

O.U.T.R.A.G.E.

Williamsburg/Greenpoint Organizations United for Trash Reduction And Garbage Equity

Williamsburg/Greenpoint OUTRAGE Truck Traffic and Air Quality Project

Final Report



Environmental Justice Community Impact Grant Program T304030
OUTRAGE/St. Nicholas
Williamsburg/Greenpoint OUTRAGE Truck Traffic and Air Quality Project
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Introduction

This document contains the activities and analysis of results of the 2009-2010 Williamsburg/Greenpoint OUTRAGE Truck Traffic and Air Quality Project.

In 2008 the New York State Department of Environmental Conservation awarded **Organizations United for Trash Reduction and Garbage Equity (OUTRAGE)** with the 2008 Environmental Justice Community Impact Grant to conduct a truck traffic and air quality study in the communities of Williamsburg and Greenpoint in Brooklyn, New York.

The goal of the project was to further identify and evaluate the location and impact of environmental risks related to solid waste processing and the attendant truck traffic, educate the community and public officials about their environmental and public health impacts and develop recommendations to address and mitigate some of the harms and risks.

During the months of February 2009 to December 2010 OUTRAGE members designed, recruited and implemented a community based truck traffic survey and air particle count, with the assistance of a consultant (Mr. Stephen Fleischaker from Enviro-Science Engineering) analyzed the data and last, OUTRAGE members presented the results and recommendations to the community and public officials through a series of educational events and meetings.

This report is divided in six sections:

1. Background
2. Truck Traffic Survey
3. Air Quality/Particle Count
4. Conclusions- Recommendations
5. Outreach - Educational Efforts
6. Attachments and Exhibits

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Background



With the closing of Fresh Kills Landfill in Staten Island, New York in 2001, most of the waste trucks that would previously travel to Staten Island in order to dump their loads of waste were forced to travel to other waste transfer stations in New York City.

The City of New York unfortunately did not properly plan for the closing of a facility as large as Fresh Kills. Communities that historically processed garbage quickly began to feel the effects of a large influx of waste trucks carrying all types of waste: from putrescible waste, to construction waste from demolition sites across New York City and sometimes even garbage from out of state.

Out of the 58 Waste Transfer Stations in New York City, 19 of them are in Williamsburg and Greenpoint (Brooklyn Community District 1), the highest concentration of waste transfer stations in any given neighborhood in New York City.

The closing of the Fresh Kills Landfill only aggravated the already decayed environmental situation of in Williamsburg and Greenpoint, at the present time, these communities process almost 40% of all of New York City's waste.

In 2006, after much pressure and involvement from community organizations, spearheaded by OUTRAGE, the City of New York approved the Solid Waste Management Plan (SWMP). This plan proposed to minimize the impacts of garbage processing throughout NYC neighborhoods.

The SWMP proposed that by 2013 communities like Williamsburg and Greenpoint will be relieved of the burden of waste truck traffic by the creation of other means of waste transportation, including barges and trains. This plan also called for fair distribution of waste transfer stations across New York City and opening marine transfer stations in Manhattan.

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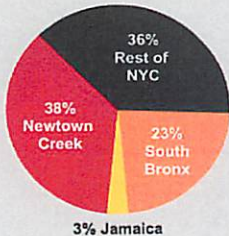
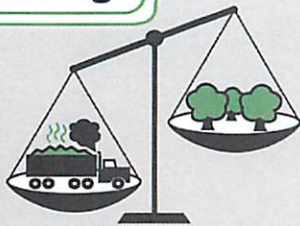
Years after the passage of the SWMP, community members wonder if there was reduction in the number of trucks passing through the residential streets in Williamsburg and Greenpoint and wonder if community members, specially children and senior citizens' health can afford to wait until 2013 for relieve of the truck traffic and diesel pollution.

In 2009, OUTRAGE members decided to conduct a truck traffic and air quality Study and compare the results with a previous truck traffic study conducted by OUTRAGE in 2004.

