



## **Continuous Improvement Fund Project #562.11**

### **Final Project Report**

#### **Program Review**

The project to supply large curbside collection containers to residents and businesses in Southgate began in consultation with CIF in the spring of 2010 to procure a product that would best meet the requirements as set out by CIF, as well as the needs of all municipalities participating. Extensive product and cost comparisons were undertaken with the assistance of suppliers and other participating municipalities to supply 360 litre and 240 litre carts that contained a high post consumer recycled resin content (at least 70%) recovered from blue box programs in Ontario. Southgate submitted a requirement for 510 - 360 litre carts, approximately 1% of the total 55,630 estimated 360 litre carts to be purchased. Southgate's requirements included that the cart purchased must operate seamlessly with the current waste curbside collection system, which utilizes an automated mechanical arm for pick-up. After reviewing several different types of carts, it was determined that other carts proposed would not work efficiently with our equipment. Subsequent to approval provided by CIF, a purchase order was issued by Southgate to IPL Inc on October 12, 2010 for the purchase of 513 Blue Wheeled 360L Carts. These carts meet all of the project requirements while delivering a product that has been proven to work effectively with Southgate's equipment. Delivery of the carts by IPL Inc occurred on November 11, 2010. Rollout of this new product to Southgate residents and businesses began at the end of November 2010 and presently continues.

#### **Project Objective**

The objective of this project undertaken by Southgate was to provide our residents and businesses with the option of maintaining or increasing their recycling content without increasing the cost of curbside collection. Currently, about 16% of our residents are in possession of two 240 litre carts. While remaining supportive of our residents' efforts to recycle, we must strive to remain cost effective. The collection of two recycle bins at each residence is challenging our current system with extra time and cost, both with



regard to labour and materials (extra driver time and idling expenses). In an effort to increase the effectiveness and efficiency of our system, we have initiated a program to replace the two 240 litre carts at those residences with one 360 litre cart. New families with more than 4 individuals are immediately issued a 360 litre cart. We have also undertaken to replace the 240 litre cart with a 360 litre cart for our commercial users. This will allow our residents and businesses to continue to recycle a higher than normal amount of materials while allowing our system to operate more efficiently and effectively.

### **Project Effectiveness**

This project was well received by our residents and staff. A waiting list for residents wishing to upgrade to the 360 litre recycle cart began in the spring of 2010. Carts were delivered to these residents shortly after Southgate received delivery of the product in November 2010. The remaining carts continue to be rolled out to residents and commercial locations as outlined earlier in this report.

We now have the capability to provide new single family dwellings with the larger 360 litre carts or the 240 litre carts depending on the size of the family. This allows us to increase capture rates without any increase in operating cost.

This project has:

- increased diversion and capture rates;
- reduced waste trips to transfer stations to dispose of extra recycle material by residents;
- reduced cart collection time (fewer carts, more material, less overtime).

### **Benefit Analysis:**

Each cart pick up reduction saves approximately 20 seconds per location. This results in the following:

- savings in fuel costs and overtime
- reduced truck time on roadway
- reduced resident trips to transfer station





### **Project Recommendations:**

New homes and commercial establishments that service more than 4 individuals should be issued a 360 litre recycle cart. Existing homes or businesses with 4 or more individuals should be issued a 360 litre recycle cart as requested.

### **Conclusion:**

In reflection, if we were to start a collection program and make a decision on the size of the recycle blue cart, all homes and businesses would be issued a 360 litre cart to accommodate for spikes in recycle material collection at every location.

Attached:

