers tag contaminated containers.** It is essential that haulers tag these containers and charge extra fees for contaminated recycling. Consider passing fees along to tenants.

Kent

Population 86,660, 36 percent live in multi-family housing. 32 percent speak a language other than English. Median household income \$50,100³.

Multi-Family Complex Profile

Location	Kent, WA
Number of Units	216
Rent comparison 2 bedrm/1bath	\$621-\$821 compared to the King County 2007 average rent of \$735 in Kent
Languages Spoken	English, Spanish, Ukrainian, Russian, and Turkish
Garbage & Recycling Infrastructure	<ul style="list-style-type: none"> • Six 96-gallon recycling totes • Garbage is collected in a half-yard trash compactor • Recycling pickup service is once a week. • Trash compactor is collected on call. • Collection area is in the center of the complex some distance from living areas.
Additional Information	The buildings are spread out across a large area. Individual mail stations are in each building. Each mail station has a bulletin board.

Complex Recycling Efforts Prior to the Pilot Program

Prior to participating in the pilot program, the Kent complex had last distributed flyers with recycling information from the City of Kent in 2004. The complex had

³ King County OFM, Chandler Felt, 2/1/2008

no recycling signage near the dumpsters. Recycling and garbage dumpsters were not well labeled, and when the trash compactor was being serviced, it was inaccessible so some residents put their garbage in the recycling totes. The garbage service provider did not tag contaminated recyclables as garbage and no additional fees had been levied. Many residents have children and many are non-English speaking.

Pilot Program Strategies

- Indoor recycling and garbage bins, with appropriate signage, were placed at mail stations.
- Do/Don't signs were posted on the compactor and near the recycling totes. Special emphasis signs were produced, including "Garbage Only" and "Recycling Only" signs, highlighting mixed paper recycling. The signs were translated into Russian midway through the pilot.
- Do/Don't posters and refrigerator magnets were produced in English, Spanish and Ukrainian. The posters were displayed in common areas and the magnets were distributed to each resident.
- Tote bags were distributed to all tenants.
- A Master Recycler Composter (MRC) monitored the site.

Pilot Program Results

Description	Before pilot	After pilot
Capture Rate (proportion of recyclable materials recycled)	16%	15%
Overall Recycling Rate (recyclables/total waste including recyclables and garbage)	8%	5%
Contamination Rate (% of garbage in recyclables)	40%	28%
Diversion Potential (% of recyclables in garbage)	27%	23%

The Kent apartment complex had the lowest recycling and capture rates and highest contamination rates of all the complexes in the pilot program (both pre and post pilot). The complex showed an increase in newspaper recycling (from 30 percent to 46 percent) but there was a decrease in plastic, aluminum and tin cans and metal. Overall, the pilot program did not change recycling. The results indicate a fundamental misunderstanding about recycling and an overall lack of participation by tenants.

Many issues may have contributed to the program's lack of success:

- **Language barriers.** Many of the families living at this complex do not speak English as their first language.

- **Lack of cooperation by management.** The complex management was slow to distribute materials and was not proactive in putting up and maintaining signage.
- **One on one education opportunities.** The complex management did not facilitate opportunities where volunteer MRCs could teach recycling basics to families and their children.
- **Garbage/recycling logistics.** The garbage and recycling system was a barrier to convenient recycling. When the garbage compactor was being serviced, residents threw garbage in the recycling totes because no garbage containers were available. There is only one recycling and garbage station at the complex, which means residents carry garbage and recycling some distance to deposit materials in the compactor or recycling totes.
- **Children handling recycling.** Many residents reported that they had their children take out the garbage and recycling. The children were not sure what container to put the materials in or were unable to reach the recycling containers to open them.

Recommendations for future activities at this complex

- **Translate materials for residents** Materials must be translated and also use visual images.
- **Narrow the focus of the education outreach.** Education should focus on recycling paper and cardboard, as both are easy to recycle and their recycling rates were extremely low: mixed paper percentages increased from 12 percent to only 16 percent, and cardboard remained at ten percent for both pre- and post-sorts, indicating that these items are “low-hanging fruit” and should be pursued.
- **Monitor recycling and garbage containers.** Have garbage and recycling containers distinguished from one another by color, size or shape, and monitor to know when one or the other is full.
- **Work with haulers to improve recycling system.** Distance to the recycling center, and having the dumpster unavailable at some times are both deterrents to good recycling behavior.
- **Communicate recycling fundamentals in lease/rental agreements, newsletters or tenant letters.** Provide recycling program information to new tenants and include the information in the lease agreement. Remind current tenants about recycling in newsletters, office signage and renewal letters. Provide feedback to tenants about extra charges levied by the garbage hauler for contaminated recycling.
- **Ensure that haulers are tagging contaminated containers.** Garbage and recycling haulers should make sure contaminated containers are tagged and fees charged for contaminated recycling. Consider passing fees along to tenants.

For the complete report, see King County Multi-family Report.

<http://your.kingcounty.gov/solidwaste/garbage-recycling/documents.asp>