Barge NYC's Garbage

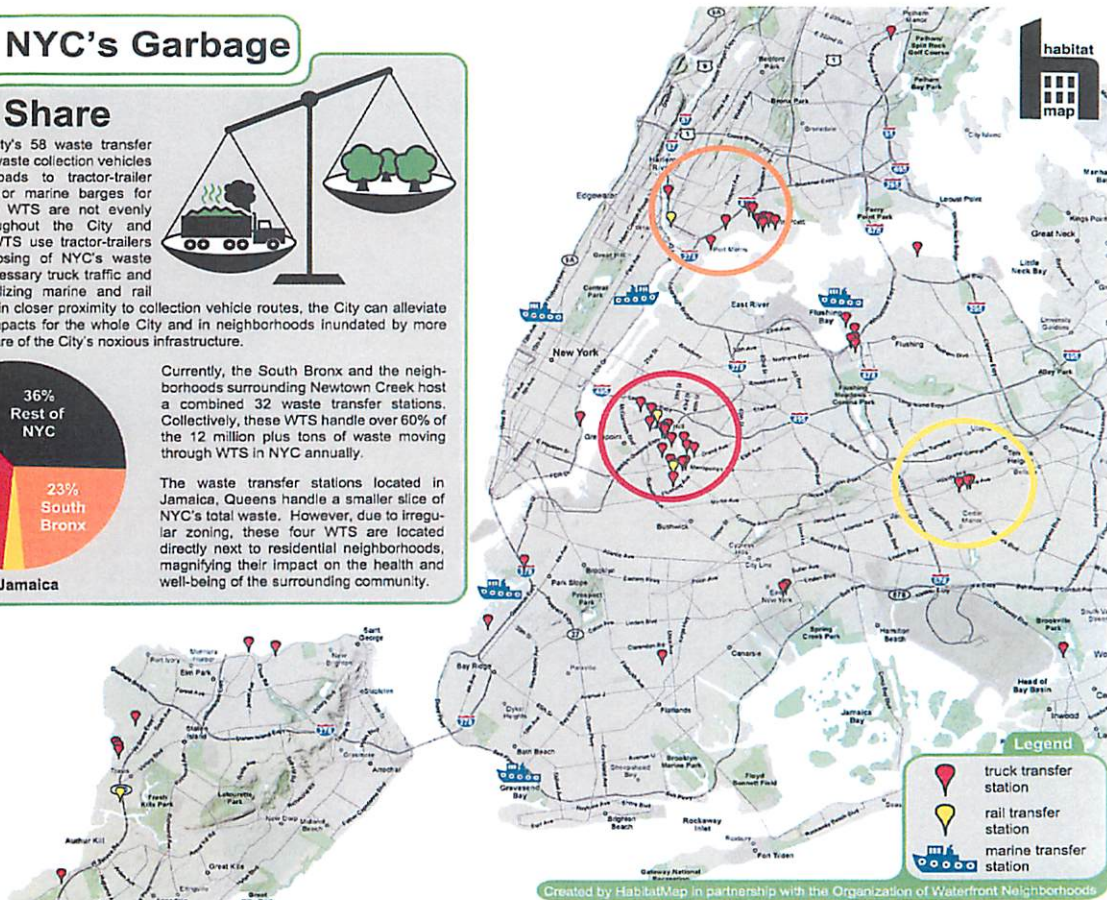
Fair Share

At New York City's 58 waste transfer stations (WTS), waste collection vehicles transfer their loads to tractor-trailer trucks, railcars, or marine barges for export. Because WTS are not evenly distributed throughout the City and because most WTS use tractor-trailers for export, disposing of NYC's waste generates unnecessary truck traffic and pollution. By utilizing marine and rail transfer stations in closer proximity to collection vehicle routes, the City can alleviate environmental impacts for the whole City and in neighborhoods inundated by more than their fair share of the City's noxious infrastructure.



Currently, the South Bronx and the neighborhoods surrounding Newtown Creek host a combined 32 waste transfer stations. Collectively, these WTS handle over 60% of the 12 million plus tons of waste moving through WTS in NYC annually.

