

## **Appendix J**

### **Graphical Presentation of Results of the Four Season Data Collection for Phase I of the Citywide Waste Characterization Study**

## Appendix J

### Graphical Presentation of Results of the Four Season Data Collection for Phase I of the Citywide Waste Characterization Study

The following presents summary graphical information on the results of Waste Characterization Study (WCS), conducted under the auspices of DSNY's Bureau of Waste Prevention Reuse and Recycling. The WCS consists of four waste composition sorting programs, conducted in the Fall of 2004 and the Winter, Spring and Summer of 2005, respectively. This information is also published on DSNY's website:

[http://www.nyc.gov/html/nycwasteless/html/recycling/waste\\_char\\_study.shtml](http://www.nyc.gov/html/nycwasteless/html/recycling/waste_char_study.shtml).

A final report will be published later in 2006.

#### FALL 2004 NYC WASTE CHARACTERIZATION STUDY

The pie charts presented below illustrate the composition of the five waste streams analyzed in the Fall 2004 NYC Waste Characterization Study. These include:

- Waste (refuse + recycling)
- Refuse
- Paper recycling
- MGP recycling
- Street basket refuse

#### WASTE (REFUSE + RECYCLING)

This pie shows the composition of New York City's entire residential waste stream put out at the curb for collection: refuse, including bulk items, plus the contents of the MGP and Paper recycling bins and bags.

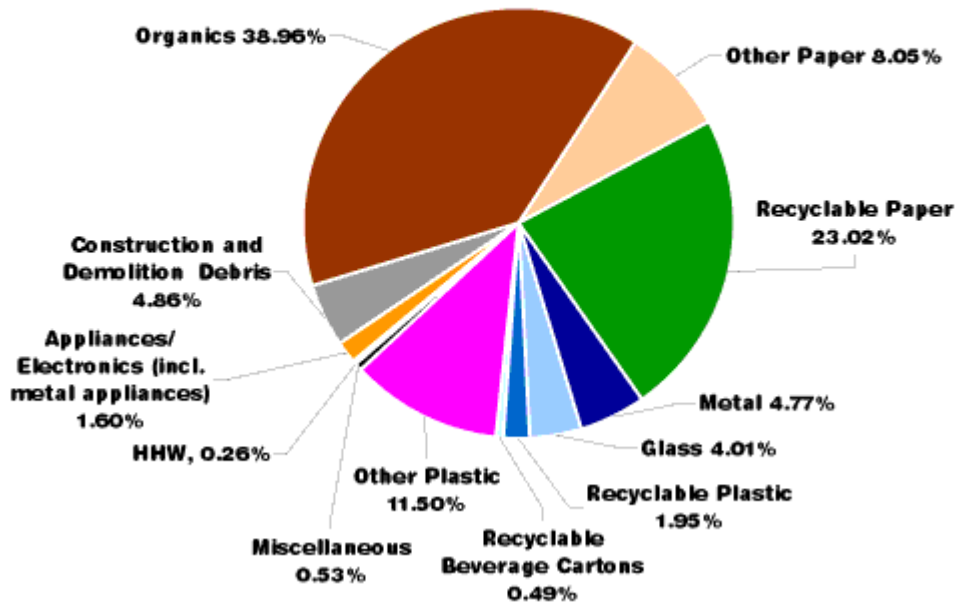
The three largest components of NYC's residential waste stream for the Fall sorting season were Organics 38.96%, Recyclable Paper 23.02%, and Other Plastic 11.50%.

How much of the New York City's residential waste stream is targeted for recycling? For the Fall Seasonal Sort, the answer is 34.93%. This figure can be broken down into the following categories:

- 23.02% Recyclable Paper (shown in the green slice of the chart)
- 5.59% Recyclable Metal (the sum of the dark blue "Metal" slice of the pie chart, plus an additional fraction of the orange "Appliances/ Electronics" slice that consists of metal from appliances)

- 3.87% Recyclable Glass (the pale blue pie slice, excluding non-recyclable plate and other glass)
- 1.95% Recyclable Plastic (the bright blue slice, consisting of HDPE and PET bottles only)
- .49% Beverage Cartons (lightest blue).

**NYC Waste Characterization Study  
Fall 2004  
Waste Composition**



*Notes: "Appliances/Electronics" includes metal appliances that are accepted for recycling under NYC's current program. "Glass" includes a small amount of plate or other non-container glass not accepted for recycling under NYC's current program. "Organics" includes food, yard, diapers/feminine hygiene, textiles, and some wood waste. It does not include C&D wood waste. "Other Paper" refers to tissues, napkins, laminated papers, or other papers not accepted for paper recycling under NYC's current program. "Other Plastic" includes plastic containers other than #1/#2 bottles and jugs, as well as plastics bags, wraps, and a wide range of non-recyclable plastic products. Further details on each category can be found in the "Results Highlights" pdf associated with the [Fall Report](#).*

