

APPENDIX A  
Survey Template

## User Pay/PAYT Survey

Community \_\_\_\_\_

Contact \_\_\_\_\_

State/Prov. \_\_\_\_\_

Phone # \_\_\_\_\_

Population \_\_\_\_\_

Email \_\_\_\_\_

User Pay/ PAYT	User Pay System	Bag Limit	Pricing	Date Started	% waste diversion increase	% recycling increase	% leaf & yard increase	# BYC increase
Yes	Tag/Bag Container	0						
No		1						
		2						
		3						
		4						

### Program Description

### Pricing/Financing

### Recycling Program

	Before	After
1	Type of recycling program None Depot throughout community Curbside collection Depot at landfill/transfer station	Type of recycling program None Depot throughout community Curbside collection Depot at landfill/transfer station
2	Materials collected	Materials collected
3	Material Bans at landfill Yes type No	Material Bans at landfill Yes type No
4	Frequency of collection Weekly Bi-weekly other	Frequency of collection Weekly Bi-weekly other
5	Type of Service Municipal service Privately contracted by hhld	Type of Service Municipal service Privately contracted by hhld

6	Financing Municipal taxes Municipal utility fixed fee Pay as you go Private contract arrangement	Financing Municipal taxes Municipal utility fixed fee Pay as you go Private contract arrangement
7	Diversion rate  _____ tonne or ton _____ year	Diversion rate  _____ tonne or ton _____ year

**Leaf and Yard Waste**

	<b>Before</b>	<b>After</b>
1	Type of L&Y collection program  None Depot throughout community Curbside collection Depot at landfill/transfer station	Type of L&Y collection program  None Depot throughout community Curbside collection Depot at landfill/transfer station
2	Materials collected	Materials collected
3	Material Bans at landfill Yes type No	Material Bans at landfill Yes type No
4	Type of Service  Municipal service Privately contracted by hhld	Type of Service  Municipal service Privately contracted by hhld
5	Financing  Municipal taxes Municipal utility fixed fee Pay as you go Private contract arrangement	Financing  Municipal taxes Municipal utility fixed fee Pay as you go Private contract arrangement
6	# hhlds with backyard composters	# hhlds with backyard composters
7	diversion rate  _____ tonne or ton _____ year	diversion rate  _____ tonne or ton _____ year

**Food Wastes (if yes, go to end of survey)**

**Bulky Wastes**

	<b>Before</b>	<b>After</b>
1	Type of recycling program  None Curbside collection	Type of recycling program  None Curbside collection

2	Materials collected	Materials collected
3	Material Bans at landfill Yes type No	Material Bans at landfill Yes type No
4	Type of Service  Municipal service Privately contracted by hhld	Type of Service  Municipal service Privately contracted by hhld
5	Financing	Financing
6	Capture rate  _____ tonne or ton _____ year	Capture rate  _____ tonne or ton _____ year

**Has participation changed over time? How? Why?**

**What supporting education and promotion program was implemented?**

**What illegal dumping problems has your community experienced? How has the problem been solved?**

**Supporting administration requirements? Additional costs for administration?**

**Lessons Learned**

THANK YOU FOR YOU HELP

Food Waste Collection Program

	<b>Before</b>	<b>After</b>
1	Type of food waste collection program  None Depot throughout community Curbside collection Depot at landfill/transfer station	Type of food waste collection program  None Depot throughout community Curbside collection Depot at landfill/transfer station
2	Materials collected	Materials collected
3	Material Bans at landfill Yes     type No	Material Bans at landfill Yes     type No
4	Frequency of collection Weekly Bi-weekly other	Frequency of collection Weekly Bi-weekly other
5	Type of Service  Municipal service Privately contracted by hhld	Type of Service  Municipal service Privately contracted by hhld
6	Financing  Municipal taxes Municipal utility fixed fee Pay as you go Private contract arrangement	Financing  Municipal taxes Municipal utility fixed fee Pay as you go Private contract arrangement
7	Capture rate  _____ tonne or ton _____ year	Capture rate  _____ tonne or ton _____ year

APPENDIX B  
Detailed Case Studies

## Bag Limit Case Study Town of Markham

**Relevance to Toronto:** Recent introduction of a 3-bag limit in large urban community within the GTA.

**Demographics:**

**Population:** 190,000

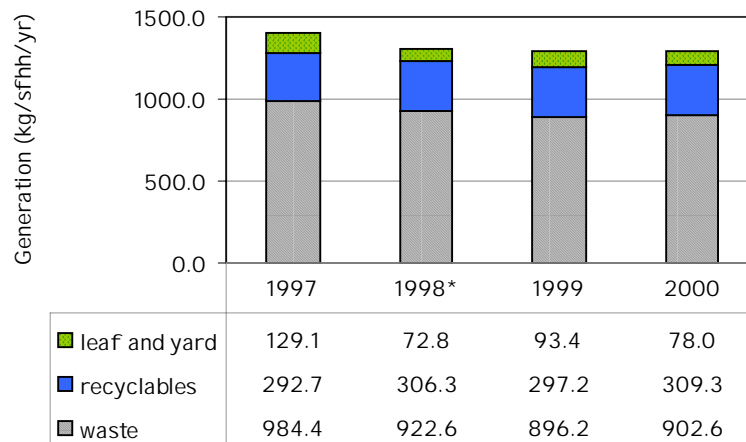
**Households:** 51,768

- Markham is the largest of nine communities in York Region.