The waste transfer stations located in Jamaica, Queens handle a smaller slice of NYC's total waste. However, due to irregular zoning, these four WTS are located directly next to residential neighborhoods, magnifying their impact on the health and well-being of the surrounding community.



Map Courtesy of Habitat Maps

Created by HabitatMap in partnership with the Organization of Waterfront Neighborhoods

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Truck Traffic Survey

In 2008, OUTRAGE members decided to conduct the truck traffic survey in response to the concern from many community members over the number of trucks they see and hear pass by their homes on a daily basis. Many residents, especially seniors living along Metropolitan Avenue, expressed their concerns about the black residue accumulated in their windows.

Community Planning, Design of Survey Sheet

Between February and May 2009, St. Nicks Alliance hired the Project Manager, Ms. Betamia Coronel. Ms. Coronel immediately started facilitating OUTRAGE meetings where members had the opportunity to design the survey project.

During those months OUTRAGE held five general meetings with an average participation of 30 community members in each meeting. In those meetings, OUTRAGE members created a survey form with the types of truck that they wanted to count and created a hand out to provide to surveyors for identification of the types of trucks.

The survey form was designed for easy understanding and included all type of trucks, not only waste trucks, in order to mathematically calculate what percentage of traffic was made up by waste trucks. Within the sub-category of “other” trucks that were non-waste trucks, volunteers would be able to designate the relative size of trucks by small, medium, large delivery trucks as well as cement trucks and flat bed trucks. This was extremely useful when beginning to analyze data because we would have detail numbers on the *types* of trucks that make-up the overall traffic in the community of Williamsburg and Greenpoint.

Members also identified other community groups to reach for input and recruitment for this project.

Locations

Between the months of June and July 2009, the Project Manager and OUTRAGE members held two OUTRAGE meetings and two meetings with the Columbettes Society (a local Catholic Fraternal Organization) and with Cooper Park Neighborhood Association (a neighbor’s organization) with a total participation of 60 individuals.

In these meetings OUTRAGE members recorded complaints and determined which locations throughout the community received the most attention because of consistent visible street congestion and/or other safety related problems.

Special consideration was given to sites where OUTRAGE conducted the truck count study in 2004. Members of Outrage believed it would be the most valuable to compare data from the 2004 truck count study in order to analyze the data through a method that would most accurately and scientifically describe the conditions of the neighborhood.

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As result of these meetings the following intersections were selected for the traffic survey.

- Vandervoort Ave. & Meeker Ave.
- Metropolitan Ave. & Lorimer St.
- Metropolitan Ave. & Vandervoort Ave.
- Kingsland Ave. & Meeker Ave.
- Grand St. & Bushwick Ave
- Greenpoint Ave. & McGuiness Blvd.
- Grand St. & Vandervoort Ave.

As far as times for surveying, it was decided to survey, in the morning and evening rush hours for hour-and-a-half intervals.

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Recruitment

In July 2009, OUTRAGE members began a recruitment program for volunteers for the truck traffic survey. The OUTRAGE Project Manager created *volunteers needed* flyers and ads for local media outlets and conducted presentations to local organizations. By the end of August, the Project Manager successfully recruited over 30 volunteers from *Teen Action* and *Build On* (two local youth volunteer organizations).

In September, OUTRAGE held three trainings for volunteers on how to use the survey form and how to identify the different types of trucks.

Surveying/Field work



During September through November of 2009 over 30 OUTRAGE members and volunteers surveyed the seven intersections listed below twice a day in two different days, volunteers first surveyed from 8.30 am to 10.30 am and from 4.30 p.m. to 6.00 p.m.