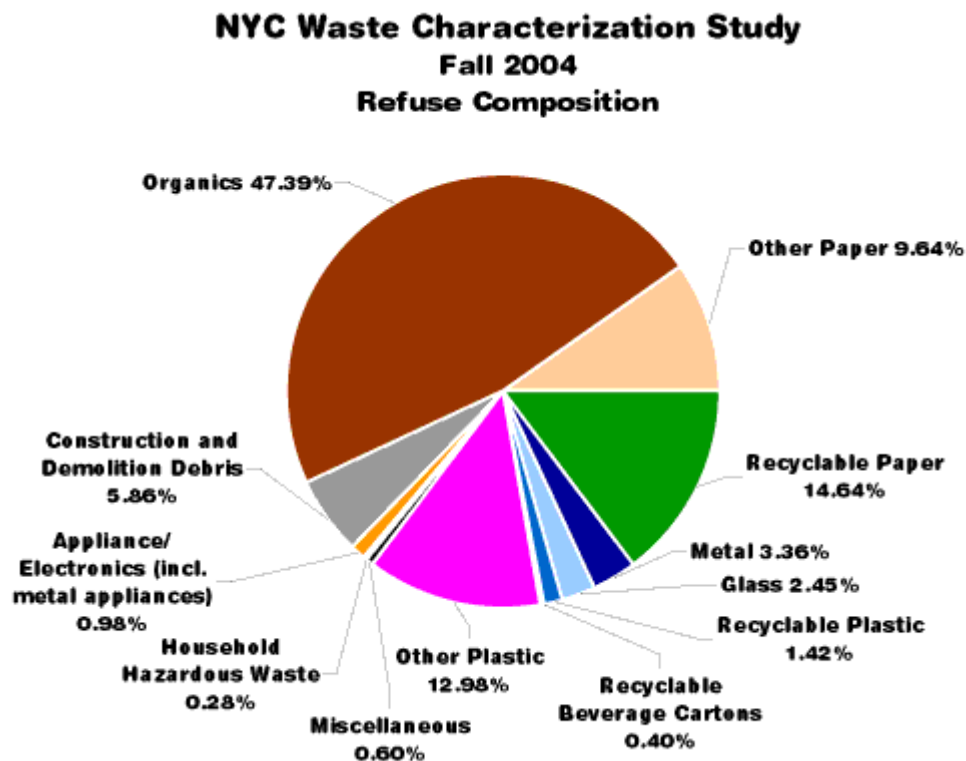
**REFUSE**

This pie chart shows the composition of the contents of the residential "garbage" bins and bags, as well as bulk items set out for curbside collection.

The three largest components of New York City's residential refuse stream were Organics 47.39%, Recyclable Paper 14.64%, and Other Plastic 12.98%.

How much of New York City's residential refuse stream is composed of materials that should have been separated out for recycling? For the Fall Seasonal Sort the answer is 22.36%. This figure can be broken down into the following categories:

- 14.64% Recyclable Paper (shown in the green slice of the pie chart)
- 3.56% Recyclable Metal (the sum of the dark blue "Metal" slice on the pie chart, plus an additional fraction of the orange "Appliances/Electronics" slice that consists of metal from appliances)
- 2.33% Recyclable Glass (the pale blue pie slice, excluding non-recyclable plate and other glass)
- 1.42% Recyclable Plastic (the bright blue slice, consisting of HDPE and PET bottles only)
- .40% Beverage Cartons (lightest blue)

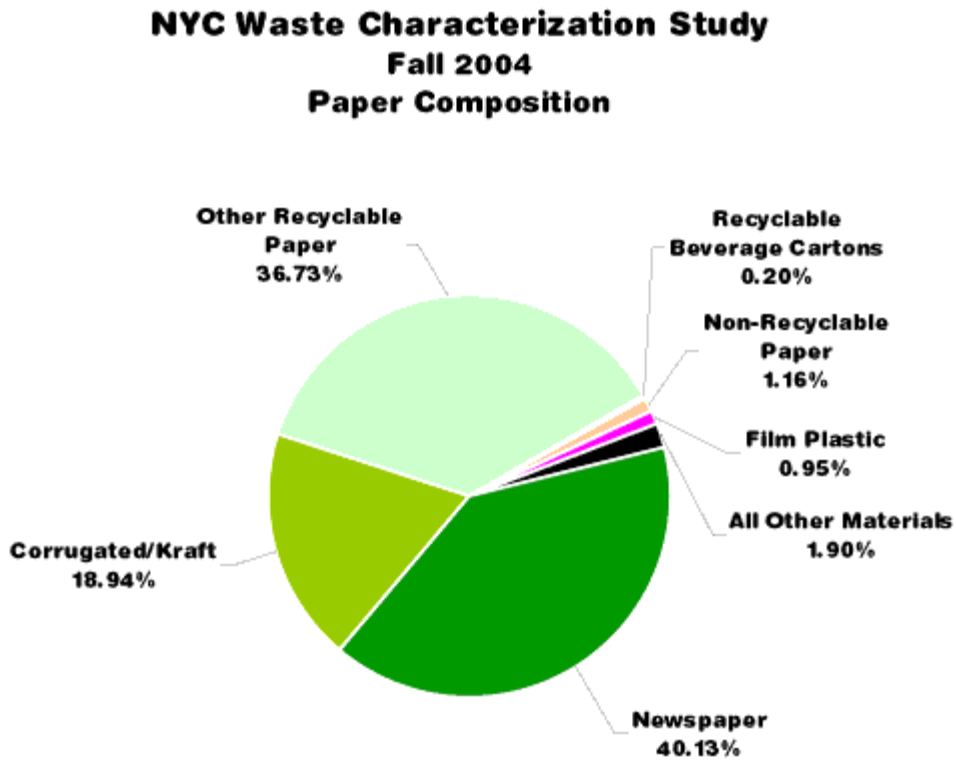


*Notes: "Appliances/Electronics" includes metal appliances that are accepted for recycling under NYC's current program. "Glass" includes a small amount of plate or other non-container glass not accepted for recycling under NYC's current program. "Organics" includes food, yard, diapers/feminine hygiene, textiles, and some wood waste. It does not include C&D wood waste. "Other Paper" refers to tissues, napkins, laminated papers, or other papers not accepted for paper recycling under NYC's current program. "Other Plastic" includes plastic containers other than #1/#2 bottles and jugs, as well as plastics bags, wraps, and a wide range of non-recyclable plastic products. Further details on each category can be found in the "Results Highlights" pdf associated with the [Fall Report](#).*

## PAPER RECYCLING

This pie shows the composition of the contents of the residential Paper recycling bins and bags set out for curbside recycling collection.

The largest component was Newspaper (40.13%), followed by Other Recyclable Paper (36.73%), and then Corrugated/Kraft (18.94%).



## MGP RECYCLING

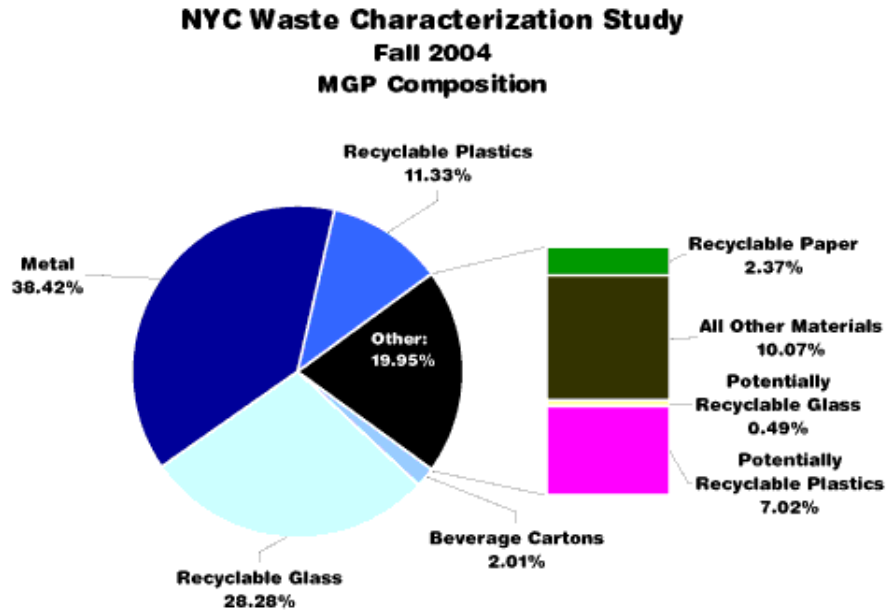
This pie chart shows the composition of the contents of the residential Metals/Glass/Plastic (MGP) recycling bins and bags and bulk items set out for curbside recycling collection.

