



The City of Toronto
STREETS LITTER AUDIT
2006

PREPARED FOR

Citizen Focused Services B,
Solid Waste Management Services Division

Final Report
PREPARED BY MGM Management
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Executive Summary

Preliminary Report (Sept 5, 2006)

The City of Toronto has conducted Litter Audits in 2002, 2004, 2005 and again in 2006. The field observations for the 2006 litter audit were conducted between July 14, 2006 and August 11, 2006.

The Toronto Litter Audits of 2002, 2004, 2005 and 2006 were done using the same methodology to allow comparison of the observations. The same sites examined in 2002 were re-audited in 2004, 2005 and 2006; with additional sites added in 2005 and 2006 to broaden the number of sites audited to a current total of 298 sites across Toronto.

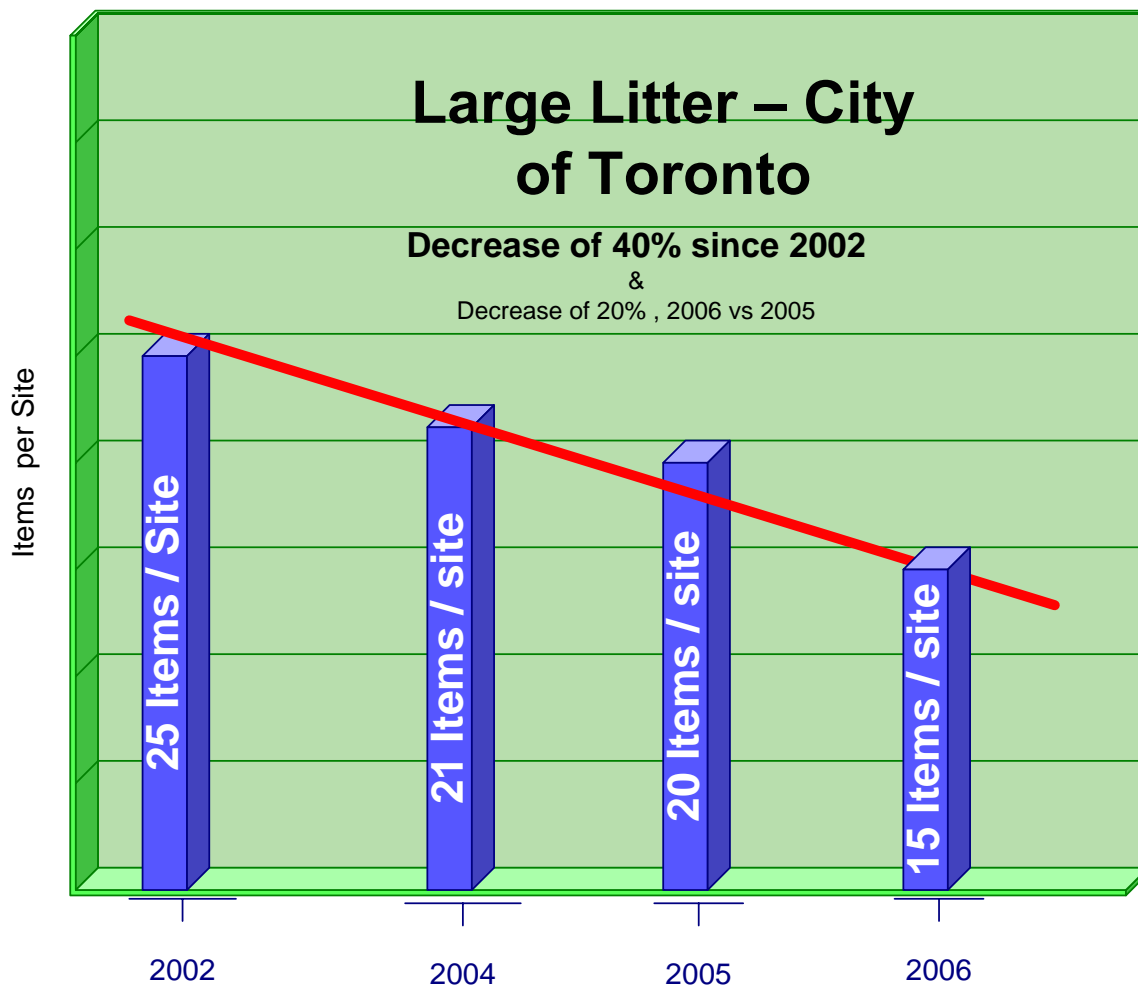
The 2006 audit was conducted using a proven methodology similar to the one originally developed and used in Florida, USA. This methodology has been proven to be a simple and repeatable method for counting litter on Toronto streets.

For each of the Toronto litter audits (2002, 2004, 2005, and 2006); GIS (Arcview) coordinates were used to locate potential road sections within the City to locate sites. From these segments 700 potential sites for litter counting were located. In total 272 randomly selected sites were audited by the survey teams in 2005, with this total increased to 298 in 2006. All 2005 sites were audited again in 2006 in order to make comparisons possible.

Litter is classified as "large" for those items over 4 square inches in size or as "small" litter for items less than 4 sq. in.. Eighty-four sub-categories of large and sixteen sub-categories for small litter were examined. Gum deposits have been examined as a small litter category since the 2004 audit, at the request of City staff.

A total of 4,341 pieces of large litter were counted during the 2006 litter audit. This was an average of 15 pieces of large litter per site, compared to the average of 20 pieces per site in 2005, and 21 items / site in 2004. Between 2006 and 2005 a one-year decrease of 25% less litter on Toronto streets was observed. Observed large litter on Toronto streets has decreased 40% since 2002 (from an average of 25 Items/ site in 2002 to 15 Items/ site in 2006).

The chart on the next page illustrates the improvements in the amount of large litter on Toronto streets compared to 2002.



In total 6,240 pieces of small litter were counted in the 2006 Toronto Litter audit (298 sites), including gum deposits on streets and sidewalks. This averaged 21 small litter items / site, compared to 40 pieces of small litter per 2005 (11,099 pieces / 272 sites). This significant reduction in small litter observations corresponds with our findings that city streets had less large litter on them in 2006. Toronto streets were noticeably cleaner in 2006.

Gum deposits on Toronto streets remain a significant issue. As noted above, a total of 6,240 small litter pieces were counted during the 2006 audit. Of this total there were 1,932 gum deposits on city property observed during the 2006 audit – this represents 31% of all the small litter counted and is by far the largest category counted.

In the 2006 litter audit it was apparent to the consultant that the city streets were cleaner than in 2005. This was confirmed visually by the consultant by auditing the work of audit crews, and by visual observations at previously high litter areas: Dundas St. W, Queen Street W, and Bloor St. W as examples. Below we provide photographic snapshots of the lack of street litter at these locations, at mid-day during the 2006 field work.

Dundas St. W - 2 PM July 21, 2006



Queen St. W - 11:55 AM Aug. 1, 2006



Bloor St. W - 11:30 AM July 26, 2006



In examining the reasons for this significant improvement in litter observed on city streets the consultant met with Works Dept staff (Mr. Lino Pessoa – Manager – Litter Collection Services), to examine what improvements have been made in operations.

Since 2002, Toronto has markedly revamped its tactics for cleaning city streets. Mr. Pessoa, Manager explained that the city operates three types of litter cleaning services.

The earliest assignments each day are the mobile street and sidewalk vacuum equipment. There are 44 city owned and 12 contracted pieces of equipment that start as early as 4 am until 12 noon. Assigned routes in the downtown area include sidewalks, major and minor city streets, alleyways, and lanes. Within the past two years the use of mechanized street and sidewalk cleaning equipment has increased, and the technology of the equipment is improving. For instance, the City is now using state-of-the art “waterless / dustless” sweepers that can be used year round and have lower air emissions. The city is planning to procure more of these units when replacing existing assets.

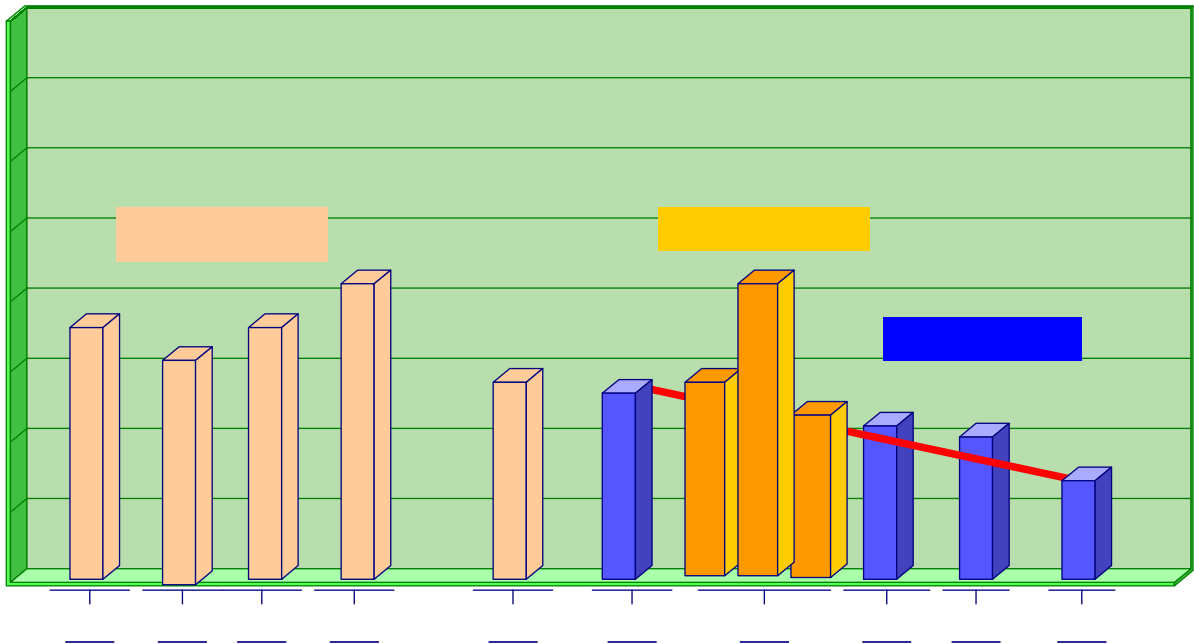
There are 64 Bag & Broom routes assigned across Toronto. These are manual street cleaning staff using a broom and bag to clean routes that are assigned within a geographical area. These staff generally work from 6 am until 2 pm, with the objective of having the heaviest littered areas clean before 9 am in the downtown core and between noon and 2 pm elsewhere. Mr. Pessoa commented that reassigned resources have been deployed in the downtown area to assure the optimum litter removal in that busy part of the city.

Litter Operations staff also operate 27 so called “Flying Squad Routes”. These are staff with a mobilized vehicle that are dispatched to particularly littered areas for specific clean-ups, as well as picking up from Bag & Broom routes. See Appendix 5 – Cleaning Routes

One of the observations that the consultant noticed is that the coordination of litter collection services appears to be making collection more effective. With effective collection comes less littered streets – which build positive behavior on the part of Toronto residents. Citizens are less likely to litter if the streets are clean. Another observation is that the number and location of trash receptacles has increased on city streets since the 2002 audit. This “opportunity to dispose of trash properly” appears to be supporting a reduction of litter on the streets.

The observations of litter items per audit site have continually decreased since the first litter audit in 2002. Toronto continues to show lower litter rates than other major municipalities audited in Ontario, and in the USA (State of Florida), where data is available using the same methodology.

Performance vs. Other Jurisdictions



The most significant “material type” observed was plastic materials (misc. plastic, plastic packaging, wrap, bags-retail and non-retail, hot and cold drink cups, jars, bottles, composites, utensils, zip bags, beverage containers, trays, polystyrene cups, confectionary, sweet and snack food packaging, pouches, plates, retail bags, carrying rings) which were 27% of total litter counted litter (1,168 of 4,341 pieces of large litter counted). In the 2005 litter audit plastics were also the largest material type observed where these materials composed 28% of total litter counted litter (1,526 of 5,412 pieces of large litter counted).

Fibre products represented the second most observed “material type” of litter (including paper, paperboard, cardboard, towels, napkins, newspapers, books, flyers, printed materials, and business forms, stationary). Fibre products were 22 % of large litter items counted (955 of 4,341 pieces). The finding of fibre being the second most observed material after plastic is consistent with our findings in the 2005 litter audit. In the 2005 litter audit fibre products contributed 25% of large litter items counted (1,357 of 5,412 pieces).

Since 2002, small litter has been sampled to test the statistical validity of the small litter count methodology. Concerns were expressed by city staff with respect to the relatively small sample size of these small litter samples. The City asked the consultant to consider an improved methodology for future litter audits.

The small litter methodology was enhanced to conduct a valid small litter baseline sample at 55 sites – called “Super Sites.” Litter is counted over the full area of the site for small litter, and in 2006 a total of 71,211 pieces of small litter were counted at the “Super Sites.” In 2005, 68 Super – Sites were examined observing 51,659 pieces of small litter.

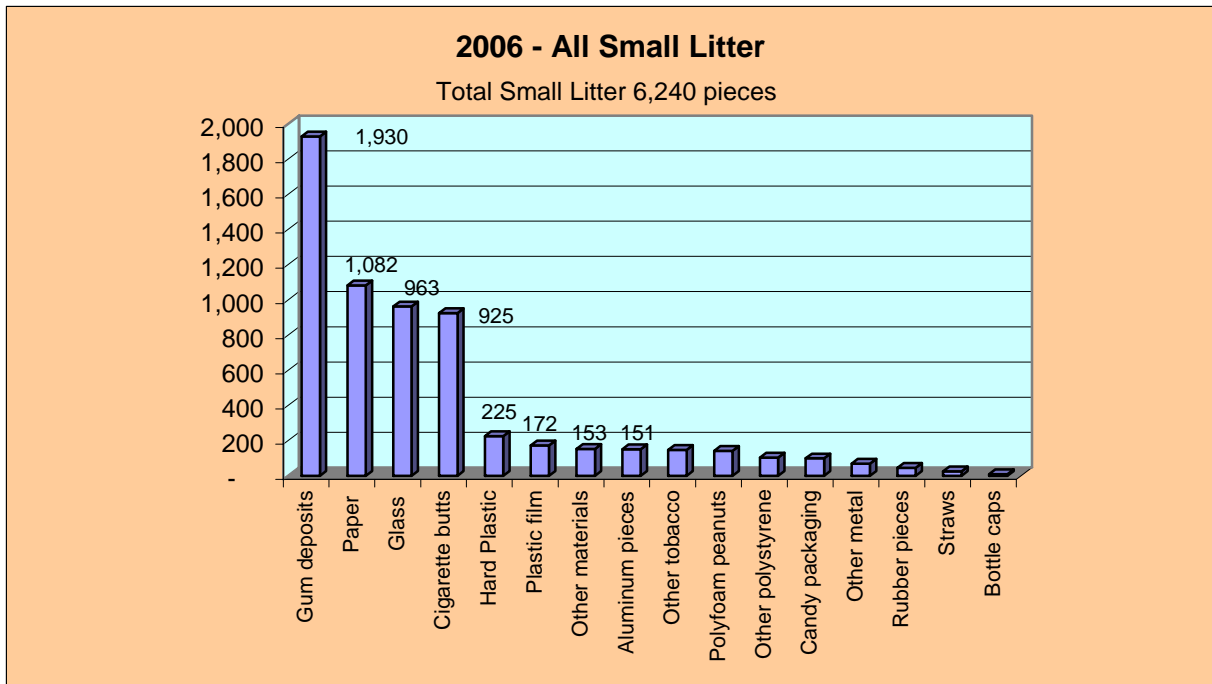
Observations for the 55 sites examined as Super Sites in 2006 yielded 71,211 items of small litter or 1,294 items/ site; compared to 51,659 total items or 760 items / site in 2005.

Similar to our findings in 2005 - 40 % of all of the small litter observed (28,515 observations from a total of 71,211 small items counted) at the 55 Super Sites were identified as chewing gum deposits. This compares to 37.9% of all small litter in 2005 (19,569 observations from a total of 51,659 small items counted) and 52% as gum deposits in 2004 (25,895 observations from a total of 49,928 small items counted) at the 47 Super Sites identified as chewing gum deposits.

In 2006 gum deposits averaged 518 per 3,600 square foot site compared to 288 per 3,600 square foot site in 2005 and 550 gum deposits per site in 2004. Several sites had over 2,000 gum deposits within the site boundary; and one site (Bloor St. W – Site #301) had 7,332 gum deposits on site. The number of sites with > 1000 gum deposits in 2006 was 9, in 2005 it was 8 of 68 (12%) and 9 of 47 sites in 2004 (19%) supporting the finding that gum deposits continue to a concern on streets.

Small litter is difficult to control, in that it is “manufactured” by a combination of degradation (weather) and man-made activities (vehicle traffic, mowing, etc.).

The small litter results for the 2006 sites examined are illustrated below by category.



Toronto 2006 Small Litter – Data by Category

2006 - Small Litter Results

	Items Counted	% of Total Small Litter
Gum deposits	1,930	30.9%
Paper	1,082	17.3%
Glass	963	15.4%
Cigarette butts	925	14.8%
Hard Plastic	225	3.6%
Plastic film	172	2.8%
Other materials	153	2.5%
Aluminum pieces	151	2.4%
Other tobacco	147	2.4%
Polyfoam peanuts	141	2.3%
Other polystyrene	103	1.7%
Candy packaging	99	1.6%
Other metal	69	1.1%
Rubber pieces	45	0.7%
Straws	26	0.4%
Bottle caps	9	0.1%
	6,240	100.0%

49% Less small litter than in 2005
 21 Pieces small litter per site 2006
 41 Pieces small litter per site 2005

Gum deposits as a sub-category of litter is an issue on Toronto streets. The Super Site methodology, although painstaking, provides a much larger small litter sample compared to the previously used methodology, thus we are confident that the results indicate a significant contribution by chewing gum to the occurrence of small litter on Toronto street. It must also be remembered that gum deposits do not degrade quickly, and tend to accumulate with time. It is difficult to remove these deposits from pavement.

After chewing gum deposits, the next largest contributing sub-categories of small litter are Broken glass pieces (12,029 pieces or 16.9% of small litter observed) and tobacco products with 9,711 cigarette butts and 800 observed other tobacco small litter items observed using this methodology. This is still a very significant contribution to small litter on city streets. Cigarette butts and tobacco litter were 14.7% of the small litter observed in the Super Sites, in 2006. Chewing gum, broken glass pieces, paper, and cigarette and tobacco products account for 82% of the small litter observed.

1.0 Introduction

1.1 Overview

Litter is a problem virtually everywhere where disposable / recyclable packaging is used. People have personal opinions about what litter is – the reality is much different.

People have a perception that select groupings of products make up the majority of litter. People also believe that everyone else, but themselves, are the people that litter. Field research shows that a broad range of people contribute to littering.

Various researchers describe a different picture. They show that beverage containers are about 8% - 15% (Daniel Syrek of the Institute for Applied Research), Florida State University at Gainesville, Center for Marine Conservation, and Keep America Beautiful, Keep Florida Beautiful etc. – as well as Beverage Recovery in Canada research in Newfoundland and Ontario). Beverage container litter includes milk cartons and bottles, pop, beer, liquor, wine, coolers, sips, cups etc. The purpose of this report is to outline the methodology and results of a litter audit survey conducted in the City of Toronto in July and August 2006.

MGM Management conducted 10 major litter audits including this audit:

- Ontario – conducted under supervision of Dan Syrek, 1990
- Ontario – Toronto area 1994, done by McKenney with Syrek assistance
- City of Toronto, Streets Litter Audit 2002
- Regional Municipality of Peel, Street Litter Audit 2003
- Regional Municipality of York, Street Litter Audit 2003
- Regional Municipality of Durham, Street Litter Audit 2003
- City of Toronto – Streets Litter Survey 2004
- City of Toronto – Parks Litter Survey 2004
- City of Toronto - Streets Litter Survey 2005
- City of Toronto - Streets Litter Survey 2006

In the USA – over 30 litter count surveys have been done by Syrek, (and reviewed by MGM Management). More recently five excellent surveys have been completed across all of the 29 counties of Florida by the University of Florida. MGM Management has been trained in the methods of both the Syrek and U of Florida to extract the best of both methodologies and adapt them to our methods.

In some instances, local environmental groups have done litter surveys. These methodologies may not be scientific in their development and they tend to not be reproducible. Measurement techniques need to be unbiased, scientifically rigorous, and reproducible to be defensible. Comparison to other jurisdictions is not usually possible, with local methods. This survey's approach can be reproduced and compared.

This survey uses a statistically proven and recognized method of identifying litter survey sites and for counting litter.

In 1993 the Florida Legislature directed the Florida Centre for Solid and Hazardous Waste Management to conduct a state-wide litter count. The Centre developed a method for surveying litter that was understandable, simple and statistically valid. The City of Toronto Litter Audits in 2002, 2004, 2005 and 2006 have been done using a similar methodology.

2.0 City of Toronto Litter Survey - Methodology

This chapter summarizes the methodology used for the City of Toronto Litter Audits in 2002, 2004, 2005 and 2006.

City of Toronto Litter Audit audits count “accumulated litter”. This is as compared to “fresh litter” counts, where a sight is cleaned, then researchers return after a set time to count the number of pieces of litter that have been deposited. Accumulated litter allows for an examination of the occurrence of litter as it is has developed over time. Fresh litter count surveys are much more labour intensive than accumulated litter counts.

2.1 Site Selection Process

2.1.1 Random Site Selection

In selecting sites to survey it is important to have an unbiased method of selection. The survey teams are not allowed discretion in the field in selecting sites. Sites are pre-selected using computer techniques. In this way, neither the “dirtiest” nor the “cleanest” locations are picked. The survey teams count litter at sites that are selected in advance of field crews traveling to the location.

To select sites for the City of Toronto Litter Audits, a geographical information system (GIS) database for the City of Toronto was acquired (software used was ArcView GIS 3.2 by Environmental Systems Research Institute Inc.) Using this program, centre-line coordinates for all potential public street locations within the City of Toronto were selected, and exported to a database.

The captured GIS data is then imported to a random number generator feature of a spreadsheet program (Microsoft Excel). Site locations are then outputted as centre-line locations for up to 700 potential sites. Sites are then chosen with 70% of the locations within the more populated or downtown-urban areas within the City, while the remaining 30% of sites represented the rest of the City’s residential and commercial settings.

In 2006, 26 new audit sites were added to the 272 examined in 2005. This brings the total sites examined in 2006 to 298 sites in the City of Toronto.

Figure 1 - 298 Random Sites (272 + 26 added in 2006)

Sites were chosen by computer using GIS software.



The potential sample sites were then plotted for the entire City of Toronto on a GIS generated map. Detailed street maps are then used to more accurately locate the sites, using, Greater Toronto & Area Map Book, (Perly's Inc. – www.perlys.com), each site location was determined.

Sites were rejected if they were located:

- on major highways / freeways
- location was on a bridge
- location clearly within a construction area
- on railway / subway rights-of-way
- on hydroelectric power line rights-of-way
- on / within water (ponds, rivers, streams/ lakes)
- access was difficult or impossible
- if located on industrial or private lands

Using a site aerial photograph or travel description form, each site had directions written for the field team to locate and travel to each site. The directions were written in a manner that would allow any field team to find the site easily. Field teams were asked to travel to the sites using these exact directions so that no bias towards whether the site was dirty or clean would be introduced.

For each site the location of the audit site, was marked in each field teams Perly's map book, to allow teams to find the sites.

2.2 Detailed Site Files

The site team then created an individual site file for each location chosen to be examined in the field. The file contains the following:

- discrete site location ID number
- travel directions sheet (or aerial photograph with directions inserted in it)
- photographic label card (for taking photos on-site)
- Large Litter Site Surveyor Form - (for recording large litter observed)
- Small Litter Item Count form (for recording small litter)
- Separate aerial photograph of the site (where available)

2.3 Conducting a Site Audit

Teams were paired in groups of two. Each team worked independently, reporting their activities to the Manager of the project. The City was divided into work sectors, with three teams of two surveyors assigned site files accordingly.

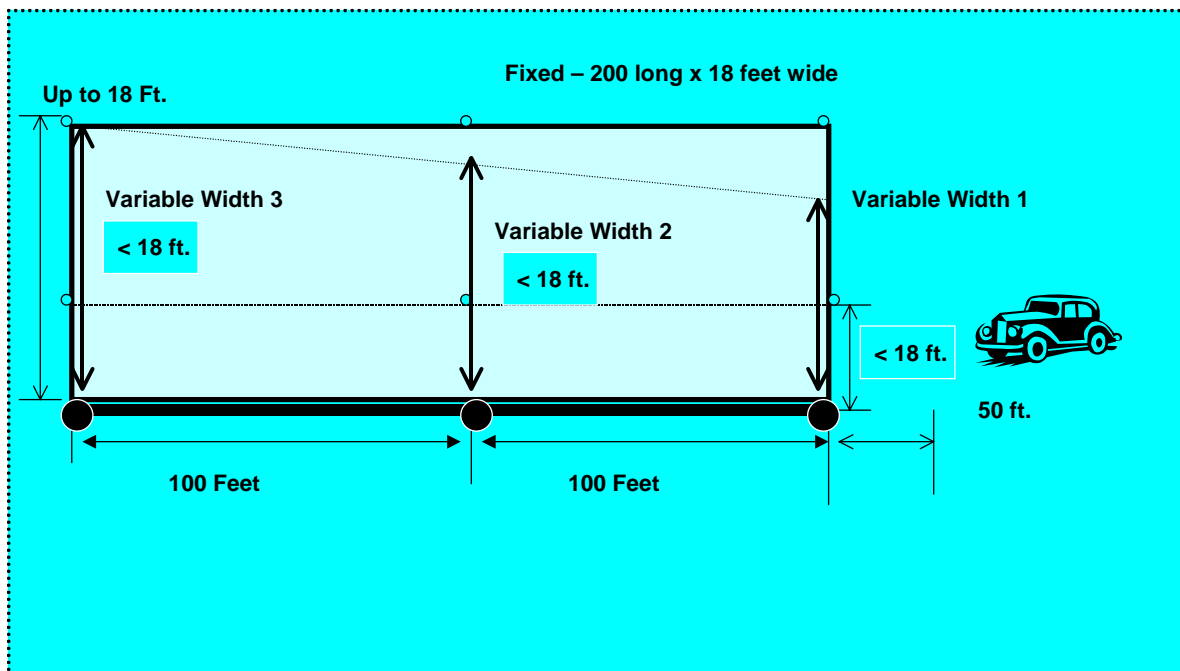
Upon being assigned site files each audit team traveled to their sites. The teams approached the sites from the directions requested and located the site.

Upon arriving at a site, the teams safely parked their vehicles. Traffic cones were placed behind the vehicle, and team members dressed in fluorescent orange/ yellow traffic vests to increase visibility. The teams then reported their arrival to the Project Manager by cellular telephone.

Beginning at the front of the parked car, the team used a “wheeled-measuring-device” to measure 50 feet ahead of the vehicle. Using street marking paint, an X was drawn on the pavement ahead of the vehicle, to denote the starting point of the survey site. From this point the team measured an additional 100 feet, marking the roadway with another X to show the mid-point of the survey site. A final measurement of an additional 100 feet, marked with an X on the pavement, denoted the end of the survey site. Each site was 200 feet in length.

The width of the site was measured from 1.5 feet inside the curb (in towards the centre of the roadway) to the outer edge of the site, up to a maximum width of 18 feet. The rule was set to include 1.5 feet into the street since the curb is a normal catchment structure, and the municipality is responsible for cleaning up litter caught by this structure. The maximum site width was 18 feet and a site that is 200 feet long by 18 feet wide is designated as a “fixed” site. In many instances a site is less than 18 feet wide. This may occur in commercial areas where storefronts are less than 18 feet from the roadways (plus 1.5 feet into the road). Sites less than 18 feet in width are designated as “variable” sites.

Figure 2 - Schematic of Survey Site



2.4 Classification of Large Litter

For purposes of classifying litter, and in accordance with the methods used in previous litter surveys conducted by us, large litter was defined to be that which is over 4 square inches in size. Three templates were provided each survey team of an area of 4 square inches in rectangle, square and round shapes to aid field teams.

2.5 Classification of Small Litter

Small litter were those pieces of debris that were less than 4 square inches in size. The nature of the small litter survey was to sample the small litter in three transacts, or slices, of the site. A frame made of 1/2 inch P.V.C. plastic tubing was constructed to act as a frame.

This frame is 1 foot wide and 5 feet long. A surveyor would look for and count small litter in three samples, one at the start of the site, one at the mid-point and one at the end of the site. At each transect section; three flips of the frame are done, thus surveying 15 square feet of the site – repeated three times.

