

## Partners for Climate Protection

### Greenhouse Gas Reduction Initiative of the Month

#### Surrey's Single-Stream Recycling Program



#### Municipal Profile

Population: 394,976

PCP Member since 1996

In 2008, the City of Surrey switched its three-stream recycling program to a single-stream system, allowing residents to place all recyclable materials at curbside unsorted. Recyclables are then collected using compaction collection vehicles, which dramatically increases collection efficiencies.

#### Background

Single-stream recycling gained momentum in the 1990s. The process initially received mixed reviews due to the higher levels of residuals generated compared with source-separated processes and the lower-grade outcome of the materials. For example, glass shards would become embedded within newsprint materials, reducing the value of the paper. Materials recycling facility (MRF) technology has, however, improved dramatically in recent years. Problems associated with residuals have decreased due to better processes and increased customer awareness of acceptable recyclable materials.

Surrey researched the pros and cons of single-stream recycling before switching, reviewing European and North American MRFs, and touring an MRF in Woodinville, near Seattle.

"The Waste Management, Inc. MRF in Woodinville is an impressive facility," says Rob Costanzo, Surrey's deputy manager of operations. "We learned that their process generated low levels of residuals after the materials had run through the processor."

#### Implementation and Approach

In 2008, the city contracted its single-stream recycling program to waste contractor Emterra Environmental, who redesigned its existing recycling facility to include MRF technology. Emterra also purchased new, standardized collection-compaction recyclables trucks that have approximately three times the capacity of its older compartmentalized (non-compaction) collection vehicles, cutting the number of trucks required from 28 to 18.

In late 2008 and early 2009, the city began distributing new 24-gallon blue box bins to residents and the program officially began in January 2009.

Due to its geography, the city believed that switching to single-stream recycling made the most sense, particularly from a fuel efficiency point of view.

"Given that Emterra's MRF is centrally located in Surrey, it made our decision to switch even more compelling due to the enhanced sustainability features such as fuel savings and less greenhouse gas (GHG) emissions," Costanzo explains.

## Results

More than 115,000 households participate in the program, with recycling rates jumping 10 per cent in the first year. Reductions in personnel and fuel costs save the city about \$2 million per year. Annual GHG emissions have been cut by an estimated 435 tonnes and the lifespan of city streets, which are not designed for heavy vehicles, has also been extended due to reduced truck traffic and less travel time between collection routes and the MRF facility.



*Surrey's materials recycling facility.  
Photo courtesy of City of Surrey.*

“As municipalities move toward greater waste diversion targets it’s often a balancing act to ensure that new waste diversion collection streams can be introduced without compromising GHG emissions,” says Costanzo. “Introducing single-stream collection and/or bi-weekly collection helps meet those objectives with reduced trucks and travel.”

## Lessons Learned

Delays in the construction and operation of the MRF postponed the program by about six months but by early 2009, the system was fully online. “Our contractor’s schedule was very tight,” says Costanzo. “When you make a commitment and don’t follow through—even though there wasn’t much impact on residents—it’s not good business practice.”

During the first few months of the program, the city was inundated with requests for additional Blue Boxes. “Our customers were already equipped with their original (smaller) boxes, so we had only planned for an initial period of high demand for additional recycling receptacles. The demand for the blue boxes was far beyond what we had anticipated,” explains Costanzo. “In hindsight, improved planning measures may have alleviated this, especially in those first few weeks. Nevertheless, we’re confident that high demand will translate into high participation which will equate to higher waste diversion.”

The program has been widely supported by Surrey residents. “We believe that it’s a firm step in the right direction for municipal waste diversion programs,” says Costanzo. “It’s a matter of looking at the broad picture with respect to sustainability, which should include increased diversion along with reduced GHG emissions. Also, if the switch makes it easier for residents to divert materials, the program will be that much more successful.”

## Future Direction

The city is now considering automated collection, which would require purchasing 90-gallon wheeled collection bins. “It would be at a higher capital cost,” admits Costanzo, but there would be safety benefits to the contractor, such as fewer workplace injuries, and other benefits such as less litter on city streets. It would also allow the city to consider bi-weekly residential collections for certain waste streams. In addition, the city will begin offering organics collection within the next year, helping to further decrease emissions from waste.

## Further Information

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The Partners for Climate Protection (PCP) program is a network of Canadian municipal governments that have committed to reducing greenhouse gases and acting on climate change. PCP is the Canadian component of ICLEI's Cities for Climate Protection (CCP) network, which involves more than 900 communities worldwide. PCP is a partnership between the Federation of Canadian Municipalities (FCM) and ICLEI – Local Governments for Sustainability. PCP receives financial support from FCM's Green Municipal Fund.