

**NETPP Subcommittee on Policies and Practices
Suggested Recommendations as of Nov. 12, 2003**

Introduction – With the operation of current source separated diversion practices (Blue Box, Grey Box, Environment Days, etc) including the rollout of the Source Separated Organics (Green Bin) in Etobicoke and Scarborough, the City expects to see a diversion rate of 31% by the end of 2003. This slightly exceeds the Task Force 2010 goal of 30% by 2003.

With the full rollout of the Green Bin program to the remaining single family dwellings, the City expects the overall diversion rate to move to 38%. This falls short of the 60% diversion required to be achieved through source separation efforts.

The following tables shows the estimated breakdown of diversion efforts for the year 2010, for the currently approved source separation programs, for single family (SF) and multi-family (MF) residences, city agency, boards, commission and departments (ABCDs), and commercial wastes.

Expected Diversion by Source in 2010 assuming no changes/expansions in source separation diversion practices - Includes full rollout of SSO in Single Family Dwellings				
Population Growth Accounted For				
Source of Material	Quantity Generated -Tonnes	Expected Status Quo Diversion - Tonnes		% Diverted
SF	611,535	343,129		56%
MF	341,525	35,768		10%
SF+MF Total	953,060	378,897		40%
ABCD	92,400	8,800		10%
Commercial	59,400	27,500		46%
Total	1,104,860	415,197		38%
BREAKDOWN OF MATERIALS CAPTURED IN 2010 - RESIDENTIAL ONLY				
Population Growth Accounted For				
Up to the full implementation of SSO in Single Family Residences				
Material Category	Type of Dwelling	Quantity Generated - Tonnes	Expected Diversion - Tonnes	% Diverted in Category
Recyclables				
Paper Fibers (GB + Non-GB)	SF	197,788	94,170	48%
	MF	92,179	21,447	23%
Glass (BB + Non-BB)	SF	36,634	24,423	67%
	MF	8,714	4,442	51%
Metals (BB + Non-BB)	SF	42,627	16,470	39%
	MF	8,902	2,225	25%
Plastics (BB + Non-BB)	SF	38,382	3,389	9%
	MF	37,601	2,045	5%
SSO Organic Material				
SSO (food waste, pet waste, ect)	SF	138,889	100,000	72%
	MF	134	0	0%
Other Initiatives				
Other Compostables (BYC, GC, L&Y)	SF	107,292	96,563	90%
	MF	0	0	na
HHW	SF	1,673	502	30%
	MF	1,202	360	30%
Depots/Environment Days	SF	7,069	2,121	30%
	MF	842	253	30%
White Goods	SF	2,458	1,721	70%
	MF	3,090	1,236	40%
Deposit Return	SF	4,666	4,199	90%
	MF	3,351	3,016	90%
Category Total SF	SF	577,478	343,129	
Remaining SF Residual	SF	34,058	0	
Total SF (includes Residual)	SF	611,535	343,129	56%
Category Total MF	MF	289,756	35,768	
Remaining MF Residual	MF	51,769	0	
Total MF (includes Residual)	MF	341,525	35,768	10%

Notes:

- GB+Non-GB – includes items accepted in the Grey Box (newspapers) and items not accepted in the Grey Box (spiral wound)
- BB+Non-BB – includes items accepted in the Blue Box (PET) and items not accepted in the Blue Box (film)
- SSO – includes solicited organic material in the Green Bin program
- BYC – backyard composting
- GC – grass cycling
- L&Y – Curbside collected Leaf and Yard Waste
- HHW – household hazardous waste
- SF – Single Family Dwelling
- MF – Multi-family Dwelling
- Depots/Environment Days – includes all material accepted at Depots and Environment Day events (scrap metal, cardboard, tires, polystyrene, wood, Good Will Box, ect)
- White Goods – fridge, stove, ect
- Remaining Residuals – items outside these categories – of which we don't have collection programs for.