Figure 3 – Small Litter Templates

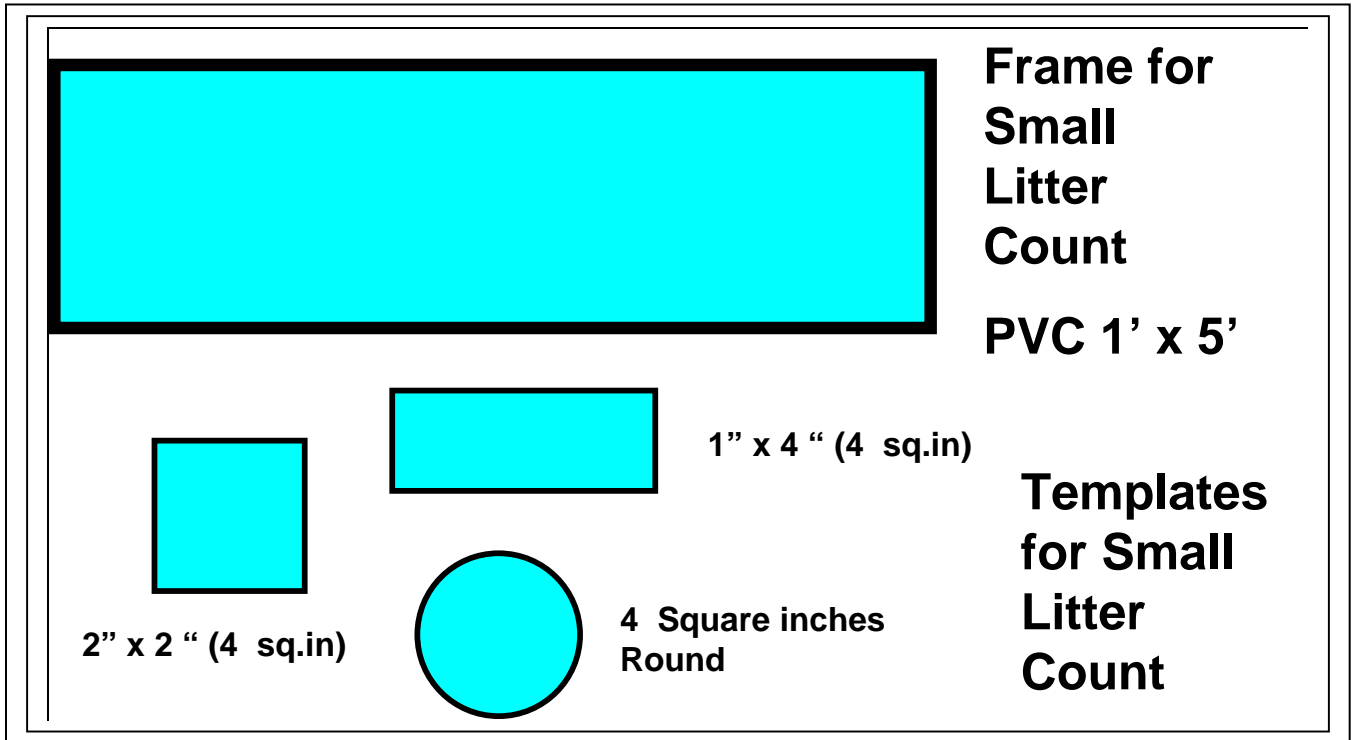


Figure 4 – Site Set-up – Small Litter

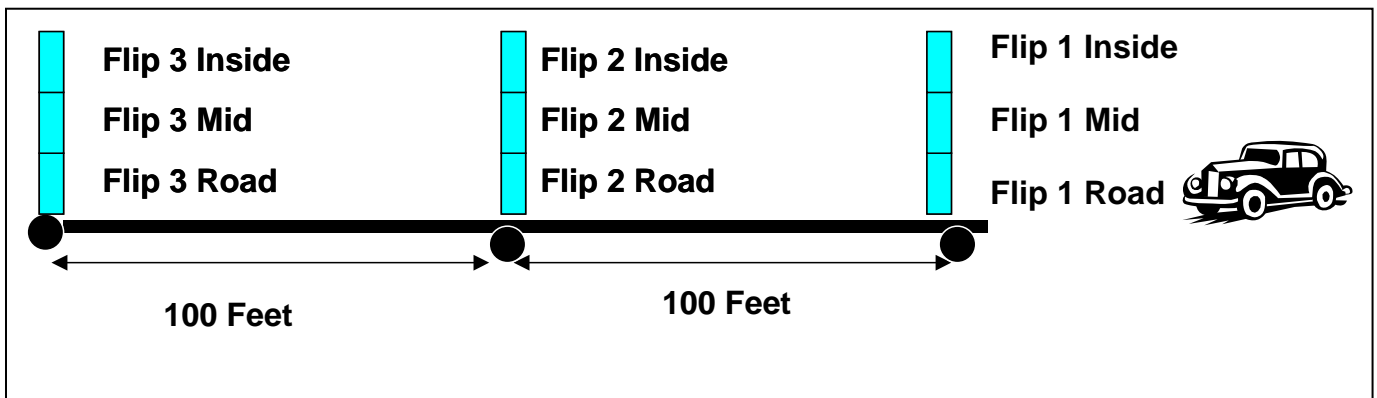


TABLE 1 - Categories of Small Litter

The categories in the litter counts under 4 square inches that were examined are:

- cigarette butts/ debris
- other tobacco
- bottle caps
- straws
- candy packaging & wrappers
- polyfoam packing materials
- other polystyrene debris
- glass
- paper
- plastic film
- hard plastic
- aluminum / foil debris
- rubber
- metal (not aluminum)
- other materials
- gum

TABLE 2 - Categories of Large Litter

Eighty-four sub-categories of large litter were counted, including:

Major Category	Sub-Category Number	Large Litter	Sub-Category Name	Material
1	1	Beer Cans	Beverage	metal
	2	Beer Bottles (glass)	Beverage	glass
	3	Soft Drink (glass)	Beverage	glass
	4	Soft Drink (cans)	Beverage	metal
	5	Soft Drink (plastic)	Beverage	plastic
	6	Sport Drink (glass)	Beverage	glass
	7	Sport Drink (plastic)	Beverage	plastic
	8	Water (glass)	Beverage	glass
	9	Water (plastic)	Beverage	plastic
	10	Wine/ Liquor (glass)	Beverage	glass
	11	Wine/ Liquor (plastic/other)	Beverage	plastic
	12	Milk/Juice (Plastic)	Beverage	plastic
	13	Milk/Juice (glass)	Beverage	glass
	14	Milk/Juice (Gable Top)	Beverage	paper
2	15	Foil Pouches	Other Packaging	composite
	16	Aseptic (Box)	Other Packaging	composite
	17	Broken Glass Container	Other Packaging	glass
	18	Six pack plastic rings	Other Packaging	plastic
	75	Foil containers	Other Packaging	metal
3	19	Plastic drink cups	Cups	plastic
	20	Paper Cups (cold)	Cups	paper
	21	Paper Cups (Hot)	Cups	paper
	22	Polystyrene cups (foam)	Cups	plastic
	23	Other paper cups	Cups	paper
	24	Cup Lids, Pieces lids	Cups	plastic
4	25	Plastic retail bags	Bags	plastic
	26	Paper retail bags	Bags	paper
	27	Paper bags - fast food	Bags	paper
	28	Plastic bags - not retail	Bags	plastic
	29	Paper bags - not retail	Bags	paper
	30	Zipper bags/ sandwich	Bags	plastic
5	31	Cardboard boxes/ box mat'l	Other Packaging	paper
	32	Paperboard (cereal type)	Other Packaging	paper
	33	Paper Beverage Cases	Other Packaging	paper
	34	Polystyrene clamshells	Other Packaging	plastic
	35	Paper clamshells	Other Packaging	paper
	36	Other Plastic Shells/Boxes	Other Packaging	plastic
6	37	Plastic Jars / Bottles/ Lids	OTHER CNTRS.	plastic
	38	Glass jars/ bottles misc.	OTHER CNTRS.	glass
	39	Cans - steel	OTHER CNTRS.	metal
	40	Cans - aluminum	OTHER CNTRS.	metal
	41	Container lids	OTHER CNTRS.	metal
	42	Aerosol cans (paint, oils, etc.)	OTHER CNTRS.	metal
7	43	Paper Food Wrap	Food Wraps/ Cntrs	paper
	44	Paper / foil composite wrap	Food Wraps/ Cntrs	composite
	45	Plastic wrap	Food Wraps/ Cntrs	plastic
	54	Condiment package (salt, ketchup, vinegar etc.)	Take-Out Extras	
	55	Utensils	Take-Out Extras	plastic
	56	Name Brand (Fast Food etc.) Towels / Napkins / Serviettes	Take-Out Extras	paper
	57	Paper Fast Food Plates	Take-Out Extras	paper
	58	Poly Fast Food Plates	Take-Out Extras	plastic

	59	Other Plastic FF Plates	Take-Out Extras	plastic
	60	Plates - Other Mat's	Take-Out Extras	
8	46	Polystyrene Trays	Trays	plastic
	47	Paper Trays	Trays	paper
	48	Other Mat'l Trays (what?)	Trays	
9	49	Gum wrappers	Confectionary/Snack	
	50	Candy bar wraps	Confectionary/Snack	
	51	Candy pouches	Confectionary/Snack	
	52	Sweet packaging (describe)	Confectionary/Snack	
	53	Other confectionery (describe)	Confectionary/Snack	
	63	Snack food packaging	Confectionary/Snack	
10	61	Clothing or clothing pieces	Cloth	
	62	Other cloth	Cloth	
11	64	Plastic packaging other	Other Miscellaneous	plastic
	65	Paper packaging other	Paper/ Fibre Mat'l	paper
	66	Plastic / composite other	Other Miscellaneous	
	67	Foil materials / foil pieces	Other Miscellaneous	metal
12	68	No Brand Name Towels / Napkins / Serviettes	Paper/ Fibre Mat'l	paper
	69	Lottery ticket debris	Paper/ Fibre Mat'l	paper
	70	Printed material (newspapers, flyers, books etc.)	Paper/ Fibre Mat'l	paper
	71	Stationary (school, business etc.)	Paper/ Fibre Mat'l	paper
	72	Receipts (business forms, bus transfers, etc.)	Paper/ Fibre Mat'l	paper
13	73	Cigarette / cigar debris (>4")	Tobacco	
	74	Tobacco other (packs, matches, cellophane)	Tobacco	
14	76	Misc. Paper	Other Miscellaneous	paper
	77	Misc. Plastic	Other Miscellaneous	plastic
	78	Misc. Paperboard	Other Miscellaneous	paper
	79	Misc. Cardboard	Other Miscellaneous	paper
	80	Misc. Glass	Other Miscellaneous	glass
	81	Vehicle & Metal Road Debris	Other Miscellaneous	
	82	Construction debris	Other Miscellaneous	
	83	Tire & Rubber debris	Other Miscellaneous	rubber
	84	Home Articles	Other Miscellaneous	

Table 3 - Detailed Descriptions of Large Item Categories

1 Beer Cans	All brands of consumer beer can containers
2 Beer Bottles (glass)	Refillable and non-refillable beer bottles, all sizes
3 Soft Drink (glass)	Soft drinks, carbonated, non-carbonated, flavoured drinks in glass containers
4 Soft Drink (cans)	Soft drinks, carbonated, non-carbonated, flavoured drinks in metal can containers
5 Soft Drink (plastic)	Soft drinks, carbonated, non-carbonated, flavoured drinks in plastic containers, all sizes
6 Sport Drink (glass)	Sport drinks, carbonated or non-carbonated, flavoured drinks in glass containers, all sizes
7 Sport Drink (plastic)	Sport drinks, carbonated or non-carbonated, flavoured drinks in plastic containers, all sizes
8 Water (glass)	Packaged water, carbonated or non-carbonated, flavoured drinks in glass containers, all sizes
9 Water (plastic)	Packaged water, carbonated or non-carbonated, flavoured drinks in plastic containers, all sizes
10 Wine/ Liquor (glass)	Wine & liquor in glass, all sizes
11 Wine/ Liquor (plastic/other)	Wine & liquor in plastic or any other formats, all sizes
12 Milk/Juice (Plastic)	Milk or juice containers, packages in plastic
13 Milk/Juice (glass)	Milk or juice containers, packages in glass
14 Milk/Juice (Gable Top)	Milk or juice containers, packages in gable top paper cartons, all sizes
15 Foil Pouches	All packaged goods in foil packaging, pieces of foil materials
16 Aseptic (Box)	Drink-in-box, juice, fluids, other
17 Broken Glass Container	Glass fragments
18 Six pack plastic rings	Retainer plastic for carrying cans
19 Plastic drink cups	Cups, all sizes, all resin types
20 Paper Cups (cold)	Cups, all sizes, all paper types - cold drinks
21 Paper Cups (Hot)	Cups, all sizes, all paper types - hot drinks
22 Polystyrene cups (foam)	Cups, all sizes, all polystyrene types - hot drinks
23 Other paper cups	Cups, other materials
24 Cup Lids, Pieces lids	Fragments and pieces of cups
25 Plastic retail bags	Whole and pieces of retail plastic bags
26 Paper retail bags	Whole and pieces of retail paper bags

27 Paper bags – fast food	Whole and pieces of fast food outlet paper bags
28 Plastic bags – not retail	Whole and pieces of plastic bags, not retail i.e. dry cleaning
29 Paper bags - not retail	Paper bags & sacs, example leaf bag debris
30 Zipper bags/ sandwich	plastic lunch bags and sacs
31 Cardboard boxes/ box mat'l	All cardboard and box materials
32 Paperboard (cereal type)	Cereal, shoe boxes and pieces etc.
33 Paper Beverage Cases	Paper material outer packaging for beverage products
34 Polystyrene clamshells	Whole and pieces of take-away or other Styrofoam containers
35 Paper clamshells	Whole and pieces of take-away or other paper containers
36 Other Plastic Shells/Boxes	PET, PVC, HDPE , other material shells
37 Plastic Jars / Bottles/ Lids	All jars, bottles etc, plastic, non beverage, example dish detergent bottle
38 Glass jars/ bottles misc.	All jars, bottles not described above, in glass
39 Cans – steel	Food, non-food and other product steel can containers
40 Cans - aluminum	Food, non-food and other product aluminum can containers
41 Container lids	All lids, closures, and pieces > 4 sq. in.
42 Aerosol cans (paint, oils, etc.)	Aerosol cans, tops, lids - all products
43 Paper Food Wrap	Wrap for food, commercial & non-commercial; example meat wrap,
44 Paper / foil composite wrap	Wrap for food or non-food items, commercial & non-commercial; example hamburger paper/ foil composite wrap,
45 Plastic wrap	All plastic wrap types, food, non-food
46 Polystyrene Trays	Trays for take-out, non-take out, microwavable, display etc
47 Paper Trays	Trays for take-out, non-take out, microwavable, display etc
48 Other Mat'l Trays (what?)	Trays for take-out, non-take out, microwavable, display etc
49 Gum wrappers	Packaging used to seal, sell gum products
50 Candy bar wraps	Packaging used to seal, sell candy products
51 Candy pouches	Packaging used to seal, sell candy products - pouch format
52 Sweet packaging (describe)	Packaging used to seal, sell confections (cakes, pies, sweet snack products

53 Other confectionery (describe)	All other packaging for confectionaries
54 Condiment package (salt, ketchup, vinegar etc.)	Pouches, containers, creamers etc
55 Utensils	Forks, knives, chop sticks etc
56 Name Brand (Fast Food etc.) Towels / Napkins / Serviettes	Towels & napkins etc with brand identification identifiable
57 Paper Fast Food Plates	Paper Plates, used to serve fast food
58 Poly Fast Food Plates	Polystyrene Plates, used to serve fast food
59 Other Plastic FF Plates	Other Material Plates, used to serve fast food
60 Plates - Other Materials	Plates for other than fast food applications, i.e. picnic plates used by families
61 Clothing or clothing pieces	All cloth, clothing pieces, and clothing discarded on the site
62 Other cloth	Tarps, industrial fabrics etc
63 Snack food packaging	All snack food (i.e.. Salty snacks, chips)
64 Plastic packaging other	Plastic packaging otherwise not described
65 Paper packaging other	Paper packaging otherwise not described
66 Plastic / composite other	All paper and composite debris not previously described
67 Foil materials / foil pieces	Foils and pieces, aluminum food foils, industrial foils
68 No Brand Name Towels / Napkins / Serviettes	Napkins and towels - no brand identification
69 Lottery ticket debris	Tickets, and gaming items
70 Printed material (newspapers, flyers, books etc.)	All printed material, commercially printed
71 Stationary (school, bus. etc.)	Includes school papers, written items, other printed materials such as business forms
72 Receipts (business forms, bus transfers etc.)	Receipts, business items, invoices, packing slips, bus transfers, commercial tickets (concerts, cinema)

73 Cigarette / cigar debris (>4")	Tobacco items
74 Tobacco other (packs, matches, cellophane)	Packages, wrappers, tobacco foil products, lighters, matchboxes
75 Foil containers	Foil containers (ice cream wraps)
76 Misc. Paper	All other non-described paper material, whole or shredded, unidentifiable as another category
77 Misc. Plastic	All other non-described plastic material, whole or shredded, unidentifiable as another category
78 Misc. Paperboard	All other non-described paperboard material, whole or shredded, unidentifiable as another category
79 Misc. Cardboard	All other non-described cardboard material, whole or shredded, unidentifiable as another category
80 Misc. Glass	All other non-described glass material, whole or broken, unidentifiable as another category
81 Vehicle & Metal Road Debris	Debris associated with transportation, private or commercial
82 Construction debris	Debris associated with construction, private or commercial
83 Tire & Rubber debris	Rubber materials, tire pieces, shock absorbers, sheet rubber or pieces
84 Home Articles	All non-described household items, (i.e.. Lamps, electrical, lawn chairs, etc)

2.6 Survey Counts

At each site, after setting the site up, one auditor commences the large litter survey count, and record the names of branded items examined on the site. The other auditor commences the small litter survey, using the method described above.

Before starting the large litter survey, the field technician first checked his/her tape recorder to ensure it is working properly.

The auditor then dictates the description sections of the Surveyor Site Form into the recorder. This information describes the site number, date, digital photos taken, camera used, start time, type of site (residential, industrial, commercial, downtown core), type of roadway, whether road is divided, grass height, evidence of a clean-up, stop sign/ traffic light visible, fast food near-by, convenience store nearby, described the litter catch points (grass mow line, hedge, fence, other), and provided a visual litter rating on a subjective basis. All photographs are part of the archival record for this survey – and are part of the electronic database supplied to the Region.

The visual litter rating is an “opinion” expressed by the surveyor as to whether the site is dirty (highest rating = 4) or clean (lowest rating = 1).

Once this information is recorded the auditor proceeds to walk the site slowly, taping his/ her observations into the tape-recorder as they observe the site. Proceeding back and forth across the site until the surveyor has walked the site up to the mid-point. The surveyor noted that they had reached the mid-point, then continuing on observing litter up to the end the site boundary, making verbal notations of the litter observed and describing them into the 84 sub-categories of litter. This completed “Pass One”. The surveyor then repeated the observations (Pass Two) over the site, using the same procedure, but in the opposite direction. Results of the two passes are used in data analysis.

2.7 Documentation & File Management

At each site the teams were required to make a tape-recorded record of their observations. At the end of doing the verbal entries into the recorder, a team member then transcribed the verbal observations onto Surveyor Site Forms. In this way the verbal record was recorded as a written data set for the site.

These forms were later transcribed into a database for analysis. Each site’s observation forms were transcribed at the site before leaving the location. If a recording problem occurred, the site was redone.

Each form was returned in a file folder for archival purposes.

2.8 Photographic Record of the Site

At each site location, the litter audit team took digital photographs. One shot was taken at the start of the site, looking towards the end of the site – away from the vehicle. The second shot was taken in the mid-point of the site – looking across the width of the site. And the final photograph was taken at the end of the site – looking back towards the start of the site (towards the vehicle). The purpose of the photographs is to set the scene of the site – not to detail litter on the ground.

In each case the number of photographs at each site was recorded on the Surveyor Site Form. The site-specific digital photographs were downloaded to the database of the survey, as an archival record of the site during the audit period.

Figure 5 - Site Photographs



2.9 Branded Litter Observations

Using the Surveyor Site Form (with 84 sub-categories of large litter) as a guide, data was also gathered for observing Branded Litter. Branded litter is large litter (i.e. over 4 square inches) that has a recognizable brand name affixed. Where doubt occurred in the identification of a brand of litter, no entry was made.

Team auditors verbally identified litter by brand name, which was later transcribed onto the Surveyor Site forms, for data entry and analysis.

2.10 Survey Schedule and Progress

The field survey team was assembled for training on July 14, 2006. At this time an orientation and safety training session was conducted. A field trial at one site occurred on July 14th, 2006, then field teams began their site audits immediately. The fieldwork in 2006 was completed between July 14 – August 11th, 2006.

Mark McKenney, of MGM Management and Mr. Allan Mazur, Works & Emergency Services – Waste Management Division, audited the field work of the surveyor teams to assure quality control.

It was determined the two-person surveyor team could perform between 7 – 10 sites per day allowing for breaks, lunch and travel time.

3.0 Large Litter Survey Results

Field observations were dictated into tape recorders, then later transcribed onto Surveyor Site Forms/ Branded Item form and Small Item Count Sheets.

Forms were then inputted into a Microsoft Access database for analysis.

3.1 Discussion of Large Litter Results

Litter counted for the City of Toronto Litter Survey 2005, were grouped into 14 broad subcategories.

- Other (incl. misc. paper)
- Other Packaging (salty snacks etc)
- Cups (hot, cold drinks)
- Tobacco products
- Bags (paper, plastic)
- Food wraps
- Plates
- Paper (printed mat's, news)
- Confectionary (candy)
- Beverage containers
- Other Containers (not beverage)
- Take out extras (condiments etc)
- Cloth / Clothing
- Trays

In total 4,341 pieces of large litter were counted. This equates to an average of 15 items per site based upon the 298 sites audited. This average per site is 40% lower than the litter rate observed in 2002, and 25% lower than the 2005 observations.

The largest category of litter observed, at 39% (1,683 items counted of 4,341 total items counted) was the broad miscellaneous category called Other Miscellaneous, which includes the following litter:

- Foil containers
- Misc. paper / paperboard/ cardboard
- Misc. plastic
- Misc. glass
- Vehicle & Metal Debris
- Construction debris / Home articles/ rubber
- Foil containers - no other category
- Paper pieces, cardboard & paperboard pieces - no other category
- Plastics - no other category
- Glass - no other category
- Vehicle & tire pieces, metal debris
- Such as wood, brick, cladding, appliance debris etc.

The most significant “material type” observed was plastic materials (misc. plastic, plastic packaging, wrap, bags-retail and non-retail, hot and cold drink cups, jars, bottles, composites, utensils, zip bags, beverage containers, trays, polystyrene cups, confectionary, sweet and snack food packaging, pouches, plates, retail bags, carrying rings) which were 27% of total litter counted litter (1,168 of 4,341 pieces of large litter counted). In the 2005 litter audit plastics were also the largest material type observed where these materials composed 28% of total litter counted litter (1,526 of 5,412 pieces of large litter counted).

Fibre products represented the second most observed “material type” of litter (including paper, paperboard, cardboard, towels, napkins, newspapers, books, flyers, printed materials, and business forms, stationary). Fibre products were 22 % of large litter items counted (955 of 4,341 pieces). The finding of fibre being the second most observed material

after plastic is consistent with our findings in the 2005 litter audit. In the 2005 litter audit fibre products contributed 25% of large litter items counted (1,357 of 5,412 pieces).

There are a relatively small number of sub-categories of litter that make up the majority of the items counted. In the case of the City of Toronto Litter Survey 2006, 25 sub-categories accounting for 86 % of the total pieces (3,719 of 4,341 total) of litter the counted. This is a similar finding as observed in all previous Toronto litter audits.

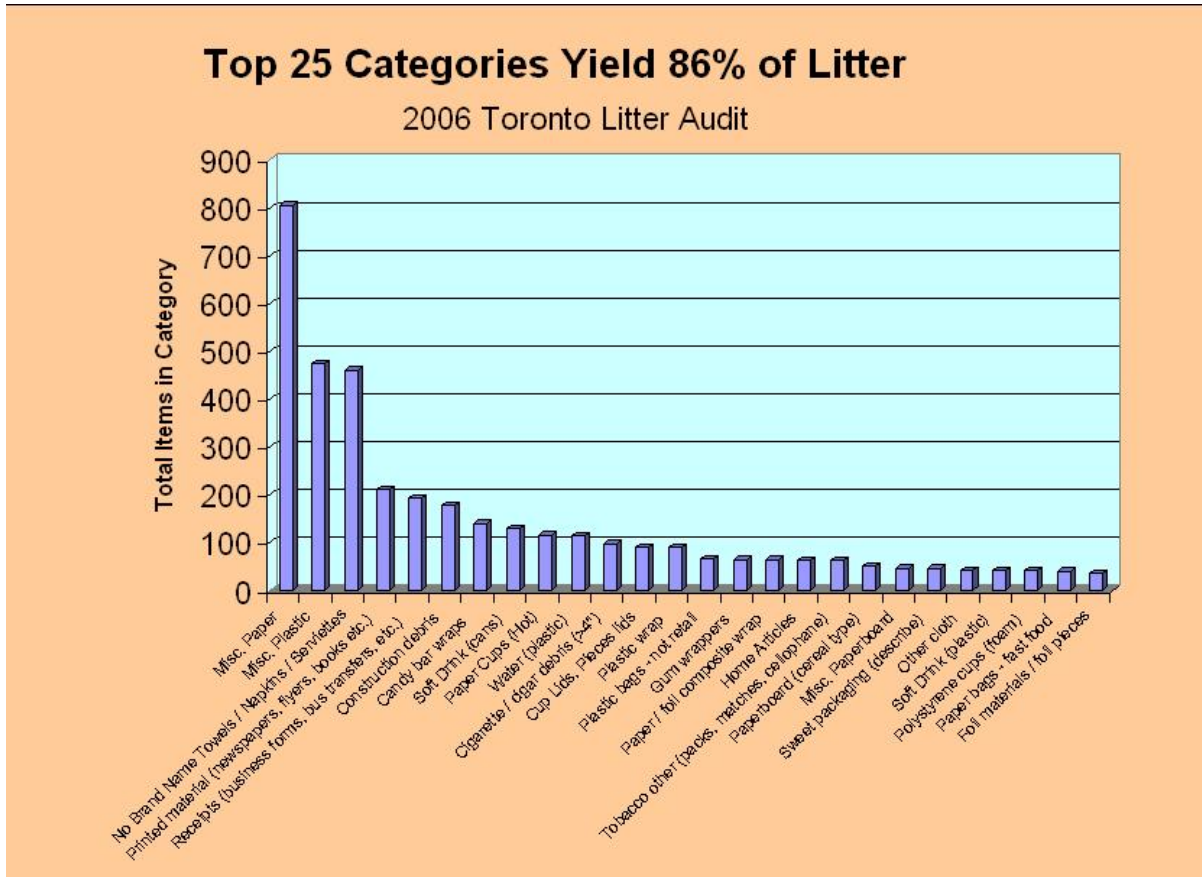


Table 4 - 25 Top Litter Sub-Categories Equal 84% of Litter

	Items Counted	Items Counted
Misc. Paper	806	89
Misc. Plastic	474	65
No Brand Name Towels / Napkins	461	64
Printed material (newspapers, flyers etc.)	210	64
Receipts (forms, bus transfers, etc.)	193	63
Construction debris	177	63
Candy bar wraps	140	50
Soft Drink (cans)	128	46
Paper Cups (Hot)	115	46
Water (plastic)	113	42
Cigarette / cigar debris (>4")	97	42
Cup Lids, Pieces lids	90	41
Plastic wrap		40
Plastic bags - not retail		
Gum wrappers		
Paper / foil composite wrap		
Home Articles		
Tobacco other (packs, matches, cellophane)		
Paperboard (cereal type)		
Misc. Paperboard		
Sweet packaging (describe)		
Other cloth		
Soft Drink (plastic)		
Polystyrene cups (foam)		
Paper bags - fast food		

3719 Total Items - Top 25 Category

Table 5 - Summary of All Large Litter Observed (2006)

<u>Large Litter Category</u>	<u>Item Count</u>
Misc. Paper	806
Misc. Plastic	474
No Brand Name Towels / Napkins / Serviettes	461
Printed material (newspapers, flyers, books etc.)	210
Receipts (business forms, bus transfers, etc.)	193
Construction debris	177
Candy bar wraps	140
Soft Drink (cans)	128
Paper Cups (Hot)	115
Water (plastic)	113
Cigarette / cigar debris (>4")	97
Cup Lids, Pieces lids	90
Plastic wrap	89
Plastic bags - not retail	65
Gum wrappers	64
Paper / foil composite wrap	64
Home Articles	63
Tobacco other (packs, matches, cellophane)	63
Paperboard (cereal type)	50
Misc. Paperboard	46
Sweet packaging (describe)	46
Other cloth	42
Soft Drink (plastic)	42
Polystyrene cups (foam)	41
Paper bags - fast food	40
Foil materials / foil pieces	35
Paper Cups (cold)	34
Vehicle & Metal Road Debris	34
Cardboard boxes/ box mat'l	33
Plastic packaging other	33
Clothing or clothing pieces	29
Plastic drink cups	29
Misc. Glass	26
Misc. Cardboard	25
Name Brand (Fast Food etc.) Towels / Napkins / Serviet	22
Candy pouches	19
Utensils	19
Paper bags - not retail	16
Lottery ticket debris	15
Tire & Rubber debris	15
Sport Drink (plastic)	14
Other confectionery (describe)	13
Plastic / composite other	13
Snack food packaging	13
Zipper bags/ sandwich	13
Milk/Juice (Gable Top)	12
Paper packaging other	12
Aseptic (Box)	11
Condiment package (salt, ketchup, vinegar etc.)	11
Paper Food Wrap	11

<u>Large Litter Category</u>	<u>Item Count</u>
Other Plastic Shells/Boxes	8
Container lids	7
Soft Drink (glass)	7
Cans - steel	7
Beer Bottles (glass)	6
Foil Pouches	6
Plastic retail bags	6
Beer Cans	5
Cans - aluminium	5
Paper clamshells	5
Plastic Jars / Bottles/ Lids	5
Sport Drink (glass)	5
Milk/Juice (glass)	4
Milk/Juice (Plastic)	4
Paper retail bags	4
Water (glass)	4
Other paper cups	3
Polystyrene Trays	3
Six pack plastic rings	3
Stationary (school, business etc.)	3
Broken Glass Container	2
Paper Beverage Cases	2
Wine/ Liquor (glass)	2
Aerosol cans (paint, oils, etc.)	1
Foil containers	1
Glass jars/ bottles misc.	1
Other Mat'l Trays (what?)	1
Paper Fast Food Plates	1
Paper Trays	1
Plates - Other Mat's	1
Polystyrene clamshells	1
Wine/ Liquor (plastic/other)	1

Total Items Counted 2006	4341
Average Items / Site	15

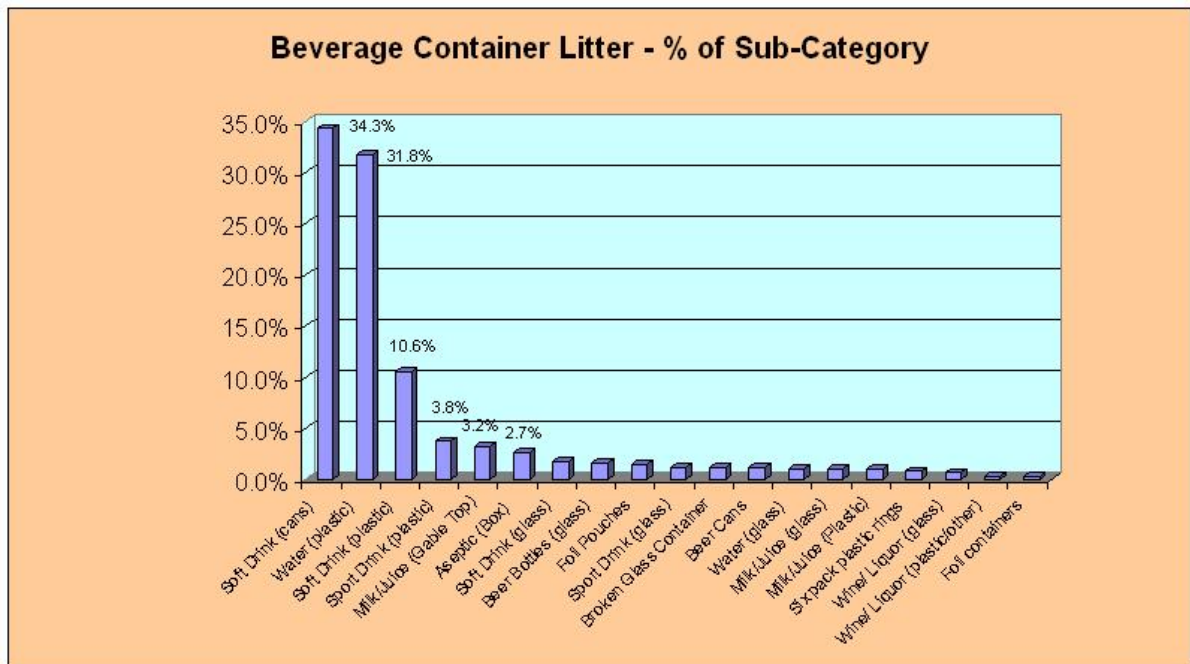
3.2 Detailed Analysis by Major Category

3.2.1 Beverage Containers

(soft drink, beer, wine/liquor, sports, water)

Beverage Container Summary (2006)

	Items	%of Sub-Category	% of Total Litter
Soft Drink (cans)	128	34.3%	2.9%
Water (plastic)	118.5	31.8%	2.7%
Soft Drink (plastic)	39.5	10.6%	0.9%
Sport Drink (plastic)	14	3.8%	0.3%
Milk/Juice (Gable Top)	12	3.2%	0.3%
Aseptic (Box)	10	2.7%	0.2%
Soft Drink (glass)	6.5	1.7%	0.1%
Beer Bottles (glass)	6	1.6%	0.1%
Foil Pouches	5.5	1.5%	0.1%
Sport Drink (glass)	4.5	1.2%	0.1%
Broken Glass Container	4.5	1.2%	0.1%
Beer Cans	4.5	1.2%	0.1%
Water (glass)	4	1.1%	0.1%
Milk/Juice (glass)	4	1.1%	0.1%
Milk/Juice (Plastic)	4	1.1%	0.1%
Six pack plastic rings	3	0.8%	0.1%
Wine/ Liquor (glass)	2.5	0.7%	0.1%
Wine/ Liquor (plastic/other)	1	0.3%	0.02%
Foil containers	1	0.3%	0.02%
	373	100.0%	8.6%
2005 observations	385		7.1%



Discussion:

The total beverage category yielded a count of 373 items, or 8.6 % of the total litter counted as compared to 7.1 % of total litter observed in the 2005, and 5.2% of total litter in 2002. The main changes in beverage litter were increases in water bottle litter (from 26% of the beverage category and 1.85% of total litter in 2005 to 34% of container litter and 2.7% of total litter in 2006)

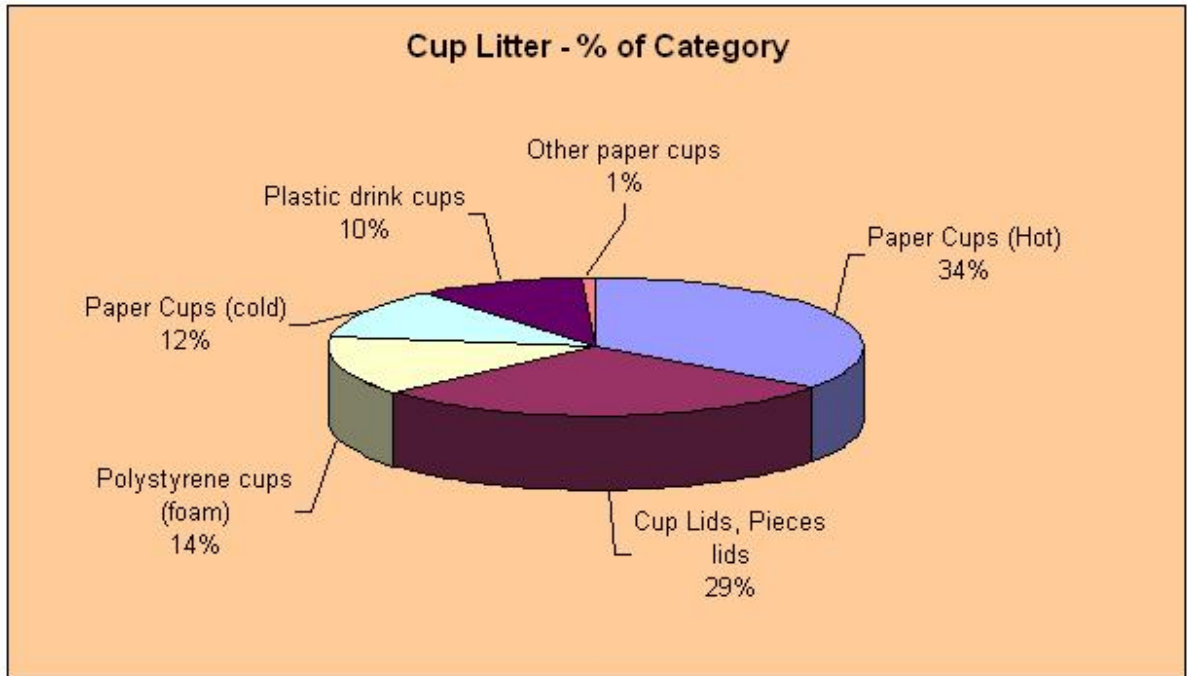
Soft drink containers in aggregate accounted for 3.0 % of total litter in 2006 (cans 2.0 % and soft drink plastic 0.9% and soft drink glass 0.1%). This compares with this group of products contributing 3.15 % of total litter counted in the City of Toronto Litter Survey 2005. This group of products has remained at or around 3% since the first litter audit, with 2.6 % in 2004 and 2.8% in the Toronto Litter Survey 2002.