By weight, the largest component of the MGP residential recycling stream was Metal at 38.42%. The Metal slice of the pie chart can be broken down into the following materials: 33.18% Ferrous Metal, 2.87% "Mixed" Metal, 1.70% Aluminum, and .68% Non-Ferrous Metal.

Recyclable Glass represents the next largest component at 28.28%. The Recyclable Glass slice of the pie chart consists of 14.85% Mixed Cullet and 13.43% Container Glass.

The "Other" category (19.95%) refers to materials not currently designated for MGP recycling. These materials include potentially recyclable glass and plastic (containers and packaging for which markets have yet to be developed), as well as recyclable paper, and other miscellaneous materials.

The remaining categories in the MPG pie chart include Recyclable Plastics at 11.33% (which consists of 5.94% HDPE Bottles and 5.39% PET Bottles) and Beverage Cartons at 2.01%.



## STREET BASKET REFUSE

This pie chart shows the average composition of a litter basket on a New York City street corner.

By weight, the largest discernable component of the Street Basket Refuse Stream consisted of Other Recyclable Paper (17.44%), followed by Newspaper (15.21%), and Food Waste (13.67%).

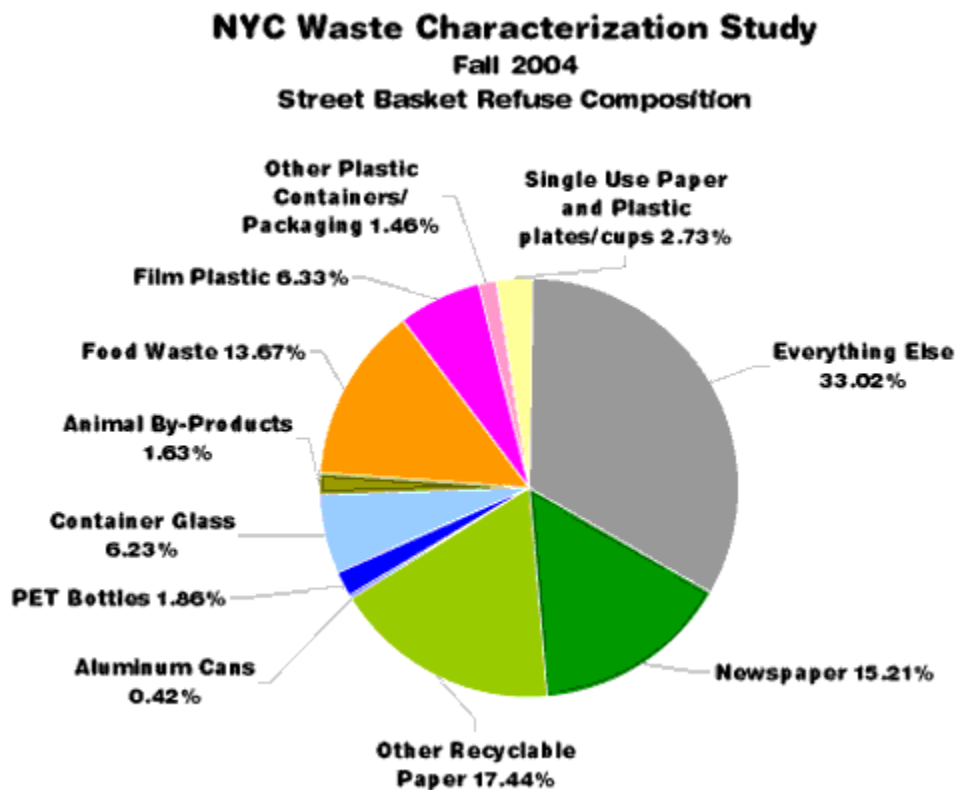
The "Everything Else" slice of this pie is broken down accordingly:

- 9.38% Other Organics
- 7.39% Non-Recyclable Paper
- 3.81% Other C & D Debris
- 3.76% Other Metal Cans and Items
- 3.09% Textiles
- 1.33% Miscellaneous Inorganics/Household Hazardous Waste
- 1.20% Other Plastic Products

- 1.08% Cullet/Other Glass
- .76% Electronics/Audio-Visual
- .47% Untreated Dimension Lumber/Pallets/Crates
- .46% HDPE Bottles
- .27% Recyclable Beverage Cartons

How much of the Street Basket Refuse Stream contains materials that could have been separated out for recycling in New York City? For the Fall Season sort the answer is 46.61%. This figure can be broken down into the following categories:

- 32.65% Paper (17.44% Other Recyclable Paper, which in this stream also includes Corrugated/Kraft, plus 15.21% Newspaper)
- 7.18% Glass (6.23% Container Glass indicated on the pie chart plus .95% out of the 1.08% Cullet/Other Glass from the "Everything Else" slice)
- 4.18% Metal (.42% Aluminum Cans on pie chart plus .49% Other Aluminum, 2.52% Ferrous Metal, .17% Non-Ferrous Metal, and .58% Other Metal, which are all counted in the Everything Else slice as Other Metal Cans and Items.)
- 2.32% Recyclable Plastics (1.86% PET Bottles slice of the pie chart and .46% HDPE Bottles from the Everything Else slice)
- .27% Beverage Cartons from the Everything Else slice



## WINTER 2005 NYC WASTE CHARACTERIZATION STUDY

The pie charts presented below illustrate the composition of the five waste streams analyzed in the Winter 2005 NYC Waste Characterization Study. These include:

- Waste (refuse + recycling)
- Refuse
- Paper recycling
- MGP recycling
- Street basket refuse