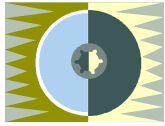
### Town of Markham, Waste Diversion at a Glance

Type of System	Date Started	Years with Data*	% change in waste landfilled (kg/sfhh/yr)	% change in recycling (kg/sfhh/yr)	% change in leaf & yard collection (kg/sfhh/yr)	% diversion (without BYC)
			Compared with baseline year 1997			
3 bag limit system	April 1998	1997				30%
		1998	-6%	+5%	-44%	29%
		1999	-9%	+2%	-28%	30%
		2000	-8%	+6%	-40%	30%

### Markham - Impacts of User Pay



\* Bag limit program introduced April 1998



### Program Description:

- Town of Markham introduced a three bag limit in April 1998, called a “voluntary” bag limit program.
- Twelve additional tags are distributed to each household annually and residents may also pick-up additional tags for free at the Civic Centre and recycling depots.
- Amnesty days are offered twice a year (one in spring and fall) whereby the household can place bags of garbage to the curb without requiring additional tags to be placed on the waste.
- Bags placed at the curb without tags will be collected.
- The three bag limit was established partly due to information from setout studies that showed that most householders placed less than 3 bags of garbage at the curb per week (actual setout average was 2.6 bags/household/wk).
- Maximum weight per bag or container is 50 lb. (22 kg.). Collection crew monitor bag weight “by feel” during collection. Orange stickers are placed on bags that exceed maximum weight and are left at the curb with a notice attached to the bags.
- Prior to the 3 bag-limit programs, residents were permitted to place 6 bags at the curb



### Impacts on Waste to Landfill

Year	SFH*	Tonnes	% Change from base year (1997) in kg/sfhh
1997 (base year)	44350	43,660	
1998	46270	42,690	-6%
1999	48190	43,186	-9%
2000	50110	45,231	-8%

\*Note: SFH Household numbers estimated from Current and Forecast Total Housing By Unit Type, 1996-2021 data posted on Markham's website.

- From 1997 to 1999, waste generation dropped from 250 kg. capita/year to 239 kg. capita/year (6% decrease).
- Approximately 8% of householders are placing more than 3 bags of garbage to the curb on a regular basis.
- Less than 4% of households place additional bags of garbage to the curb without a tag (96% of householders are in compliance).



**Impacts on Recycling**

Year	SFH*	Tonnes	% Change from base year (1997) in kg/sfhh
1997 (base year)	44350	12,980	
1998	46270	14,172	+5%
1999	48190	14,324	+2%
2000	50110	15,500	+6%

\*Note: SFH Household numbers estimated from Current and Forecast Total Housing By Unit Type, 1996-2021 data posted on Markham's website.

- The recycling program has not changed since the introduction of the 3 bag limit program.
- The Town provides weekly curbside collection.
- The recycling program collects the following materials: ONP, OMG, OCC, phonebooks, OBB, books, milk/juice cartons, household paper, kraft paper, molded pulp, clean and coloured glass containers, steel and aluminum cans, plastics (#1 & #2).



**Leaf and Yard Waste**

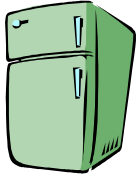
Year	SFH*	Tonnes	% Change from base year (1997) in kg/sfhh
1997 (base year)	44350	5,276	
1998	46270	3,370	+44%
1999	48190	4,503	+28%
2000	50110	3,907	+40%

\*Note: SFH Household numbers estimated from Current and Forecast Total Housing By Unit Type, 1996-2021 data posted on Markham's website.

- The Town of Markham provides weekly leaf and yard waste collection from April to November.
- The Town of Markham introduced a ban on grass clippings concurrent with the implementation of the 3 bag limit program.
- Extensive promotion of the ban began in 1997 and the ban was fully implemented in 1998.
- In the summer, a student monitors bags ahead of the collection crew. By-law infraction notices are given out for bags that contain grass. Bags are not left behind. Second

offenders receive a letter from the Director of Environmental Services that outlines the noncompliance and asks the resident to make an appointment to obtain more information of waste diversion.

- Markham advertises the grass ban through posters, cable t.v., newspaper ads and media releases. The town promotes the alternatives to the public, especially in the spring and fall.



### ***Bulky Waste***

- Markham has not changed its policy on the collection of bulky wastes, which it collects for free at the curb.
- Residents must make an appointment to have bulky wastes collected.

### **Changes in Participation over time:**

- A survey conducted in the year 2000 showed the compliance rate for the 3 bag limit program at 96%.
- Residents that place bags without tags at the curb more than two times are sent a letter for the Director of Environmental Services and asked to make an appointment with staff to learn more about waste diversion programs.

### **Education and Promotion:**

- Six months prior to the introduction of the bag limit program, each household received a package of information containing an Environmental Booklet, grass cycling gauge, recycling instruction card, newsletter, etc.
- Newspaper ads ran in the local newspaper.
- Additional packages of information were sent after the launch of the 3 bag limit.
- Currently residents receive an annual package containing 12 tags, a yard waste schedule, a guide on how to use the recycling program and statistics showing the successes of the program.

### **Administration Support:**

- The Town of Markham hires six summer students each year to monitor the program.
- Administration is involved in the distribution of the annual package of information sent to every household.
- The Town has made a list of semi-detached homes and/or townhouses, which it uses to monitor the 3 bag limit.

**Lessons Learned:**

- The Town of Markham stresses the importance of regularly communicating the environmental successes (i.e. increases in recycling rates) associated with the program.
- The Town has discovered better buy-in for the program if it focuses on environmental benefits rather than economic benefits.

## User Pay Case Study City of Peterborough, Ontario

**Relevance to Toronto:** Over 5 years, moved from a 6 to 3 bag limit in 1994, and to a 2 bag limit in 1995. Close to Toronto.