Beer containers of glass and can origin were a small contributor at 2.8 % (3.5% in 2005) of the beverage litter sub-category and 0.2% (0.25 % in 2005) of total litter. Liquor and wine, and coolers represented < 0. 1 % of total litter.

3.2.2 Cups

Cups Sub-Category Summary (2006)

	Items	%of Sub-Category	% of Total Litter
Paper Cups (Hot)	111	35%	2.6%
Cup Lids, Pieces lids	91	29%	2.1%
Polystyrene cups (foam)	43.5	14%	1.0%
Paper Cups (cold)	37.5	12%	0.9%
Plastic drink cups	31	10%	0.7%
Other paper cups	3	1%	0.1%
	317	100%	7.3%
2005 Observations	401		7.4%



Discussion:

Cup litter includes hot and cold drink cups. This is indicative of wastes from a variety of over-the-counter food providers, whereby litter is then deposited on public lands. The category includes, polystyrene cups as well as lids and pieces of lids from hot and cold drink containers.

The sub-category yielded 7.3 % of the total litter counted in the 2006 Litter audit, compared to 7.4% in 2005 and 5.8% in 2002. Hot cups (coffee cups) were the most significant type of littered cup at 34 % (compared to 27% in 2004 and 25% in 2002). As a sub-category cups remain a significant source of litter.

3.2.3 Bags

Bags Sub-Category Summary (2006)

	Items	%of Sub-Category	% of Total Litter
Plastic bags - not retail	69	47.4%	1.59%
Paper bags - fast food	39.5	27.1%	0.91%
Paper bags - not retail	15.5	10.7%	0.36%
Zipper bags/ sandwich	12.5	8.6%	0.29%
Plastic retail bags	5.5	3.8%	0.13%
Paper retail bags	3.5	2.4%	0.08%
	145.5	100.0%	3.35%
2005 Observations	238		2.55%



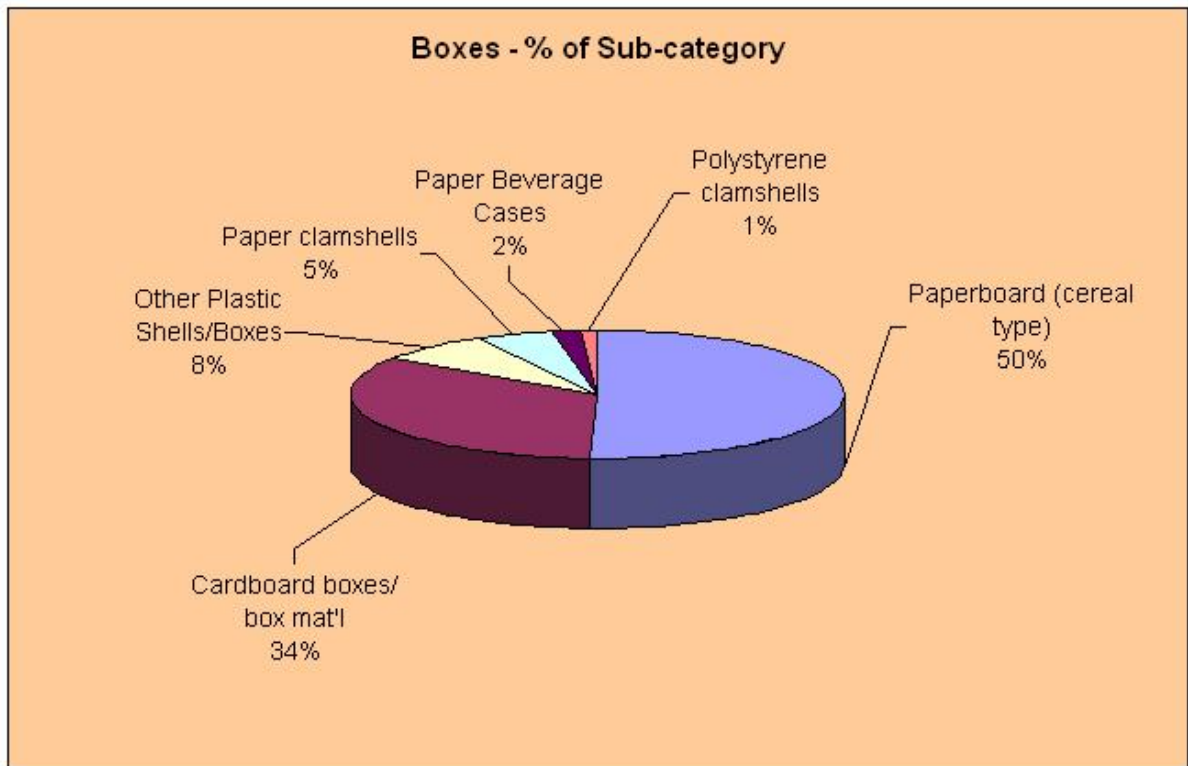
Discussion:

Bags that were not retail in nature, such as dry cleaning bags, or other non-identifiable plastic bags represented 1.6% of total litter (0.82 % in 2005) , and 47 % of this sub-category. Paper bags from fast food outlets accounted for 27 % of this sub-category, followed by paper bags other than from retail (11%) then zipper bags (9 % of this sub-category). Bag litter was a bit higher in the 2006 audit (3.4% of total litter) compared to bags contributing 2.55 % of total litter in the 2005 audit.

3.2.4 Boxes

Boxes Sub-Category Summary (2006)

	Items	%of Sub-Category	% of Total Litter
Paperboard (cereal type)	50	50.5%	1.15%
Cardboard boxes/ box mat'l	33.5	33.8%	0.77%
Other Plastic Shells/Boxes	7.5	7.6%	0.17%
Paper clamshells	5	5.1%	0.12%
Paper Beverage Cases	2	2.0%	0.05%
Polystyrene clamshells	1	1.0%	0.02%
	99	100.0%	2.28%
2005 Observations	43		0.79%



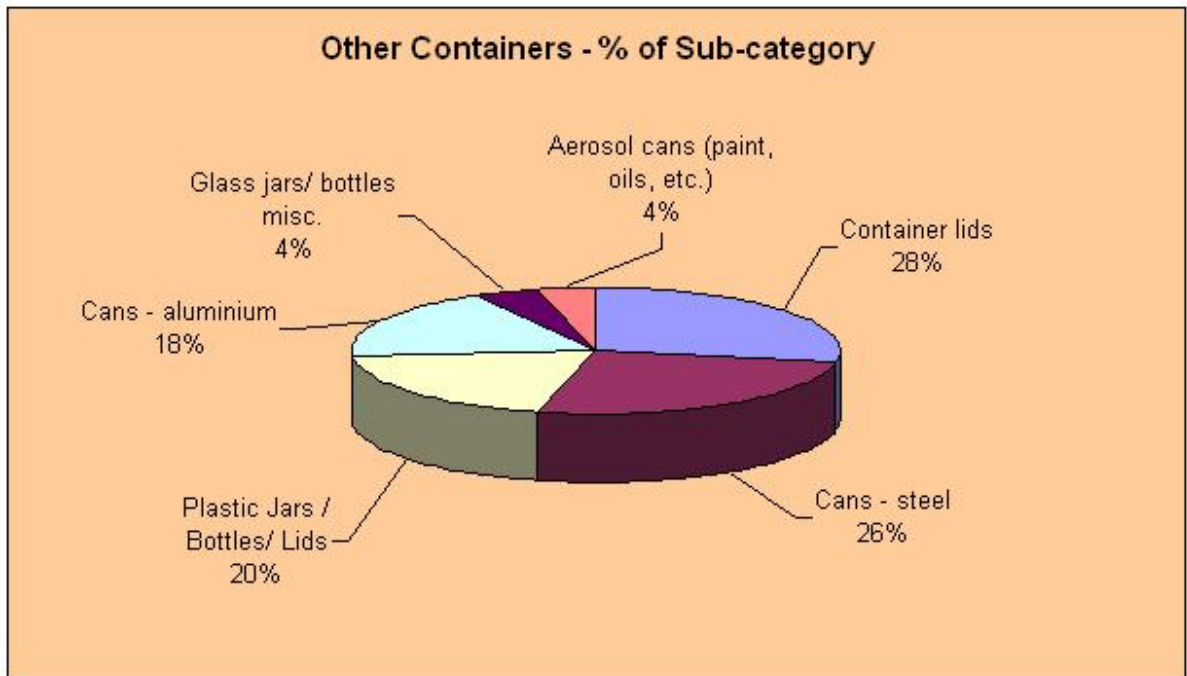
Discussion:

Paperboard boxes and cardboard boxes represented 84 % of this category. The amount of litter from eh boxes subcategory was considerably greater than the 2005 audit – 2.3% of total litter in 2006 vs. 0.8% in 2005. Fast food clamshell boxes of all material types were a very small (less than 1/3 of a per cent of total litter). The boxes sub-category represented 0.79 % of total large litter counted in the 2005 audit, 0.6 % in 2004 and 1.3% of total litter in the 2002 litter audit.

3.2.4 Other Containers (non-beverage)

Other Containers Sub-Category Summary (2006)

	Items	%of Sub-Category	% of Total Litter
Container lids	7	28.0%	0.16%
Cans - steel	6.5	26.0%	0.15%
Plastic Jars / Bottles/ Lids	5	20.0%	0.12%
Cans - aluminium	4.5	18.0%	0.10%
Glass jars/ bottles misc.	1	4.0%	0.02%
Aerosol cans (paint, oils, etc.)	1	4.0%	0.02%
	25	100.0%	0.58%
2005 Observations	77		1.41%



Discussion:

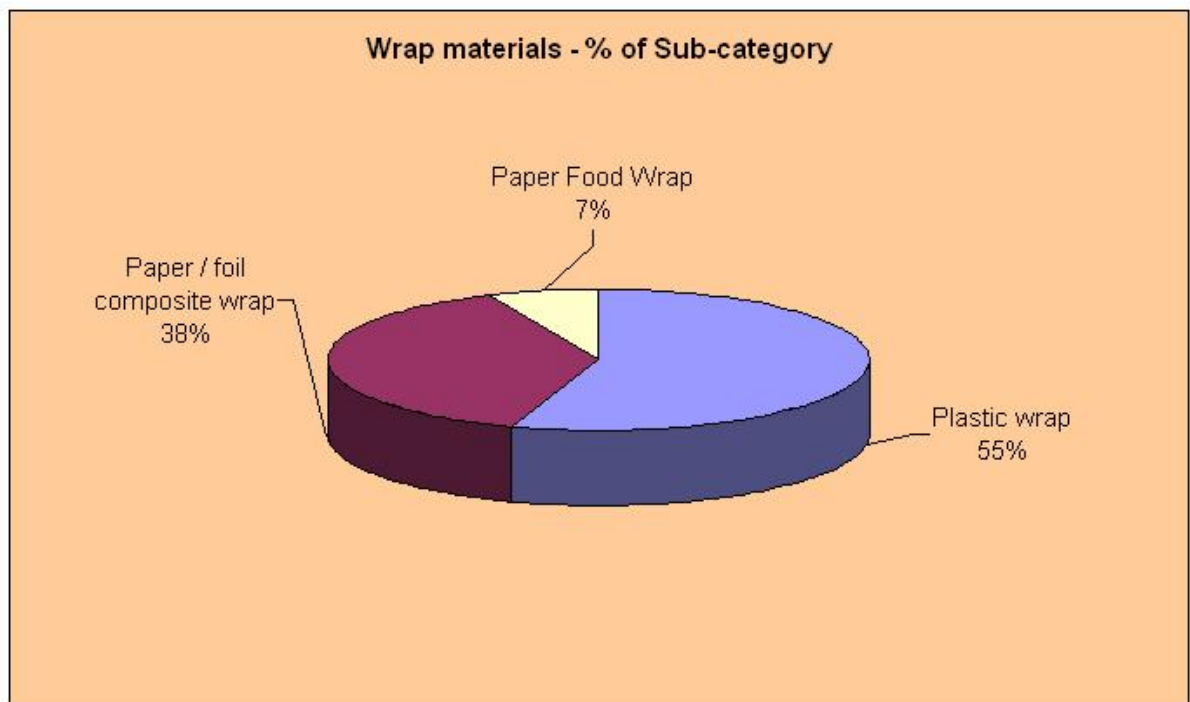
Containers other than beverage containers accounted for quite low proportion of total litter in the 2006 audit. Only 25 large litter items (< 1% of total litter) were observed in this category in 2006 compared to 77 items or 1.41 % of the total large litter counted in this grouping in 2005; and 1% in 2004.

Container lids were 28% of the category, followed by steel cans, plastics jars/ bottles and aluminum cans. This is not a significant sub-category of total litter on Toronto streets.

3.2.6 Wraps

Wraps Sub-Category Summary (2006)

	Items	%of Sub-Category	% of Total Litter
Plastic wrap	93	55%	2.14%
Paper / foil composite wrap	64	38%	1.47%
Paper Food Wrap	11	7%	0.25%
2006 Observations	168	100%	3.87%
2005 Observations	73		1.35%



Discussion:

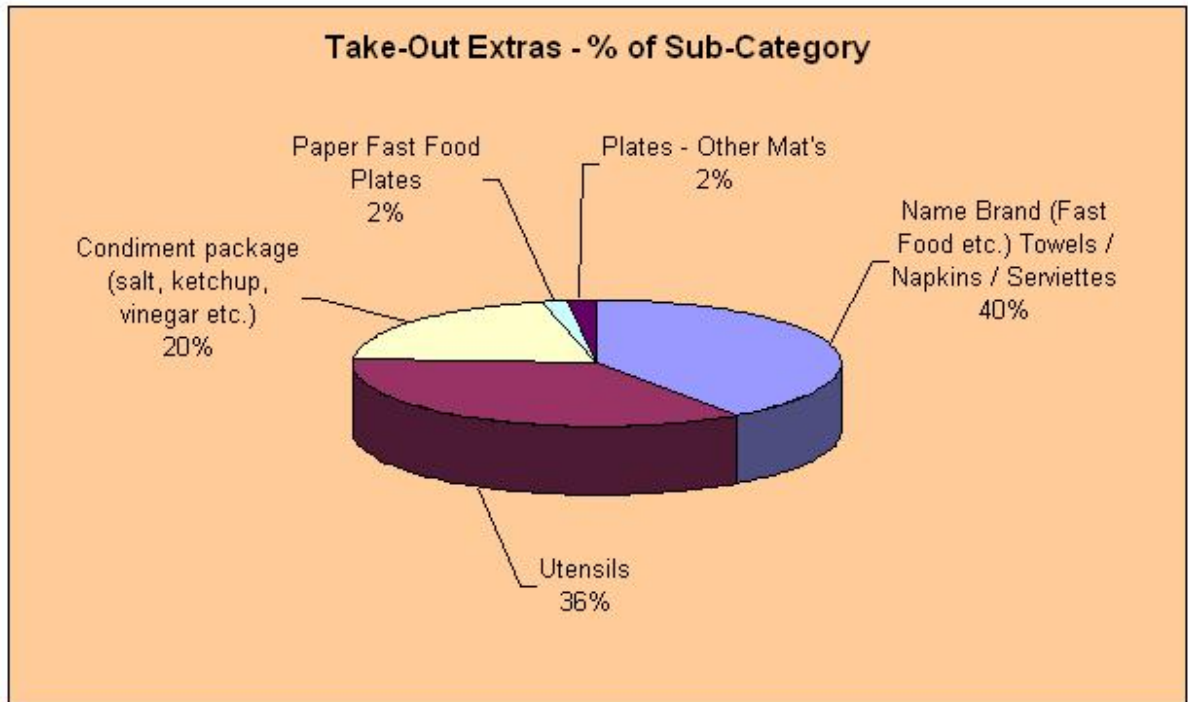
Within this category are items which are used to wrap food for consumption off premises, mainly from fast food outlets. Plastic wraps continue to account for the majority of the wrap observed, at 55 % of the sub-category (55% in 2005). In the 2006 litter audit significantly more wrap litter was observed, 168 items in 2006 vs. 73 in 2005. These are still relatively small contributions to the overall litter situation in Toronto, however a rise in this sub-category warrants monitoring, to make sure it is not a trend.

This sub-category was 3.9% of total litter in 2006 (which is worthy of watching) compared to 1.36 % of total litter in 2005, and 3.0% in the 2004 survey, and 1.2% in the Toronto Litter Survey 2002.

3.2.7 Take Out Extras

Take Out Extras Sub-Category Summary (2006)

	Items	% of Sub-Category	% of Total Litter
Name Brand (Fast Food etc.) Towels / Napkins / Serviettes	22	40.4%	0.51%
Utensils	19.5	35.8%	0.45%
Condiment package (salt, ketchup, vinegar etc.)	11	20.2%	0.25%
Paper Fast Food Plates	1	1.8%	0.02%
Plates - Other Mat's	1	1.8%	0.02%
	54.5	100.0%	1.26%
2005 Observations	54		1.00%



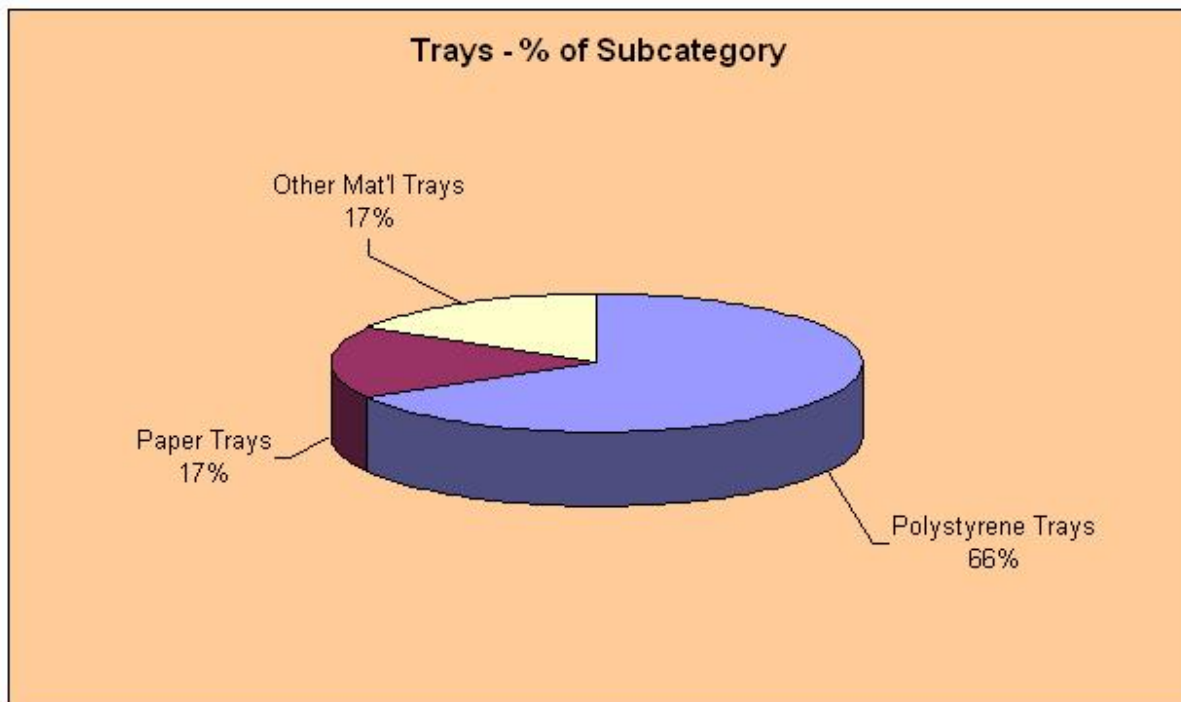
Discussion:

The sub-category of Take-out Food Extras includes condiment packages (ketchup, vinegar, salt, pepper etc.) and utensils used by patrons of fast food establishments. Name brand napkins represented 40% of the sub-category with utensils making up 36% of the sub-category. Condiment packaging accounted for 20 % of the large litter attributed to this sub-category. This category yielded an identical count of 54 pieces of litter, or 1.0 % of total large litter in 2005, compared to 2.27% of the total litter observed in the 2004 survey and 2.7% of total large litter in the 2002 audit.

3.2.8 Trays

Trays Sub-Category Summary (2006)

	Items	%of Sub-Category	% of Total Litter
Polystyrene Trays	4	67%	0.09%
Paper Trays	1	17%	0.02%
Other Mat'l Trays	1	17%	0.02%
	6	100%	0.14%
2005 Observations	21		0.38%



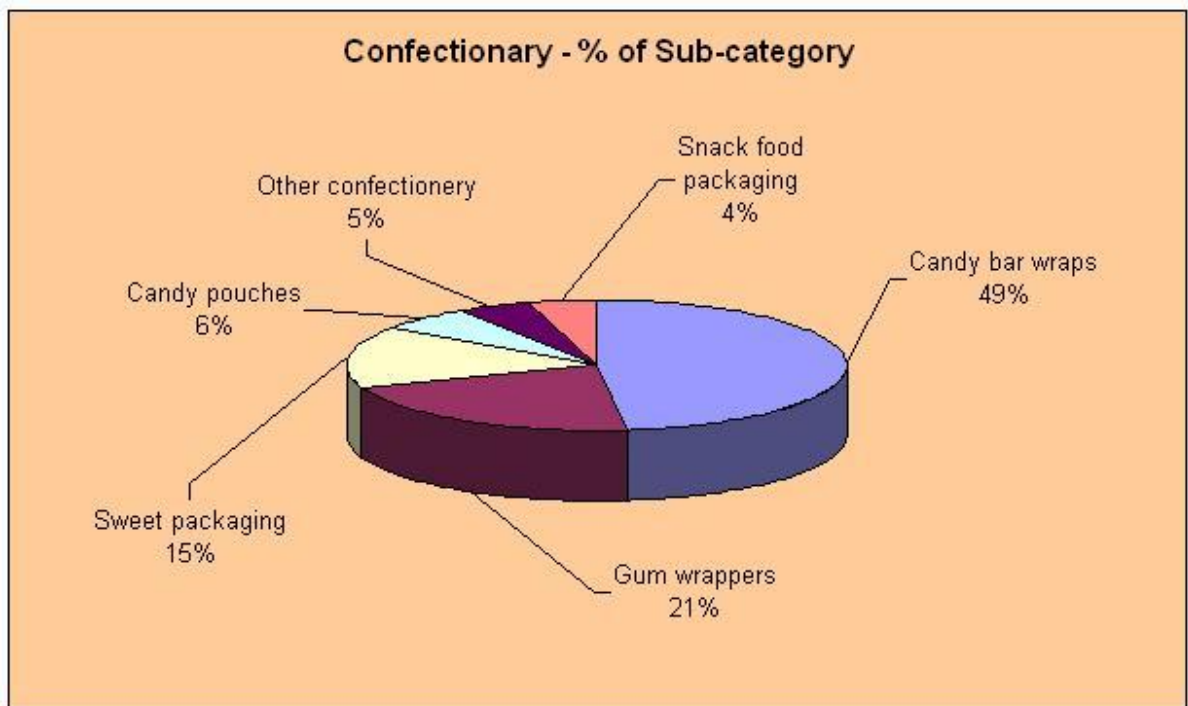
Discussion:

Trays represented a very small category of large litter at less than 1% (0.14%) . In 2005 more tray litter was observed, but again that amount was less than 1% in that audit (0.38 %). Trays are used by take-out food locations to allow ease of transport for their customers of their food products (i.e. coffee shops).

3.2.9 Confectionary

Confectionary Sub-Category Summary (2006)

	Items	%of Sub-Category	% of Total Litter
Candy bar wraps	143.5	48.0%	3.31%
Gum wrappers	64	21.4%	1.47%
Sweet packaging	45.5	15.2%	1.05%
Candy pouches	19	6.4%	0.44%
Other confectionery	14	4.7%	0.32%
Snack food packaging	13	4.3%	0.30%
	299	100.0%	6.89%
2005 Observations	479		8.85%



Discussion:

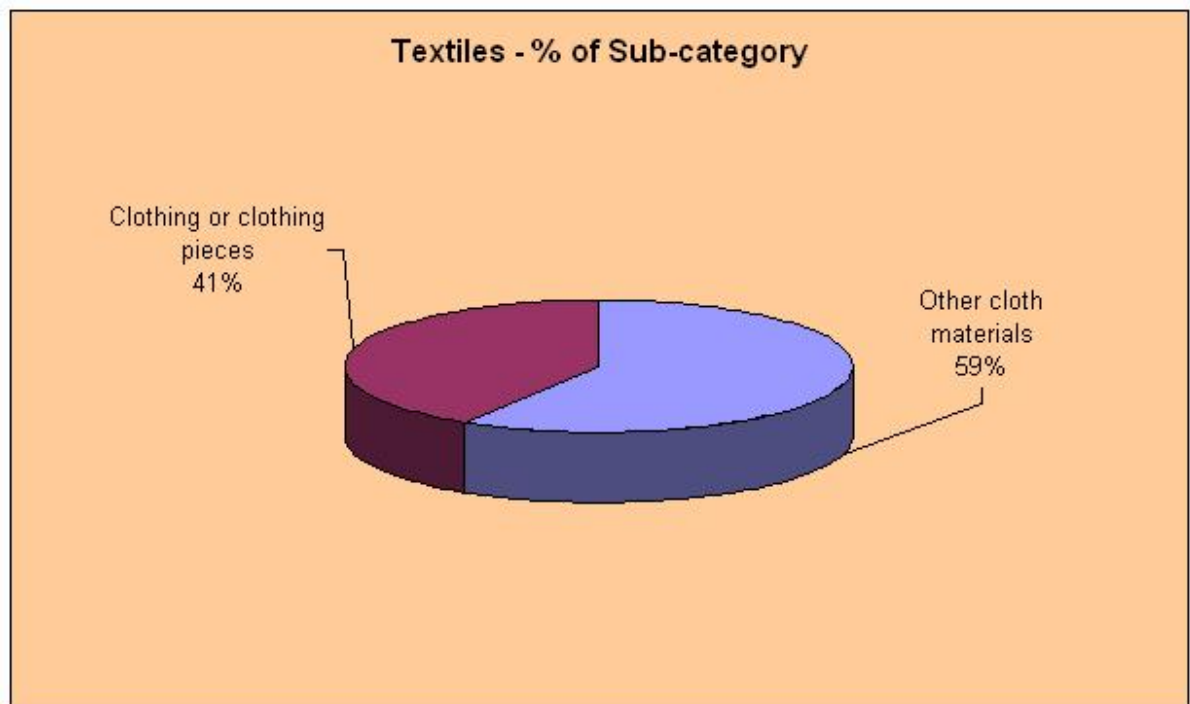
Confectionary products include candy bar wraps, candy pouches, and other snack food packaging and pouches. Confectionary packaging waste are a significant component of the litter observed in this audit, at nearly 7% of total large litter observed.

The amount of confectionary litter decreased significantly in 2006, to 299 pieces compared to 479 large litter items in this segment in 2005 (479) and 520 items observed in the 2004 audit. Confectionary product litter continue to represent a significant amount of large litter at 6.89 % of the total large litter observed, compared to a contribution of 8.85% in 2005, 9.92 % in 2004 and 8.5% of total large litter in the 2002 audit. Gum and candy wrappers remain a major source of this sub-category in all litter performed since 2002.