### WASTE (REFUSE + RECYCLING)

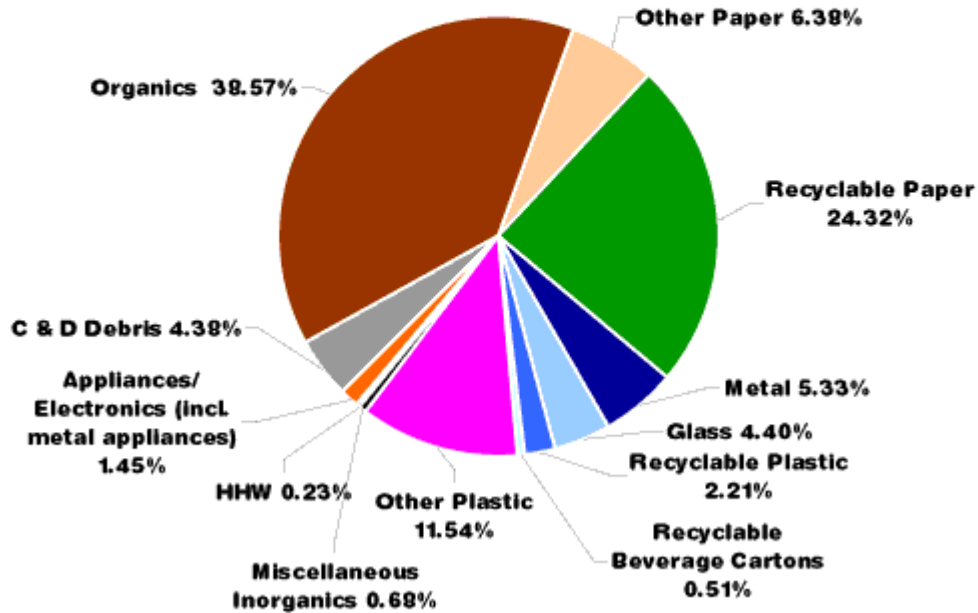
This pie shows the composition of New York City's entire residential waste stream put out at the curb for collection: refuse (including bulk items) plus the contents of the MGP and Paper recycling bins and bags.

The three largest components of NYC's residential waste stream for the Winter sorting season were Organics 38.57%, Recyclable Paper 24.32%, and Other Plastic 11.54%.

How much of the New York City's residential waste stream is targeted for recycling? For the Winter Seasonal Sort, the answer is 37.37%. This figure can be broken down into the following categories:

- 24.32% Recyclable Paper (shown in the green slice of the chart)
- 6.07% Recyclable Metal (the sum of the dark blue "Metal" slice of the pie chart plus an additional .75% of the orange "Appliances/ Electronics" slice that consists of metal from appliances)
- 4.25% Recyclable Glass (the pale blue pie slice, excluding .15% non-recyclable plate and other glass)
- 2.21% Recyclable Plastic (the bright blue slice, consisting of HDPE and PET bottles only)
- .51% Beverage Cartons (lightest blue).

**NYC Waste Characterization Study  
Winter 2005  
Waste Composition**



*Notes: "Appliances/Electronics" includes metal appliances that are accepted for recycling under NYC's current program. "Glass" includes a small amount of plate or other non-container glass not accepted for recycling under NYC's current program. "Organics" includes food, yard, diapers/feminine hygiene, textiles, and some wood waste. It does not include C&D wood waste. "Other Paper" refers to tissues, napkins, laminated papers, or other papers not accepted for paper recycling under NYC's current program. "Other Plastic" includes plastic containers other than #1/#2 bottles and jugs, as well as plastics bags, wraps, and a wide range of non-recyclable plastic products. Further details on each category can be found in the "Results Highlights" pdf associated with the [Winter Report](#).*

**REFUSE**

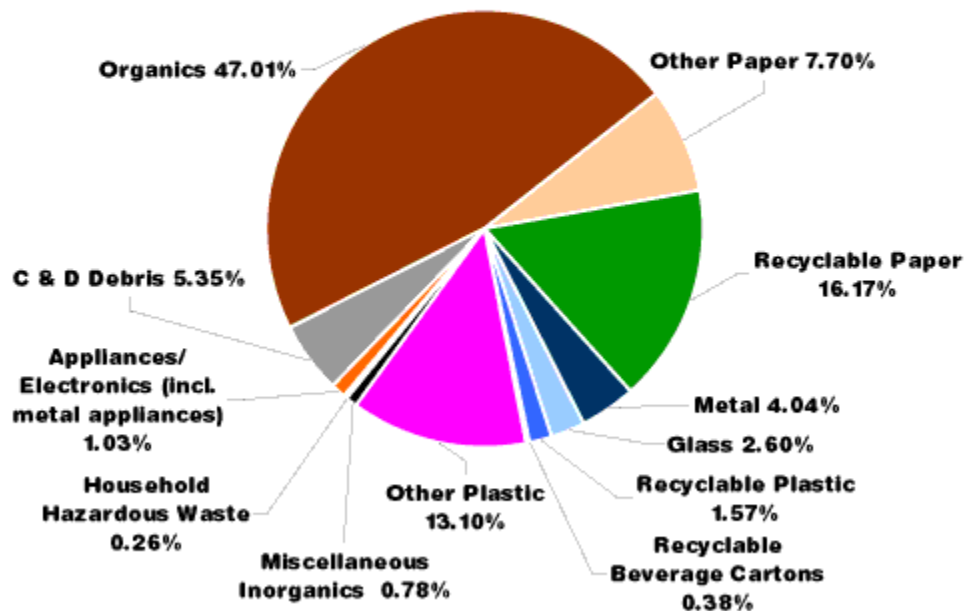
This pie chart shows the average composition of the contents of the residential "garbage" bins and bags as well as bulk items set out for curbside collection.

The three largest components of New York City's residential refuse stream were Organics 47.01%, Recyclable Paper 16.17%, and Other Plastic 13.10%.