**Demographics:**

Population: 68,748 (2000)

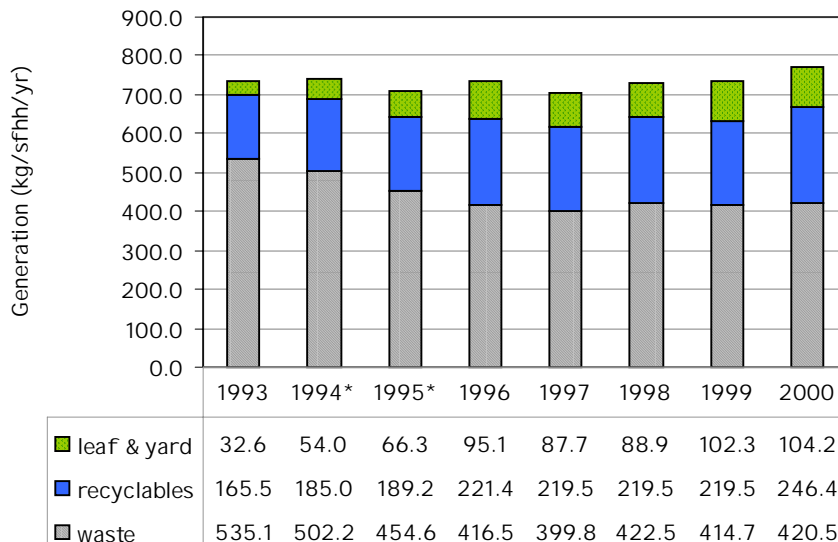
- Households: 29,000

### City of Peterborough, Waste Diversion at a Glance

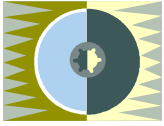
Type of System	Date Started	Years with Data	% change in waste landfilled (kg/sfhh)	% change in recycling (kg/sfhh)*	% change in leaf & yard collection (kg/sfhh)	% diversion (without BYC)
			Compared with baseline year 1993			
Bag Limits	3 bag limit introduced in 1994	1993				+27%
		1994	-6%	+12%	+66%	+32%
		1995	-15%	+14%	+104%	+36%
	2 bag limit introduced in 1995	1996	-22%	+34%	+192%	+43%
		1997	-25%	+33%	+169%	+43%
		1998	-21%	+33%	+173%	+42%
		1999	-23%	+46%	+214%	+45%
		2000	-21%	+49%	+220%	+45%

\*Note: New materials added to recycling program in 1993, 1994, 1995 and 2000.

### Peterborough - Impacts of Bag Limits



\* Bag limit reduced from 6 to 3 in 1994 and 3 to 2 in 1995



**Program Description:**

- The City of Peterborough introduced a two bag/container limit per week in 1995. Prior bag weekly limits were 18 bags in 1989, 6 bags in 1990, four bags in 1991 and three bags in 1994.
- An acceptable container is defined as a 120 litres (32 gallon can) or a plastic bag. Containers cannot exceed 23 kg (50lb).
- Households that exceed the two container limit are required to store waste until a subsequent collection period or drop waste at the landfill for a minimum fee of \$5.00.
- The data provided by the City included the following: 1) waste to landfill data includes businesses that participate in the 4 bag business bag limit but excludes most residential multi-units with six or more units. City staff expect these factors to balance out. 2) The recycling tonnages include collection from businesses that participate in the curbside waste collection program and large multi-units.



*Impacts on Waste to Landfill*

Year	HHS	Tonnes	% Change from base year (1993)
1993 (base year)	27,950	14956	
1994	28,100	14111	-6%
1995	28,250	12842	-15%
1996	28,400	11829	-22%
1997	28,550	11414	-25%
1998	28,700	12126	-21%
1999	28,850	11964	-23%
2000	29,000	12195	-21%

- Average set out of 1.2 bags/household/week.



*Recycling*

Year	HHs	Tonnes*	% Change from base year (1993)
1993 (base year)	27,950	4627	
1994	28,100	5199	+12%
1995	28,250	5346	+14%
1996	28,400	6289	+34%
1997	28,550	6268	+33%
1998	28,700	6301	+33%
1999	28,850	6956	+46%
2000	29,000	7146	+49%

\*Note: The recycling tonnages include collection from businesses that participate in the curbside waste collection program and large multi-units.

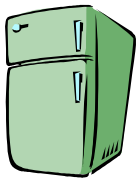
- Weekly collection.
- Curbside Blue Box program since 1987.
- Since 1995, blue box recyclables have been banned from waste disposal.
- The City currently collects: ONP, OCC, OBB, OMG, mixed paper, glass, plastics #1 and #2, aluminum cans and foil, steel cans, empty paint cans, empty aerosol cans, aseptic packages and gable top cartons. Polystyrene can be dropped of at the depot.
- Blue box materials evolved as follows:
  - In 1987, the City collected glass containers, metal cans, ONP and Plastic #1 bottles.
  - Film plastic was introduced in 1991.
  - In 1993, plastic #2 bottles, OMG, OCC and foil were added.
  - In 1994, OBB and phone books were added.
  - In 1995, plastic tubs and jugs and mixed paper were added.
  - In 2000, empty paint cans, empty aerosol cans , aseptic packages and polycoat was added.
- A study showed the average set out per household is 8.8 kg and the average bag weight is 6.6 kg.



**Leaf and Yard Waste**

Year	HHs	Tonnes	% Change from base year (1993)
1993 (base year)	27,950	910	
1994	28,100	1516	+66%
1995	28,250	1873	+104%
1996	28,400	2700	+192%
1997	28,550	2504	+169%
1998	28,700	2552	+173%
1999	28,850	2950	+214%
2000	29,000	3021	+220%

- Weekly collection between April and November.
- Mandatory leaf and yard waste composting by-law.
- Curbside collection of leaf and yard waste introduced in 1993. Loose collection of leaves since 1990.
- Since 1990, over 13,000 composters have been purchased by residents through the City's subsidy program.
- Since September 1998, the City has provided a 50% subsidy on the cost of a mulching blade, that can be installed on most lawn mowers.
- Yard waste tonnages (above) exclude estimated loose curbside leaf collection. Between 1994 to 1997, an estimated 965 tonnes per year of loose leaves were collected. With the promotion of mulching, the City estimates the following: 465 tonnes in 1998; 431 tonnes in 1999 and 456 tonnes in 2000.