3.2.10 Textiles

Textiles Sub-Category Summary (2006)

	Items	% of Sub-Category	% of Total Litter
Other cloth materials	41.5	59%	0.96%
Clothing or clothing pieces	29	41%	0.67%
	70.5	100%	1.62%
2005 Observations	33		0.61%



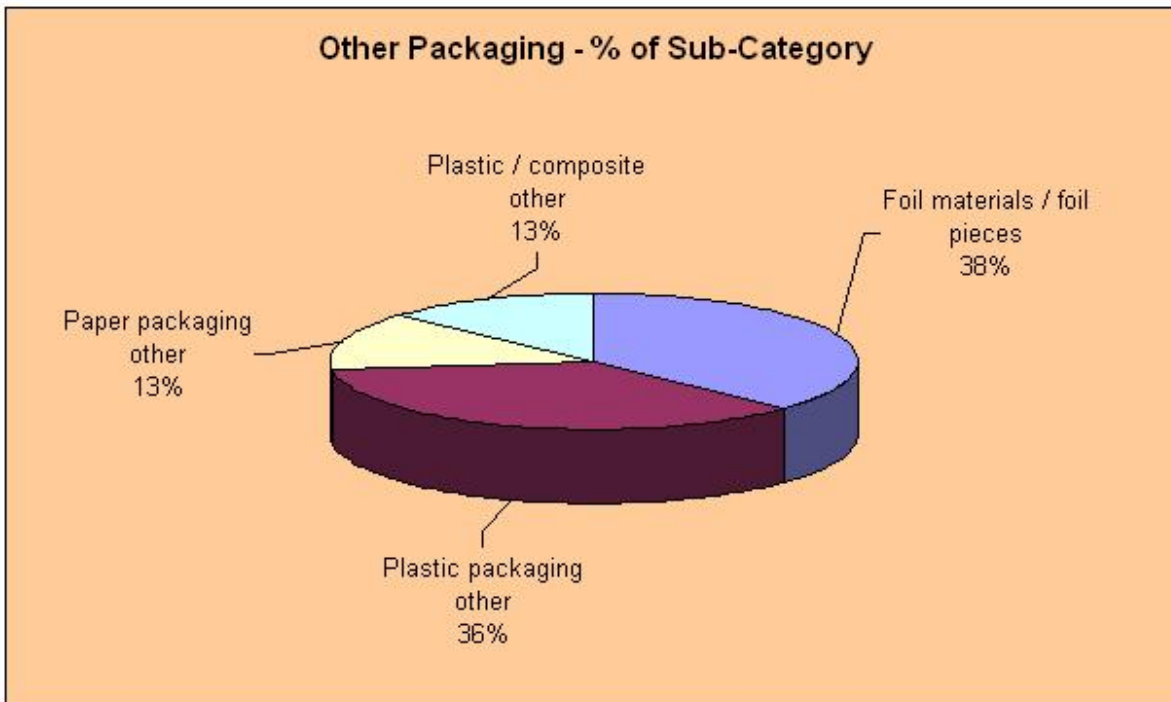
Discussion

In total 70 items of textile nature were observed in the 2006 audit – this is a significant increase from 2005 when only 33 items of textile materials (0.61% of total litter) were counted. The 2006 observations represent 1.62% of total litter. This category was of equal impact in the 2004 audit (1.14%).

3.2.11 Other Packaging

Other Packaging Sub-Category Summary (2006)

	Items	%of Sub-Category	% of Total Litter
Foil materials / foil pieces	34.5	37.1%	0.79%
Plastic packaging other	33.5	36.0%	0.77%
Paper packaging other	12.5	13.4%	0.29%
Plastic / composite other	12.5	13.4%	0.29%
	93	100.0%	2.14%
2005 Observations	193		3.57%



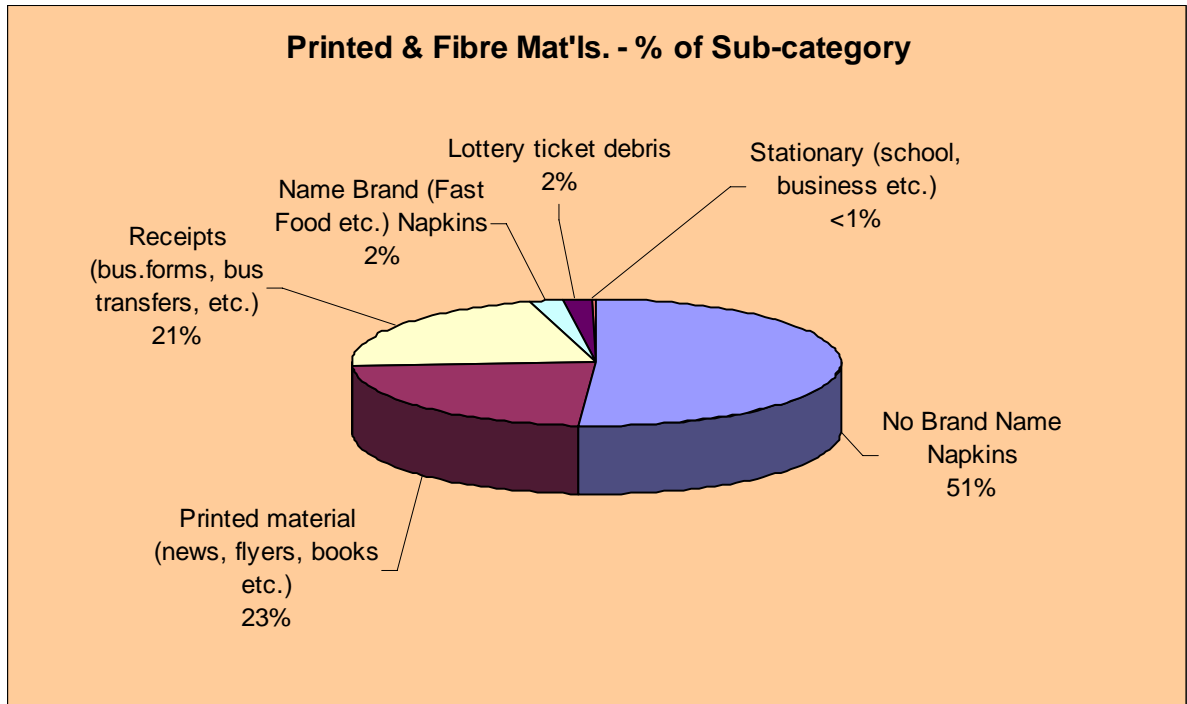
Discussion

This sub-category includes packaging that did not fit into other packaging sub-categories, but which were still identifiable. There was a significant decrease in items from this subcategory observed in the 2006 audit, with only 93 items counted. This is 2.14% of total litter compared to a total of 193 items in this category, representing 3.57 % of large litter in 2005. This category has been more significant in other audits, notably 5.4 % of total litter counted in 2004.

3.2.12 Printed & Fibre Materials

Printed & Fibre Mat'l Summary (2006)

	Items	% of Sub-Category	% of Total Litter
No Brand Name Napkins	487.5	51.1%	11.2%
Printed material (news, flyers, books etc.)	220	23.0%	5.1%
Receipts (bus.forms, bus transfers, etc.)	205	21.5%	4.7%
Name Brand (Fast Food etc.) Napkins	22	2.3%	0.5%
Lottery ticket debris	17.5	1.8%	0.4%
Stationary (school, business etc.)	2.5	0.3%	0.1%
	954.5	100.0%	22.0%
2005 Observations	1357		25.1%



Discussion

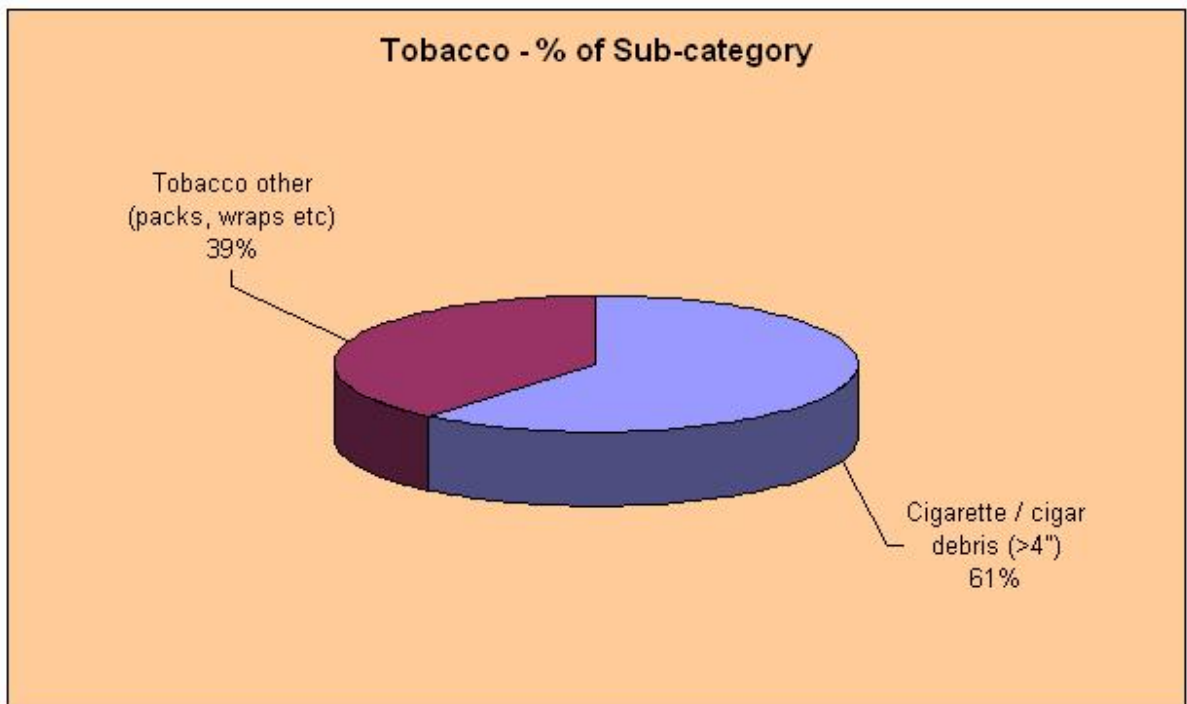
This sub-category at 954 items, was considerable lower than the amount of fibre litter found in 2005 which totalled 1,357 items. This subcategory represents a very significant portion of total litter (22% in 2006 and 25.1% in 2005). This compares to 25 % of total large litter in 2004 and 21% in 2002.

Towels and napkins represented 51% of the sub-category materials counted (48% in 2005), much of which may be associated with take-out foods; however most of these materials could not be positively identified by brand. Books and flyers as well as receipts and tickets were also significant (many of these were TTC transit transfers) at 23% (24.4% in 2005).

3.2.13 Tobacco

Tobacco Sub-Category Summary (2006)

	Items	%of Sub-Category	% of Total Litter
Cigarette / cigar debris (>4")	101	61%	2.3%
Tobacco other (packs, wraps etc)	64	39%	1.5%
	165	100%	3.8%
2005 observations	388		7.2%



Discussion

In the 2006 litter audit, teams reported much lower occurrences of tobacco litter than in previous audits. In 2006 we observed 165 pieces of tobacco related litter (3.8% of total litter) compared to 388 pieces in 2005 (7.2 % of total litter). The majority of the litter was cellophane pack wrappings, foil and paper packaging that tobacco products are sold in. These findings are consistent with the contribution tobacco products were observed to be making in the 2004 litter audit where they were 9 % of total large litter.

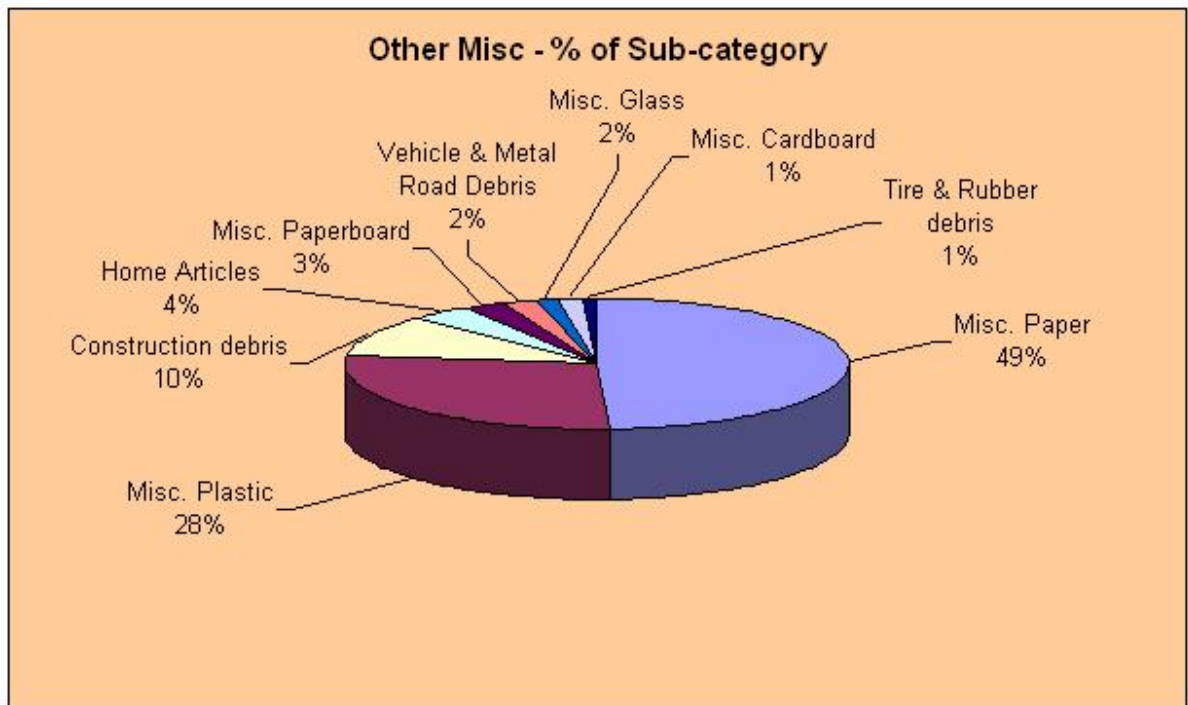
One observation that several teams made was that many private buildings and shops were seen cleaning up in front of their premises. This maybe partially related to more smoking being done outside, and owners making efforts to the street and sidewalks at heir premises.

3.2.14 Other Miscellaneous

(Includes misc. paper, misc. plastic, misc. cardboard, misc. paperboard, vehicle & road debris, construction debris, home articles)

Other Miscellaneous Sub-Category Summary (2006)

	Items	%of Sub-Category	% of Total Litter
Misc. Paper	827	49.2%	19.1%
Misc. Plastic	473	28.1%	10.9%
Construction debris	174.5	10.4%	4.0%
Home Articles	62	3.7%	1.4%
Misc. Paperboard	45.5	2.7%	1.0%
Vehicle & Metal Road Debris	34	2.0%	0.8%
Misc. Glass	25.5	1.5%	0.6%
Misc. Cardboard	25	1.5%	0.6%
Tire & Rubber debris	16	1.0%	0.4%
	1682.5	100.0%	38.8%
2005 Observations	1695		31.3%



Discussion:

This sub-category yields the largest segment of litter observed in the City of Toronto Litter Audits (2002, 2004, 2005, 2006); since it is a general category that encompasses much of the unspecific litter observed. In total 1,683 pieces of large litter fell into this general category (compared to 1,695 items in 2005)

Miscellaneous materials are those that cannot be identified other than by the material type or likely origin of the litter. Paper materials again accounted for the majority of this sub-category, and accounted for 827 large litter items in this sub-category (49%) or a significant 19% of total large litter counted (795 in 2005). Miscellaneous plastic materials accounted for 473 of the sub-category and 11 % of all the large litter counted in the 2006 survey (463 items in 2005). Taken together, paper, paperboard and cardboard materials comprised 67 % of this sub-category, and 30 % of all the large litter counted (54.3 % in 2005). This finding is consistent with previous litter audits where these unidentified materials accounted for between 16 % and 21% of total large litter respectively.

This category is difficult to quantify in terms of the kinds of products that the litter derived from. These categories consisted of bits of stationary, newspapers, flyers, and often included shredded paper from lawn mowing. This material derives from a plethora of sources, that once weathered or when grass is mowed it is shredded into indistinguishable pieces.

4.0 Small Litter Survey Results

4.1 Discussion of Small Litter Results

The categories examined in the litter counts of items less than 4 square inches in size are:

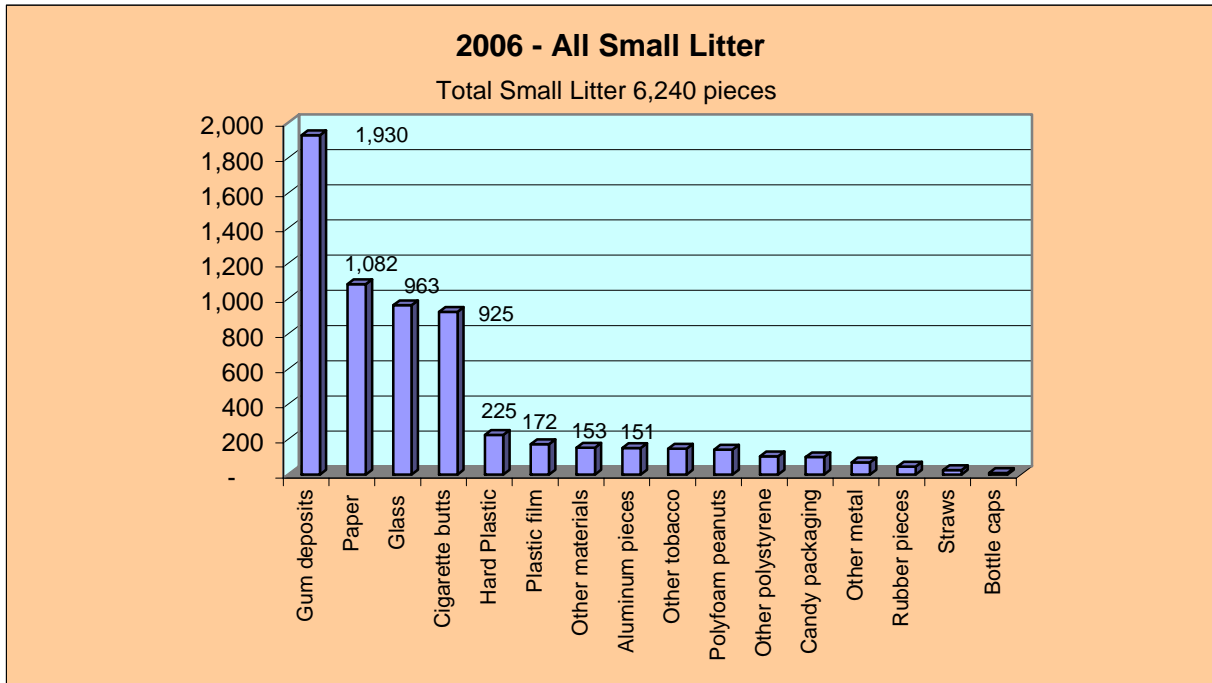
- cigarette butts/ debris
- other tobacco
- bottle caps
- straws
- candy packaging
- polyfoam packing materials
- other polystyrene debris
- glass
- paper
- plastic film
- hard plastic
- aluminum / foil debris
- rubber
- metal (not aluminum)
- other materials
- chewing gum

The small litter methodology allows researchers to count small litter that fell within the three same size sample areas on a given site (transacts) – three 15 square foot segments of a site. Accordingly, the small litter counts may or may not have recorded some of the small litter existing on a site. However, the benefit of this method is its rigor. Every site was handled in the same way. Thus, a fair and objective examination of small litter is presented.

Small litter is difficult to control, in that it is “manufactured” by a combination of degradation (weather) and man-made activities (vehicle traffic, mowing, etc.).

Observations of small litter during the 2006 audit showed a considerable decrease in the occurrence of small litter on city streets. In 2005, over 11,000 small litter pieces were counted on 272 sites for an average of 41 pieces per site. In the 2006 litter audit small litter items accounted for 21 items per site – a 49% reduction in small litter observed per site, compared to the previous year.

The chart on the next page and the accompanying table describe the 2006 small litter observations.



2006 Small Litter – by Category

	Items Counted	% of Total Small Litter
Gum deposits	1,930	30.9%
Paper	1,082	17.3%
Glass	963	15.4%
Cigarette butts	925	14.8%
Hard Plastic	225	3.6%
Plastic film	172	2.8%
Other materials	153	2.5%
Aluminum pieces	151	2.4%
Other tobacco	147	2.4%
Polyfoam peanuts	141	2.3%
Other polystyrene	103	1.7%
Candy packaging	99	1.6%
Other metal	69	1.1%
Rubber pieces	45	0.7%
Straws	26	0.4%
Bottle caps	9	0.1%
	6,240	100.0%

49% Less small litter than in 2005
 21 Pieces small litter per site 2006
 41 Pieces small litter per site 2005

5.0 Small Litter - Super Site Survey Results

As discussed in Section 4, small litter is difficult to audit for several reasons. Small litter is sampled in 45 sq. ft. from a total site area usually consisting of 3,600 sq. feet, thus the sampling area is 1.25% of the total site area. Another problem with counting small litter is that in grassy areas, such as lawns, park fields and undeveloped lands small litter falls below the grass layer and is hard to observe.

In order to better understand the composition of small litter at designated sites a new methodology to examine this litter was devised. These sites are called "Super Sites". Super Sites were examined for small litter by observing all the small litter observed over the entire 3,600 square feet of the site. The average time required to do a Super Site is about 2 hours per site. In total 55 sites were examined by audit crews in the 2006 audit work, compared to 68 in 2005, and 47 Super Sites in 2004.

Part of the instructions to the consultant from the City of Toronto was to determine the contribution of chewing gum on city streets. A 16th sub-category of small litter – gum has been added to the small litter observations since 2004. Gum deposits are distinguished as a blackened or darkened raised spot on pavement. Gum may be also observed as a globular deposit if not stuck onto a hard surface. Care was taken in instructing audit surveyors how to identify gum on pavement - and care was taken not to count stains or other deposits that were encountered.

Observations for the 55 sites examined as Super Sites in 2006 yielded 71,211 items of small litter or 1,294 items/ site; compared to 51,659 total items or 760 items / site in 2005.

Similar to our findings in 2005 - 40 % of all of the small litter observed (28,515 observations from a total of 71,211 small items counted) at the 55 Super Sites were identified as chewing gum deposits. This compares to 37.9% of all small litter in 2005 (19,569 observations from a total of 51,659 small items counted) and 52% as gum deposits in 2004 (25,895 observations from a total of 49,928 small items counted) at the 47 Super Sites identified as chewing gum deposits.

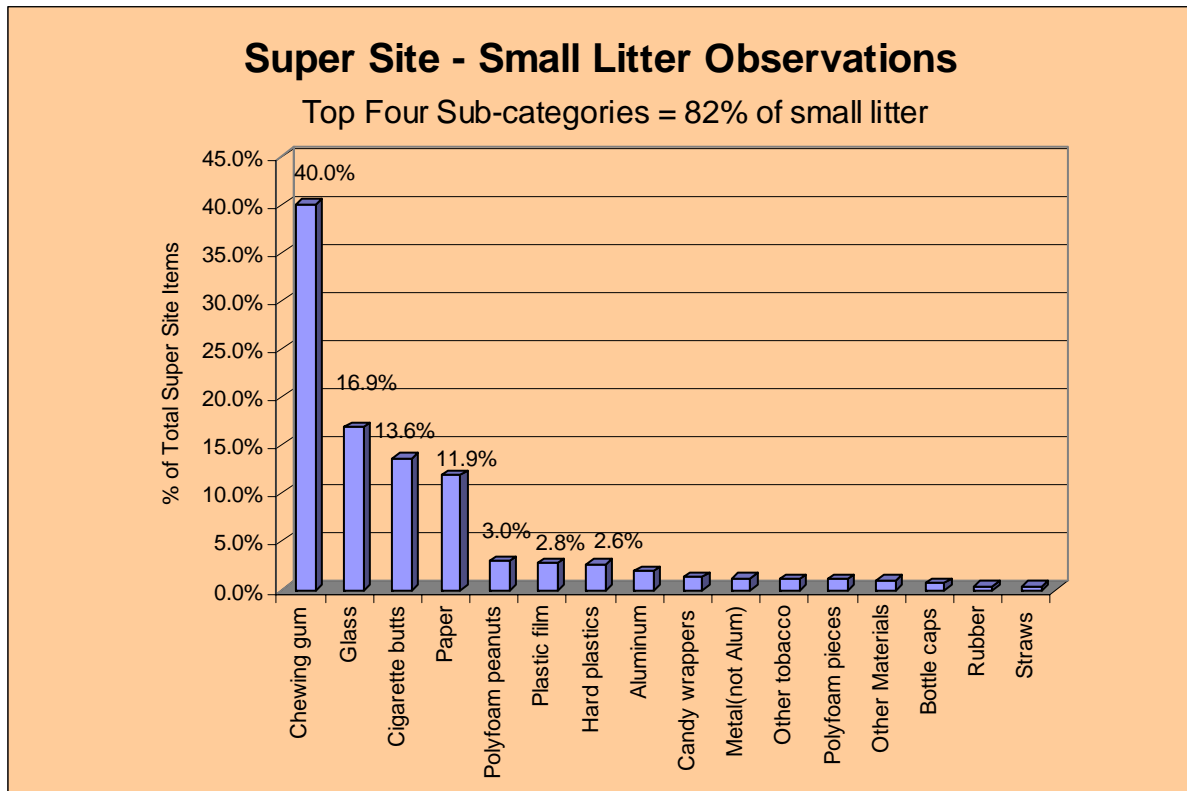
In 2006 gum deposits averaged 518 per 3,600 square foot site compared to 288 per 3,600 square foot site in 2005 and 550 gum deposits per site in 2004. Several sites had over 2,000 gum deposits within the site boundary; and one site (Bloor St. W – Site #301) had 7,332 gum deposits on site. The number of sites with > 1000 gum deposits in 2006 was 9, in 2005 it was 8 of 68 (12%) and 9 of 47 sites in 2004 (19%) supporting the finding that gum deposits continue to be a concern on streets.

Gum deposits as a sub-category of litter is an issue on Toronto streets. The Super Site methodology, although painstaking, provides a much larger small litter sample compared to the previously used methodology, thus we are confident that the results indicate a significant contribution by chewing gum to the occurrence of small litter on Toronto street. It must also be remembered that gum deposits do not degrade quickly, and tend to accumulate with time. It is difficult to remove these deposits from pavement.

After chewing gum deposits, the next largest contributing sub-categories of small litter are broken glass pieces (12,029 pieces or 16.9% of small litter observed) and tobacco products with 9,711 cigarette butts and 800 observed other tobacco small litter items observed using this methodology. This is still a very significant contribution to small litter on city streets. Cigarette butts and tobacco litter were 14.7% of the small litter observed in the Super Sites, in 2006. Chewing gum, broken glass pieces, paper, and cigarette and tobacco products account for 82% of the small litter observed.