How much of New York City's residential refuse stream is composed of materials that should or could have been separated out for recycling? For the Winter Seasonal Sort the answer is 24.95%. This figure can be broken down into the following categories:

- 16.17% Recyclable Paper (shown in the green slice of the pie chart)
- 4.37% Recyclable Metal (the sum of the dark blue "Metal" slice on the pie chart plus an additional .33% of the orange "Appliances/Electronics" slice that consists of metal from appliances)
- 2.46% Recyclable Glass (the pale blue pie slice, excluding .14% non-recyclable plate and other glass)
- 1.57% Recyclable Plastic (the bright blue slice, consisting of HDPE and PET bottles only)
- .38% Beverage Cartons (lightest blue)

**NYC Waste Characterization Study  
Winter 2005  
Refuse Composition**

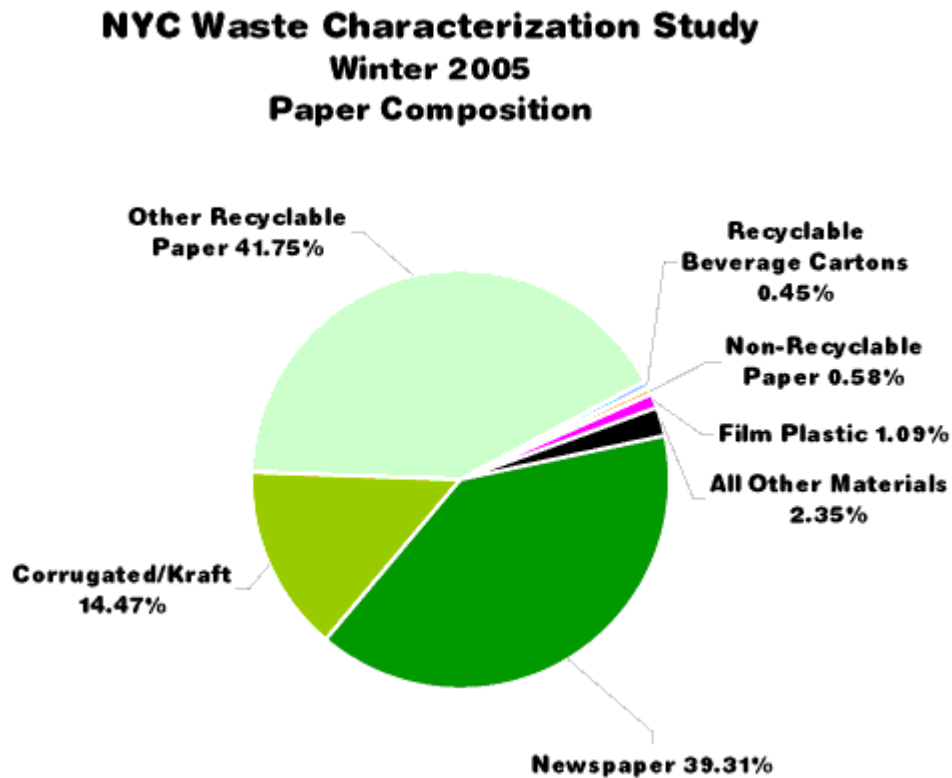


*Notes: "Appliances/Electronics" includes metal appliances that are accepted for recycling under NYC's current program. "Glass" includes a small amount of plate or other non-container glass not accepted for recycling under NYC's current program. "Organics" includes food, yard, diapers/feminine hygiene, textiles, and some wood waste. It does not include C&D wood waste. "Other Paper" refers to tissues, napkins, laminated papers, or other papers not accepted for paper recycling under NYC's current program. "Other Plastic" includes plastic containers other than #1/#2 bottles and jugs, as well as plastics bags, wraps, and a wide range of non-recyclable plastic products. Further details on each category can be found in the "Results Highlights" pdf associated with the [Winter Report](#).*

## PAPER RECYCLING

This pie shows the average composition of the contents of the residential Paper recycling bins and bags set out for curbside recycling collection.

The largest component was Other Recyclable Paper (41.75%), followed by Newspaper (39.31%), and then Corrugated/Kraft (14.47%).



## MGP RECYCLING

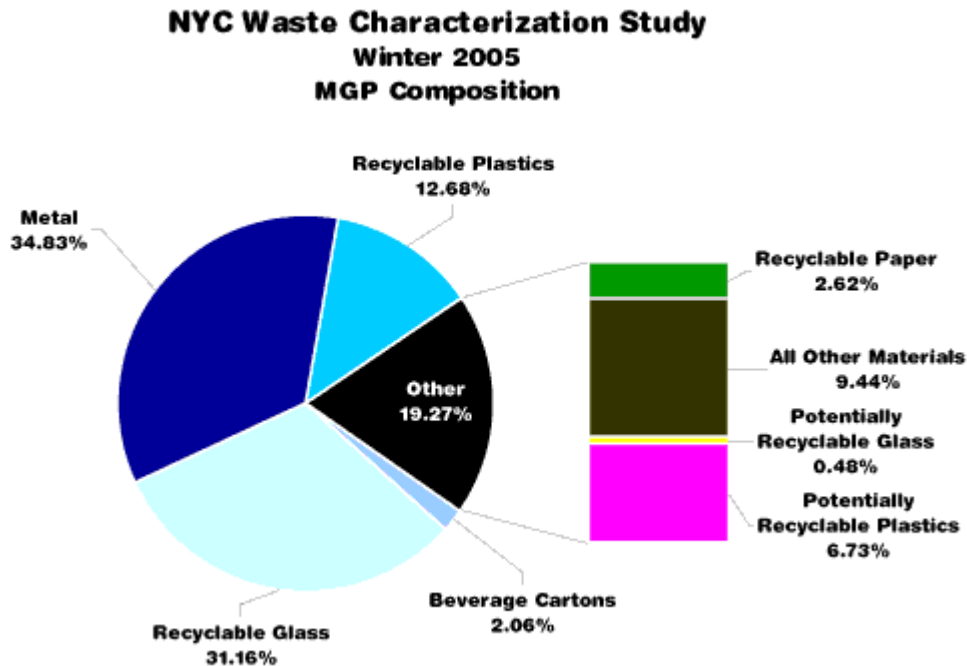
This pie chart shows the average composition of the contents of the residential Metals/Glass/Plastic (MGP) recycling bins and bags and bulk items set out for curbside recycling collection.

By weight, the largest component of the MGP residential recycling stream was Metal at 34.83%. The Metal slice of the pie chart can be broken down into the following materials: 28.81% Ferrous Metal, 3.50% "Mixed" Metal, 1.57% Aluminum, and .94% Non-Ferrous Metal.

Recyclable Glass represents the next largest component at 31.16%. The Recyclable Glass slice of the pie chart consists of 16.92% Mixed Cullet and 14.23% Container Glass.

The remaining categories in the MPG pie chart include Recyclable Plastics at 12.68% (which consists of 6.55% HDPE Bottles and 6.13% PET Bottles) and Beverage Cartons at 2.06%.