**Bulky Wastes**

- Since 1992, four large article collections are scheduled each year. Tickets must be purchased the week before collection at City Hall or Public Works for \$15 for the first item and \$5 for each additional item.
- Bulky items are defined as items over 23 kg (50 lbs).

### **Exchange Day**

- Since 1991, the City has sponsored 2-3 "Reusables Exchange" weekends per year. Participants place reusable items to curb on the Friday and pick up remaining items on the Sunday evening.

### **Textiles Collection**

- Since 1996, in partnership with Peterborough Green-Up, two curbside textiles drives are held each year.

### **Promotion and Education:**

- The program is promoted on the website,

### **Lessons Learned:**

- The City always introduced alternatives for reducing waste when new bag limits were introduced.
- Staging program changes over time will help get a higher level of support (e.g., material ban and reduced bag limit).

### **Future Goals:**

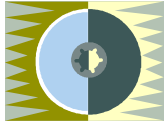
- Collection of food wastes being investigated in 2001.

## Bag Limit Case Study Burnaby, British Columbia

### Demographics:

**Population:** 180,000

**Households:** 36,000 households served



### Program Description

- The "Think Three" bag/container limit introduced in January 1997. This was the first time the City imposed a bag limit.
- The maximum allowable weight is 33 kg (50 lb). Cans up to 77 litres and 19" x 22" and bags up to 24" x 36" are acceptable.
- If residents place out more than 3 bags on for weekly pickup, one bag will be left behind with a sticker that reminds the household to "Think Three."



### *Impacts on Waste to Landfill*

- Data for households participating in the "Think Three" program was unavailable.
- An April 2000 survey determined that the average household places out 2.16 bags/cans per week.
- The City was unable to provide data with a breakout of waste to landfill, recycling or leaf & yard waste for the households participating in the "Think Three" program.



### *Impacts on Recycling*

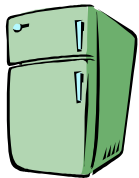
- Blue box program was introduced in 1990.
- Weekly pick-up with garbage collection.
- The municipality currently collects: aluminum and steel cans, glass bottles and jars, plastic bottles #1 & #2 in the Blue Box, ONP in the Blue Bag and OCC and mixed paper in the Yellow Bag.
- Since October 1998, the deposit-return system has included all ready-to-serve beverages (except milk/milk products and infant formulas/meal supplements).

- The Greater Vancouver Regional District (GVRD) has banned the disposal of OCC (since 1997) and newspaper and office paper (since April 1998) at all disposal facilities. GVRD inspectors at local transfer and disposal facilities randomly inspect loads of garbage to determine the presence of banned paper products in the load. Loads containing more than 10% corrugated cardboard, newspaper and office paper (by volume) will be assessed a 50% surcharge. Loads with less than 10% will not be surcharged.<sup>1</sup>
- British Columbia mandated a goal of at least 50% reduction in per capita garbage disposal by the year 2000.



### ***Impacts on Leaf and Yard Waste***

- Curbside leaf and yard waste implemented Spring 1997 and became city-wide in 1998. Unlimited pickup is available on the same day as weekly garbage and recycling collection from March to November.
- Residents may also use the year round drop off Yard Waste Centre, whereby residents (with proof of residency) can drop off up to 50 kg of yard waste free of charge each day. Additional yard waste is accepted at a charge of \$48/tonne and a minimum \$10 charge is applied during the growing season.
- The City sells composting bins for \$30 with a \$5 delivery option. Between 1998 and 2000, 623 composters were sold.



### ***Bulky Wastes***

- Residents can call to arrange for pickup of one bulky item per week during regular garbage collection. Old appliances may also be dropped off at the Recycling Depot.

### **Changes in Participation over time:**

- The City reported no significant changes in participation since the program was introduced in 1997. No issues with illegal dumping have been observed.

### **Administration Support:**

- Initial promotion of the "Think Three" program included: distributing door hangers to all households, publishing advertisements in local papers, news releases and truck advertising with the "Think Three" slogan.

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<sup>1</sup> FAQ (Frequently Asked Questions) about recycling and garbage.  
[www.gvrd.bc.ca/services/garbage/faq/Old\\_in%20progress/swfaq.html](http://www.gvrd.bc.ca/services/garbage/faq/Old_in%20progress/swfaq.html). Accessed 2001 February 7.

## Bag Limit and User Pay Case Study City of Barrie, Ontario

**Relevance to Toronto:** Large, urban community closest to Toronto that imposed a 2-bag limit with a mature recycling program.