Super Site Small Litter Observations (2006)

Chewing gum	28,515	40.0%	Top 4 Items 82.5%
Glass	12,029	16.9%	
Cigarette butts	9,711	13.6%	
Paper	8,485	11.9%	
Polyfoam peanuts	2,156	3.0%	
Plastic film	1,964	2.8%	
Hard plastics	1,874	2.6%	
Aluminum	1,369	1.9%	
Candy wrappers	929	1.3%	
Metal(not Alum)	842	1.2%	
Other tobacco	800	1.1%	
Polyfoam pieces	795	1.1%	
Other Materials	716	1.0%	
Bottle caps	473	0.7%	
Rubber	297	0.4%	
Straws	256	0.4%	
	71,211	100%	



Notes:

APPENDIX 1 - Super Site Data 2006

Site ID Number	Site Name	Perley's Map Coord.	Cigarette Butts	Other Tobacco Small	Bottle caps	Straws	Candy Wrappers	Polyfoam Peanuts	Polyfoam Pieces	Glass	Paper	Plastic Film	Hard Plastic	Aluminum	Rubber	Metal (not Alum.)	Other Material	Chewing Gum	Site Total
1	301	Bloor St. W.(2)	4-D3	341	0	5	0	10	0	161	50	60	3	0	0	10	0	7332	7,972
2	305	Spadina Ave.(2)	4-E5	315	4	2	2	8	0	602	366	13	16	17	0	5	16	3227	4,594
3	261	Augusta Ave.	4-D5	364	15	10	3	17	18	753	182	21	23	17	10	17	3	2277	3,754
4	053	Wolseley St.	4-C6	168	0	16	8	15	1679	651	72	110	12	7	0	16	11	216	3,003
5	323	John St.	2-E1	132	8	13	6	12	0	107	84	3	5	0	3	7	47	2370	2,798
6	036	Dupont St.	14-E2	432	8	8	2	31	25	960	165	23	111	23	9	30	6	684	2,555
7	211	John St(2)	2-E1	257	11	9	0	2	0	322	91	1	6	10	7	2	33	1793	2,544
8	111	Finch Ave W.	20-B4	424	10	13	7	8	30	196	919	124	104	30	3	88	95	8	2,102
9	212	Colbourne St.	3-A1	244	10	7	2	5	0	134	321	4	12	0	1	0	14	1327	2,081
10	112	Jane St.	20-A1	880	108	27	3	32	0	375	295	130	48	13	3	10	6	3	1,963
11	307	Dundas St. W	4-D6	165	8	2	1	2	0	92	78	13	10	6	0	5	8	1566	1,957
12	256	King St. W	2-F1	235	11	3	5	2	0	61	116	2	0	6	7	2	26	1315	1,794
13	412	Dublin St.	14-E4	73	17	5	18	54	28	973	152	83	46	84	5	5	2	48	1,614
14	032	Caledonia Rd.	16-E6	218	78	37	16	103	71	357	131	122	128	140	8	33	18	77	1,595
15	409	Castorfield Ave.	16-E3	170	12	45	20	60	80	395	243	75	125	65	25	27	15	79	1,568
16	306	Kensington Ave.	4-D6	133	3	5	1	1	0	106	143	13	4	2	4	3	6	1072	1,496
17	324	Cooper St.	3-A2	230	0	19	10	13	0	581	463	3	18	3	2	2	31	105	1,482
18	051	Alberta Ave.	4-B1	175	4	2	5	12	0	195	174	13	6	0	3	1	18	834	1,443
19	110	Sheppard Ave. W	20-B6	547	19	33	13	37	19	93	237	163	49	64	28	40	42	42	1,441
20	050	Brenson Ave.	4-B1	145	0	6	3	0	0	184	88	9	12	16	4	8	28	927	1,430
21	012	Rathburn Rd	36-B6	150	17	12	7	35	6	682	140	40	100	38	19	95	14	45	1,412
22	021	Browns Line	32-D4	439	87	10	5	22	11	205	178	55	84	150	2	72	10	16	1,373
23	025	St. Clair Ave. W	26-E6	223	12	14	8	48	25	304	99	203	73	36	11	27	17	117	1,283
24	213	George St.	3-A1	94	16	5	13	17	1	302	279	18	11	3	4	13	19	440	1,237
25	302	Sussex Ave.	4-D4	117	7	35	7	53	7	519	170	36	33	57	7	55	3	105	1,222
26	008	Martin Grove Rd.	36-E1	20	13	0	0	43	0	654	130	48	30	2	13	23	28	20	1,064
27	119	Butterick Rd.	32-F2	175	103	6	3	13	53	164	168	38	65	109	21	27	8	7	1,002
28	309	Dundas St. W	4-D6	65	0	1	0	0	0	67	56	5	16	2	3	8	23	752	998
29	114	Chesswood Dr.	20-F4	87	15	0	1	22	0	107	279	60	168	35	7	88	23	8	911
30	336	The Esplanade	3-B1	138	2	1	4	21	0	231	148	16	2	4	4	2	22	204	799

Site ID Number	Site Name	Perley's Map Coord.	Cigarette Butts	Other Tobacco Small	Bottle caps	Straws	Candy Wrappers	Polyfoam Peanuts	Polyfoam Pieces	Glass	Paper	Plastic Film	Hard Plastic	Aluminum	Rubber	Metal (not Alum.)	Other Material	Chewing Gum	Site Total
31	516 Wellington St. West	2-D1	126	4	7	2	12	0	3	323	173	1	2	5	11	4	18	97	788
32	104 Brookhaven Dr.	16-B1	47	3	13	17	31	6	5	204	144	37	41	83	3	8	1	100	743
33	155 Eglington Ave. E	27-E4	391	12	1	2	10	0	2	1	166	44	21	9	2	9	2	14	686
34	052 Portland St.	2-D2	94	17	6	3	11	0	0	165	197	0	3	7	13	6	28	133	683
35	153 Kennedy Rd.	27-E4	273	2	3	2	6	0	4	50	125	15	25	14	4	4	9	86	622
36	105 Thurodale Ave.	16-A1	35	3	10	20	43	2	7	38	110	23	30	30	6	5	2	223	587
37	028 Runnymede Rd.	14-B2	80	7	5	0	6	55	50	35	90	39	115	43	0	3	1	55	584
38	116 Tretheway Dr.	16-A2	64	13	17	12	46	7	10	122	80	60	33	38	6	8	3	59	578
39	202 Esander St.	7-E5	136	2	2	1	1	1	5	60	122	11	7	14	1	4	0	197	564
40	086 Don Mills Rd.	19-B3	276	16	1	2	8	0	8	11	119	32	26	17	1	2	9	27	555
41	069 Wilson Ave.	18-C4	105	25	5	6	7	0	2	38	250	40	31	28	1	2	4	8	552
42	158 Warden Ave	27-B1	200	18	2	0	2	0	2	16	122	9	77	15	3	13	8	63	550
43	315 Niagara St.	2-C2	88	6	6	0	2	0	0	208	79	2	10	1	5	8	16	115	546
44	023 Canmotor Ave.	22-B1	95	30	5	2	2	5	12	85	57	18	37	17	10	23	0	24	422
45	096 Bayview Ave	7-C2	120	8	2	2	12	2	26	7	134	32	16	26	2	3	5	2	399
46	033 Uxbridge Ave.	14-E1	27	3	5	1	2	5	10	81	67	7	15	3	10	3	2	120	361
47	049 Palmerston Ave.	4-C5	57	3	3	2	12	4	7	6	63	11	7	19	1	2	0	106	303
48	026 Maria St.	14-B1	17	2	8	1	7	5	13	23	78	19	19	21	2	1	2	42	260
49	077 Doris Ave	11-A4	123	9	9	5	3	0	1	0	53	3	8	10	1	2	5	4	236
50	018 Rosewood Ave	24-B6	50	11	1	1	3	11	15	18	31	15	15	8	1	5	0	12	197
51	092 York Mills Rd.	9-D3	53	5	2	0	0	0	2	1	48	9	8	9	1	2	2	0	142
52	161 Ellesmere Rd.	29-E4	24	0	3	1	2	0	6	2	77	18	4	4	0	0	1	0	142
53	337 Midland Ave.	31-E5	27	0	0	0	1	0	0	0	43	10	0	0	0	0	3	3	87
54	169 Midland Ave.	31-E5	33	2	0	0	0	0	1	0	28	2	1	2	0	3	1	1	74
55	029 Spring Rd.	14-C5	14	1	6	1	2	0	1	2	12	3	3	7	0	1	2	8	63
55 Sites Sampled																			
Sites in YELLOW - 37 sampled in 2005			9711	800	473	256	929	2156	795	12029	8485	1964	1874	1369	297	842	716	28515	71,211
																		Check Sum	71,211
Average Small Item/Site			13.6%	1.1%	0.7%	0.4%	1.3%	3.0%	1.1%	16.9%	11.9%	2.8%	2.6%	1.9%	0.4%	1.2%	1.0%	40.0%	100.0%
			177	15	9	5	17	39	14	219	154	36	34	25	5	15	13	518	1295

APPENDIX 2 – Site Locations & Wards

Site #	Ward	Map Page	Map Coord	Site_name	Directions
1	1	40	F1	Markbrook Lane	Steele/Kipling, south of Steeles to Markbrook; site on Markbrook
2	1	40	C4	Glenhollow Ave.	Finch/Hwy 27, wets on Finch, south on Halusia, east on Briarwood, south on Glenhollow Ave.
3	1	38	F1	Amoro Dr.	Rexdale/Kipling, north on Kipling, west on Westhumber, south on Amoro 3.5 blocks to site; site on Amoro
4	2	38	D4	Iron St.	Dixon Rd./Martin Grove, north on Martingrove, west on Belfield, just north on Iron
5	2	28	D6	Lockheed Blvd	Lawrence/Scarlett, north on Scarlett Rd., to Lockheed Blvd.; site two blocks west on Lockheed Blvd.
6	2	26	D1	Westona St.	Lawrence/Royal York Rd, east on Lawrence two blocks; site just south on Westona
7	2	26	E2	Kingdom St.	Weston/Lawrence, south on Scarlett Rd, east on Kingdom St.; Site on Kingdom St. between Brownlea Ave and Waterton Rd. on south side.
8	4	36	E1	Martin Grove Rd. (was Tollington)	Dixon/Martin Grove, south on Martin Grove; site on west side of Martin Grove Rd. just past Waterbury Dr.
11	4	26	B5	Aylesbury Rd.	Rathburn/Islington, go north on Islington two blocks, west on Aylesbury, two blocks just before Thornbury; site on Aylesbury on south side
12	3	36	B6	Rathburn Rd.	Renforth Rd. - Eglinton Ave. west from intersection go south on Renforth Rd.. to Rathburn. Go west Rathburn Rd and stop before The West Mall
13	4	24	B1	Finchley Rd.	Bloor/Islington, north on Islington past Dundas St., east on Hilldowntree 2 blocks, south on Finchley; site on west side of Finchley Rd.
14	4	24	A1	Burnhamthorpe Park Blvd.	Burnhamthorpe/Kipling, go east on Burnhamthorpe 1 block, north on Wembley, then west on Burnamthorpe.
16	5	24	A3	Fieldway Rd.	Bloor/Kipling, east on Bloor under railroad tracks, south on Green Lands, west on Fieldway; site on Fieldway Rd. just past the CPR Spur on north side
17	5	24	D5	Elderidge Ave.	Prince Edward Dr./Bloor, south on Prince Edward Dr. west on Elderidge Ave.; site on Elderidge Ave. just after turning corner where street turns north.
18	5	24	B6	Rosewood Ave.	Royal York Rd/The Queensway, go west on the Queensway 6 blocks, north on Loma Rd, west on Rosewood Ave.
20	6	32	D2	Valermo Dr.	Horner Ave/Browns line, go north on Browns Line 2 blocks, east on Valermo Rd, 1.5 blocks
21	6	32	D4	Browns Line	Browns Line/Lakeshore, north on Browns Line; site is on east side of Browns Line just over the bridge and before Dover Dr.

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23	5	22	B1	Canmotor Ave	The Queensway/Islington, east on the Queensway, go south on Canmoltor Ave, just past Cavern
24	11	28	D5	Oak St.	401/Weston Rd, south on Weston 5 blocks, east on Oak St.; site on south side of Oak St. just before Yelland St.
25	13	26	E6	St. Clair Ave. W	Jane St/St. Clair Ave. W - go West on St. Clair Ave W, to Scarlett Rd. - site is site is on St. Clair Ave. W at corner of Scarlett Rd & St. Clair Ave. W
26	13	14	B1	Maria St.	Runnymede /Dundas, go east on Dundas, north on Johns, east on Maria St..
27	13	24	F2	Methuen Ave.	Bloor/Jane, go north on Jane to Methuen Ave. go west on Methuen Ave.
28	13	14	B2	Runnymede Rd.	Dundas/Runnymede, go south on Runnymede till just before Annette
29	13	14	C5	Spring Rd.	The Queensway/Parkside Dr., go west on Queensway then north on Spring Rd.; site is right at the intersection and entrance of spring road on the street side near the pond.
30	17	16	F5	Nairn Ave.	Rogers Rd/Dufferin St., go west on Rogers Rd 5 blocks, north on Nairn Ave just past Teignmouth
31	17	14	D1	Osler St.	Old Weston Rd /St. Clair Ave W, go east on St. Clair 2 blocks then just south on Osler St.
32	17	16	E6	Caledonia Rd.	Caledonia/St. Clair Ave W, go north on Caledonia about 50 ft.
33	17	14	E1	Uxbridge Ave.	Old Weston Rd/Davenport Rd, go east on Davenport 5 blocks, south on Uxbridge Ave.
34	17	14	F1	Ashburnham Rd.	Davenport Rd/Dufferin St., go west on Davenport 3 blocks, then north on Greenlaw Ave., then east on Ashburnham Rd.; site is on the south side of Ashburnham Rd. just past Via Italia.
35	17	14	F1	McFarland Ave.	Davenport rd/Dufferin St., west on Davenport 1 block, then north on McFarland to the intersection of Ashburnham/McFarland intersection.
36	14	14	E2	Dupont St.	Dupont/Landsdown, west on Dupont till just before Campbell Ave
37	14	14	E2	Campbell Ave.	Dupont/Lansdowne, west on Dupont, south on Campbell, just before Antler
38	14	14	D4	Indian Trail	Bloor/Parkside Dr., go east on Bloor, south on Indian Gr, east on Indian Trail
39	14	14	D5	Sunnyside Ave.	Parkside Dr./Bloor St. W, south on Parkside Dr. to Grenadier, east on Grenadier, south on Sunnyside Ave. just south of Grenadier
40	14	14	E6	Queen St. W.	Queen/Lansdowne Ave; west on Queen until Callender St.; site on north side of Queen St. between Callender St. and Triller Ave.
41	18	14	E4	Whytock Ave.	Bloor/Lansdowne, south on Lansdowne 1600 ft. then go west on Whytock Ave. and site is on north side of Whylock just after the curve
42	18	14	F4	Muir Ave.	Dundas St. W/Dufferin St., go south on Dufferin, west on Lindsay, north on Sheridan , east on Muir
43	18	4	A5	Macklem Ave.	Dufferin/Dundas, go north on Dufferin, turn right onto Parr St.; when you turn north Parr St. becomes Macklem Ave.; site on west side of Mackelm Ave.

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44	19	4	B3	Pendrith St.	Ossington/Bloor, north on Ossington 2 blocks, right on Pendrith; site on Pendrith St. just after Roblocke Ave.
45	19	4	B6	Crawford St.	Queen St. W/Bathurst St heading west on Queen St., turn north onto Crawford St.; site on Crawford St. just north of Logie Pl..
46	19	2	B1	Stafford St.	Queen/Bathurst. From Queen/Bathurst, head west on Queen, go south on Niagara, head west on Richmond St., turn south onto Stafford; site on Stafford St. just before Adelaide St. W
47	19	4	C5	Mansfield Ave.	Bathurst/Dundas St. W on Dundas from intersection to Claremont St. Site on Mansfield past Clinton St.
48	19	4	C4	Euclid Av.	College St./Bathurst, west on college St. to Euclid Ave. Site on Euclid Av, midway between Ulster St. and College St.
49	19	4	C5	Palmerston Ave.	College St./Bathurst, west on College St. to intersection of college and Palmerston. Site on Palmerston
50	17	4	B1	Benson Ave.	St. Clair Av/Dufferin Av. East on St. Clair Ave, south on Alberta to intersection with Benson Ave. Site is on Benson.
51	17	4	B1	Alberta Ave.	Dufferin & Davenport; E on Davenport to Alberta Ave., site on Alberta Ave.
52	20	2	D2	Portland St.	Bathurst St/Front St., east on front St.. from intersection to Portland St. Site is on Portland St. and Front St., but before Wellington St. W.
53	20	4	C6	Wolseley St.	Queens St. W/Bathurst St., east on Queen to Ryerson Av, north on Ryerson to intersection of Ryerson and Wolseley St. Site is at intersection of Ryerson and Wolseley St., on Wolseley.
54	20	4	C6	Dennison Ave.	Dundas ST./Bathurst St., go east on Dundas to Dennison Avenue. Site is on west side of Denison Ave. between Wolsely St. and Queen St.
55	20	2	D1	Augusta Ave.	Bathurst/Queen, from intersection go east on Queen to Augusta Av, go north on Augusta to intersection of Augusta and Woseley; site on Augusta, just off Woseley
56	20	4	D6	Napanee Ct.	Dundas/Bathurst, east on Dundas till you hit Vanauley St. go south on Vanauley and then go east on Napanee. Site on Napanee.
57	20	4	D6	Kensington Ave.	Spadina/Dundas, west on Dundas then north on Kensington, about 200 feet in. Site on east side of Kensington Ave.
58	20	4	E5	Glasgow St.	College/Spadina, go south on Spadina, east on Cecil, north on Glasgow
59	20	4	E5	Elm St.	University/College, south on University 2 blocks, west on Elm, just after Murray St.
60	20	2	E1	Oxley St.	Queen/Spadina, south on Spadina 3 blocks, then east on Oxley; site 50 feet east of Spadina
61	27	4	F5	Grenville St.	Yonge/College, go west on College, north on Bay, west ibti /Grenville St.; site on north side of Grenville St. beginning at intersection.
62	21	6	B3	Old Park Rd.	Bathurst/Eglinton - go west on Eglinton Ave. to Old Park Rd., north on Old Park Rd.; site is 50 feet north of Ridge Hill Dr. on east side.
63	21	6	D4	Vesta Dr.	Eglinton/Bathurst, east on Bathurst 2 blocks, south on Vesta Dr. 1/2 block
64	21	6	D4	Ava Rd.	Bathurst/Ealination. south on Bathurst 3 blocks.

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65	21	6	D4	Vesta Dr.	Bathurst/Eglinton, east on Eglinton, south on Vesta Dr. ; site on Vesta Dr. just south of Ava Rd. on west side of street
66	21	6	C6	Bathurst St.	St. Clair/Bathurst, north on Bathurst past Claxton/Lonsdale site on Bathurst immediately after Lonsdale, east side
67	7	30	C5	Windhill Cres.	Finch/Weston, go west on Finch to Weston, go south on Weston, west on Lanyard, south (left) on Unser Gt., then first left onto Windhill Cres; site on north side of Windhill Crescent
68	7	30	D5	Franson Cres.	Finch/Weston, go west on Finch to Weston, south on Weston to Coronado , west on Coronado, and north on St. Lucie, west on Franson; site on west side of Franson Cres.
69	9	18	C4	Wilson Ave.	Jane/Wilson, east on Wilson past Ridge Rd.; site on Wilson
70	8	20	E5	Tuscan Gate	Keele St./Sheppard Ave. West - turn East onto Sheppard Ave. W go past bridge turn left (north) onto Tuscan , site on Tuscan
71	10	8	B2	Josephine Rd.	Sheppard Ave./Bathurst Ave., south on Bathurst Ave., right on Down's Drive, Left on Clanton Park Rd, left onto Josephine Rd.; site on Josephine Rd. on west side
72	10	10	C6	Heaton St.	Sheppard/Bathurst, south on Bathurst, take right on Codsell and L onto Heaton's; site on Heaton's
73	23	10	F2-3	Newtonbrook Blvd.	Yonge/Finch, north on Yonge to Drewry, west on Drewry to Hilda , south on Hilda to Newtonbrook; site on south side of Newtonbrook Blvd.
74	23	10	E4	Churchill Ave.	Yonge/Finch, north of Yonge on Churchill, past Senlac; site on Churchill
75	23	10	E4	Tamworth Rd.	Yonge/Finch, from last location go east on Churchill, north on Tamworth, site on east side of Tamworth starting at intersection of Churchill Ave/Tamworth Rd.
76	23	10	E5	Tamworth Rd.	Yonge/Finch, south on Yonge, east (right) on Park Home Ave. , go north (right) on Tamworth; site on east side of Tamworth beginning at intersection of Park Home Ave./Tamworth Rd
77	23	11	A4	Doris Ave. (was Grandview)	Yonge St./Finch Ave. - south on Young St., east on Church Ave. north on Doris Ave.; site is on east side of Doris Ave just past Grandview Way
78	23	11	C4	Byng Ave.	Yonge/ Finch, west on Finch past Bayview, make left on Estelle going south, turn right (west) on third street -- Byng; site on Byng past Wilfred
79	24	11	A2	Dumont St.	Yonge/Steeles, south of Steeles on Yonge, east on Newton, north on Dumont; site on east side of Dumont St.
80	24	11	B1	Michigan Dr.	Yonge/ Steeles, east of Yonge on Steeles, turn south (right) on Whitman, east on Michigan; site on Michigan Dr.
81	24	11	D5	Wycliffe Ave.	Finch/Bayview, south on Bayview, east on Wycliffe; site on Wycliffe Ave.east of Whitelock Cres.
82	33	21	A4	Cobblestone St.	Finch/Leslie, south of Finch on Leslie, east on Van Horne Ave, north on Seneca Dr.; site on Cobblestone west of Seneca
83	33	21	A5	Leslie St.	Finch/Leslie, on Leslie, south of Finch, south of Corning Rd ; site on Leslie near Lesgay
84	33	19	B1	George Henry Blvd.	Sheppard & Don Mills - South on Don Mills , West on George Henry Blvd., on George Henry after Farmview Cres.
85	34	19	F3	Roywood Dr.	401 & Victoria Park, south of 401 on Victoria Park, west on York Mills, north on Ness, right (east) on Lynedock Cres.,turn onto Roywood just past school; site on Roywood on corner of Roywood and Niantic Cres.

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86	34	19	B3	Don Mills Rd.	York Mills/Don Mills Rd.- go north on Don Mills Rd., past Moatfield Dr. before Graydon Hall Dr.; site on Don Mills
87	34	19	E5	Aldenham Cres.	York Mills/Don Mills, east on York Mills south on Valleywoods Rd. east on Brookbanks Dr., connect to Underhill Dr., south on Underhill Dr. then west onto Cassandra Blvd, left (south) onto Aldenham; site on Aldenham
88	25	17	A1	Tottenham Rd.	Leslie/Lawrence, south on Leslie, left on Lawrence, first left off Lawrence go on Tottenham; site at Tottenham
89	25	9	F3	Riderwood Dr.	Leslie/Sheppard, south on Leslie past 401, turn east on Bannatyne, left on Riderwood past Orchid; site on Riderwood
90	25	9	F2	Ealing Dr.	Leslie/401, south (left) on Leslie to Bannatyne, past Stubbs, to Ealing; site on Ealing
91	25	9	D2	Wimpole Dr.	Bayview/401, south on Bayview, past 401, 2nd toad east on Wimpole; site on Wimpole
92	25	9	D3	York Mills Rd.	Bayview/401, south on Bayview, east on York Mills; site on YorkMills after Communitie Centre by Wilket Creek
93	25	9	B3	Danville Dr.	Bayview/York Mills, go west on York Mills, N on Upper Highland, east on Danville; site on Danville
94	25	9	C6	Bayview Ave	Bayview/Lawrence, south on Bayview right before Lawrence on west side
95	25	7	B2	Stratford Cres.	Bayview/Lawrence, south of Lawrence on Bayview to Blythwood, right on Blythdale to Stratford Cres. - site on Stratford Cres
96	25	7	C2	Bayview Ave.	Bayview Ave./ Lawrence Ave. : south on Bayview past Lawrence Ave.; site on Bayview just past Bythwood, before Sunnysdene Cres.
97	25	8	F5	Deloraine Ave.	Yonge/Wilson, south on Yonge, past Wilson, west on Deloraine; site on Deloraine
98	16	6	F3	Henning Ave.	Yonge/Eglinton, west on Eglinton from Yonge, turn right (north) on the second street, Henning Ave. site on Henning
99	15	6	C1	Glenmount Ave.	Bathurst/Eglinton, north on Bathurst, west on Glengrove; south on Glenmount; site at intersection of Glengrove and Glenmount just south of Glengrove (west side)
100	15	6	C1	Dalemount Ave.	Bathurst/Lawrence, south on Bathurst, west Dell Park, north on Dalemount; site on Dalemount, east side
101	15	6	A4	Lanark Ave.	Dufferin/Eglinton, east of Dufferin on Eglinton, or west of Bathurst, then south on Oakwood, then right/west on Lanark; site on Lanark
102	15	16	E3	Ronald Ave.	Dufferin/Eglinton, west on Eglinton turn south (left) onto Ronald Rd.; site on Ronald Rd.after Bowie and before Schell Ave. Site is between house #'s 55 and 71.
103	12	16	C2	Amesbury Dr.	Keele / Lawrence , south on Keele Avewest on Flamborough, S on Amesbury, go to Gotham Court , U - Turn, so site is on Amesbury looking North.
104	12	16	B1	Brookhaven Dr.	Jane/Lawrence, east on Lawrence past Jane turn south on Brookhaven : Start site at driveway of house #51 going west and ending at house #68.
105	12	16	A1	Thurodale Ave.	Jane/Lawrence, east on Lawrence, south on Brookhaven, west on Thurodale : site is 200 ft after Duckworth on Thurodale. Site is near the school.
106	12	16	A4	Lampton Ave. (was Astoria)	Jane/Eglinton, east on Eglinton then south on Guestville Ave. to Astoria, west on Astoria Ave. which turns into Lambton Ave.; site is on Lambton west of Chryessa Ave.

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107	9	18	E4	Cornelius Pkwy.	Keele/Wilson, south on Keele, east on Wilson to Cornelius; site is on Cornelius and Graham Rd. at the corner
108	9	18	E3	Murray Rd.	Keele/Wilson, east on Wilson, take first left (north) on Murray, past Katherine; site on Murray Rd. North of Spalding
109	9	18	F3	Beffort Rd.	Dufferin/Wilson, north on Dufferin past Wilson, Dufferin becomes Beffort Rd; site is 200 ft. north of where Dufferin turns into Beffort
110	9	20	B6	Sheppard Ave. W	Keele St./ Sheppard, west of Keele, site is 300 ft. before Arleta Ave.
111	8	20	B4	Finch Ave. W	Jane / Finch , E on Finch - Approx 200 ft. E of Driftwood St.
112	8	20	A1	Jane St.	Jane / Steele, W on Steeles to Jane, S on Jane past Hallmar, site on Jane
113	8	20	F1	Magnetic Dr.	Dufferin & Steeles, on Steele west of Dufferin, turn south onto Alness St; take first left (east) onto Magnetic Dr.; site on Magnetic Dr.
114	8	20	F4	Chesswood Dr.	Finch & Dufferin , on Finch W of Dufferin, S on second street, Chesswood before Champagne, site on Chesswood
115	16	8	E6	Lawrence Ave. W	Lawrence Ave, East of Avenue Rd. - 200 ft. east of Avenue Rd. - Site West of bus shelter on North Side in front of Medical Clinic
116	12	16	A2	Tretheway Dr	Jane/Lawrence, south on Jane past Lawrence, east on Tretheway past Millennium; site on Tretheway
117	16	6	E1	Avenue Rd.	Yonge / Lawrence - S on Yonge, west on Lawrence, S on Avenue Rd., site is past Caribou Rd. , on Avenue Rd.
118	13	14	B5	Woodland Hts.	Queensway/Parkside -Located W of Grenadier Pond - High Park; site on Woodland Hts. Up hill after Y intersection
119	6	32	F2	Butterick Rd.	The Queensway/Kipling. South on Kipling to Evans Ave, west on Evans Ave to Butterick. Site on Butterick, midway between beginning and end of street
120	32	15	E6	Queen St. East	Queen/Woodbine. East on Queen 100 ft after Wineva
121	32	15	E5	Glen Stewart Ave.	Kingston Rd./Victoria Pk. West on Kingston Rd. and south 200 ft, turn west on Glen Stewart Ave.; site on Glen Stewart Ave. just before Glen Stewart Ave. turns north.
122	30	15	A5	Walpole Ave.	Danforth/Greenwood, south on Greenwood and east on Walpole 100 ft; site on Walpole
123	32	15	C2	Barker Ave.	Victoria Park/St. Clair Ave. E, west on St. Clair Ave. E to O'Connor Drive, south/west on O'Connor Dr. to Woodbine Ave, south on Woodbine to Barker Ave. (8th street on left); Site begins 100 feet before Coleridge Ave.
124	31	15	F2	Halsey Ave.	St. Clair /Victoria Park, south on Victoria Park, southwest on Dawes Rd., east (right) onto Halsey Ave., Site on north side of Halsey Ave. - beginning 100 ft. from intersection
125	32	15	C4	Aldridge Ave.	Danforth/Coxwell, east on Danforth, south on Aldridge 100 ft.; site on Aldridge

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126	32	15	B6	Ashdale Ave.	Queen/Coxwell, Ashdale, west on Queen St. E past Ashdale Ave (one way south only) to Kent Rd., north on Kent Rd then east onto Dundas St. E then south onto Ashdale Ave. site on east side of Ashdale Ave. (opposite side of street to direction of travel) 100 ft. from Queen St. E
127	32	15	B6	Orchard Park Blvd.	Queen St./Coxwell Ave. east on Queen, past Orchard Park. Blvd. (one way south only) to Penny La north on Penny La; to Orchard Pk. Blvd. south on Orchard Pk. Blvd; site on west side of Orchard Park Blvd 200 ft. in from intersection of Queen St & Orchard Park Blvd.
128	32	15	E4/5	Wayland Ave.	Gerard St./Main St., travel east on Gerrard St. to Wayland Ave.; go south on Wayland Ave. 500 ft.; site on west side of Wayland Ave. just past Swanwick Ave.
129	32	15	E4	Gerrard St. E	Gerrard St. E/Main, travel east on Gerrard St. E; site on Gerrard St. E 200 ft. after Malvern Ave.
131	44	49	B4	Ellesmere Rd.	Ellesmere/Morningside, east on Ellesmere and stop just after you pass Mirrow Ct. (Mirrow Ct. is west of Conlins Rd.); site is on the right/south side of Ellesmere between Mirrow and Conlins Rd..
132	44	15	F5	Kingston Rd	Queen St./Woodbine Ave. - north on Woodbine Ave. turn east onto Kingston Rd.; site on south side of Kingston Rd. 50' past Silver Birch Ave/
133	44	49	D1	Hedge End Rd.	Meadowvale/Sheppard, go west on Sheppard to Hedge End Rd, make turn left (right) onto Hedge End Rd.; site is on south side of Hedge End Rd. just after the street curves.
134	44	47	F1	Portsmouth Dr.	Meadowvale/Lawrence, go east on Lawrence to Portsmouth, go south on Portsmouth,; site is at corner just as Portsmouth turns east
135	44	47	E5	Broadbridge Dr.	Lawrence/Port Union, go east on Lawrence past Port Union to East Ave up to Baronial Crt, make a right/east on Baronial; site on Broadbridge past Hartsville Ave.
136	44	47	D6	Moorefield Dr.	Lawrence/Port Union, go east on Lawrence, north on Brimforest Gate, west on Moorefield 200 ft. on the north side; site on Moorefield Dr.
137	44	47	B2	Manse Rd	Lawrence/Manse, go south on Manse; site is on west side of street in the 235 manse Rd. Complex
138	43	37	F3	Galloway Rd.	Lawrence Ave./Markham Rd. - east on Lawrence Ave. to Galloway Rd., south on Galloway; site is 200' south of Chantrey Crt.
139	43	37	E3	Leverhume Cres.	Lawrence/Galloway, travel south on Galloway to westlake Rd. past San Cres. To Leverhume Cres. site on Leverhume
140	42	51	F1	Scarborough-Pickering Town line	Markham Rd./401 - North on Markham Rd., east on Steels Ave. to Scarborough-Pickering Town line; site is 500ft South on west side of street;
141	42	51	B4	Littles Rd.	(Old) Finch Ave./Morningside Ave., east on Old Finch Ave.; right (south) on Littles Rd. until you pass Goodall Dr.; site is on west side of Littles Rd. just after bus shelter.
142	31	17	F6	St Clair Ave. E	St Clair Ave. E/Victoria Park, west on St Clair

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143	31	17	D6	Northdale Blvd.	Victoria Park/St. Clair E, west on St. Clair E, north on O'Connor, west on Curity, south on Cranfield, west on Northdale; site on Northdale between Hollanger and Cranfield
144	29	15	B3	Monarch Park Ave.	Coxwell/Danforth, north on Coxwell from Danforth, turn left/west on Glebeholme then north onto Monarch Park Ave.; site on Monarch Park Ave. halfway between Gleveholme Blvd. and Milverton Blvd.
145	29	15	B2	Plains Rd.	Danforth/Coxwell, north on Coxwell Av to Plains, go west on Plains Rd. 250 m; site is Plains Rd
146	30	3	F1	Caroline Ave.	Queen/Pape, travel east on Queen St. E to Caroline Ave turn south on Caroline Ave site is halfway between Queen and Eastern Ave
147	30	5	E4	Frizzell Ave.	Danforth/Pape, travel south on Pape turn west onto Frizzell; site on north side of Frizzell Ave. beginning 100 ft. from intersection of Pape Ave./Frizzell Ave.
148	29	5	E3	Selkirk St.	Pape/Danforth, E on Danforth, north/left on Pape, right/west on Selkirk; site on Selkirk
149	29	5	E2	Pape Ave	Danforth/Pape Ave.; turn North on Pape Ave.; site is on Pape Ave. just past Mortimer Ave. across from Centennial College
150	30	3	E1	Booth Ave.	Queen/Broadview, , turn south on Broadview, E on eastern , turn south on Booth Follow Booth 500 ft; site on Booth
151	29	5	E1	Fernwood Gardens	Pape Ave. /Danforth Ave., north on Pape Ave., west on Woodville Ave., north on Broadview Ave., west on Fernwood Grdns; site on Fernwood 50' west pf Broadview Ave.
152	35	25	D1	Zenith Dr.	Birchmount/St. Clair, south on Birchmount, east on Zenith 50 ft.; site on Zenith
153	35	27	E4	Kennedy Rd.	Kennedy/Eglington, south on Kennedy; site on west side of Kennedy Rd. 200ft past Merrian Rd.
154	35	27	F4	Verdun Ave.	Eglington/Midland, south on Midland, turn east on Verdun; site on Verdun, 50 ft after Commonwealth
155	35	27	E4	Eglington Ave. E	Eglington Ave./Kennedy Rd. - east on Eglington Ave., 400'; site on south side of Eglington adjacent to Go Station.
156	37	27	B1	Sherwood Ave.	Victoria Park/Lawrence, east on Lawrence to Pharmacy, south on Pharmacy turn east on Sherwood; site on Sherwood, 50 ft. after Courton
157	37	27	B1	Laxford Ave.	Pharmacy/Lawrence, south on Pharmacy turn east on Sherwood, turn north on Waxford, follow Waxford to Laxford, site on Laxford. Started at house #32.
158	37	27	B1	Warden Ave.	Warden/Lawrence, south on Warden; site on Warden 100 ft. south of Danube Dr.
159	37	29	B5	Princemere Cr	Kennedy/Lawrence, north on Warden turn west on Princemere, site at northwest corner of Princemere Cr.; site on Princemere
160	37	27	D1	Flora Dr.	Kennedy/Lawrence, south on Kennedy turn west on to Flora, follow flora to the northwest corner of street site is 200 ft. from northwest corner; site on Flora