Year to Date Waste Volumes Report & Diversion Rates as at June 30, 2011

Year to Date Waste Cart Volumes Report & Diversion Rates as at June 30, 2011

Year to Date Waste Volumes Report & Diversion Rates as at December 31, 2010

Year to Date Waste Cart Volumes Report & Diversion Rates as at December 31, 2010

**Year to Date Waste Volumes Report & Diversion Rates as at June 30, 2011**

Waste Stream	Volume in Tonnes per Month												Annual Total	Percentage of All Waste Volumes		Monthly Average		Month 2010 Average	Month 2010 versus 2010
	January	February	March	April	May	June	July	August	September	October	November	December		2011	2010	2011	2010		
Recycles Volumes	42.29	39.91	43.40	45.82	48.08	71.87							291.37	15.29%	14.98%	48.56	49.93	-1.4	-16.4
Compost Volumes	57.29	55.39	78.28	88.57	105.04	135.85							520.42	27.31%	23.51%	86.74	78.34	8.4	100.8
Waste Volumes	95.41	88.35	142.89	137.68	134.52	130.94							729.79	38.30%	39.72%	121.63	132.38	-10.7	-129.0
Clean Wood	0.00	2.73	0.00	11.77	12.03	14.64							41.17	2.16%	4.97%	6.86	16.57	-8.7	-116.5
Dirty Wood	6.13	7.55	14.34	13.26	26.57	48.80							116.65	6.12%	9.37%	19.44	31.23	-11.8	-141.5
Tires	0.00	0.00	0.00	0.00	0.00	135.50							135.50	7.11%	2.50%	22.58	8.33	14.3	171.0
Scrap Steel	0.00	6.75	2.35	12.08	10.78	15.59							47.55	2.50%	3.78%	7.93	12.58	-4.7	-55.9
Electronics	3.99	4.19	0.00	0.00	0.00	4.00							12.18	0.64%	28.00%	2.03	0.93	1.1	13.2
Clothing	0.00	0.00	0.00	0.00	0.00	0.00							0.00	0.00%	0.00%	0.00	0.00	0.0	0.0
Oil	0.00	0.00	1.10	0.00	2.20	0.00							3.30	0.17%	0.22%	0.55	0.73	-0.2	-2.2
Oil Filters & Containers	0.00	0.00	0.00	0.00	0.00	0.00							0.00	0.00%	0.00%	0.00	0.00	0.0	0.0
Antifreeze	0.00	0.00	0.00	0.00	0.40	0.00							0.40	0.02%	0.03%	0.07	0.08	0.0	-0.2
Batteries	0.00	0.00	0.00	0.50	0.00	0.50							1.00	0.05%	0.06%	0.17	0.21	0.0	-0.5
Propane Tanks	0.00	0.99	0.00	0.00	0.00	0.40							1.39	0.07%	0.05%	0.23	0.17	0.1	0.7
Contaminated Soils	0.00	0.00	0.00	0.00	0.00	0.00							0.00	0.00%	0.00%	0.00	0.00	0.0	0.0
Bale Wrap	0.00	0.00	0.00	0.00	0.00	4.91							4.91	0.26%	0.53%	0.82	1.77	-1.0	-11.4
Shingles	0.00	0.00	0.00	0.00	0.00	0.00							0.00	0.00%	0.00%	0.00	0.00	0.0	0.0
Copper & Brass	0.00	0.00	0.00	0.00	0.00	0.00							0.00	0.00%	0.00%	0.00	0.00	0.0	0.0
Total Waste Received	205.11	205.86	282.36	309.68	339.62	563.00	0.00	0.00	0.00	0.00	0.00	0.00	1905.63			317.6	333.3	-15.6	-187.7
Diversion Rate - 2011	50.5%	53.4%	44.3%	51.3%	52.6%	68.1%	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	55.6%						
Totals - 2010	193.11	187.98	396.32	329.62	356.46	413.77	350.88	406.76	332.88	445.07	301.83	284.15	3898.83						
Diversion Rate - 2010	40.6%	54.1%	39.5%	48.2%	51.9%	52.8%	46.7%	50.5%	47.5%	59.7%	55.1%	62.5%	50.9%						

**Year to Date Waste Cart Volumes Report & Diversion Rates as at June 30, 2011**

Waste Stream	Volume in Tonnes per Month												Annual Total	Percentage of All Waste Volume 2011	Percentage of All Waste Volume 2010	Monthly Average 2011	Monthly Average 2010	±/ Month Average 2011 to 2010	±/ Total 2011 Versus 2010
	January	February	March	April	May	June	July	August	September	October	November	December							
Recycles Volumes	42.29	38.91	43.40	45.82	48.08	71.87	0.00	0.00	0.00	0.00	0.00	0.00	291.37	26.3%	26.2%	48.6	49.9	-1.3	-16.1
Compost Volumes	24.78	29.92	46.92	70.39	84.80	107.21							364.02	32.8%	33.6%	60.7	64.1	-3.4	-41.2
Waste Volumes	67.92	60.08	94.20	81.59	77.51	72.44							453.74	40.9%	40.1%	75.6	76.5	-0.9	-10.5
Total Waste Received	134.99	129.91	184.52	197.80	210.39	251.52	0.00	0.00	0.00	0.00	0.00	0.00	1109.13			277.3	190.5	-86.8	-67.7
Diversion Rate - 2011	49.7%	53.8%	48.9%	58.6%	63.2%	71.2%	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	59.1%					-5.6	-67.7
Totals - 2010	137.36	122.34	222.87	183.96	204.65	234.12	167.29	256.65	190.86	187.25	169.42	188.99	2285.76						
Diversion Rate - 2010	51.5%	56.1%	52.4%	60.2%	64.1%	70.6%	61.4%	57.2%	61.6%	61.9%	58.4%	58.6%	59.9%						