- Grand St. & Vandervoort Ave.: September 10th and 11th
- Metropolitan Ave. & Lorimer St.: October 2nd and 16th
- Greenpoint Ave. & McGuinness Blvd.: October 5th and 8th
- Kingsland Ave. & Meeker Ave.: November 5th and 6th
- Metropolitan Ave. & Vandervoort Ave.: October 15th and 16th
- Grand St. & Bushwick Ave.: October 20th and 21st, and
- Vandervoort Ave. & Meeker Ave.: October 22nd and November 4th

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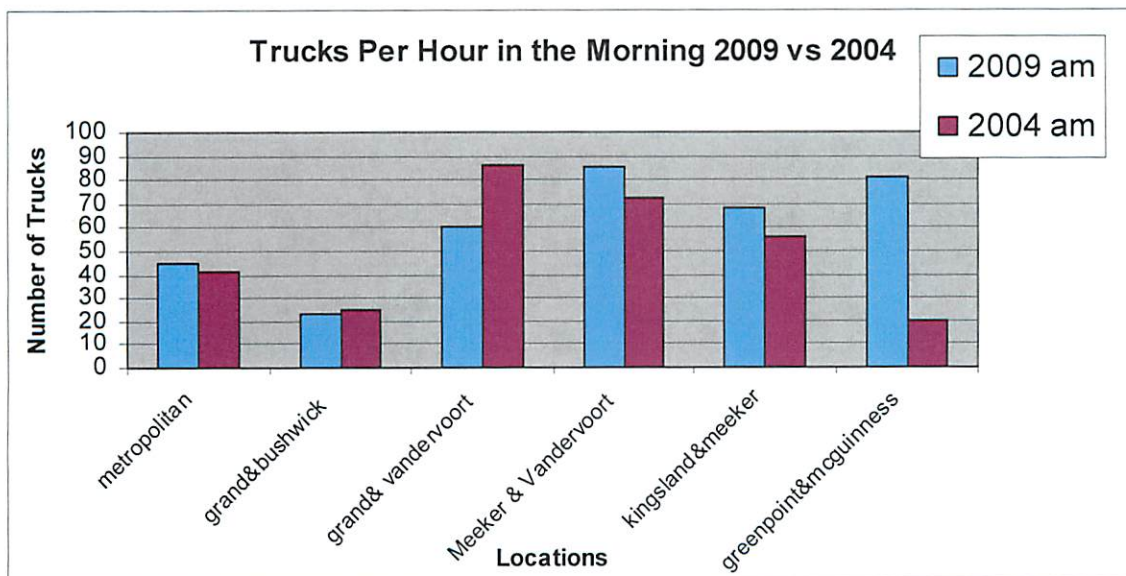
Analysis



From December to March OUTRAGE members and the Project Manager analyzed the data. Out of the trucks surveyed (long haul, short haul, collection, large delivery (tractor trailer), medium delivery, small delivery, flat bed truck, oil, cement truck and other) it was identified that a 25% to 52% of trucks passing the intersections were waste trucks.

The first finding was that an average of two trucks per minute passed the surveyed intersections in any given day in some intersections, Meeker- Vandervoort, up to 3 trucks per minute.

When compared to the 2004 Truck Traffic Survey was that four of the intersections (Metropolitan- Lorimer, Meeker- Vandervoort, Kingsland- Meeker and Greenpoint Ave- McGuinness Blvd) evidenced an increase in traffic, in the case of Greenpoint- McGuinness Ave showed an increase from 20 trucks/ 1½ Hour to 80 trucks/ 1 ½ Hour. (See chart 1)



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Public Presentations of Survey

The findings of the survey were presented to the community in four Meetings:

- The first presentation was on September 2009 to 50 Parents from a local school PS 132,
- The Second on November 2009 to 45 OUTRAGE members,
- The third on February 2010 to the Community Board One Transportation Committee,

In this meeting, members of the Transportation Committee agreed with the findings of the 2009 Truck Traffic Survey, especially the increase of truck traffic on Greenpoint Ave-McGuinness Blvd due to a recent re-rout of trucks. As result of this meeting, the Community Board 1, Brooklyn issued a letter to the City of New York requesting of the city to review it current truck routs and the opening of the other Maritime Waste Transfer Stations to relieve Williamsburg and Greenpoint of the continuous burden of truck traffic.

- The fourth presentation was in February 2010 to 50 OUTRAGE members. In this meeting, members and the Project Manager identified the locations for the air particle sample.