Recommendation: In order to significantly increase diversion rates beyond 38%, the City must adopt and implement more aggressive policies and practices that will require that those who live and work in the City reduce, reuse and recycle more of their wastes. This should begin with: 1) maximizing the effectiveness of the currently approved diversion programs; and then 2) expansion of the programs to capture additional recyclables. It will also be necessary to ensure effective planning, design and implementation of new diversion programs.

Decisions on these additional policies and practices for diverting wastes from landfilling should be based on the following criteria:

- a. Maximization of use of existing diversion programs
- b. Potential quantities, by weight and volume, that can be diverted
- c. Recyclability and marketability of the materials
- d. Negative impacts of the materials on the environment if not diverted
- e. Net cost of diversion (relative to landfilling and other methods)
- f. Impositions on waste generators (e.g. residents)
- g. Feasibility of City implementing actions (jurisdictional constraints).

The relative importance given to each of these criteria will determine the acceptability of various policies and practices. However, in order for the City to significantly increase its diversion from landfilling, and reach the goal of at least 60% diversion in 2006, it must be understood that there will be a need for additional costs and increased commitment by both the City and its residents.

On the basis of these criteria, and building on the work of the Task Force and Works Department staff, the Advisory Group makes the following recommendations. Under each recommendation is an estimate of the additional quantity of materials that can be diverted (and increase in % overall diversion) in 2010 if the recommendation is implemented.

Recommendations:

1. INCREASE PARTICIPATION IN DIVERSION PROGRAMS:

1.1 Promotion and Education: *The City should implement an aggressive and creative education and promotion program to increase both participation rates and capture rates in municipal reuse, recycling and source-separated organics (SSO) programs.*

Examples of promotion and education initiatives include, but are not limited to:

- a. *Aggressively promoter participation in recycling, SSO, BYC, depots, and other programs that are, and will be, established.*
- b. *Encouraging best practices by helping to educate SF residents and MF residents/ superintendents, e.g. by developing a set of possible models and plans for diversion from different types of residences.*
- c. *Developing education and promotion initiatives for targeted groups to increase their participation in various diversion programs. The focus should be on those that do not participate in diversion programs. These should be community/neighborhood-based and developed for targeted groups. Groups to target include: SF residences; MF residences; different gender and age groups; cultural groups; commercial establishments; and ABC&Ds and schools.*

- d. Educating groups on cost of diversion and cost of not diverting.
- e. Using creative methods such as newspaper ads, TV spots, billboards, written materials, City web site.
- f. Using volunteer groups and students to promote reduction, reuse and recycling, including student volunteers through Toronto Environmental Volunteers, scouts, guides, community organizations, etc.
- g. Using incentive programs such giving prizes, e.g. special lottery prizes, to those who participate in certain diversion programs.
- h. Recognizing though municipal wards, individuals and groups who demonstrate the waste diversion ethic.
- i. Giving awards to commercial re-users and recyclers.

Effects diversion of all categories of materials from all sources. This is especially true with television advertising. TV ads would have a broad ranging effects that could not be isolated.	Effects reflected under other recommendations.
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1.2 MF Diversion: The City should, in consultation with the Apartment Working Group, aggressively implement programs for diversion from existing and new MF buildings for current recyclable materials and SSO. This should include:

- a. Expanding SSO to include MF residences.
- b. Amending zoning by-laws to require all new MF buildings to have systems for SSO (recycling systems already required).
- c. Providing support, e.g. subsidies and expertise, for changes in waste disposal infrastructure at existing MF buildings to encourage diversion.
- d. Using audits of MF buildings to help design MF diversion programs.

SSO in MF Units ^(b) (tonnes)	32000-40000 (3-4%)
3-Stream System MF ^(a) (tonnes)	5000-7000 (0.5%)

1.3 Agencies, Boards, Commissions and Departments (ABC&Ds) and Schools: The City should lead by example by aggressively supporting diversion programs with targets for its ABC&Ds and schools, beginning with full participation in existing diversion programs, and then expanding the capture of SSO. Implementation of this recommendation should be done in consultation with the ABC&Ds Waste Diversion Team and both School Working Groups.