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161	40	29	E4	Ellesmere Rd.	Lawrence Ave./Midland Ave. - north on Midland Ave., west on Ellesmere Rd. ; site on Ellesmere Rd. on north boulevard of transit loop
162	40	29	B3	Crocus Dr.	Ellesmere/Warden, west on Ellesmere turn north on Crocus to west corner of street, 100 ft.east, from northwest corner; site on Crocus
163	40	29	D1	Murmouth Rd.	Sheppard/Birchmount, south on Birchmount, turn east on Cass turn south on Murmouh Rd, 200 ft south on Murmouh; site on Murmouh
164	40	31	B6	Kellen St.	Warden/Sheppard, travel north on Warden, turn east on Wardencourt turn south on Nortonwille, turn east on Kellen 200 ft.; site on Kellen
165	40	31	B5	Huntingwood Dr.	Sheppard/Warden, on north on Warden turn east on Huntingwood 100 ft. after Dunmurray Blvd.; site on Huntingwood
166	39	31	D5	Kilchurn Castle Dr.	Kennedy/Sheppard, north on Kennedy, turn west on Huntingwood Dr., turn south 100 ft on Kilchurn Castle Dr.; site on Kilchurn Castle Dr. Between Huntingwood Dr. and Inverary Cres.
167	39	31	D1	Sanwood Blvd.	McNicoll/Birchmount, travel north on Birchmount turn east onto Sanwood 200 ft; site on Sanwood Blvd.
168	39	31	D1	Chapel Park Sq.	Birchmount/Steeles; travel east on Steele's turn south on Grove Av., turn west on Canongate, turn northwest on Chapel Park Sq. 100 ft.; site on Chapel Park Sq.
169	41	31	E5	Midland Ave	Sheppard/Midland, north on Midland, 50 ft north of Havendale; site on Midland
170	41	31	F5	Crockamhill Dr.	Huntingwood/Midland, east on Huntingwood, north on Crookamhill Dr., 100ft.; site on Crockamhill Dr.
171	40	31	F1	Scoville Sq.	Brimley/Steeles, south on Brimley, west on Royal and northeast on Scoville, 160 ft.; site on Scoville
172	41	41	C2	Maybrook Dr.	McNicoll/McCowan, east on McNicoll, north on Maybrook 500 ft. site on Maybrook
173	32	15	F5	Victoria Park Ave.	Victoria Park Ave./Kingston Rd; go south on victoria park, Site begins 100 ft south of Victoria Park Ave./Kingston Rd. intersection on west side.
175	36	25	E5	Sloley Rd.	Kingston/Dorset, south on Dorset, east on Sloley 50 ft.; site on Sloley
176	36	37	A5	Randall Cres.	Eglinton/McCowan, go west on McCowan, west on Phyllis, west on Randall 100 ft.; site on Randall
177	36	37	A5	Randall Cres.	Eglinton/McCowan, south on McCowan right/east on Phyllis, south 500ft.; Randall
178	36	37	A6	Kingston Rd	Kingston/McCowan, 500 ft. west of McCowanl site on Kingston Rd.
179	36	37	D4	Eglinton Ave. E	Eglinton E/Markham, 200 ft. east of Markham; site on Eglinton
180	38	39	A5	Suraty Ave.	Lawrence/McCowan, north on McCowan, west on Meldazy, south on Kentcliff and west on Suraty 100ft; site on Suraty
181	38	39	B4	Lynnbrook Dr.	Ellesmere/McCowan, east on Ellesmere, south on Parkington, east on Lynnbrook 100 ft; site on Lynnbrook
182	38	39	B3	Progress Ave.	Ellesmere/McCowan, north on McCowan, east on Progress, 200ft; site on Progress

Site #	Ward	Map Page	Map Coord	Site_name	Directions
183	42	39	D1	Sheppard Ave. E	Sheppard/Markham, east on Sheppard 600 ft.; site on south side of Sheppard just east of Progress Ave.
184	42	41	E6	Unita Gr. (Grove)	Sheppard/Markham Rd, east on Sheppard, north on Washburn, northwest on Mammoth Hall Trail , northeast on Unita Gr. 50 ft.; site on Unita Gr.
201	30	5	D4	Broadview Ave.	Danforth/Broadview; site on Broadview, go south on Broadview, just past Montcrest Blvd.
202	26	7	E5	Esandar St.	Eglington & Bayview, E on Eglington, S on Laird Dr., E on Esandar , site on Esandar just after railroad tracks
203	22	7	C4	Cleveland St.	Bayview/Eglington, west on Eglington to Cleveland, south on Cleveland 1 km to site; site on Cleveland just below Belsize
204	22	6	F4	Berwick Ave.	Yonge/Eglington, south on Yonge, left/west on Berwick; site is on north side half way between Yonge and Duplex
205	22	6	F5	Chaplin Cres	St. Clair/Yonge, north on Yonge to Chaplin, go west on Chaplin ; site on Chaplin Cres. Immediately after intersection of Chaplin
206	22	4	E1	Avenue Rd.	Cres./Duplex Ave. on the north side Bloor/Avenue, north on Avenue to Edmund, from Edmund, north beyond Clarendon; site on Avenue Rd
207	27	4	F2	Roxborough St. W	Yonge/Bloor, north on Yonge St. then left/east on Roxborough; site on Roxborough on north side
208	27	5	A3	Mt. Pleasant Rd.	Yonge/Bloor, east on Bloor, left/north on Mt. Pleasant; site on Mt. Pleasant between Rosedale Valley and Elm
209	28	5	B4	Prospect St.	Yonge/Wellesley, east on Wellesley, south on Parliament, west/right on Amelia, past Rose; site on Prospect St.
210	27	5	A6	Mutual St.	Yonge/Carlton, east on Carlton, at third rd turn right/south onto Mutual; site on Mutual south of Dundas;
211	20	2	E1	John St.	Corner of King St. / John Street , Site on John St. immediately north of intersection King/John
212	28	3	A1	Colbourne St.	King/Yonge, south on Yonge, turn left (east) on King, right (south) on Church St., West on Wellington , at Scott Street, turn N then Colburne is at first Stop Sign, site on Colbourne
213	28	3	A1	George St.	Yonge/Front, south on Yonge, East on Front, south (right) on Jarvis. Site on George St.
214	28	3	B1	Richmond St. E.	Queen/Sherbourne, east Queen past Sherbourne, past Parliament, turn right on Power St., west on Richmond St. E; site on Richmond St. E between Parliament St. and Power St.
215	28	5	B6	Pashler Ave.	Dundas/Sherbourne, east on Dundas past Sherbourne, past parliament, south on parliament, east to Shuter, north on Regent St., east on St. Bartholomew St., north to Pashler, site on Pashler
216	28	3	C1	Bright St.	Yonge/Queen, east on Queen, past Yonge, past parliament, right (south) on Bright St. (do not pass King St. E.) ; site on Bright St. between Queen St. and King St. on east side.

Site #	Ward	Map Page	Map Coord	Site_name	Directions
217	28	5	C6	Dundas St. E	Dundas/Sherbourne St.; east on Dundas past parliament, past Sackville, between Sumach (on the left side) Sherbourne and Wyattmark on right. Site on Dundas
218	30	5	D6	Carroll St.	Broadview/Queen; travel west on Queen; turn onto Carroll St.; site is on west side of Carroll St. before Matilda Ave.
219	30	5	D6	Kintyre Ave.	Broadview/Queen, travel north on Broadview to Kintyre, turn west on Kintyre; site 300 ft. from intersection
220	28	2	D5	Lake Shore Ave.	2 km south of Hanlan's point ferry dock on Lake Shore (50 feet from Gibraltar (Centre for the Arts)
221	32	15	D3	Cedarvale Ave.	South on Woodbine to Danforth, E on Danforth , north on Cedarvale Ave.; site on east side of Cedarvale past Strathmore Blvd.
222	26	17	B4	Don Mills Rd.	Don Mills Road/Eglinton Ave. East near the Ontario Science Centre Parking Lot
224	26	7	F5	Overlea Blvd.	Eglinton / Bayview, E on Eglinton , S on Millwood rd., E on Overlea- site on Overlea between Leaside Park Dr. & Thorncliff Park Dr.
250	19	2	B1	Stafford St.	Bathurst/King, west on King, west to Stafford, south on Stafford just before Canniff St.; site on Stafford
251	20	4	F6	University Ave	University / Queen , N on University - site is on east side of University Ave. just before Armoury St.
252	28	2	F6	Avenue (of the Island)	on Toronto Island - on Avenue of the Island about 600 meters north of Lake Shore Ave.
254	19	4	C4	Clinton St.	Bloor W/Dufferin, east on Bloor from intersection, past Christie to Clinton, south on Clinton to Clinton Pl.; site is on east side of Clinton St.
256	28	2	F1	King St. W.	University / King , site is on King - S side 50 feet E from University Ave.
257	28	5	C4	Parkview Ave.	Parliament/Wellesley, east on Wellesley past Parliament until you hit Parkview, north on Parkview until you reach the end of the street
258	28	3	B1	Sackville St.	Sherbourne/Queen, east on Queen, south on Sackville past Ray, site on Sackville
259	27	4	F6	Dundas St. W.	Yonge St./Dundas St. W; west on Dundas; site is on South side of Dundas, in front of Eatons Centre,
260	20	4	E6	Spadina Ave.	Queen/Spadina, go north on Spadina to Dundas; site is just above the Dundas/Spadina intersection, northward; site on Spadina
261	20	4	D5	Augusta Ave.	Bathurst/Spadina, north on Spadina from intersection to Oxford, west to Augusta; site is south of Oxford, left side
270	28	3	B5	Lake Shore Ave.	Toronto Island - Go to Wards island, south on Withrow, then west on Lake Shore site is 500 meters west of Algonquin on Lake Shore Ave.
271	36	25	E3	Wynnview Crt.	Birchmount/Kingston, east on Kingston to Glen Everest, E on Glen Everest to Wynnview; site south on Wynnview at end of street

Site #	Ward	Map Page	Map Coord	Site_name	Directions
300	19	4	C3	Bloor St. W	Bloor St, between Euclid and Manning
301	20	4	D3	Bloor St. W.	Bloor / Bathurst , Go E on Bloor , site 1/2 block E of Albany
302	20	4	D4	Sussex Ave.	Bathurst / Bloor ; E on Bloor past Bathurst , S on Spadina - site is on Sussex 200 ft. from Spadina
303	20	4	D4	Borden St.	Harbord / Bathurst , N on Bathurst to Harbord, E on Harbord to Borden , S on Borden , site 200 ft. South
304	20	4	D5	Lippincott St.	College/ Bloor , N on Bathurst, east on Ulster St, S on Lippincott - site is on Lippincott 200 Ft. before College
305	20	4	E5	Spadina Ave.	College / Spadina - on Spadina South past College - site on Spadina
306	20	4	D6	Kensington Ave.	Spadina / Dundas - go N on Spadina , W on Baldwin , S on Kensington - site half way between Fitzroy / Dundas on Kensington
307	20	4	D6	Dundas St. W.	Dundas / Spadina - W on Dundas , 100 ft. past Kensington
308	20	4	D6	Hickory St.	Dundas / Bathurst - S on Bathurst - E on Dundas, N on Hickory - site on Hickory
309	20	4	D6	Dundas St. W.	Dundas / Bathurst - S on Bathurst, E on Dundas, past Carlyle, site is on Dundas
310	20	4	D6	Eden PL	Queen / Bathurst - S on Bathurst past Dundas, E on Carr St. , S on Eden - site on Eden at corner
311	19	4	C5	Euclid Ave.	Dundas/ Bathurst - S on Bathurst W on Dundas , N on Euclid , site is an alley on W side of Euclid
312	19	4	C5	Mansfield Ave.	College / Bathurst : S on Bathurst - W on College - S on Manning , W on Mansfield;- site on Mansfield before Clinton St.
313	19	4	B5	Crawford St.	Bathurst / Dundas : S on Bathurst , W on Dundas - N on Crawford - site past Cinder St.
315	19	2	C2	Niagara St.	Bathurst / King , S on Bathurst to Tecumseth Place , turn south onto Tecumseth St. - S to Niagara , site on Niagara St. starting at corner of Tecumseth St. and Niagara
316	20	2	D1	Wellington St. W	Spadina / Wellington - turn W on Wellington - site is 100 ft. E of Portand St.
317	20	2	D1	Adelaide St. W	Intersection Bathurst / north on Bathurst St. to Adelaide , Turn E on Adelaide ;siite on Adelaide just past Brant St.
318	20	2	D1	Augusta Ave.	Queen / Spadina - west on Queen past Spadina until Augusta - E side - site on Augusta
320	20	4	E6	Sullivan St.	Spadina / Dundas - go S on Spadina , to Grange Ave., E on Grange to Huron , S on Huron to Sullivan - E on Sullivan 0 Site between Grange St & Beverly St.
321	20	4	E6	Queen St. W.	Queen / university , W on Queen about 100 ft. W of University
323	20	2	E2	John St.	Wellington / John : Front & John , go N on John , site on John before Wellington , beside CBC Centre
324	28	3	A2	Cooper St.	Yonge / Queens Quay E., go E on Queens Quay to Cooper , north on Cooper

Site #	Ward	Map Page	Map Coord	Site_name	Directions
326	27	4	F4	St. Nicholas St.	Yonge / Bloor - W on Bloor , S on St. Nicholas - 100 ft. after St. Mary
328	27	5	A4	Gloucester St.	Yonge & Bloor St., South on Yonge, East on Gloucester - site is on north side of Gloucester St. 50 feet west of (before) Church St.
329	27	4	F5	Grosvenor St.	Yonge / Bloor - from Yonge turn W on Grosvenor,; site is on north side of Grosvenor St. beginning 100 ft. after Bay St.
330	28	5	B4	Ontario St.	Bloor / Parliament: turn W on Aberdeen , S on Ontario St. - site is 100 ft. on Ontario St.
332	27	5	B5	Gerrard St. E.	Gerrard / Sherbourne ; site is west on Gerrard 200 ft. on north side.
333	28	5	B6	Dundas St. E.	Dundas / Parliament , west of Parliament on Dundas. 10 ft. east of Berkley / Dundas on S side
334	28	3	B1	Richmond St. E.	Richmond St../ Sherbourne St.; site is west on Richmond St. between Sherbourne & George St. on north side.
335	28	3	B2	Frederick St.	Jarvis / King , S on Jarvis , E on King , South on Frederick St.
336	28	3	B1	The Esplanade	Parliament/Front; go westy on Front St, turn left onto Berkely and then west on Espalande - near Parliament
337	41	31	E5	Midland Ave (was site 169A)	Kennedy Rd./Sheppard Ave; go east on Sheppard Ave. turn left (north) onto Midland Ave.; site on east side of on Midland Ave in front of Agincourt Highschool . Note: In 2002 Survey was site 169A now 337-
338	7	30	B3	Benrubin Dr.	Note: In 2002 Survey was site 66A now 338 - Kipling/Finch, go east on Finch, north on Milady, east on Firenza; site on Benrubin
401	1	31	B4	Sanagan Rd	Islington Ave/ Finch Ave W; south on Islington Ave, turn right (W) on Albion Rd; proceed approx 1000 meters W turn left (S) on Sanagan. Site is on right hand side just past Lightwood Dr.
402	1	40	F 2	Garfella Dr	Steeles W / Kipling Ave.; travel South on Kipling; turn right (West) on Mount Olive Drive, turn Left onto Garfella Dr. - site is on right side of street, in green space adjacent Albion Creek area
403	3	36	B4	Gentian Dr	Eglinton Ave W / Renforth Dr.; From Eglinton , Turn South onto Renforth Dr; turn East onto Gentian Dr. Site is on right side of street - just past Ashfield Dr.
405	5	24	C6	Cochrane Dr	The Queensway / Royal York Rd.; West on The Queensway, turn right (N) on Avon Park Rd.; left onto Cochrane Dr. ; Site is in left side of street - in park area.
406	6	22	C-D 4	Symons St	The Queensway / Royal York Rd.; South on Royal York Rd.; Turn left (E) onto Symons St. from Royal York Rd.; site is on right side of street - past George St.
407	13	24	E-F 2-3	Langmuir Cres	St. Clair Ave W / Jane Street; south on Jane St; at Annette turn LEFT onto Baby Point Rd. proceed west ; turn LEFT (S) onto Humbercrest Blvd.; then RIGHT onto Lamuir Cres. ; site is on right side of street in green parkette space.

Site #	Ward	Map Page	Map Coord	Site_name	Directions
408	14	12	B 1 - 2	Jameson Ave	King St. W / Dufferin St W.; travel W on King St W; turn LEFT (S) onto Jameson Ave; site is on in front of Queen Victoria Public School.
409	15	16	E3	Castlefield Ave	Keele St/ Eglinton Ave W; travel east on Eglinton Ave W; turn LEFT (N) on Caledonia Rd; then left again on to Castlefield Ave proceed to small parkette across from Woodborough Ave. Site in green space.
410	16	8	E 5-6	Grey Rd	Bathurst St./ Lawrence Ave W; proceed east on Lawrence Ave W; Grey Road is off of Lawrence going North. Turn onto Grey St. Site is in green space - on right side of Grey Rd; N of Fairlawn Ave and S of Germain Ave.
411	17	6	A 4-6	Northcliffe Blv	St. Clair Ave W / Dufferin Ave.; east on St. Clair Ave W , turn LEFT onto Northcliffe Blvd. - site on right side of street - 75 meters N of St. Clair W.
412	18	14	E 4	Dublin St	Bloor St. W / Dufferin St. ; proceed West on Bloor St. W; turn left (S) onto St. Helens Ave. ; Dublin St. is 100 Meters south. Site anywhere on Dublin St (it is very short)
413	20	4	D 5	Lippincott St	Bloor St. W / Bathurst St; South on Bathurst; Turn Left onto College - turn Left (N) on Borden - LEFT onto Vangough St - turn left onto Lippincott - site on right side immediately S of Vangough St.
414	25	9	E-F 1 - 2	Hopperton Dr	Sheppard Ave East / Leslie St; South on Leslie St, turn right (W) on Bannatyne Dr. ; the immediately again turn RIGHT (N) on Woodsworth Rd ; proceed to turn LEFT onto Hopperton Dr. - site on right side of street - 50 meters from W
415	25	9	F 2	Shouldice Crt	Sheppard Ave East / Leslie St; South on Leslie St, turn right (W) on Bannatyne Dr. ; the immediately again turn RIGHT (N) on Woodsworth Rd ; proceed to turn LEFT onto Davean Dr. then turn RIGHT (N) onto Shouldice Crt. - side 20 me
416	27	4	F 5	Grosvenor St	Queen St. W / Yonge St. ; travel west on Queen St. W , turn right (N) onto University Ave ; proceed around Queens Park Circle
417	28	5	B 6	Sydenham St	Queen St. E / Parliament St.; east on Queen St. E turn left onto Sydenham St. (about 100 M east of Parliament) . Site 10 - 20 meters from Queen St. - Sydenham is a very short street.
418	29	15	A-B 2	Memorial Park Ave	Danforth Ave./ Donlands Ave. ; North on Donlands turn RIGHT (east) onto Memorial Park Ave. - proceed past Greenwood - site is in parkland area between Greenwood and Kiniborne Ave.
419	30	3	F 1	Winnifred Ave	Leslie St/ Queen St. East; South on Leslie St; turn RIGHT (W) onto Eastern Ave; then RIGHT (N) onto Winnifred Ave. Site 50 meters N of Eastern Ave. On right side of street.
420	31	15	B C 2	Dunkirk Rd	Danforth Ave / Woodbine Ave; N on Woodbine Ave; Turn LEFT (W) onto Dunkirk Ave.; site is on right side of street 20 meters past

Site #	Ward	Map Page	Map Coord	Site_name	Directions
421	32	15	B 4	Rhodes Ave	Queen St. E / Leslie Ave; travel E on Queen St. E , turn LEFT (N) onto Coxwell Ave.; turn LEFT (W) onto Fairford Avethen first LEFT onto Rhodes Ave. - Site is 150 meters S of Fairford on right sire of street N of Dundas St.
422	34	19	B 3	Upjohn Rd. (was York Mills Rd)	Leslie St./ York Mills Rd; travel East on York Mills, turn RIGHT (S) onto Upjohn Rd, near entrance to Seneca College. Site on right side of road 70 meters
423	36	25	B 4	Kenny Ave	Danforth Ave. / Warden Ave. ; travel south on Warden , Kenny Ave is a small street 200 Meters south of Danforth Ave. Site is immediatly at intersection of Kenny & Warden proceeding west on right side of street.
424	37	27	B 2	Minford Ave	Birchmount Ave / Lawrence Ave E.; west on Lawrence Ave E; turn LEFT onto Warden travel south to Minford Ave; turn LEFT (E) onto Minford , site commences at intersection Minford / Warden on right side of street.
425	38	39	A 5	Kencliff Cres	Brimley Rd./ Lawrence Ave E.; travel east on Lawrence Ave. E; turn LEFT (N) onto McCowan Rd. proceed North to Meldazy Drive; turn LEFT onto Meldazy Dr. then immediatly turn RIGHT onto Kencliffe Crescent. Site immediatly from
426	39	31	B 3	Glen Springs Dr	Victoria Park Ave./ Finch Ave. E; travel east on Finch Ave E.; turn LEFT (N) onto Warden Ave, proceed to Glen Springs DR. (about 1 KM) ; turn LEFT (W) onto Glen Springs - site begins immediate after first curve towards South - on right side of Glen Springs Drive.
270	Sites				
174	36	25	E3	Wynnview Crt. - REJECTED	Birchmount/Kingston, east on Kingston to Glen Everest, E on Glen Everest to Wynnview; site south on Wynnview 200 ft
223	26	7	F6	Millwood Rd - REJECTED	Eglinton / Bayview - E on Eglinton Rd., S on Laird which becomes Millwood; site on Millwood Rd just before Leaside Bridge

New Sites Added in 2006 Audit

<u>Site #</u>	<u>Ward</u>	<u>Map Page</u>	<u>Map Co-ord</u>		
500	3	36	E 3	Lloyd Manor Rd	Eglinton/Kipling, W on Eglinton, S on Lloyd Manor Road, site before Winsland
501	36	25	A 4	Winston Ave	Gerrard/Victoria Park, South on Victoria Park, East on Winston Ave.
502	36	25	A 5	Fallingbrook Rd	Victoria Park/Kingston Rd, West on Kingston, South on Fallingbrook
503	10	8	C 3	Charleswood Dr	Wilson Ave./Allen Rd. West on Wilson, North on Bathurst, East on Charleswood Dr., site on South side past Almond Rd.
504	35	27	A 6	St Clair E Ave	St. Clair Ave/Warden Ave., West on St. Clair, East of Herron Ave.
505	40	31	B 4	Bridletowne Cir	Finch Ave/Warden, West on Finch, South on Bridletowne Circle, site on south side, past Collingbrook
506	9	18	D 3	Victory Dr	Wilson Ave/Keele St., West on Wilson to Algate Rd, North on Algate to Victory, West onto Victory, site at intersection on North side of Victory
507	13	24	F 3	Humberview Rd	Bloor St W/Jane St, N on Jane to Humberview Rd, site on North Side
508	41	31	F 5	Mollard Rd	Brimley Ave/Finch Ave, S on Brimley, W on Huntingwood Dr, N on Mollard, site 50' from intersection.
509	17	16	D 5	Algarve Cres	St. Clair Ave W/Old Weston Rd, N on Old Weston Rd, W on Algarve Cres, site 120 feet from intersection on North side.
510	32	15	F 6	Scarborough Rd	Kingston Rd/Victoria Park Av, W on Kingston Rd, South on Scarborough Rd, past Pine Rd, site on West Side
511	21	6	B 5	Heathdale Rd	St. Clair Ave. W/Bathurst St, N on Bathurst, W on Heathdale Rd, past Raglan Rd 200 feet on North side
512	16	6	F 2	Duplex Ave	Yonge St/Lawrence Ave, S on Yonge, W on Glengrove Ave W, S on Morningside Ave/Lawrence Ave E, S on Morningside, E on Ling Rd, site
513	44	47	B 1	Ling Rd	
514	22	4	E 2	Avenue Rd	Avenue Rd/St. Clair Ave W, S on Avenue Rd to Oaklands Ave, site
515	7	30	E 6	Sheppard W Ave	Finch Ave W/Jane St, S on Jane, West on Sheppard Ave W, to Arrow Rd, site starts at intersection on North side of Sheppard
516	40	31	A 5	Corinthian Blvd	Finch Ave E/Pharmacy Ave, S on Pharmacy, W on Corinthian Blvd, past Lake Shore Blvd W/Kipling Ave, E on Lake Shore Blvd, N on Dwight Ave, right on Murrie St, site 50 feet from corner
517	6	22	C 4	Murrie St.	
518	31	15	B 2	Machokie Rd	Woodbine Ave/O'Connor Dr, W on O Connor Dr, S on Machokie Rd, site 50 feet from intersection
519	3	36	C 5	Eringate Dr	Rathburn Rd/Renford Dr, N on Renford Dr, E on Eringate Dr, past Bloor St W/The West Mall; N on the West Mall, past Eva Rd, site 50 feet
520	3	34	C 2	The West Mall	
521	20	4	E 3	Bernard Ave	Dupont St/Davenport Rd, W on Dupont St, S on St George Street, E on Bernard Ave, site on S side, 100 feet from intersection.
522	21	4	C 2	Davenport Rd	St Clair Ave W/Bathurst St, S on Bathurst, E on Danvenport Rd, site is past Albany Rd 50 feet, on S side.
523	13	24	F 1	Watson Rd	Jane St./Annette, North to Page Ave., W to Watson, Site is 50' South of
524	15	16	D 5	Rogers Rd	Eglinton Ave W/Keele St, S on Keele St, E on Rogers Rd, 50 ' past Scott
525	35	25	D 1	Davidson Ave.	Danforth Rd/Kennedy Rd; south on Kennedy Rd, E on Raleigh Ave, Right on Davidson Ave, site 75 feet from corner

APPENDIX 3 – Site Rankings

APPENDIX 3 - Large Litter - Ranked by Items/ site

<u>Site Id</u>	<u>Ward</u>	<u>Site_name</u>	<u>Items/ Site</u>	
515	7	Sheppard W	262	Above Average
305	20	Spadina Ave.	75	Above Average
402	1	Garfella Dr	74	Above Average
32	17	Caledonia Rd.	69	Above Average
4	2	Iron St.	67	Above Average
412	18	Dublin St	62	Above Average
509	17	Algarve	57	Above Average
171	40	Scoville Sq.	53	Above Average
408	14	Jameson Ave	51.5	Above Average
409	15	Castlefield Ave	50	Above Average
260	20	Spadina Ave.	49.5	Above Average
34	17	Ashburnham Rd.	48	Above Average
254	19	Clinton St.	47	Above Average
224	26	Overlea Blvd.	45	Above Average
110	9	Sheppard Ave. W	43	Above Average
313	19	Crawford St.	42	Above Average
12	3	Rathburn Rd.	41	Above Average
96	25	Bayview Ave.	41	Above Average
116	12	Tretheway Dr	40	Above Average
143	31	Northdale Blvd.	38	Above Average
131	44	Ellesmere Rd.	38	Above Average
122	30	Walpole Ave.	38	Above Average
43	18	Macklem Ave.	38	Above Average
324	28	Cooper St.	36	Above Average
251	20	University Ave	36	Above Average
132	44	Kingston Rd	36	Above Average
104	12	Brookhaven Dr.	36	Above Average
35	17	McFarland Ave.	36	Above Average
401	1	Sanagan Rd	36	Above Average
309	20	Dundas St. W.	34	Above Average
308	20	Hickory St.	34	Above Average
217	28	Dundas St. E	33	Above Average
86	34	Don Mills Rd.	33	Above Average
26	13	Maria St.	33	Above Average
125	32	Aldridge Ave.	31	Above Average
141	42	Littles Rd.	30	Above Average
42	18	Muir Ave.	30	Above Average
312	19	Mansfield Ave.	30	Above Average
213	28	George St.	29	Above Average
223	26	Millwood Rd	29	Above Average
6	2	Westona St.	28	Above Average

<u>Site Id</u>	<u>Ward</u>	<u>Site name</u>	<u>Items/ Site</u>	
150	30	Booth Ave.	28	Above Average
158	37	Warden Ave.	27	Above Average
417	28	Sydenham St	27	Above Average
507	13	Humberview	27	Above Average
179	36	Eglinton Ave. E	26	Above Average
18	5	Rosewood Ave.	26	Above Average
215	28	Pashler Ave.	25	Above Average
505	40	Bridletowne	25	Above Average
513	44	Ling	25	Above Average
306	20	Kensington Ave.	25	Above Average
31	17	Osler St.	25	Above Average
51	17	Alberta Ave.	25	Above Average
48	19	Euclid Av.	24	Above Average
69	9	Wilson Ave.	24	Above Average
204	22	Berwick Ave.	24	Above Average
119	6	Butterick Rd.	24	Above Average
129	32	Gerrard St. E	23	Above Average
1	1	Markbrook Lane	22	Above Average
307	20	Dundas St. W.	22	Above Average
21	6	Browns Line	21	Above Average
106	12	Lampton Ave. (was Astoria)	21	Above Average
37	14	Campbell Ave.	21	Above Average
500	3	Lloyd Manor	20	Above Average
114	8	Chesswood Dr.	20	Above Average
57	20	Kensington Ave.	20	Above Average
8	4	Martin Grove Rd. (was Tollington)	20	Above Average
421	32	Rhodes Ave	19	Above Average
46	19	Stafford St.	19	Above Average
111	8	Finch Ave. W	19	Above Average
221	32	Cedarvale Ave.	19	Above Average
316	20	Wellington St. W	19	Above Average
47	19	Mansfield Ave.	18	Above Average
112	8	Jane St.	18	Above Average
20	6	Valermo Dr.	18	Above Average
54	20	Dennison Ave.	17	Above Average
25	13	St. Clair Ave. W	17	Above Average
329	27	Grosvenor St.	17	Above Average
142	31	St Clair Ave. E	17	Above Average
50	17	Benson Ave.	17	Above Average
40	14	Queen St. W.	17	Above Average
202	26	Esandar St.	16	Above Average
520	3	The West Mall	16	Above Average
514	22	Avenue	16	Above Average
146	30	Caroline Ave.	16	Above Average
337	41	Midland Ave (was site 169A)	16	Above Average
115	16	Lawrence Ave. W	16	Above Average