Between January and March, OUTRAGE members and the Project Manager worked with the Consultant Stephen Fleischaker from Enviro- Science Engineering designing the second stage of the project, the Air Screening- Sampling.

In March 2010 OUTRAGE volunteers selected the intersections and collected the air particle counts.

Air Particle Count

Particulate matter was identified as the most important **initial air quality monitoring parameter** based on heavy diesel truck traffic, visible emissions from diesel trucks traveling through the neighborhood streets, and particulate deposits on window sills and other surface area locations inside living spaces and throughout the community.

A GT-321 Hand Held Particle Counter was selected for initial air quality particulate monitoring to be performed by community members in accordance with previously-approved budget considerations. This field instrument was selected because it was relatively easy to use, and the resulting data could be used to compare particulate air quality at different times and at different locations in the community, as well as relate these findings to historic truck count data.

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Scope

GT-321 Hand Held Particle Counter readings were collected by community volunteers during weekday mornings (8:30-10:00 a.m.) and afternoons (3:30-5:00 p.m.) on the following dates:

- 609 Metropolitan Ave. (between Lorimer St. & Leonard St.) – March 19th and 24th 2010
- Kingsland Ave. & Meeker Ave. (intersection) – March 18th and 25th, 2010
- Grand Street & Vandervoort Ave. (intersection) – March 29th and 30th, 2010

GT-321 Hand Held Particle Counter readings were also obtained at each of the above locations on Sunday, April 25, 2010. This sampling was done to compare particulate air quality on weekends and during the week (i.e., in the presence of trucks).

These initial air quality monitoring locations were identified by community members as significantly impacted by weekday, diesel- and waste disposal truck traffic. A truck count study was previously performed by community volunteers on the following dates:

- 609 Metropolitan Ave. (between Lorimer St. & Leonard St.) – October 2nd and 9th, 2009
- Kingsland Ave. & Meeker Ave. (intersection) – November 5th 6th, 2009
- Grand Street & Vandervoort Ave. (intersection) – September 10th 11th, 2009

Findings

The initial air quality data obtained from the GT-321 Hand Held Particle Counter readings showed significant increases in particle counts during weekdays at all locations. On average, particle counts increased 355% (see **Exhibit 1**) when truck traffic was present on community streets during weekday hours (i.e., compared to Sunday data); and 28.9 to 43.6% (see **Exhibit 2**) of trucks observed in the neighborhood were associated with waste hauling and disposal. The supporting data are presented in spreadsheets appended to this report (see **Exhibit 3**).

An equally, if not more significant initial air quality monitoring finding is that **smaller-diameter particles (0.5 micron) showed a dramatic 1,017% average increase** in particle counts when weekday truck traffic was present on community streets (i.e., compared to Sunday data). This finding is significant because smaller-sized particles pose a greater risk to human health with a greater potential to penetrate deeper into lungs, and these higher particle counts were obtained in the breathing zones of neighborhood sidewalks.

It is important to recognize that the 1,017% average increase in smaller-diameter particle size is **consistent** throughout the study. While there is some variability, similar >1,000% increases in smaller-diameter particle counts were found at all three heavily-traffic locations on each of the six sampled weekday events (i.e., when compared to Sunday data). **This overall data consistency on different days at different locations confirms the reliability of the data collected by community volunteers.**

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Particle size count data for different diameter particulates similarly showed consistent particle count increases but not at the same 1,017% order of magnitude increase when truck traffic was present on community streets during weekday hours (i.e., compared to Sunday data).

The counts for one-, two-, and five-micron diameter particles (larger than the above-described, 0.5 micron diameter particle) showed an 84 to 173% average increase when trucks were present on community streets. The counts for 0.3 micron diameter particle (smaller than 0.5 micron diameter particles) showed a 378% increase when trucks were present on community streets.