The "Other" category (19.27%) refers to materials not currently designated for MGP recycling. These materials include potentially recyclable glass and plastic (containers and packaging for which markets have yet to be developed), as well as recyclable paper, and other miscellaneous materials.



## STREET BASKET REFUSE

This pie chart shows the average composition of a litter basket on a New York City street corner.

By weight, the largest discernable component of the Street Basket Refuse Stream consisted of Newspaper 17.36%, followed by Other Recyclable Paper 15.27%, and Food Waste (11.83%).

The "Everything Else" slice of this pie is broken down accordingly:

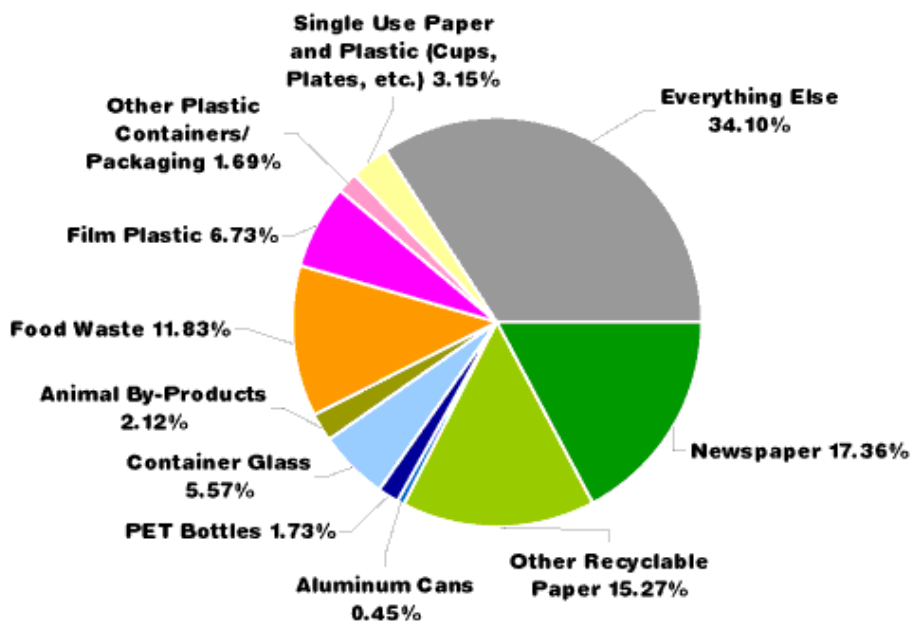
- 10.07% Other Organics
- 5.41% Other Metal Cans and Items
- 5.03% Non-Recyclable Paper
- 3.70% Textiles
- 2.75% Other C & D Debris
- 2.33% Untreated Dimension Lumber/Pallets/Crates

- 1.15% Miscellaneous Inorganics/Household Hazardous Waste
- 1.13% Other Plastic Products
- 1.00% Cullet/Other Glass
- .77% Electronics/Audio-Visual
- .47% HDPE Bottles
- .28% Recyclable Beverage Cartons

How much of the Street Basket Refuse Stream contains materials that could have been separated out for recycling in New York City? For the Winter Seasonal sort the answer is 47.87%. This figure can be broken down into the following categories:

- 32.63% Paper (15.27% Other Recyclable Paper, which in this stream also includes Corrugated/Kraft, plus 17.36% Newspaper)
- 6.42% Glass (5.57% Container Glass indicated on the pie chart plus .85% out of the 1.00% Cullet/Other Glass from the "Everything Else" slice)
- 6.35% Metal (.45% Aluminum Cans on pie chart plus .57% Other Aluminum, 4.51% Ferrous Metal, .20% Non-Ferrous Metal, and .62% Other Metal which are all counted in the Everything Else slice as Other Metal Cans and Items)
- 2.20% Recyclable Plastics (the 1.73% PET Bottles slice of the pie chart and .47% HDPE Bottles from the Everything Else slice)
- .28% Beverage Cartons from the Everything Else slice

**NYC Waste Characterization Study  
Winter 2005  
Street Basket Refuse Composition**



## Spring 2005 NYC Waste Characterization Study

The pie charts presented below illustrate the composition of the five waste streams analyzed in the Spring 2005 NYC Waste Characterization Study. These include:

- Waste (refuse + recycling)
- Refuse
- Paper recycling
- MGP recycling
- Street basket refuse

### WASTE (REFUSE + RECYCLING)

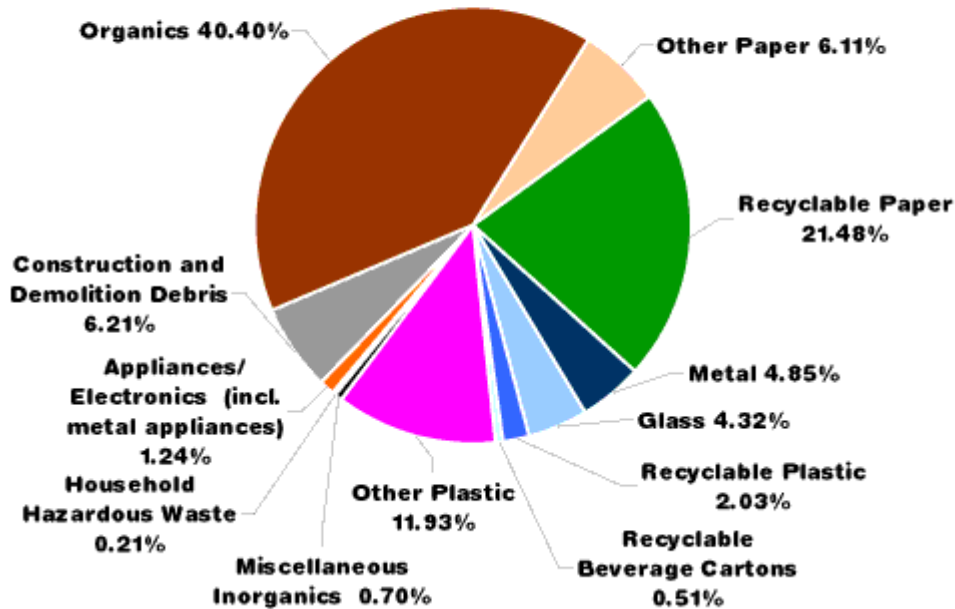
This pie shows the composition of New York City's entire residential waste stream put out at the curb for collection: refuse (including bulk items) plus the contents of the MGP and Paper recycling bins and bags.