**Demographics:**

**Population:** 100,000 (1999)

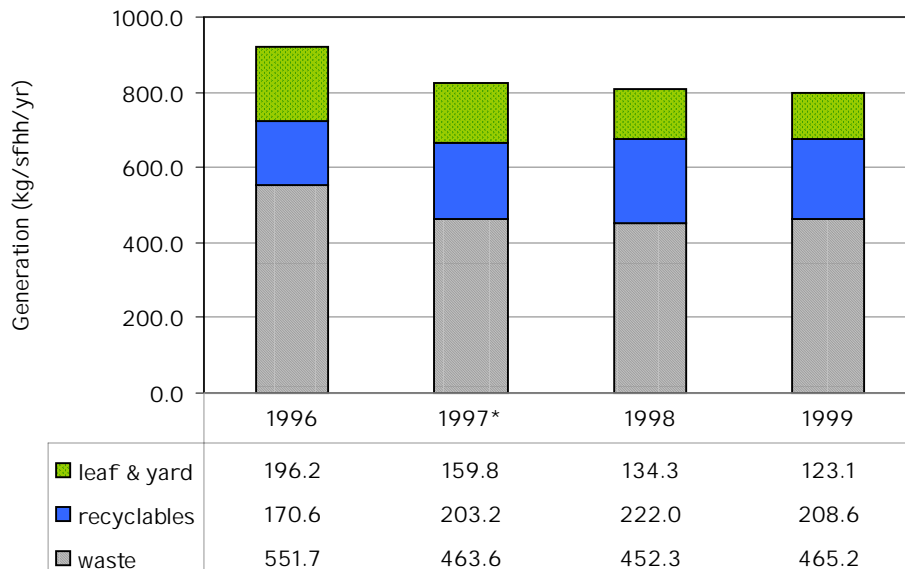
**Households:** 37,164

- The City of Barrie is currently one of the fastest growing municipalities in Canada.
- Annual growth rate of approximately 4 per cent. (Between 1996-2021, Barrie and the surrounding area are expected to grow 63 per cent to a total population of 185,000.)

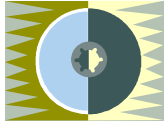
### City of Barrie, Waste Diversion at a Glance

Type of System	Date Started	Years with Data	% change in waste landfilled (kg/sfhh)	% change in recycling (kg/sfhh)	% change in leaf & yard collection (kg/sfhh)	% diversion (with BYC)
			<b>Compared with baseline year 1996</b>			
Partial 2 bag/tag system	May 1997	1996				+40%
		1997	-16%	+19%	-19%	+44%
		1998	-18%	+30%	-32%	+50%
		1999	-16%	+22%	-37%	+48%

**Barrie - Impacts of User Pay**



\* User pay introduced in 1997



### Program Description:

- Partial user pay system introduced May 1997.
- Two bags can be set out at no charge each week.
- Tags for additional bags cost \$1.00 each. Although the revenue from tag sales is redirected against collection and disposal costs, it does not meet costs.
- The original intent of the bag limit and bag tags was not as a financing mechanism, but to promote waste diversion.
- There are no time restrictions on tag usage.
- Bags set out without tags are left at curbside.
- Maximum weight per bag is 60 lbs (27 kg.). Enforcement is left to the discretion of the haulers who monitor the weight of the bags "by feel". Bags exceeding the restriction are left at curbside.
- Tags are available at participating retail outlets. Participating retailers do not receive a commission for selling the bag tags. Retailers are noted in the waste reduction calendar and lists of store locations are distributed to residents on request. The City has basic signage available for retailer to use to advertise bag tags.
- Annual tags sales have steadily increased; however, a comparable number of bags have not been observed curbside.
- User pay program has not been incorporated into the waste management by-law; instead, a Council motion governs it.



### Impacts on Waste to Landfill

Year	SFHs <sup>1</sup>	Tonnes	% Change from base year (1996) in kg/sfhh
1996 (base year)	32,682	18,032	
1997	33,569	15,564	-16%
1998	34,593	15,647	-18%
1999	37,164	17,289	-16%

- Prior to the introduction of the partial user pay program, there was no bag limit for garbage setout in Barrie.

<sup>1</sup> Note: Units of collection supplied by Barrie include businesses that receive curbside collection. Businesses are limited to setting out a maximum of 10 bags. It is roughly estimated that 6-8% of the waste collected curbside is from the business sector. (Pers. Comm. Mark Collins)

- Actual setout rates have not been formally recorded, however it is generally observed that 2 bags per household are set out.



*Impacts on Recycling*

Year	SFHs	Tonnes	% Change from base year (1996) in kg/sfhh
1996 (base year)	32,682	5,574	
1997	33,569	6,820	+19%
1998	34,593	7,680	+30%
1999	37,164	7,751	+22%

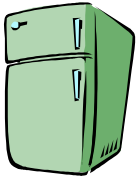
- Recyclables are collected through a weekly municipal curbside service.
- The municipality currently collects: ONP, OCC, OMG, OBB, mixed paper, plastic bottles #1 and #2, aluminum and steel cans, glass, aluminum foil trays and Tetra Pak boxes.
- Financed through municipal taxes.
- The materials collected curbside have remained the same since partial user pay was implemented, except Tetra Pak has been added to the program and diapers have been eliminated. However, diapers can be dropped of at the landfill at no charge.
- OCC is banned from landfill.



*Impacts on Leaf and Yard Waste*

Year	SFHs	Tonnes	% Change from base year (1996) in kg/sfhh
1996 (base year)	32,682	6,413	
1997	33,569	5,364	-19%
1998	34,593	4,645	-32%
1999	37,164	4,574	-37%

- Leaf and yard waste is collected bi-weekly through municipal curbside collection. In October and November the service is increased to weekly collection.
- Prior to user pay there was always a weekly service.
- It is estimated that 3,200 tonnes of organic material was diverted in 1998 (3,500 in 1999) through backyard composting.
- The number of composters sold prior to and since partial user pay is unavailable.



### ***Bulky Waste***

- Bulky Waste collection was eliminated in 1997.
- Prior to 1997, furniture, appliances, fencing, C & D waste and scrap tires were collected at curbside.
- Scrap tires are banned from landfill.