<u>Site Id</u>	<u>Ward</u>	<u>Site name</u>	<u>Items/ Site</u>	
503	10	Charleswood	16	Above Average
210	27	Mutual St.	15	Average
16	5	Fieldway Rd.	15	Average
49	19	Palmerston Ave.	15	Average
413	20	Lippincott St	15	Average
183	42	Sheppard Ave. E	15	Average
99	15	Glenmount Ave.	15	Average
23	5	Canmotor Ave	15	Average
178	36	Kingston Rd	15	Average
151	29	Fernwood Gardens	14	Below Average
419	30	Winnifred Ave	14	Below Average
52	20	Portland St.	14	Below Average
68	7	Franson Cres.	14	Below Average
2	1	Glenhollow Ave.	14	Below Average
270	28	Lake Shore Ave.	14	Below Average
318	20	Augusta Ave.	14	Below Average
44	19	Pendrith St.	14	Below Average
410	16	Grey Rd	14	Below Average
28	13	Runnymede Rd.	13	Below Average
100	15	Dalemount Ave.	13	Below Average
219	30	Kintyre Ave.	13	Below Average
3	1	Amoro Dr.	13	Below Average
209	28	Prospect St.	13	Below Average
330	28	Ontario St.	13	Below Average
61	27	Grenville St.	13	Below Average
323	20	John St.	13	Below Average
105	12	Thurodale Ave.	13	Below Average
77	23	Doris Ave. (was Grandview)	13	Below Average
92	25	York Mills Rd.	13	Below Average
67	7	Windhill Cres.	13	Below Average
522	21	Davenport	13	Below Average
154	35	Verdun Ave.	13	Below Average
7	2	Kingdom St.	12	Below Average
24	11	Oak St.	12	Below Average
524	15	Rogers	12	Below Average
128	32	Wayland Ave.	12	Below Average
94	25	Bayview Ave	12	Below Average
301	20	Bloor St. W.	12	Below Average
222	26	Don Mills Rd.	12	Below Average
153	35	Kennedy Rd.	12	Below Average
127	32	Orchard Park Blvd.	12	Below Average
205	22	Chaplin Cres	12	Below Average
521	20	Bernard	12	Below Average
220	28	Lake Shore Ave.	12	Below Average
207	27	Roxborough St. W	11	Below Average

<u>Site Id</u>	<u>Ward</u>	<u>Site name</u>	<u>Items/ Site</u>	
53	20	Wolseley St.	11	Below Average
79	24	Dumont St.	11	Below Average
70	8	Tuscan Gate	11	Below Average
103	12	Amesbury Dr.	11	Below Average
406	6	Symons St	11	Below Average
133	44	Hedge End Rd.	11	Below Average
38	14	Indian Trail	11	Below Average
30	17	Nairn Ave.	11	Below Average
27	13	Methuen Ave.	11	Below Average
304	20	Lippincott St.	11	Below Average
39	14	Sunnyside Ave.	10	Below Average
126	32	Ashdale Ave.	10	Below Average
206	22	Avenue Rd.	10	Below Average
258	28	Sackville St.	10	Below Average
93	25	Danville Dr.	10	Below Average
118	13	Woodland Hts.	10	Below Average
123	32	Barker Ave.	10	Below Average
113	8	Magnetic Dr.	10	Below Average
159	37	Princemere Cr	10	Below Average
261	20	Augusta Ave.	10	Below Average
165	40	Huntingwood Dr.	10	Below Average
517	6	Murrie	10	Below Average
218	30	Carroll St.	9	Below Average
168	39	Chapel Park Sq.	9	Below Average
336	28	The Esplanade	9	Below Average
184	42	Unita Gr. (Grove)	9	Below Average
108	9	Murray Rd.	9	Below Average
317	20	Adelaide St. W	9	Below Average
172	41	Maybrook Dr.	9	Below Average
303	20	Borden St.	9	Below Average
300	19	Bloor St. W	9	Below Average
170	41	Crockamhill Dr.	9	Below Average
55	20	Augusta Ave.	9	Below Average
58	20	Glasgow St.	8	Below Average
508	41	Mollard	8	Below Average
519	3	Eringate	8	Below Average
523	13	Watson	8	Below Average
164	40	Kellen St.	8	Below Average
85	34	Roywood Dr.	8	Below Average
17	5	Elderidge Ave.	8	Below Average
167	39	Sanwood Blvd.	8	Below Average
148	29	Selkirk St.	8	Below Average
311	19	Euclid Ave.	8	Below Average
124	31	Halsey Ave.	8	Below Average
315	19	Niagara St.	8	Below Average

<u>Site Id</u>	<u>Ward</u>	<u>Site name</u>	<u>Items/ Site</u>	
74	23	Churchill Ave.	7	Below Average
166	39	Kilchurn Castle Dr.	7	Below Average
328	27	Gloucester St.	7	Below Average
333	28	Dundas St. E.	7	Below Average
512	16	Duplex	7	Below Average
310	20	Eden PL	7	Below Average
302	20	Sussex Ave.	7	Below Average
326	27	St. Nicholas St.	7	Below Average
102	15	Ronald Ave.	7	Below Average
338	7	Benrubin Dr.	7	Below Average
156	37	Sherwood Ave.	7	Below Average
101	15	Lanark Ave.	7	Below Average
5	2	Lockheed Blvd	7	Below Average
80	24	Michigan Dr.	7	Below Average
82	33	Cobblestone St.	7	Below Average
425	38	Kencliff Cres	7	Below Average
117	16	Avenue Rd.	7	Below Average
320	20	Sullivan St.	7	Below Average
33	17	Uxbridge Ave.	7	Below Average
418	29	Memorial Park Ave	6	Below Average
511	21	Heathdale	6	Below Average
335	28	Frederick St.	6	Below Average
136	44	Moorefield Dr.	6	Below Average
416	27	Grosvenor St	6	Below Average
155	35	Eglinton Ave. E	6	Below Average
203	22	Cleveland St.	6	Below Average
426	39	Glen Springs Dr	6	Below Average
212	28	Colbourne St.	6	Below Average
36	14	Dupont St.	6	Below Average
89	25	Riderwood Dr.	6	Below Average
73	23	Newtonbrook Blvd.	6	Below Average
163	40	Murmouth Rd.	6	Below Average
29	13	Spring Rd.	6	Below Average
411	17	Northcliffe Blv	6	Below Average
11	4	Aylesbury Rd.	6	Below Average
83	33	Leslie St.	6	Below Average
256	28	King St. W.	6	Below Average
107	9	Cornelius Pkwy.	6	Below Average
414	25	Hopperton Dr	5	Below Average
72	10	Heaton St.	5	Below Average

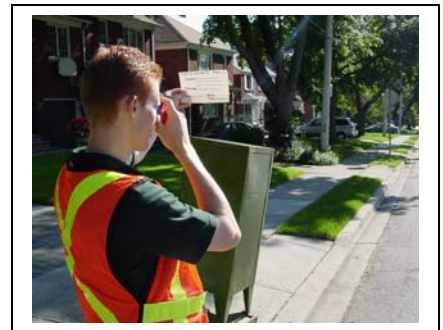
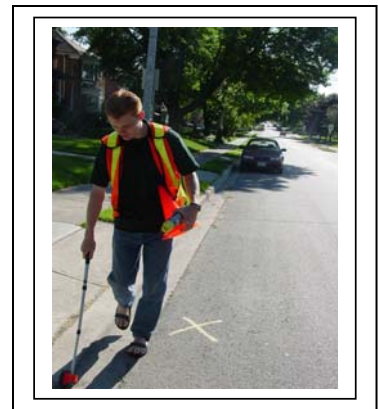
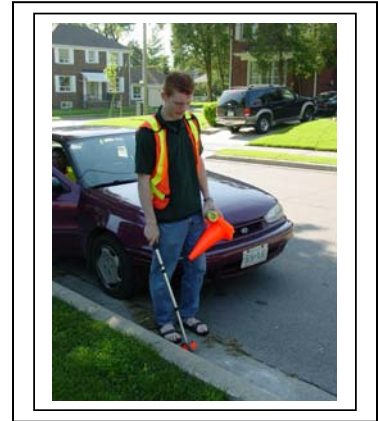
<u>Site Id</u>	<u>Ward</u>	<u>Site name</u>	<u>Items/ Site</u>	
252	28	Avenue (of the Island)	5	Below Average
145	29	Plains Rd.	5	Below Average
149	29	Pape Ave	5	Below Average
140	42	Scarborough-Pickering Town line	5	Below Average
59	20	Elm St.	5	Below Average
208	27	Mt. Pleasant Rd.	5	Below Average
160	37	Flora Dr.	5	Below Average
147	30	Frizzell Ave.	5	Below Average
66	21	Bathurst St.	5	Below Average
257	28	Parkview Ave.	5	Below Average
84	33	George Henry Blvd.	5	Below Average
422	34	Upjohn Rd. (was York Mills Rd)	5	Below Average
81	24	Wycliffe Ave.	5	Below Average
169	41	Midland Ave	5	Below Average
332	27	Gerrard St. E.	5	Below Average
13	4	Finchley Rd.	5	Below Average
139	43	Leverhume Cres.	5	Below Average
14	4	Burnhamthorpe Park Blvd.	5	Below Average
407	13	Langmuir Cres	5	Below Average
45	19	Crawford St.	5	Below Average
98	16	Henning Ave.	5	Below Average
162	40	Crocus Dr.	4	Below Average
157	37	Laxford Ave.	4	Below Average
88	25	Tottenham Rd.	4	Below Average
181	38	Lynnbrook Dr.	4	Below Average
506	9	Victory	4	Below Average
144	29	Monarch Park Ave.	4	Below Average
161	40	Ellesmere Rd.	4	Below Average
76	23	Tamworth Rd.	4	Below Average
138	43	Galloway Rd.	4	Below Average
201	30	Broadview Ave.	4	Below Average
424	37	Minford Ave	4	Below Average
41	18	Whytock Ave.	4	Below Average
250	19	Stafford St.	3	Below Average
135	44	Broadbridge Dr.	3	Below Average
214	28	Richmond St. E.	3	Below Average
211	20	John St.	3	Below Average
501	36	Winston	3	Below Average
176	36	Randall Cres.	3	Below Average
152	35	Zenith Dr.	3	Below Average
525	35	Davidson Ave.	3	Below Average
334	28	Richmond St. E.	3	Below Average
120	32	Queen St. East	3	Below Average
60	20	Oxley St.	3	Below Average

<u>Site Id</u>	<u>Ward</u>	<u>Site name</u>	<u>Items/ Site</u>	
405	5	Cochrane Dr	3	Below Average
403	3	Gentian Dr	3	Below Average
510	32	Scarborough	3	Below Average
321	20	Queen St. W.	3	Below Average
64	21	Ava Rd.	2	Below Average
121	32	Glen Stewart Ave.	2	Below Average
415	25	Shouldice Crt	2	Below Average
97	25	Deloraine Ave.	2	Below Average
91	25	Wimpole Dr.	2	Below Average
90	25	Ealing Dr.	2	Below Average
87	34	Aldenham Cres.	2	Below Average
502	36	Fallingbrook	2	Below Average
78	23	Byng Ave.	2	Below Average
504	35	St Clair E	2	Below Average
177	36	Randall Cres.	2	Below Average
173	32	Victoria Park Ave.	2	Below Average
65	21	Vesta Dr.	2	Below Average
75	23	Tamworth Rd.	2	Below Average
518	31	Machokie	2	Below Average
216	28	Bright St.	2	Below Average
174	36	Wynnview Crt.	1	Below Average
175	36	Sloley Rd.	1	Below Average
180	38	Suraty Ave.	1	Below Average
63	21	Vesta Dr.	1	Below Average
62	21	Old Park Rd.	1	Below Average
182	38	Progress Ave.	1	Below Average
95	25	Stratford Cres.	1	Below Average
56	20	Napanee Ct.	1	Below Average
423	36	Kenny Ave	1	Below Average
137	44	Manse Rd	1	Below Average
516	40	Corinthian	1	Below Average
420	31	Dunkirk Rd	1	Below Average
71	10	Josephine Rd.	0	Below Average
109	9	Beffort Rd.	0	Below Average
134	44	Portsmouth Dr.	0	Below Average
259	27	Dundas St. W.	0	Below Average
271	36	Wynnview Crt.	0	Below Average
			88	30%
Above Average sites			8	3%
Average sites			202	68%
Below Average sites				

APPENDIX 4 - Photos - Setting up a Site

Large Litter Count

- Team Arrives at the site, Measures 50ft. ahead of car, sets up site
- Marks starting point – mid-point and end of site
- Takes photos of site
- Then walks site – describing the large litter – and dictating into a tape recorder



Photos - Small Litter – Set up and Counting

- While team member is completing large litter count – small litter frame is used to examine small litter



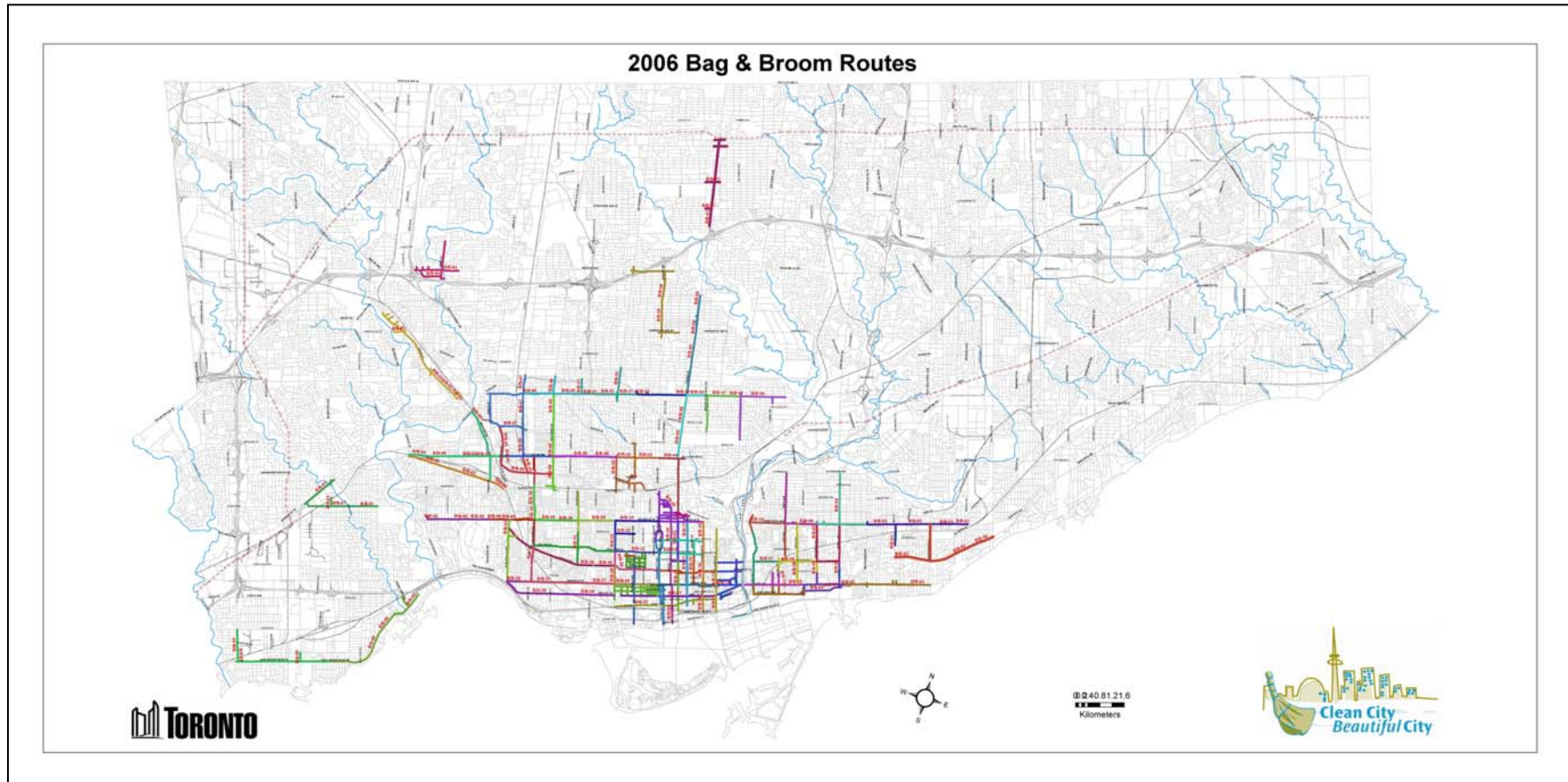
- Small litter is examined at close range
In order to see, count and describe



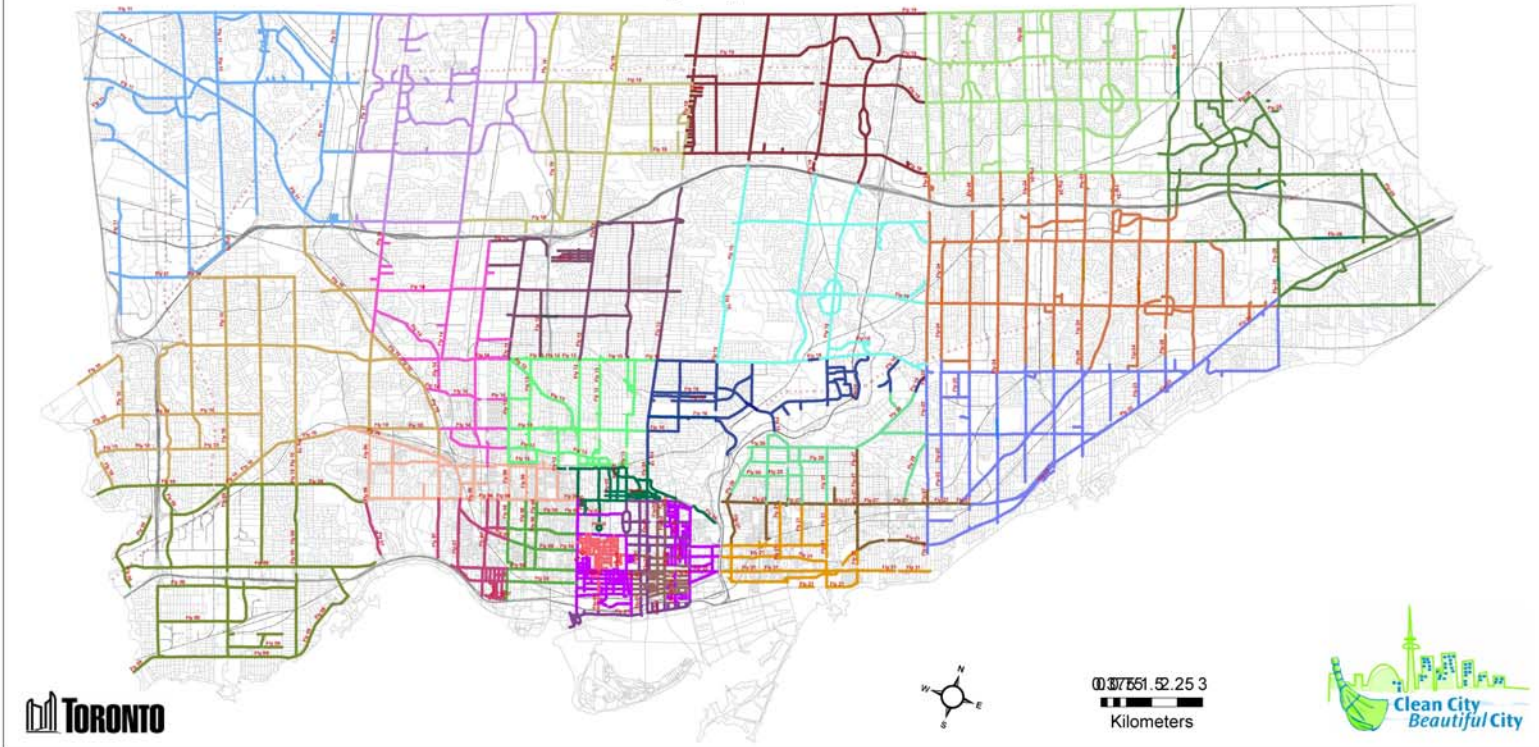
- Three “flips” counted at each site

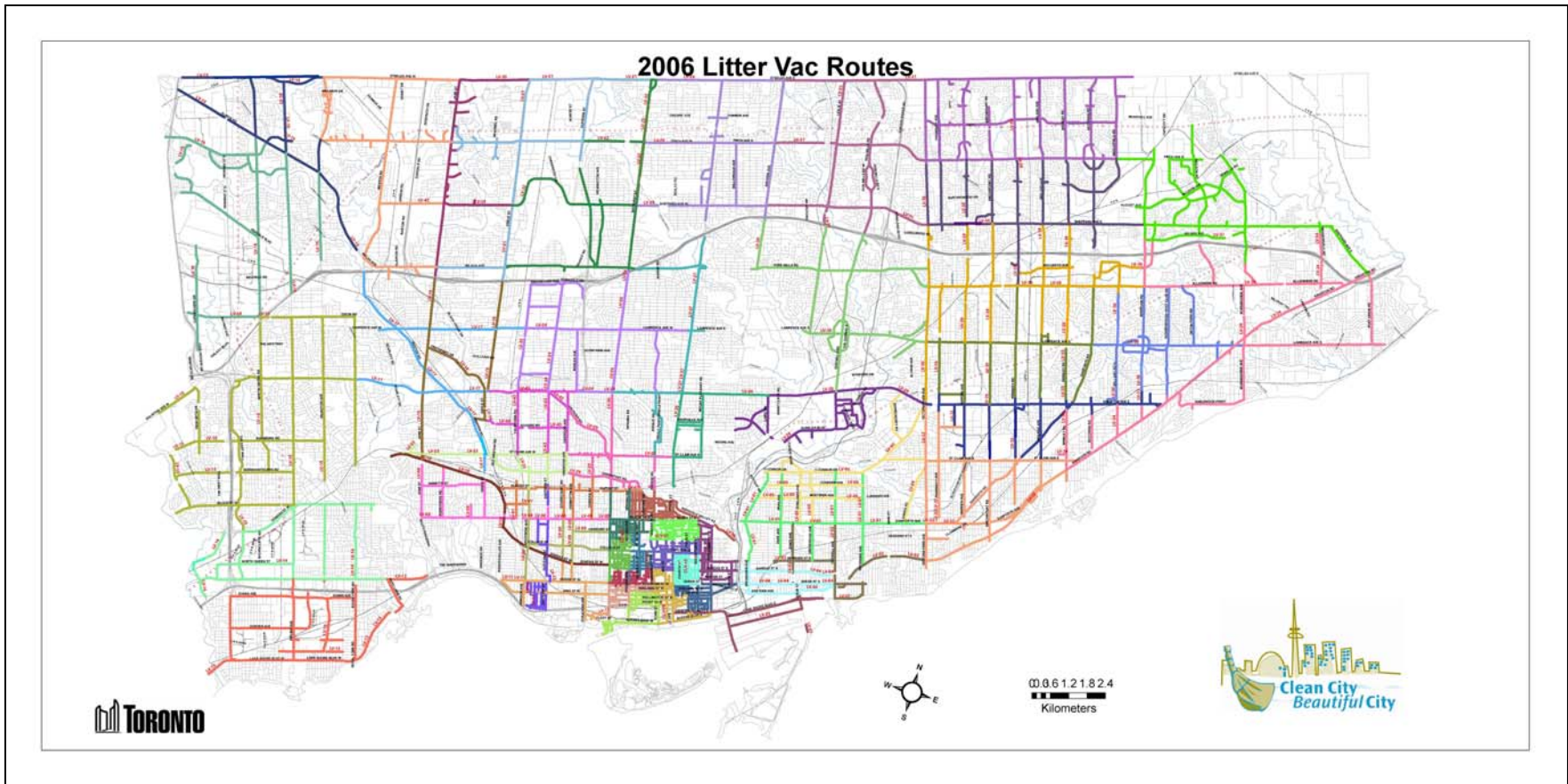


APPENDIX 5 – Clean up Routes



2006 Fly Squad Routes





APPENDIX 6 - Branded Litter Survey (2006)

PREPARED FOR

Works and Emergency Services,
Solid Waste Management Services Division

PREPARED BY MGM Management
www.mgm-management.com
October 7, 2006

Appendix 6 - Branded Litter Survey

1.0 Methodology – Branded Litter

Using the Surveyor Site Form (with 84 categories of large litter) as a guide, data observing the names of manufacturers and brand owners of littered materials were recorded. Branded litter is described as any large litter (i.e. over 4 square inches) that has a recognizable brand name affixed. Where doubt occurred in the brand of the item – no entry was made.

Team surveyors verbally identified litter by brand name, which was later transcribed onto Site Survey Forms, for data entry and analysis.

2.0 Branded Litter Results

2.1 Beverage Branded Litter

Beer cans represent an insignificant contribution to large litter in the City of Toronto. Only a few beer containers (10 in total) of any brand were observed during the audit. We deem this sample to be too small to be statistically valid for commenting on the distribution of beer container litter on Toronto streets.

The brands of beer containers observed were:

- Amsterdam
- Labatts
- Coors
- Becks
- Stella Artois
- Molson

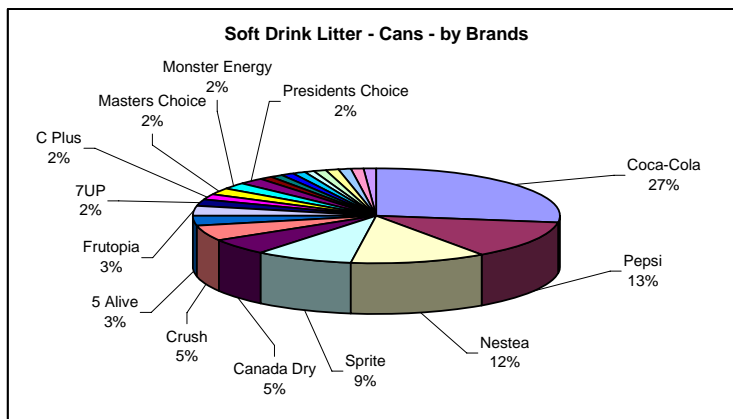
2.2 Soft Drink Cans - Branded Litter

Soft drink can brands were identified where possible. The table and the chart below illustrate the brands observed in the 2006 large litter audit. It should be noted that in the 2005 audit 117 identified brands of canned soft drinks were observed. The distribution by major brands, notably Coca-Cola, Pepsi-Cola, Nestle Nestea, Sprite, Canada Dry and Crush brands representing over 70% of observed carbonated soft drink can litter.

Soft Drinks - Cans (2006)

Brand Observed

Brand Observed	Items	% of Branded Sub-Category
Coca-Cola	25	27.2%
Pepsi	12	13.0%
Nestea	11	12.0%
Sprite	8	8.7%
Canada Dry	5	5.4%
Crush	5	5.4%
5 Alive	3	3.3%
Frutopia	3	3.3%
7UP	2	2.2%
C Plus	2	2.2%
Masters Choice	2	2.2%
Monster Energy	2	2.2%
Presidents Choice	2	2.2%
A&W	1	1.1%
Best	1	1.1%
Black Label	1	1.1%
Blackthorn	1	1.1%
Brisk	1	1.1%
Dr. Pepper	1	1.1%
Fresca	1	1.1%
RC Cola	1	1.1%
Red Bull	1	1.1%
Schwepps	1	1.1%
	92	100.0%



Discussion: Six brands account for 70% of the soft drink can brands littered on Toronto streets.

2.2a Soft Drink Plastic - Branded Litter

The 2006 audit found 25 brands of plastic soft drink containers that were identifiable during the course of the survey, compared to identifying 11 branded soft drink containers in the 2005 audit. Four brands represent 72% of branded soft drink litter in plastic bottles, these were:

- Coca-Cola
- Pepsi-Cola
- Nestea
- Sprite

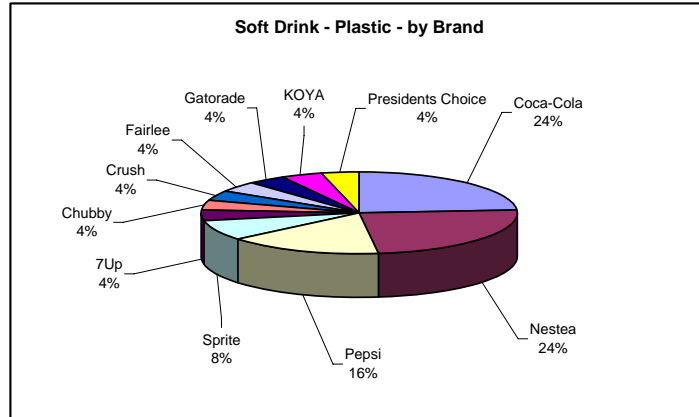
The chart and table on the next page illustrate this data.

Soft Drinks - Plastic Bottles (2006)

Brand Observed

Brand Observed	Items	% of Branded Sub-Category
Coca-Cola	6	24.0%
Nestea	6	24.0%
Pepsi	4	16.0%
Sprite	2	8.0%
7Up	1	4.0%
Chubby	1	4.0%
Crush	1	4.0%
Fairlee	1	4.0%
Gatorade	1	4.0%
KOYA	1	4.0%
Presidents Choice	1	4.0%
Total	25	100.0%

72.0%



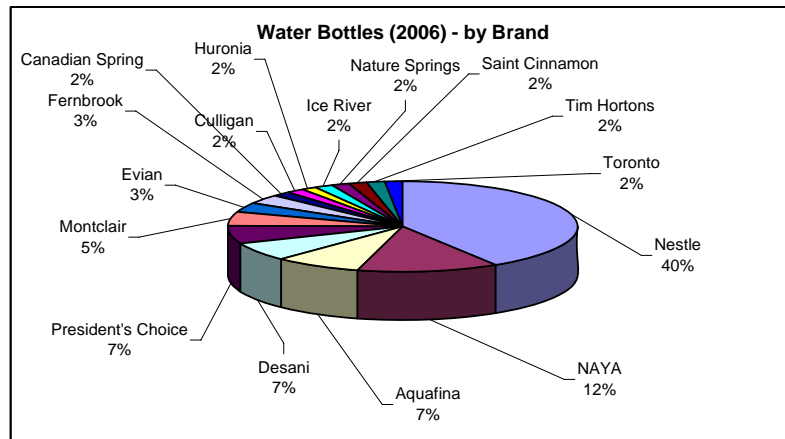
2.2b Bottled Water - Branded Litter

Water - Plastic Bottles (2006)

Brand Observed

Brand Observed	Items	% of Branded Sub-Category
Nestle	25	41.0%
NAYA	8	13.1%
Aquafina	5	8.2%
Desani	4	6.6%
President's Choice	4	6.6%
Montclair	3	4.9%
Evian	2	3.3%
Fernbrook	2	3.3%
Canadian Spring	1	1.6%
Culligan	1	1.6%
Huronia	1	1.6%
Ice River	1	1.6%
Nature Springs	1	1.6%
Saint Cinnamon	1	1.6%
Tim Hortons	1	1.6%
Toronto	1	1.6%
Total	61	100.0%

75.4%



Discussion: Bottled water has continued to be a growth packaged beverage for people on the go. Sales of bottled water have been reported growing at over 10% per year in various trade magazines. Plastic water bottles were the most discarded form of beverage container observed in the 2006 litter audit. In 2006 there were 118 total water bottles identified, of which 61 were positively identified by brand. In 2005, 81 branded water bottles were identified.