ABCD SSO implementation and increased recycling (tonnes)	24000-36000 (2.2-3.3%)
ABCD (other initiatives) (tonnes)	13000-21000 (1.2-1.9%)
Commercial improved SSO recycling (tonnes)	5000-7000 (0.5%)
Commercial (other initiatives) (tonnes)	1000-3000 (0.2%)

1.4 Public Space Waste: The City should increase the diversion of materials (blue/grey box and SSO materials) generated in public spaces, such as parks and sidewalks, by ensuring that there are adequate recycling containers in public spaces, and by establishing incentives for participation in these diversion programs. This should include, but not be limited to the City:

- a. Promoting diversion programs at special events on public spaces.
- b. Requiring diversion by those given City permits for vending and events.
- c. Charging (PAYT) for collection of non-diverted wastes at special events, such as for sports and music, where the City collects such wastes.
- d. Providing methods for source separation during community clean up activities.

Included with ABCD numbers	
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1.5 Recycling Containers: The City should ensure that all SF and MF residences have easy or ready access (at no or low cost) to appropriate reusable containers for recycling, SSO, and BYC. This should include:

- a. Allowing residents some flexibility in the choice of container sizes.
- b. Not using plastic bags (film plastics) as containers for recycling unless bag producers establish recycling programs and markets for such bags and other film plastics.

3-Stream System SF ^(a) /CART ^(a)	11000-15000 (1.0-1.4%)
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1.6 By-law Enforcement: The City should increase compliance with current by-laws and policies for diversion from SF and MF residences, ABC&Ds and schools, and expand these by-laws to include SSO.

Compliance enforcement is done to support all other initiatives	N/A
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1.7 Waste Limits and User Fees: To further increase diversion from SF and MF residences, the City should implement a combination of reduced limits on the amount of waste that the city will accept for pick-up and user (PAYT) fees based on the amount of waste collected over and above a specified amount. Such limits and fees should be introduced in a two phase manner: 1) an immediate reduction in current limits in recognition that all residences currently have access to the blue/grey box recycling program; and 2) a further reduction in the limits upon the introduction of an SSO program. In addition, fees should be instituted immediately for the collection of bulky items and “white” goods.

PAYT SF ^(c) (tonnes)	22000-32000 (2.0-2.9%)
PAYT MF ^(c) (tonnes)	11000-19000 (1.0-1.7%)

It is estimated that implementation of the above recommendations would increase diversion by an additional 124,000 to 180,000 tonnes in 2010. This would increase the percentage diverted an additional 11% to 16% thereby increasing the overall diversion from 38% to between 49% and 54%.

2. EXPAND MATERIALS CAPTURED IN DIVERSION PROGRAMS:

2.1 Recyclable Materials: The City should expand recycling programs to accept additional types of recyclable materials. This should include accepting into the Blue/Grey Box program additional types of paper fibres, plastics, glass and metals. This should be implemented in several stages, as follows:

- a. Ensure full implementation for currently recyclable and marketable materials that are not captured in the BB/GB programs, such as polystyrene and film plastics.
- b. Investigate the recyclability and potential markets for all other materials such as multi-layer papers and various plastics that are not captured in diversion programs.
- c. For recyclable materials with weak or no markets, help develop and promote markets for these materials, e.g. through procurement policies. Also, consider that if no ready market exists, the City could give the material away or pay someone to take it because of the anticipated cost savings from diversion.

Tubs/lids SF+MF ^(d) (tonnes)	1000-3000 (0.1-0.3%)
Film SF+MF ^(d) (tonnes)	5000-7000 (0.5-0.6%)
Polystyrene SF+MF ^(d) (tonnes)	2000-4000 (0.2-0.4%)

2.2 Expansion of Non-curbide Reuse and Recycling Programs: The City should establish and aggressively promote programs to reuse and/or recycle materials not currently collected curbside, such as hazardous materials, used clothing, scrap metals and wood, small appliances and other electronic equipment, furniture, mattresses, carpets, construction/demolition waste, etc. This should start by increasing the participation in existing systems, developing new systems for capturing currently reusable and recyclable materials, and then developing new programs for additional materials.