### ***Food Wastes***

- Considering implementing food waste collection in the future. The plan is temporarily on hold due to changes in senior management

### **Changes in Participation over time:**

- Participation has not changed to any great extent.
- Increase in sales of tags is considered partly due to population growth.
- Upon implementation of the user pay system, illegal dumping increased for the first 3 – 4 months. City staff would sort through bags to identify the owner of the waste. Upon identification, the individual would be sent a “threatening” letter with a photo of the evidence. Also included would be an invoice that included the cost to collect and landfill the waste, and the associated administrative (person hours) associated. The media discouraged illegal dumping by covering the tactics the City would employ, if required.
- Illegal dumping has virtually disappeared. However, there are 1-2 calls per month involving incidents where residents have dumped garbage on other residents’ property. Under the City by-law, city staff can sort through the bags and charge the residents up to a \$5,000 fine. No fines have been issued to date.
- City conducted a waste composition study in October 1997 and another in February 2001.

### **Administration Support:**

- Initially, staff went door-to-door distributing informational packages to promote the program. Now the “calendar” is the primary promotional product.
- Upon implementation, the contractor would leave a general information booklet behind with the untagged waste, for residents that did not comply with the bag limit and bag tags.
- In the first year only, the City experienced approximately 10-15% increase in administration costs
- Grocery and hardware stores sell the tags. Administrative staff drop tags off to retailers every three weeks. There is no mark-up on the price of the tags.

**Lessons Learned:**

- A problem arose relating to the number of “legal units” per stop (such as at multi-residential buildings and houses with basement apartments). To remedy this problem, a database was generated using information from property assessment. Using this information, the number of bags allowed per stop per collection day was determined. Advice: Municipalities considering user pay should determine this information before implementing a program.

**Future Goals:**

- Looking into a full user pay system and curbside food waste collection.
- For Spring 2001, the City is designing stickers for the contractor to leave on bags that have not been tagged or exceed maximum allowable weight.

## User Pay Case Study City of Orillia

**Relevance to Toronto:** Municipality with advanced distribution of 40 tags per year, close to Toronto.

**Demographics:**

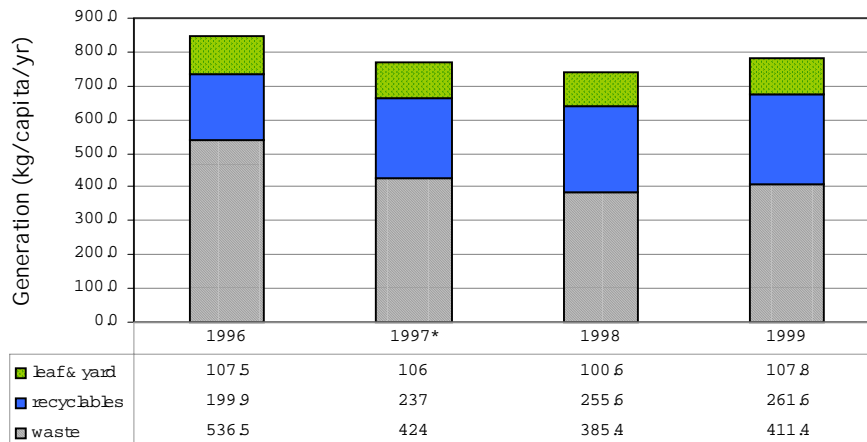
**Population:** 27,882

**Households:** 11,742 (estimated)

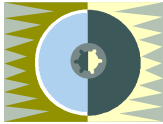
**City of Orillia, Waste Diversion at a Glance**

Type of System	Date Started	Years with Data	% change in waste landfilled (kg/sfhh/yr)	% change in recycling (kg/sfhh/yr)	% change in leaf & yard collection (kg/sfhh/yr)	% diversion (without BYC)
			Compared with baseline year 1996			
Partial 40 "free" tag system	July 1997	1996				+36%
		1997	-21%	+18%	+1%	+45%
		1998	-28%	+28%	-6%	+48%
		1999	-23%	+31%	-0%	+47%

**Orillia - Impacts of User Pay**



\*Userpay introduced in July 1997



**Program Description:**

- The City of Orillia introduced a partial user pay program in July 1997.
- Forty free tags are distributed to each household each year (was originally 50 tags/year).
- Additional tags may be purchased in packages of five for \$7.50 (or \$1.50 each).
- Tags can be purchased at participating retail outlets, City Hall and the Waste Diversion Site.
- In 1997, when the City of Orillia launched the partial user pay program each household initially received 50 tags for 50 weeks (or one tag per week). When a waste composition study (1997) revealed that organics & recyclables were being placed in the waste stream, the number of tags distributed to each household was reduced to 40 tags per year in July 1999.
- Prior to the launch of the program, there was no limit on the amount of garbage that could be set out at the curb on any given week.
- By 1995, the City was dipping into its reserve fund to finance its solid waste programs.
- The Garbage Tag Program was introduced primarily as a waste diversion and cost containment initiative and not as a source of revenue generation.



***Impacts on Waste to Landfill***

Year	SFH*	Tonnes**	% Change from base year (1996) in kg/sfhh
1996	11000	5,901	
1997	11371	4,819	-21%
1998	11742	4,525	-28%
1999	11742	4,831	-23%

\*Household numbers estimated using Statistics Canada 1996 data and the 1998 Ontario Municipal Directory.

\*\* Solid waste tonnage includes approximately 10% commercial waste.

- In 1999 a waste composition study determined the average set out rate for households placing garbage curbside was 1.4 bag/bundle/cans. However, the overall set out rate was 1.04.
- Prior to the implementation of the user pay program, there was no limit on the number of bags of garbage that could be placed at the curb every week.
- Bags placed at curb without a tag are stickered and left behind. Residents can call the City for more information and if this remains a problem, a City employee visits the resident.

- Bags that exceed the weight restriction of 20 kg (44 lbs) are tagged and left behind.