While these count increases are less than the 1,017% increases described above, the 84 to 378% increases are; likewise, directly-related to the presence of truck traffic and potentially significant. *To fully understand these air quality impacts, further study is recommended as described in the "Recommendations" section below.*

While the particulate count data showed consistency, reproducibility, and reliability; there were a number of short-duration spikes observed at various times that suggest a potential concern with respect to maximum particulate concentrations. For example, there were four events in which a greater than 2,000% increase in smaller-diameter (0.5 micron) particle counts. In fact, one of these events was recorded at a 2,746% increase in front of a residence at 609 Metropolitan Avenue on March 24, 2010.

Other short-duration spikes occur when comparing the results from the six sampling events during a morning or afternoon monitoring session at one location; particularly, one reading immediately after another. For example, using the 0.3 micron-diameter particle counts at 609 Metropolitan Avenue on March 19, 2010; the #3 reading was recorded as 588,321 particles per cubic foot of collected air. The #4 reading that was obtained immediately after was recorded as 1,501,692 particles per cubic foot of collected air. This represented a 255% increase in these particle counts from one reading to the next. While on average, the data are consistent; these momentary fluctuations require further investigation to determine their significance.

These short-duration spikes are believed to be related to monitoring occurring when waste disposal and other trucks are idling in the nearby street and/or accelerating in response to traffic congestion, traffic light, or other reason. *To fully understand these short-duration spikes, their cause and effect, frequency of occurrence, and air quality impact significance, further study is recommended as described in the "Recommendations" section below.*

Conclusion

This study has conclusively shown a cause and effect relationship between increased waste disposal and other diesel-truck traffic, and increased particle counts in the community. The most significant increase in particle counts resulting from increased waste disposal and other diesel-truck traffic is for small-diameter (0.5 micron) particles.

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Conclusions- Recommendations

Based on the above “Findings” and “Conclusion”, further study is recommended to enhance the community’s understanding of the air quality impacts identified in this initial particulate air quality monitoring program.

The first recommendation is for a future study to monitor particulates **on a continuous basis** so that short-duration spikes can be more thoroughly characterized with respect to time, duration, and source (i.e., more directly related to waste disposal and other trucks traveling in the community).

The second recommendation is to monitor particulates using instrumentation that will allow for direct comparison to the U. S Environmental Protection Agency (USEPA) National Ambient Air Quality Standards (NAAQS) now that the initial air monitoring data performed by community volunteers have confirmed air quality impacts resulting waste disposal and other diesel-truck traffic.

The GT-321 Hand Held Particle Counter measures the number of particles (at a given particle size, such as 0.3, 0.5, 1.0, 2.0, and 5.0 microns in diameter) per cubic foot of air. When a particle size is selected using the GT-321, it sets a lower size limit for counting. The industry standard setting for a particle counter size selection is 50% counting efficiency.

This means the GT-321 counts one-half of the particles of the selected size when a sample is taken. Counting efficiency increases rapidly to 100% for particles larger than the selected size (i.e., all particles larger than the selected size are counted). Accordingly, the resulting data are best used for comparison purposes (as has been done in this initial air quality monitoring study).

It is important to note the resulting GT-321 data could not be directly compared to the USEPA NAAQS (standard) for Fine Particulate Matter equal to or less than 2.5 microns (PM_{2.5}) because the GT-321 measures the number of particles and not particle mass per collected air sample volume.

Also, measuring PM_{2.5} to compare actual air quality data to USEPA’s standard requires the use of far more sophisticated monitoring equipment that was not well-suited for an initial monitoring program to be performed by community volunteers. It was on this basis that the GT-321 field instrument selection and resulting data collected by community volunteers was envisioned as an initial air quality monitoring program.

Based on the results of the initial data, a follow-up investigation using the more sophisticated monitoring equipment is recommended. Details of a proposed future study will be presented in a follow-up proposal to the New York Department of Environmental Conservation (NYSDEC).

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Outreach - Educational Efforts

Between June and December 2010 OUTRAGE members and the Project Manager focused their efforts in the education-outreach to community members. During those six months, the OUTRAGE Project Manager facilitated monthly OUTRAGE meetings and facilitated six additional presentations to community partners that included a Day Care Center, two Senior Citizen Centers, one Tenant Association, one block association and a presentation to the Community Board 1 Environmental Committee.