Five brands make up 75% of the observed water bottles observed as litter on Toronto streets in the 2006 litter audit; these were:

- Nestle water
- NAYA
- Aquafina
- Desana
- Presidents Choice

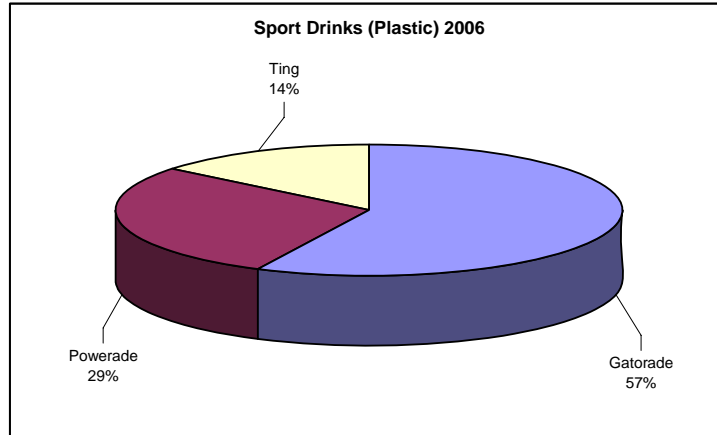
2.4 Sport Drinks - Branded Litter

Discussion: Sport drinks were not a significant component of total large litter on Toronto streets. Only 14 sports drink containers were observed in the 2006 audit, of which 7 branded containers in the sport drink category were observed. This is a similar finding as observed in 2005.

Sport Drinks - Plastic Bottles (2006)

Brand Observed

Brand Observed	Items	% of Branded Sub-Category
Gatorade	4	57%
Powerade	2	29%
Ting	1	14%
	7	100%



2.5 Wine & Liquor - Branded Litter

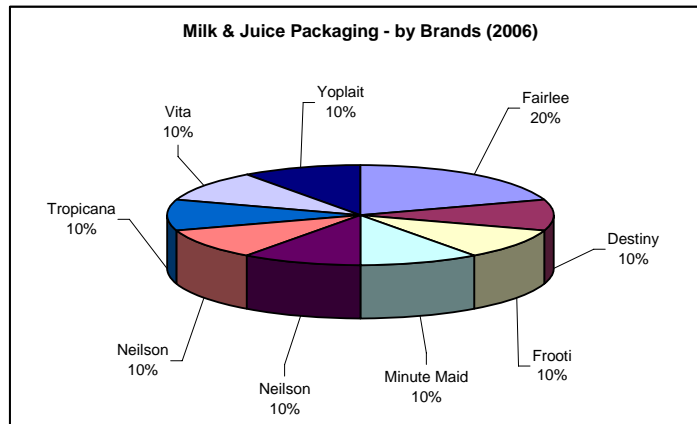
As in previous litter audits, wine & liquor litter were not a significant component of total large litter on Toronto streets. Only 3 branded containers in the wine & liquor category were observed in 2006, 5 units in 2005.

2.6 Milk & Juice - Branded Litter

Milk & Juice Containers - All Types (2006)

Brand Observed

Brand Observed	Items	% of Branded Sub-Category
Fairlee	2	20%
Destiny	1	10%
Frooti	1	10%
Minute Maid	1	10%
Neilson	1	10%
Neilson	1	10%
Tropicana	1	10%
Vita	1	10%
Yoplait	1	10%
	10	100%



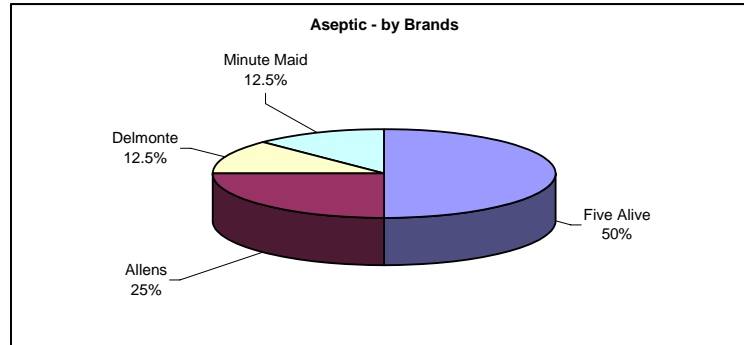
Discussion: Various brands of milk and juice products in glass and plastic containers were observed during the 2006 litter audit. There were 20 total items observed, of which a brand identification was made on 10 containers, as illustrated above.

2.7 Aseptic Drink Boxes - Branded Litter

Aseptic Containers (2006)

Brand Observed

Brand Observed	Items	% of Branded Sub-Category
Five Alive	4	50.0%
Allens	2	25.0%
Delmonte	1	12.5%
Minute Maid	1	12.5%
	8	100%



Discussion: Only 10 aseptic containers were observed for this sub-category of large litter, of which 8 were recognizable brands.

3.0 Cups, Lids and Cup Debris Branded Litter

This category encompasses all cold and hot drink cup litter, including lids.

In general sites near a coffee shop, fast-food outlet or other over-the-counter drink outlet were highest in their occurrence of cup debris.

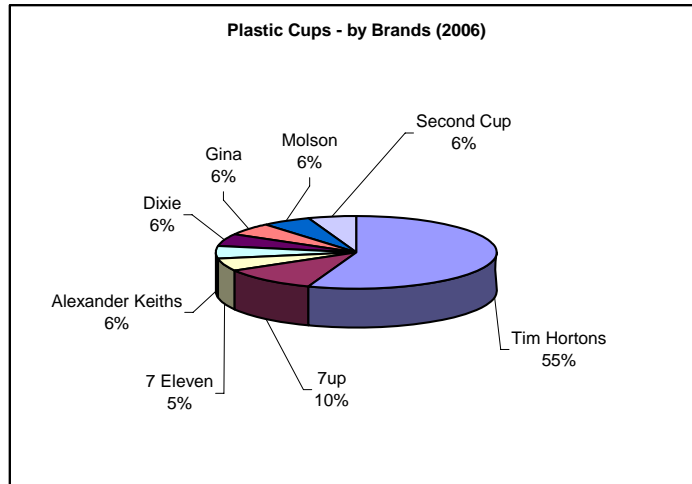
The category is summarized below. In the 2006 audit, cups, lids and pieces are 7.3% of total large litter on Toronto streets; compared to 7.4 % in 2005. Hot drink cups and cup lids were almost exclusively take-out coffee cups, and these accounted for majority of the cup litter.

Presentation of the brand observations for this subcategory appear below.

Plastic Cups (2006)

Brand Observed

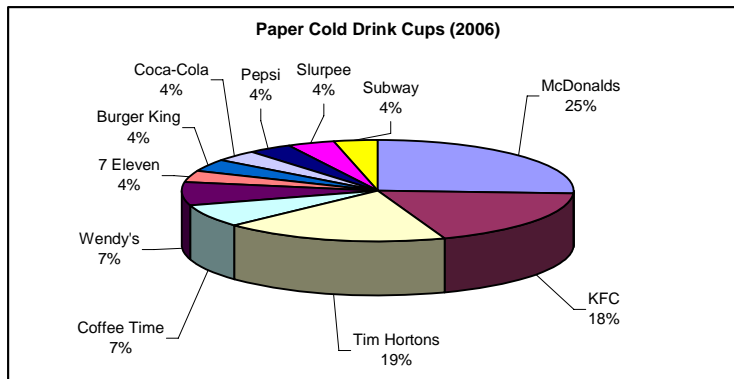
Brand Observed	Items	% of Branded Sub-Category
Tim Hortons	10	55.6%
7up	2	11.1%
7 Eleven	1	5.6%
Alexander Keiths	1	5.6%
Dixie	1	5.6%
Gina	1	5.6%
Molson	1	5.6%
Second Cup	1	5.6%
	18	100.0%



Paper Cold Drink Cups (2006)

Brand Observed

Brand Observed	Items	% of Branded Sub-Category
McDonalds	7	26%
KFC	5	19%
Tim Hortons	5	19%
Coffee Time	2	7%
Wendy's	2	7%
7 Eleven	1	4%
Burger King	1	4%
Coca-Cola	1	4%
Pepsi	1	4%
Slurpee	1	4%
Subway	1	4%
	27	100%

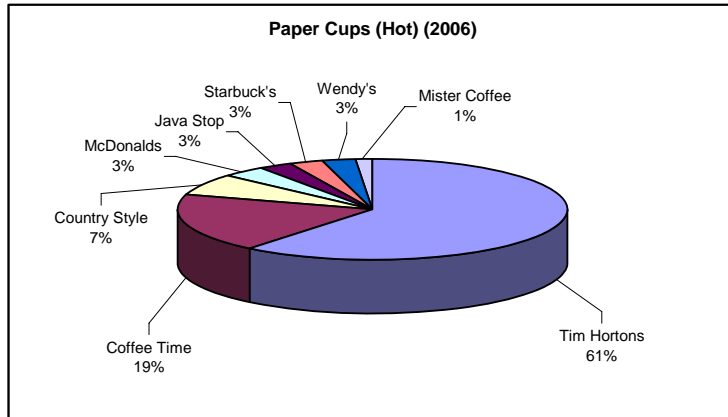


The 2006 Toronto Litter audit also examined the brands of hot drink paper cups, normally associated with coffee shops. These brand results appear below.

Paper Hot Drink Cups (2006)

Brand Observed

Brand Observed	Items	% of Branded Sub-Category
Tim Hortons	44	61%
Coffee Time	14	19%
Country Style	5	7%
McDonalds	3	3%
Java Stop	2	3%
Starbuck's	2	3%
Wendy's	2	3%
Mister Coffee	1	1%
	72	100.0%

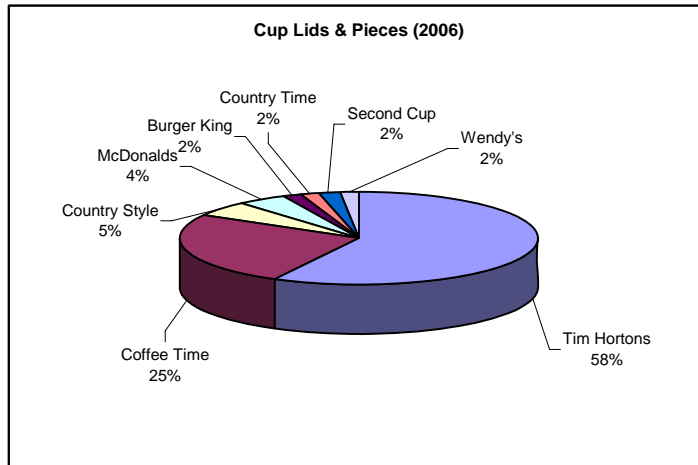


Another significant component of cup litter are the lids and pieces of cups and lids that are greater than 4 sq. inches in size. Brand observations for this subcategory are presented below.

Cup Lids & Pieces (2006)

Brand Observed

Brand Observed	Items	% of Branded Sub-Category
Tim Hortons	33	58%
Coffee Time	15	25%
Country Style	3	5%
McDonalds	3	4%
Burger King	1	2%
Country Time	1	2%
Second Cup	1	2%
Wendy's	1	2%
	57	100%



4.0 Bag Branded Litter

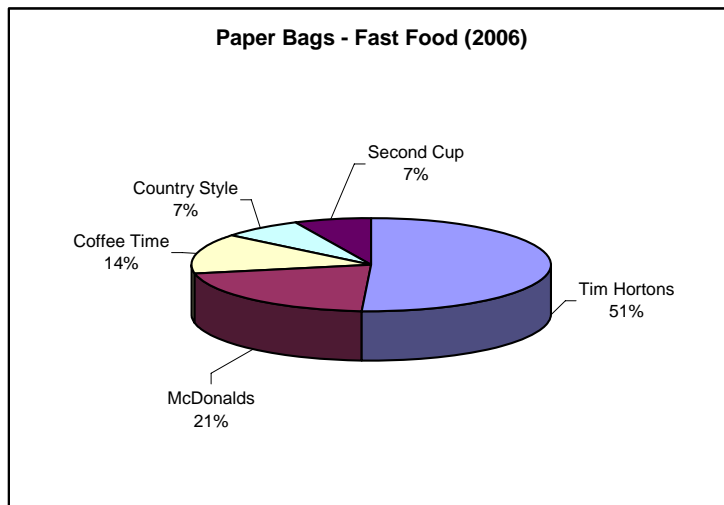
4.1 Plastic & Paper Retail and Paper Bags from Fast Food

In the 2005 Toronto Litter Audit, field teams observed 14 items in the plastic retail bag category. In 2006 only six plastic retail bags were observed. Only two identifiable brands were noted: 1 bag from Dominion grocery stores, and on plastic bag from the Liquor Control Board of Ontario.

Only 4 paper bags from non-fast food sources were observed in the 2006 audit – these were identified as: Fortino's, No Frills and one Presidents Choice paper bag.

Paper Bags - Fast Food (2006)

Brand Observed	Items	% of Branded Sub-Category
Tim Hortons	15	51%
McDonalds	6	21%
Coffee Time	4	14%
Country Style	2	7%
Second Cup	2	7%
	29	100%



5.0 Boxes, Cardboard Boxes, Other Containers, Food Wrap

This sub-category of litter, yielded few identifiable brands. The entire sub-category was less than 1% of total large litter observed. Some brands that were observed were: Smarties, Pringles, Nielsen (chocolates), and Gibbons were identified.

6.0 Fast Food Litter Brands Identified

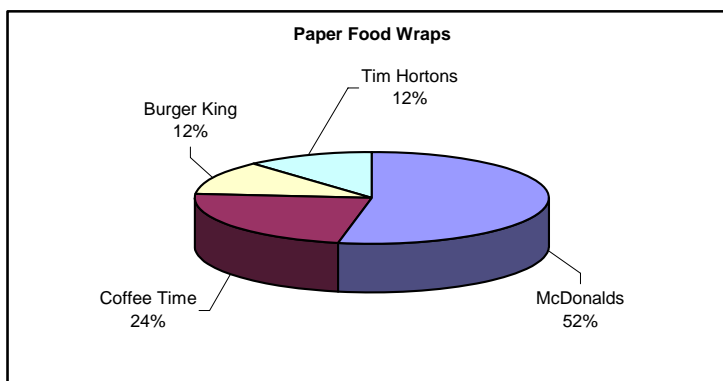
6.1 Food Wraps - Brands

Food wraps are associated with take-out food and sandwiches and products sold over the counter. Plastic food wraps were observed, however there were no brand markings on these littered items.

Paper Food Wrap (2006)

Brand Observed

Brand Observed	Items	% of Branded Sub-Category
McDonalds	5	53%
Coffee Time	2	24%
Burger King	1	12%
Tim Hortons	1	12%
	9	100%



The litter audit teams observed other food wrap materials, such as plastic wraps, and plastic/composite foil wraps; however positive brand identifications could not be made.

6.2 Take-Out Extra Branded Litter

Take-out extras constitute a modest contribution of litter, 55 items of which some of them like condiment packages could be identified. Take-out extras including napkins and utensils and condiment packaging contribute 1.26% of total litter % of total litter. However, with the exception of condiment packaging with a brand name upon it, many of the items could not be positively identified (i.e. forks, spoons, napkins – even if they site was in proximity to a fast food outlet. Without positive identification these items were not included as “branded items”.)

In the 2006 litter audit only 11 condiment packages were observed; of which 8 were identifiable by brand were observed, compared to 54 in 2005. This may be due to sampling variability, in that each year different field auditors are used and these individuals must interpret what large litter qualifies to be counted, and what litter pieces are too small. It was noted in 2006 that several auditors felt that condiment packaged (ketchup, vinegar etc.) were too small to be considered large litter and were thus not counted and the brands noted. With only 8 branded observations available in 2006, we cannot validly comment on the distribution of branded condiment packaging observed in this audit.

Similarly, insufficient data was obtained to positively identify any statistical distribution of branded litter in the fast food name brand towels/napkins subcategory (22 pieces of litter counted of which 5 had identifiable brands). The same low counts of fast food plates prevent a brand distribution comment being made for fast food plate subcategory.

7.0 Confectionary Branded Litter

Confectionary products comprised 6.89 % of large litter in the 2005 audit (compared to 8.85 % of large litter in the 2005 audit). The 2006 data shows a declining trend for large confectionary litter down from 9.9% of the total large litter observed in 2004, and 8.5% observed in 2002. However, confectionary packaging remains a significant contributor to litter on Toronto streets.

7.1 Brands of Gum Wrap Litter

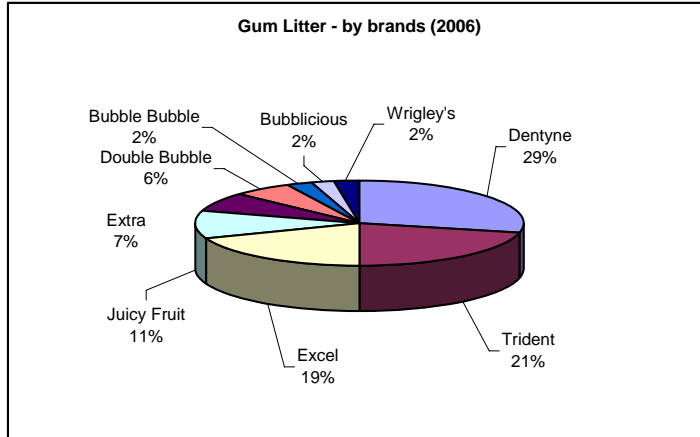
Gum litter remains a significant issue in Toronto. Gum packaging litters the streets, and there are high occurrences of gum deposits on sidewalks and streets throughout the city. Gum packaging contributed 1.47% of all large litter in 2006, down significantly from 2.25 % of all large litter in the 2005 audit, 2.6% in the 2004 survey, and 2.0% in 2002.

The top five brands make up over 87% of branded gum litter observed.

Gum Packaging - by brand (2006)

Brand Observed

Brand Observed	Items	% of Branded Sub-Category
Dentyne	12	29%
Trident	9	21%
Excel	8	19%
Juicy Fruit	5	11%
Extra	3	7%
Double Bubble	3	6%
Bubble Bubble	1	2%
Bubblicious	1	2%
Wrigley's	1	2%
	42	100%



7.2 Brands of Candy Wrap Litter

In the 2006 litter audit 143 candy wraps were observed, of which 59 were identifiable by brand compared to 141 identified brands in 2005. As described above, this may be due to sampling variability, in that each year different field auditors are used and these individuals must interpret what large litter qualifies to be counted, and what litter pieces are too small. It is noted in 2006 that several auditors felt that some candy wrap packaging was too small to be considered large litter and were thus not counted and the brands noted.

The 2006 litter audit observations give a similar brand distribution picture to previous audits, as presented below.

Candy bar wrappers - by brand (2006)

Brand Observed

	Items	% of Branded Sub- Category			
Snickers	5	8%	Big Turk	1	2%
Kit-Kat	5	8%	Campino	1	2%
Nestle	4	7%	Dare	1	2%
O Henry	4	7%	FIZZ	1	2%
Aero	3	5%	Fruit Loops	1	2%
Mars Bar	3	5%	Kellogs	1	2%
Quaker	3	5%	Kindder	1	2%
Reese	3	5%	Nature Valley	1	2%
Cadbury	3	4%	Nibs	1	2%
Hersheys	3	4%	Oreo	1	2%
Smarties	2	3%	Rolo	1	2%
Turtles	2	3%	Sorbee	1	2%
Glosets	2	3%	Starburst	1	2%
Halls	2	3%	Werthers	1	2%
Mentos	2	3%	Jolly Rancher	1	1%
Mr Big	2	3%			
				59	75%

7.4 Brands of Sweet Snack Litter

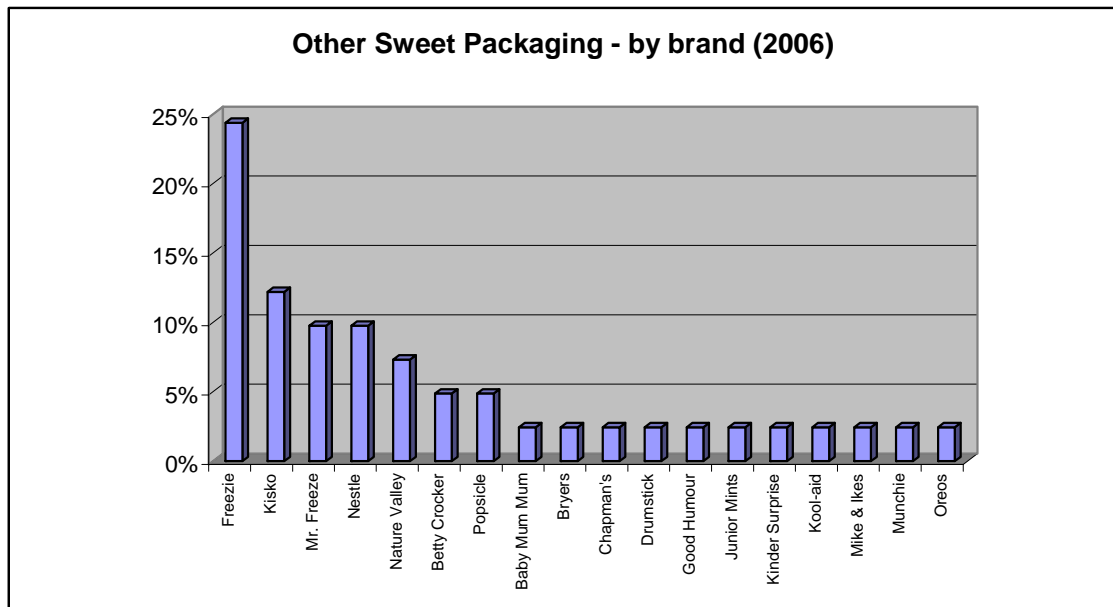
Other Sweet Confectionary Litter - by Brands

	Items	%of Sub-Category		
Mr Freezie	6	9.5%	Dunkaroos	1 1.6%
Doritos	4	6.3%	Fishermans Lozer	1 1.6%
Nestle	4	6.3%	Fortune Cookie	1 1.6%
Kisko	3	4.8%	Frito Lay	1 1.6%
Popsicle	3	4.8%	Fudges	1 1.6%
Quaker	3	4.8%	General Mills	1 1.6%
Guragao	2	3.2%	Grissol	1 1.6%
Hagen-Dazs	2	3.2%	Halls	1 1.6%
Kellogs	2	3.2%	Kool-Aid	1 1.6%
Lays	2	3.2%	Lifebrand	1 1.6%
McDonalds	2	3.2%	Miss Vickis	1 1.6%
Oreo	2	3.2%	Pringles	1 1.6%
Sun Maid	2	3.2%	Ritz	1 1.6%
Zone	2	3.2%	Sara Lee	1 1.6%
Baskin Robbins	1	1.6%	Smart Food	1 1.6%
Beyers	1	1.6%	Snow Cone	1 1.6%
Body Plus	1	1.6%	Starburst	1 1.6%
Cheese Stick	1	1.6%	Werthers	1 1.6%
Cheese Strings	1	1.6%		
Complements	1	1.6%		
			63	100.0%

See chart – next page

Other Sweet Packaging - by brand (2006)

<u>Brand Observed</u>	Items	% of Branded Sub-Category
Freezie	10	24%
Kisko	5	12%
Mr. Freeze	4	10%
Nestle	4	10%
Nature Valley	3	7%
Betty Crocker	2	5%
Popsicle	2	5%
Baby Mum Mum	1	2%
Bryers	1	2%
Chapman's	1	2%
Drumstick	1	2%
Good Humour	1	2%
Junior Mints	1	2%
Kinder Surprise	1	2%
Kool-aid	1	2%
Mike & Ikes	1	2%
Munchie	1	2%
Oreos	1	2%
	41	100%



8.0 Branded Printed Materials

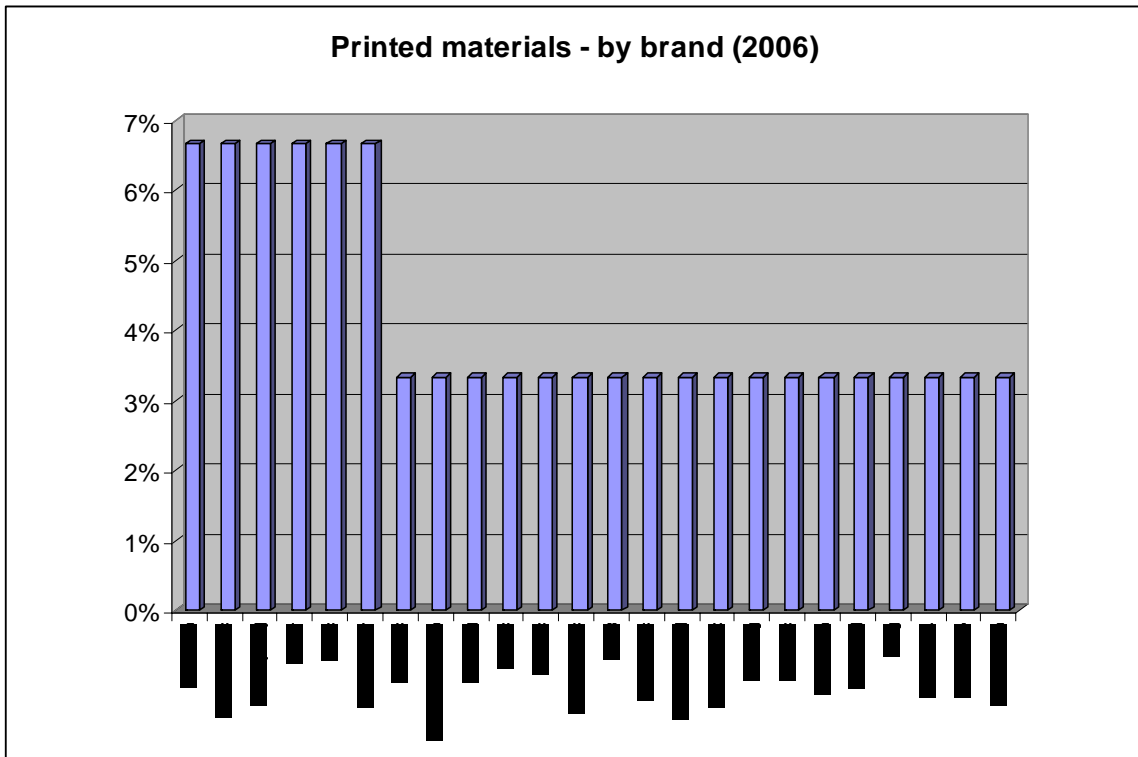
In the sub-category of branded printed material 17 lottery tickets were observed. This is a relatively small sample. The dominant brands were Lotto 649, Cash for Life and Bingo.

Printed materials of various types of newspapers and advertisements were a significant contributor to large litter, contributing 5.1% of total large litter observed. Many of the pieces of large litter counted could not be positively identified as to the brand name of the producer of the printed material, due to weathering of the litter or shredding due to lawn mowing activities. The diverse nature of this sub-category and a listing of brands are presented below.

8.1 Newspapers, Advertisements

Printed Materials - by brand (2006)

Brand Observed	Items	% of Branded Sub-Category
Dominion	2	7%
Dream Homes	2	7%
Metro (Free)	2	7%
Mirror	2	7%
Sears	2	7%
Toronto Star	2	7%
24 Hours	1	3%
Bank Nova Scotia	1	3%
Best Buy	1	3%
Blacks	1	3%
Careers	1	3%
Carlton Cards	1	3%
CNIB	1	3%
Eye Witness	1	3%
Globe and Mail	1	3%
Home Depot	1	3%
Old Navy	1	3%
People's	1	3%
Pizza Pizza	1	3%
Prudential	1	3%
Sony	1	3%
Sportcheck	1	3%
The Source	1	3%
Toronto Sun	1	3%
	30	100%



8.2 Business Forms (TTC, receipts etc)

Business forms, tickets, transfers and receipt litter continue to be of significance as a subcategory of large litter on Toronto streets. All printed materials, which includes: newspapers, flyers, branded and non-branded napkins, stationary, lottery tickets, and receipts make up 22% of total large litter in the 2006 audit.

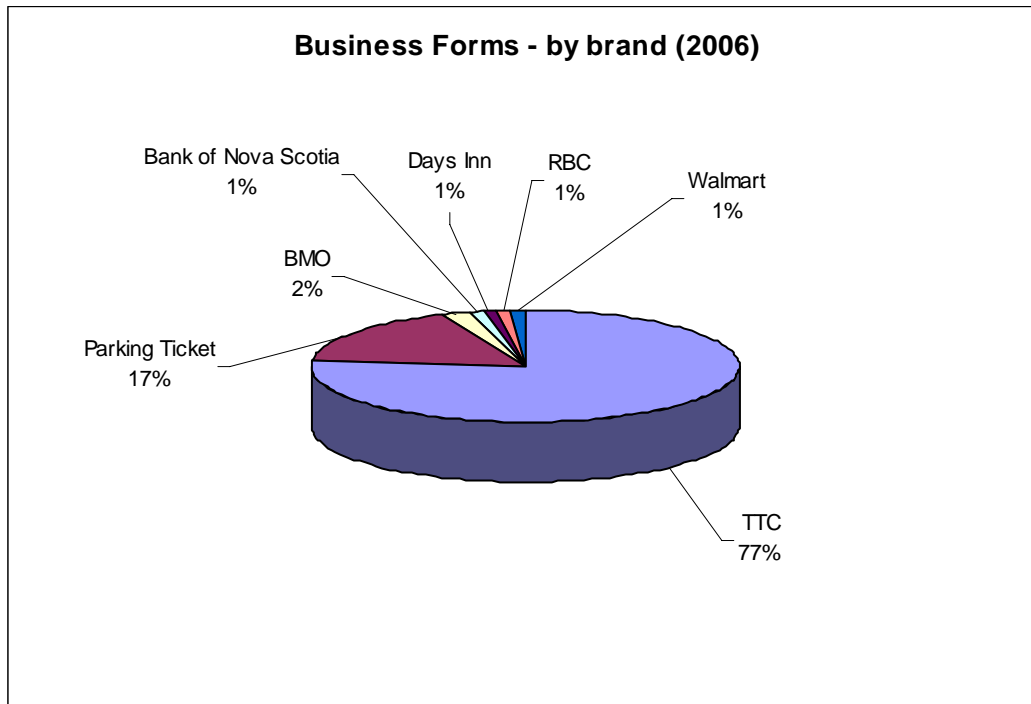
Business forms as a subcategory represent 4.7% of total large litter. TTC receipts and transfers continue to be the largest observed branded business form litter. In 2006, 77 TTC transfers were observed 1.8% of total litter. This observation has been made repeatedly since 2002; TTC transfers continue to be a litter source that remains on Toronto streets. TTC branded business form large litter represented 77% of this subcategory's identifiable large litter.

See data details on the next page.

Business Receipts, Forms , Transfers

Brand Observed

	Items	% of Branded Sub-Category
TTC	72	77%
Parking Ticket	16	17%
BMO	2	2%
Bank of Nova Scotia	1	1%
Days Inn	1	1%
RBC	1	1%
Walmart	1	1%
	94	100%



9.0 Tobacco Litter

Du Maurier, Belmont, Peter Jackson and Players are the dominant brands of tobacco litter observed in the litter audit of 2006; comprising 84% if observed brands on streets. It should be noted that “bootleg” cigarette litter such as DK and Native are being observed on city streets.

Tobacco Litter - by brand (2006)

Brand Observed	Items	% of Branded Sub-Category
DuMaurier	55	57%
Belmont	12	13%
Peter Jackson	7	7%
Players	7	7%
DK's	3	3%
Export A	2	2%
Panda	2	2%
Benson & Hedges	1	1%
Capri	1	1%
Craven A	1	1%
Dunhill	1	1%
Mang Mei	1	1%
Marlboro	1	1%
Matinee	1	1%
Native	1	1%
Vantage	1	1%
	96	100%