**Impacts on Recycling**

Year	SFH*	tonnes	% Change from base year (1996) in kg/sfhh
1996	11000	2,199	
1997	11371	2,692	+18%
1998	11742	3,001	+28%
1999	11742	3,072	+31%

\*Household numbers estimated using Statistics Canada 1996 data and the 1998 Ontario Municipal Directory.

- The current curbside recycling program collects ONP, OCC, OBB, mixed household paper, paperback books, molded pulp, aluminum trays and foil, glass containers, aluminum and steel cans and plastics (#1, #2, #4, #5, #7 and expanded polystyrene).
- In early 2000, the recycling program was expanded to include plastics #4, #5 and #7.



**Impacts on Leaf and Yard Waste**

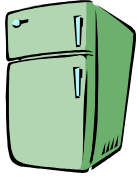
Year	SFH*	Tonnes	% Change from base year (1996) in kg/sfhh
1996	11000	1183	
1997	11371	1211	+1%
1998	11742	1181	+6%
1999	11742	1266	0%

\*Household numbers estimated using Statistics Canada 1996 data and the 1998 Ontario Municipal Directory.

- Leaf and yard waste material is collected at the curb on a weekly basis from April to November.
- There are no bans in place (i.e. no grass bans).
- Between 1996-1999 a total of 2183 composters were sold, with the following breakdown: 535 in 1996; 1102 in 1997, 314 in 1998; and, 232 in 1999.
- Although the City of Orillia received permission to compost produce waste (i.e. kitchen scraps) in 1996, implementation of the program was delayed to allow maximum saturation of backyard composters among property owners. Subsequently, produce waste is being collected in a pilot study comprising of 450 homes. Since April 2000,

produce waste collection has been available city-wide (program receives little promotion).

- The quantity of leaf and yard waste collected from year to year is highly weather dependent.



### ***Bulky Wastes***

- The City does not collect bulky waste.

### **Changes in Participation over time:**

- The City has not reported any discernable change in illegal dumping after the introduction of user pay. Any illegally dumped material is sorted and the owner is charged the clean-up costs.

### **Education and Promotion:**

- The program was given good press coverage (i.e. weekly newspaper column, signs at transit stops, etc.) and residents were sent promotion materials including brochures.

### **Administration Support:**

- No change in administrative support since the tags are mailed to each household once a year

### **Lessons Learned:**

- City of Orillia reported that distributing tags in advance reduced protest to the change.
- Staff feel that distribution of tags may ease transition to the user pay program.
- Staff mention that one free bag at the curb is different than giving away the tags, as residents are encouraged to put garbage out weekly with the former. The tag system allow residents to save tags for the future. Residents become accustomed to using the tags and drivers do not have to worry about duplexes.
- Prior to the implementation of the program, Council proposed to distribute 26 tags (one tag for every two weeks) but after a few months pressure from residents Council was forced to change the policy and distribute 50 tags for 50 weeks or one per week.

## User Pay Case Study Town of Georgina, Ontario

**Relevance to Toronto:** First full user pay program in GTA. One of few examples where recycling programs before and after user pay stayed the same and direct comparisons can be made.

**Demographics:**

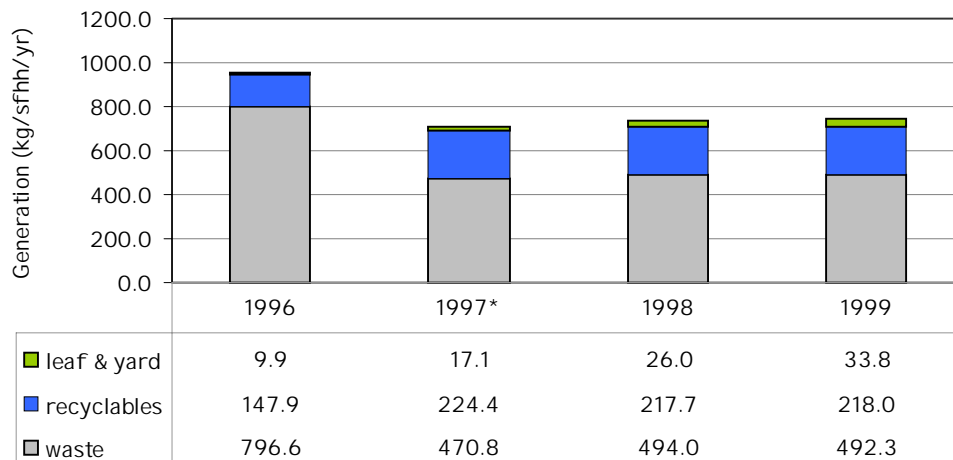
**Population:** 38,335 permanent residents

- SHF: 12,775 permanent residential households, urban and rural mix. In addition, approximately 2,035 households are treated as seasonal.

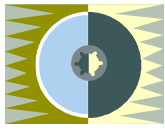
**Town of Georgina, Waste Diversion at a Glance**

Type of System	Date Started	Years with Data	% change in waste landfilled (kg/sfhh/yr)	% change in recycling (kg/sfhh/yr)	% change in leaf & yard collection (kg/sfhh/yr)	% diversion (with BYC)
			<b>Compared with baseline year 1996</b>			
Full Bag/Tag system	January 1997	1996				+19%
		1997	-41%	+52%	+72%	+37%
		1998	-38%	+47%	+162%	+36%
		1999	-38%	+47%	+241%	+37%

**Georgina - Impacts of User Pay**



\* User pay introduced in 1997.