Year: 2011

**Year to Date Waste Volumes Report & Diversion Rates as at December 31, 2010**

Waste Stream	Volume in Tonnes per Month												Total for Month	Percentage of All Waste Volumes		Monthly Average 2010	Monthly Average 2009	±% Monthly Average 2010 to 2009	±% 2010 versus 2009
	January	February	March	April	May	June	July	August	September	October	November	December		2010	2009				
Recycles Volumes	44.69	41.48	49.37	47.76	47.83	70.42	41.46	50.54	49.98	46.18	45.21	64.18	598.10	14.99%	16.80%	49.93	50.77	-0.8	-10.1
Compost Volumes	26.07	27.13	76.76	80.03	100.21	110.73	86.61	117.17	86.62	95.72	72.84	80.04	940.13	23.51%	20.33%	78.34	61.44	16.9	202.9
Waste Volumes	109.28	77.66	164.06	150.20	146.78	136.65	144.98	174.54	143.93	127.85	120.28	90.28	1588.50	39.72%	43.22%	132.36	130.62	1.8	21.1
Clean Wood	2.99	1.92	4.17	11.92	13.01	11.43	9.57	16.74	4.03	88.68	29.61	6.73	198.80	4.97%	4.95%	16.57	14.96	1.6	19.3
Dirty Wood	5.37	8.60	75.78	20.46	24.84	56.60	42.07	26.99	30.76	51.67	15.25	16.31	374.72	9.37%	6.20%	31.23	18.74	12.5	149.8
Tires	0.00	18.87	11.71	0.00	0.00	0.00	5.60	0.00	0.00	26.94	0.00	36.81	99.93	2.50%	0.70%	8.33	2.11	6.2	74.6
Scrap Steel	4.71	9.32	14.47	15.05	12.96	21.13	16.52	10.36	11.11	9.13	18.64	7.60	151.00	3.78%	5.35%	12.58	16.16	-3.6	-42.9
Electronics	0.00	3.00	0.00	0.00	0.00	0.00	3.87	0.00	4.23	0.00	0.00	0.00	11.10	0.28%	0.12%	0.93	0.38	0.5	6.5
Clothing	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00%	0.15%	0.00	0.44	-0.4	-5.3
Oil	0.00	0.00	0.00	2.20	0.00	2.20	0.00	0.00	2.20	0.00	0.00	2.20	8.80	0.22%	0.18%	0.73	0.55	0.2	2.2
Oil Filters & Containers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00%	0.00%	0.00	0.00	0.0	0.0
Antifreeze	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.03%	0.00%	0.08	0.00	0.1	1.0
Batteries	0.00	0.00	0.00	0.00	0.00	1.60	0.00	0.00	0.00	0.90	0.00	0.00	2.50	0.06%	0.13%	0.21	0.41	-0.2	-2.4
Propane Tanks	0.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.05%	0.03%	0.17	0.08	0.1	1.0
Contaminated Soils	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00%	1.57%	0.00	4.74	-4.7	-56.9
Bale Wrap	0.00	0.00	0.00	0.00	10.83	0.00	0.00	10.42	0.00	0.00	0.00	0.00	21.25	0.53%	0.29%	1.77	0.86	0.9	10.9
Shingles	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00%	0.00%	0.00	0.00	0.0	0.0
Copper & Brass	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00%	0.00%	0.00	0.01	0.0	-0.1
Total Waste Received	193.11	187.98	396.32	329.62	356.46	413.77	360.88	406.76	332.86	445.07	301.83	284.15	3998.83			333.2	302.3	31.0	371.6
Diversion Rate - 2010	40.6%	54.1%	39.5%	48.2%	51.9%	52.8%	46.7%	50.6%	47.5%	59.7%	55.1%	62.5%	50.9%						
Totals - 2009	192.22	164.09	365.55	283.93	342.12	409.28	321.57	299.61	402.72	339.02	272.98	234.07	3627.16						
Diversion Rate - 2009	44.7%	52.8%	52.4%	50.1%	51.2%	59.9%	45.5%	50.1%	48.7%	48.6%	48.6%	52.6%	50.4%						

## Year 2010

Waste Stream	Volume in Tonnes per Month												Total for Month	Percentage of All Waste Volumes 2010	Percentage of All Waste Volumes 2009	Monthly Average 2010	Monthly Average 2009	Monthly Average 2010 versus 2009	
	January	February	March	April	May	June	July	August	September	October	November	December							
Recycles Volumes	44.69	41.48	49.37	47.76	47.83	70.42	41.46	50.54	49.98	46.18	45.21	64.18	599.10	26.2%	27.5%	49.9	50.8	-0.9	-10.5
Compost Volumes	26.07	27.13	67.36	62.95	83.27	94.92	73.49	96.22	67.65	69.73	53.66	46.66	789.10	33.6%	33.3%	64.1	61.4	2.7	32.3
Waste Volumes	66.60	53.73	106.15	73.25	73.65	68.78	72.34	109.89	73.23	71.34	70.66	78.15	917.56	40.1%	39.2%	76.5	72.3	4.2	50.0
Total Waste Received	137.36	122.34	222.87	183.96	204.65	234.12	187.29	256.65	190.86	187.25	169.42	188.99	2286.76			190.5	246.1	6.0	71.8
Diversions Rate - 2010	51.5%	56.1%	52.4%	60.2%	64.1%	70.6%	61.4%	57.2%	61.6%	61.9%	58.4%	58.6%	59.9%					tonnes	tonnes
Totals - 2009	136.08	128.80	207.78	184.30	199.57	230.60	183.81	190.49	236.62	200.44	161.47	155.77	2214.73						
Diversions Rate - 2009	53.3%	64.0%	53.8%	60.6%	65.1%	70.0%	61.4%	63.0%	55.8%	63.9%	55.1%	61.2%	60.6%						