The three largest components of NYC's residential waste stream for the Spring sorting season were Organics 40.40%, Recyclable Paper 21.48%, and Other Plastic 11.93%.

How much of the New York City's residential waste stream is targeted for recycling? For the Spring Seasonal Sort, the answer is 33.57%. This figure can be broken down into the following categories:

- 21.48% Recyclable Paper (shown in the green slice of the chart)
- 5.43% Recyclable Metal (the sum of the dark blue "Metal" slice of the pie chart plus an additional .58% of the orange "Appliances/ Electronics" slice that consists of metal from appliances)
- 4.11% Recyclable Glass (the pale blue pie slice, excluding .21% non-recyclable plate and other glass)
- 2.03% Recyclable Plastic (the bright blue slice, consisting of .89% HDPE and 1.14% PET bottles only)
- .51% Beverage Cartons (lightest blue).

**NYC Waste Characterization Study  
Spring 2005  
Waste Composition**



*Notes: "Appliances/Electronics" includes metal appliances that are accepted for recycling under NYC's current program. "Glass" includes a small amount of plate or other non-container glass not accepted for recycling under NYC's current program. "Organics" includes food, yard, diapers/feminine hygiene, textiles, and some wood waste. It does not include C&D wood waste. "Other Paper" refers to tissues, napkins, laminated papers, or other papers not accepted for paper recycling under NYC's current program. "Other Plastic" includes plastic containers other than #1/#2 bottles and jugs, as well as plastics bags, wraps, and a wide range of non-recyclable plastic products. Further details on each category can be found in the "Results Highlights" pdf associated with the [Spring Report](#).*

**REFUSE**

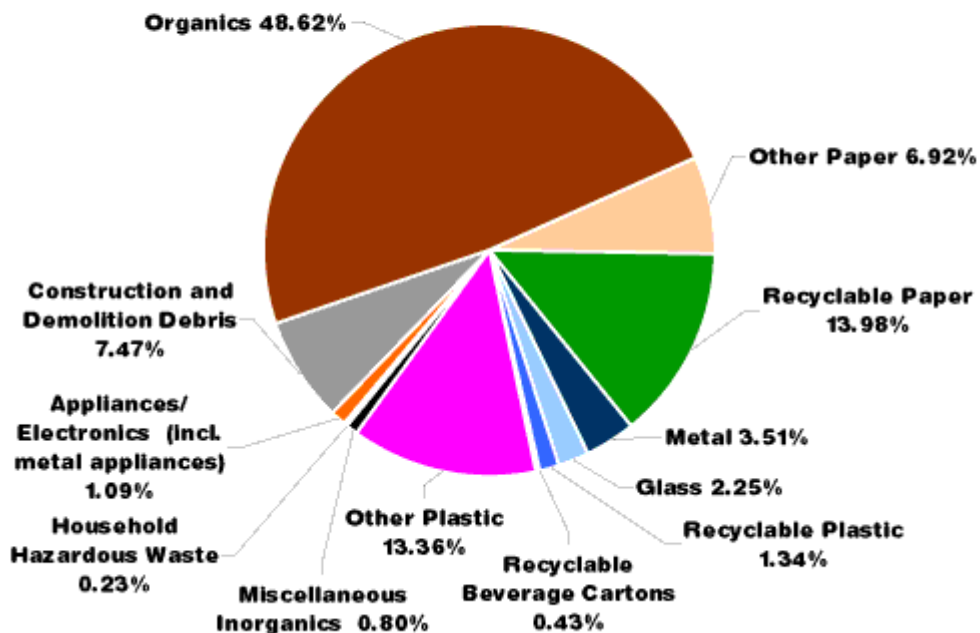
This pie chart shows the average composition of the contents of the residential "garbage" bins and bags as well as bulk items set out for curbside collection.

The three largest components of New York City's residential refuse stream were Organics 48.62%, Recyclable Paper 13.98%, and Other Plastic 13.36%.

How much of New York City's residential refuse stream is composed of materials that should or could have been separated out for recycling? For the Spring Seasonal Sort the answer is 21.70%. This figure can be broken down into the following categories:

- 13.98% Recyclable Paper (shown in the green slice of the pie chart)
- 3.94% Recyclable Metal (the sum of the dark blue "Metal" slice on the pie chart plus an additional .44% of the orange "Appliances/Electronics" slice that consists of metal from appliances)
- 2.01% Recyclable Glass (the pale blue pie slice, minus .24% non-recyclable plate and other glass)
- 1.34% Recyclable Plastic (the bright blue slice, consisting of .52% HDPE and .83% PET bottles only)
- .43% Beverage Cartons (lightest blue)