### Program Description:

- Full user pay system implemented in January 1997. Bag tags are \$1 each.
- Maximum weight per bag or container is 50 lb. (22 kg.). Collection crew monitor bag weight “by feel” during collection. Orange stickers are placed on bags that exceed maximum weight and are left at the curb.
- Maximum size of any bag is 76 cm by 122 cm. Maximum size of can is 50 cm by 90 cm.
- Tags may be purchased at over 60 retailers. Participating merchants do not receive a commission for selling the bag tags. Town staff distributes the bag tags on a weekly or biweekly schedule, and upon request. Upon delivery of the bag tags, the merchants receive an invoice and payment is due within 30 days. Participating retailers are identified in promotional advertising and are provided a window sign to identify the store as a bag tag distributor.
- Amnesty Days are held in May and September, whereby residents can set out a maximum of 5 bags without tags.
- Tags help to offset collection and disposal costs, which were further supplemented by approximately 1.4% of the tax levy in 1999.
- Without introducing user pay, Georgina faced a 9% increase in taxes to offset increases in waste management costs.



### *Impacts on Waste to Landfill*

Year	SFHs	Tonnes	% Change from base year (1996)
1996 (base year)	11,995	9,555	
1997	11,225	5,285	-41%
1998	12,369	6,110	-38%
1999	12,778	6,291	-38%

Note: Weigh scale data is not available prior to January 1997. 1996 information is based on the average waste generation in other York Region municipalities as recorded at the Keele Valley Landfill site.

- Random ‘Curbside Bag Counts’ are performed monthly to estimate the average set out rate for bags/household/week the setout rate has changed as follows:
  - In 1996, the average number of bags/household/week was 1.8.
  - In 1997, this number decreased to an average of 0.76 bags/household/week, showing a 58% reduction.
  - In 1998, the average set out rate was further reduced by 16% to an average of 0.64 bags/household/week/.
  - In 1999, the average setout rate increased marginally from the year previous, averaging 0.71 bags/household/week (reduction of 61% from 1996).

- Before user pay, a maximum of 10 bags was allowed per residence per collection. This maximum was eliminated upon introduction of user pay.



***Impacts on Recycling***

Year	SFHs	Tonnes	% Change from base year (1996)
1996 (base year)	11,995	1,174	
1997	11,225	2,519	+52%
1998	12,369	2,693	+47%
1999	12,778	2,786	+47%

- The municipality provides a weekly curbside collection.
- The municipality currently collects: ONP, OMG, OCC, household paper, glass containers, aluminum and steel cans, plastics #1 and #2 with screw top lids. There has been no significant expansion of materials collected since user pay system implemented.

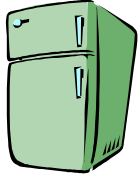


***Impacts on Leaf and Yard Waste***

Year	SFHs	Tonnes	% Change from base year (1996)
1996 (base year)	11,995	119	
1997	11,225	192	+72%
1998*	12,369	322	+162%
1999	12,778	432	+241%

Note: Service expanded.

- Prior to user pay, leaf & yard waste was collected in the fall only. In 1998, service was expanded to a spring and fall collection. Service was expanded due to public pressure. Currently, there are three spring and two fall collections.
- Leaf and yard waste does not require a tag.
- The Town has had a backyard composter program since 1991/1992. Since 1998, composters have been available year round for a cost of \$25 per unit.
- The Town cites that 45-50% of households have backyard composters, and a 90% participation rate.
- The Town has distributed an estimated 5,000 composters since 1994. Information is not available on whether the rate of composter sales increased after user pay was implemented.



## ***Bulky Waste***

- Bulky wastes are collected year round, once a month. A maximum of five bulky items can be set out per property. Each item must have a \$1 sticker.
- Prior to user pay, bulky waste was collected monthly from May and October, with a maximum of five items.

### **Changes in Participation over time:**

- The Town of Georgina recorded 167 incidents of illegal dumping in 1997 (or 0.01% of households not complying with program). The number of recorded illegal dumping incidents has risen (which is attributed to an increase in inspections) in 1998 and 1999, with 356 and 342 recorded incidents, respectively (an average of one incident of illegally dumped garbage per day).
- The Town established a by-law prohibiting illegal dumping. Fines are set at \$100 if the owner of the garbage is identified.
- There was a 6% decrease in tag sales from 1997 to 1999. Town staff assumed that residents diverted more wastes and set bags at curb that were totally full .

### **Promotion and Education:**

- Public meetings were held in summer 1996. Educational campaign began 6 months prior to program implementation. The user pay program was advertised in newspaper through Q & As. Flyers and the waste management newsletters were inserted into local newspaper.
- Mayor participated in a call-in show on the local cable television station.
- Currently education and promotion involves posting general advertisements in the local paper. Each year the user pay program is described in an annual report.

### **Administration Support:**

- One additional staff member (inspector) was hired to deal with illegal dumping at \$30,000 per year.
- User pay has proven to be 14.3 % less costly to total system cost compared with no user pay. Net municipal cost savings = 51% less costly than with no user pay.
- "The reduction in the waste management budget resulted from: bag tag revenues, a decrease in the garbage collection contract due to the decreased amount of garbage to be collected; avoided tipping fees from the 40% reduction in waste to landfill; and, an increase in recycling revenues. Balanced by: increased yard waste costs; increased administration fees; printing and advertising costs to promote the program; an increase in the recycling contract due to the increased amount of recyclables to be collected."  
(Source: Town of Georgina: Report No. PPW-98-22)

- Participating retailers are identified in promotional advertising and are provided a window sign to identify the store as a bag tag distributor.

**Future Goals:**

- Intend to focus on continued public education. For example, it is important for new residents to understand that waste management costs cannot be absorbed through the tax base in the Town of Georgina.
- Considering promoting curbside exchange programs.
- Continue to promote diversion through composting.
- No plans to increase the price of bag tags or expand the recycling program.