A number of individual or integrated systems should be used for different types of materials, including:

- a. Depots, such as at grocery store lots and city yards
 - b. Reuse centers. The City should promote giving of materials to non-profits (e.g. Goodwill)
 - c. Community based garage sales in various locations, such as parks
 - d. Scavenger days
 - e. Contractor pick up
 - f. Waste exchange via city web site
 - g. Arrangements with commercial enterprises, e.g. commercial enterprises, to take back used goods in keeping with the principle of Producer Responsibility. This should start with hazardous wastes such as paints, oils, batteries, fluorescent lights, medications, and smoke detectors. It should then be expanded to other materials based on quantities that can be diverted.
 - h. Awards to commercial re-users and recyclers.
- The above set of programs could be integrated into a single system with an identifiable logo.

Household Hazardous Waste (tonnes)	1000-3000 (0.1-0.3%)
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Re-use Centres ^(c) (tonnes)	13000-27000 (1.2-2.4%)
Scrap Metal ^(f) (tonnes)	1000-3000 (0.1-0.3%)
Electronics ^(g) (tonnes)	8000-12000 (0.7-1.1%)
Other (wood, residential construction & demolition waste, ect)	?

It is estimated that implementation of the above recommendations (2.1 and 2.2) would increase diversion by an additional 31,000 to 59,000 tonnes in 2010. This would increase the percentage diverted an additional 3% to 5%.

The combined effect of all of the above recommendations would be to increase diversion from 38% to approximately 52% to 59%.

These increases in diversion will only be achieved, however, if there is effective planning, design and implementation of the above recommendations.

3. ENSURE EFFECTIVE IMPLEMENTATION OF ABOVE DIVERSION PROGRAMS:

3.1 Working Group: *The City should establish a Waste Diversion Working Group to oversee the development, implementation, promotion and monitoring of diversion programs. The Working Group should:*

- a. *Include members of the public, City staff, frontline collection workers, and possibly Works Committee members.*
- b. *Establish plans with timelines*
- c. *Establish clear reporting structures for its work and for implementation and operation of diversion programs*
- d. *Coordinate its work with that of the working groups for apartments, ABC&Ds and schools.*

3.2 Cost Estimates: *In order to determine the net revenue/cost of various diversion programs, the City should estimate the following for each program: a) cost of implementation; b) cost savings from diversion (landfill cost avoidance); and c) revenues. These estimates should account for possible future changes over time, and uncertainties in these estimates should be explicitly included.*

3.3 Funding: *The City should establish as soon as possible, dedicated, long-term funding to support its waste diversion programs. Such funding could come from any or all of the following sources: user fees (PAYT), private sector tipping fees, waste utility fee (similar to water and sewage bill), and/or city budget.*

3.4 Contracts: *New contracts for waste collection and processing should include incentives to maximize diversion and be written to encourage, and not be impediments to, the effective implementation of the above recommendations.*

3.5 City Staff: *The City should establish ways to recognize City staff who meet or exceed diversion targets.*

The Advisory Group will also be developing important recommendations concerning roles for Federal and Provincial level agencies and increased diversion of commercial waste.

Implementation of all the recommendations above would result in the following diversion being achieved. It was assumed in all cases that the middle of the ranges provided above were achieved (“New Diversion – Tonnes” column) and that the programs are implemented in the order below.