**NYC Waste Characterization Study  
Spring 2005  
Refuse Composition**

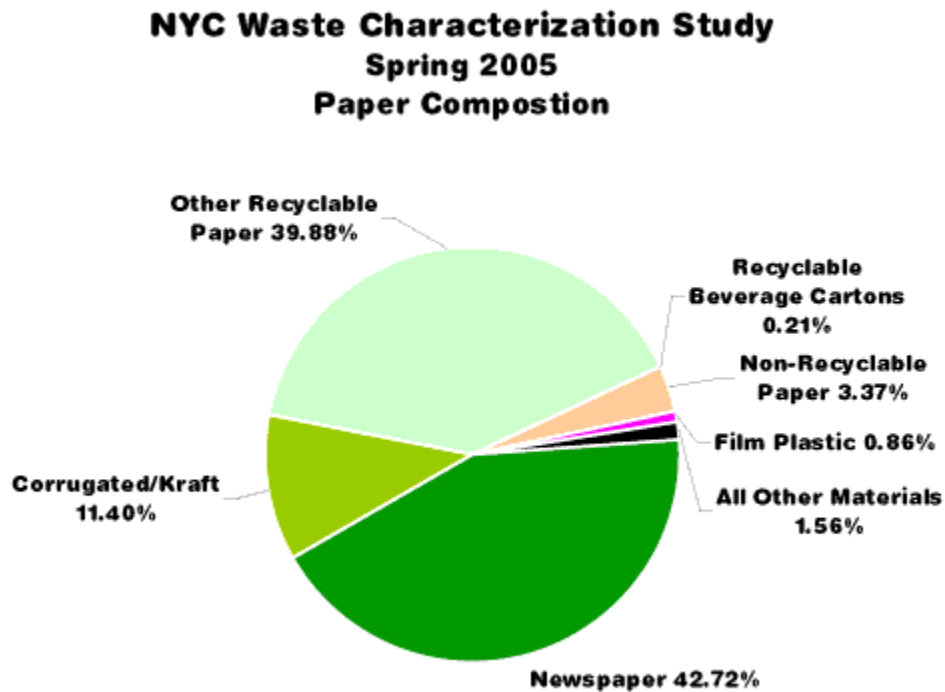


*Notes: "Appliances/Electronics" includes metal appliances that are accepted for recycling under NYC's current program. "Glass" includes a small amount of plate or other non-container glass not accepted for recycling under NYC's current program. "Organics" includes food, yard, diapers/feminine hygiene, textiles, and some wood waste. It does not include C&D wood waste. "Other Paper" refers to tissues, napkins, laminated papers, or other papers not accepted for paper recycling under NYC's current program. "Other Plastic" includes plastic containers other than #1/#2 bottles and jugs, as well as plastics bags, wraps, and a wide range of non-recyclable plastic products. Further details on each category can be found in the "Results Highlights" pdf associated with the [Spring Report](#).*

## PAPER RECYCLING

This pie shows the average composition of the contents of the residential Paper recycling bins and bags set out for curbside recycling collection.

The largest component was Newspaper (42.72%), followed by Other Recyclable Paper (39.88%), and then Corrugated/Kraft (11.40%).



## MGP RECYCLING

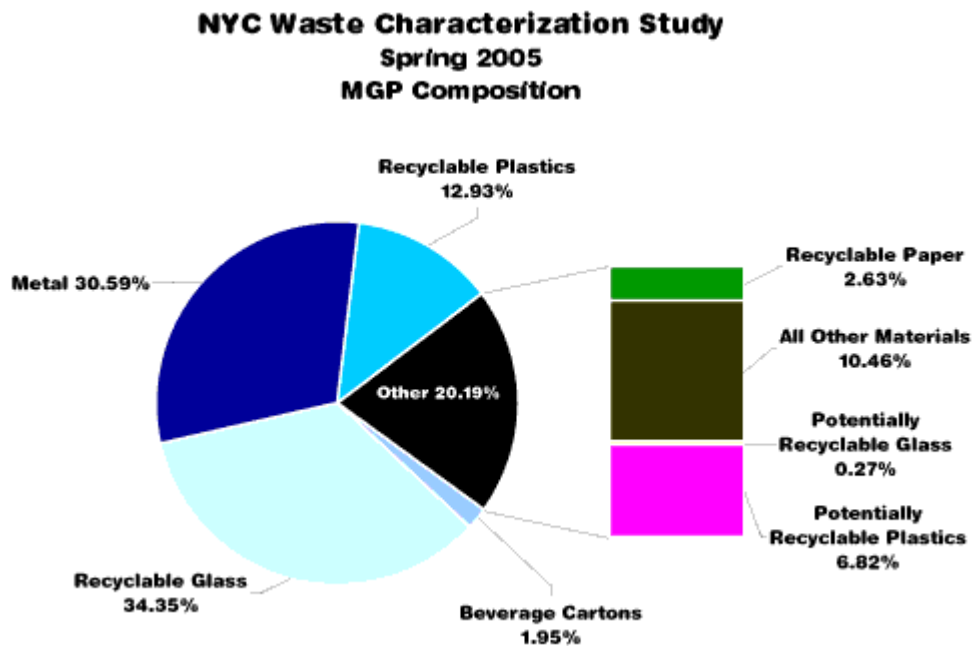
This pie chart shows the average composition of the contents of the residential Metals/Glass/Plastic (MGP) recycling bins and bags and bulk items set out for curbside recycling collection.

By weight, Recyclable Glass represents the largest component at 34.35%. The Recyclable Glass slice of the pie chart consists of 18.78% Mixed Cullet and 15.57% Container Glass.

The next largest component of the MGP residential recycling stream was Metal at 30.59%. The Metal slice of the pie chart can be broken down into the following materials: 23.67% Ferrous Metal, 3.89% "Mixed" Metal, 2.25% Aluminum, and .78% Non-Ferrous Metal.

The remaining categories in the MPG pie chart include Recyclable Plastics at 12.93% (which consists of 6.58% HDPE Bottles and 6.35% PET Bottles) and Beverage Cartons at 1.95%.

The "Other" category (20.19%) refers to materials not currently designated for MGP recycling. These materials include potentially recyclable glass and plastic (containers and packaging for which markets have yet to be developed), as well as recyclable paper, and other miscellaneous materials.



## STREET BASKET REFUSE

This pie chart shows the average composition of a litter basket on a New York City street corner.

By weight, the largest discernable component of the Street Basket Refuse Stream consisted of Newspaper 17.13%, followed by Other Recyclable Paper 13.93%, and Food Waste (13.65%). The "Everything Else" slice of this pie is broken down accordingly:

- 11.12% Other Organics
- 6.42% Other Metal Cans and Items
- 3.47% Other C & D Debris
- 3.27% Non-Recyclable Paper
- 2.44% Textiles
- 1.08% Untreated Dimension Lumber/Pallets/Crates

- 1.07% Cullet/Other Glass
- .96% Other Plastic Products
- .45% Recyclable Beverage Cartons
- .44% Miscellaneous Inorganics/Household Hazardous Waste
- .35% HDPE Bottles
- .20% Electronics/Audio-Visual

How much of the Street Basket Refuse Stream contains materials that could have been separated out for recycling in New York City? For the Spring Seasonal sort the answer is 47.99%. This figure can be broken down into the following categories:

- 31.07% Paper (13.93% Other Recyclable Paper, which in this stream also includes Corrugated/Kraft, plus 17.13% Newspaper).
- 6.70% Glass (5.76% Container Glass indicated on the pie chart plus .93% out of the 1.07% Cullet/Other Glass from the "Everything Else" slice)
- 6.95% Metal (.53% Aluminum Cans on pie chart plus .57% Other Aluminum, 5.30% Ferrous Metal, .30% Non-Ferrous Metal, and .25% Other Metal which are all counted in the Everything Else slice as Other Metal Cans and Items)
- 2.82% Recyclable Plastics (the 2.47% PET Bottles slice of the pie chart and .35% HDPE Bottles from the Everything Else slice)
- .45% Beverage Cartons from the Everything Else slice

**NYC Waste Characterization Study  
Spring 2005  
Street Basket Refuse Composition**