Program	Impact on 2010 Target	New Diversion Tonnes	Tonnes Needed to get to 60% Source Separation Diversion Target	New Diversion with program implementation
New Programs				
3-Stream System SF ^(a) /CART ^(a)	0.2%	2,645	241,498	38%
SSO in MF Units ^(b)	3.5%	39,388	202,110	42%
3-Stream System MF ^(a)	0.5%	6,000	196,110	42%
PAYT SF ^(c)	2.5%	27,353	168,757	44%
PAYT MF ^(c)	1.4%	15,369	153,388	46%
Tubs/lids SF+MF ^(d)	0.1%	1,600	151,788	46%
Film SF+MF ^(d)	0.5%	5,600	146,188	46%
Polystyrene SF+MF ^(d)	0.3%	2,880	143,308	47%
Household Hazardous Waste	0.1%	1,500	141,808	47%
Re-use Centres ^(e)	1.8%	20,000	121,808	49%
Scrap Metal ^(f)	0.2%	2,000	119,808	49%
Electronics ^(g)	0.9%	10,000	109,808	50%
ABCD - SSO + Improve Recycling	2.7%	30,000	79,808	52%
Commercial – Improve SSO and Recycling	0.5%	6,000	73,808	53%
ABCD - other initiatives	1.5%	17,000	56,808	55%
Commercial - other initiatives	0.2%	2,000	54,808	55%
Extra Promotion	?	?	?	?
Other (wood, residential C&D)	?	?	?	?

Notes:

a – Three-Stream System and Cart-Based Recycling Impacts:

Single Family - With the implementation of the Green Bin program in Scarborough and the Three Stream collection system, an 8% increase in recycling for Single Family dwellings was noted. (123,000 tonnes recyclables SF in 2003 * 1.07 population growth * 8% = 10,000 tonne increase in recycling).

Large recycling carts could increase collection of recyclables by 4%. This was based on a report of the Solid Waste Agency of North Cook County – November 2001 called Curbside Recycling....Out with the Bins, In with the Carts. Assume they can be used in 50% of SF dwellings (not all SF dwellings will be conducive to these large carts). (123,000 * 7% population growth * 50% can use them * 4% = 2,600 tonnes additional material)

Multi-Family – It is assumed that a 20% increase in recycling can be achieved through the three-stream system in multi-family dwellings. A higher increase was assumed since current recycling capture rates are so low – there is more room to improve the MF recycling numbers (26,000 tonnes for 2003 * 1.15 population growth * .20% = 6,000 additional tonnes)

b – Green Bin program in Multi-Family Units

Current pilots have resulted in 75 kg/household/year of organics being collected. (455,173 MF units in 2003 * 15% for population growth * 75 kg/hhld/yr = 39,338 tonnes)

c – Pay as you Throw Impacts for Single and Multi-Family dwellings

The region of Peels saw a 4% decrease in residual waste and a 10% increase in recyclables. Their PAYT system is based on 3 bags free and paying for additional bags.

Single Family: (331,000 tonnes of SF waste in 2003 * 1.07 for population growth * 4% + 123,000 tonnes of SF recyclables * 1.07 population growth * 10% = 27,353 tonnes) Toronto's PAYT system would be based on 2 bags/hhld/week then pay \$1 per bag. It was assumed that this more aggressive PAYT would be required to obtain the same results as Peel given the SSO program is implemented and the potential for diminishing returns on new programs.

Multi-Family: It was assumed that similar results could be achieved in MF dwellings. -(268,000 tonnes waste in 2003 *1.15 population growth *4% + 26,000 tonnes recyclables * 1.15 population growth * 10% = 15,369 tonnes)

d – numbers taken from: Plastic Waste Management in Ontario, prepared for WDO, CSR & EPIC, by ENVIROSRIS, Sept. 2001. Assumed an 80% capture rate was possible.

e – based on an internal staff report on Re-use centres

f - based on the City's 2002 scrap metal pilot results. Assumed 2 collections per year rollout to SF and MF

g – numbers taken from: Baseline Study of End-of-Life Electrical and Electronic Equipment in Canada, Prepared for Environment Canada, by RIS Int'l Ltd., FiveWinds Int'l and Electro-Federation Canada, June 2003 and Information Technology(IT) and Telecommunication(Telecom) Waste In Canada, Prepared for Environment Canada, by ENVIROSRIS, Oct. 2000 (130,000 tonnes of household electronics + 20,000 tonnes computers annually in Canada with Toronto being 9% of Canadian total and assumed an 80% capture rate = 10,000 tonnes)