OUTRAGE members created educational materials that were massively distributed through the community, See attachments.

OUTRAGE is very thankful of the opportunity given by the New York State Department of Environmental Conservation to conduct the Williamsburg-Greenpoint OUTRAGE Truck Traffic and Air Quality Project.

This project allowed OUTRAGE not only to increase its membership, but to raise awareness of the importance of clean air in North Brooklyn.

Although this study was very comprehensive, OUTRAGE hopes to further deepen their understanding of the air quality, especially by identifying what are our seniors and children breathing in our streets.

Exhibit 1

609 Metropolitan Ave. (between Lorimer and Leonard Streets)

Comparison: Friday a.m., 3/19/2010 Data vs. Sunday, 4/25/10 Data
Location: 609 Metropolitan Ave. (between Lorimer and Leonard Streets)

Particle Size	1	2	3	4	5	6	Average
0.3	301%	441%	165%	333%	203%	241%	281%
0.5	2318%	574%	1025%	1261%	553%	471%	1034%
1	99%	223%	77%	185%	119%	123%	138%
2	100%	218%	247%	114%	134%	84%	150%
5	77%	139%	55%	72%	40%	87%	78%

Comparison: Friday p.m., 3/19/2010 Data vs. Sunday, 4/25/10 Data
Location: 609 Metropolitan Ave. (between Lorimer and Leonard Streets)

Particle Size	1	2	3	4	5	6	Average	Fri., 3/19 a.m. - p.m. Average
0.3	496%	177%	133%	748%	424%	201%	363%	322%
0.5	1615%	323%	872%	364%	1158%	347%	780%	907%
1	196%	247%	137%	135%	600%	117%	238%	188%
2	226%	159%	386%	47%	99%	65%	163%	157%
5	91%	151%	55%	49%	69%	58%	79%	79%

Comparison: Wednesday a.m., 3/24/2010 Data vs. Sunday, 4/25/10 Data
Location: 609 Metropolitan Ave. (between Lorimer and Leonard Streets)

Particle Size	1	2	3	4	5	6	Average
0.3	758%	337%	202%	758%	447%	228%	455%
0.5	1731%	858%	1694%	744%	408%	932%	1061%
1	188%	230%	98%	154%	180%	81%	155%
2	200%	241%	323%	60%	84%	194%	184%
5	97%	173%	43%	111%	47%	58%	88%

Comparison: Wednesday p.m., 3/24/2010 Data vs. Sunday, 4/25/10 Data
Location: 609 Metropolitan Ave. (between Lorimer and Leonard Streets)

Particle Size	1	2	3	4	5	6	Average	Wed., 3/24 a.m. - p.m. Average	3/19 & 3/24 a.m. - p.m. Average
0.3	635%	185%	300%	697%	401%	253%	412%	433%	378%
0.5	2746%	1048%	1117%	1051%	759%	450%	1195%	1128%	1017%
1	186%	177%	136%	201%	155%	106%	160%	158%	173%
2	99%	84%	156%	53%	201%	56%	108%	146%	151%
5	79%	100%	119%	75%	71%	95%	90%	89%	84%

Intersection of Kingsland Ave. and Meeker Ave.

Comparison: Thursday a.m., 3/18/2010 Data vs. Sunday, 4/25/10 Data
Location: Kingsland and Meeker Ave.

Particle Size	1	2	3	4	5	6	Average
0.3	213%	167%	206%	243%	274%	246%	225%
0.5	2118%	1269%	1292%	1135%	1158%	613%	1264%
1	165%	173%	156%	121%	100%	167%	147%
2	164%	123%	187%	192%	138%	250%	176%
5	116%	133%	97%	121%	85%	137%	115%

Comparison: Thursday p.m., 3/18/2010 Data vs. Sunday, 4/25/10 Data
Location: Kingsland and Meeker Ave.

Particle Size	1	2	3	4	5	6	Average	Thurs., 3/18 a.m. - p.m. Average
0.3	522%	138%	282%	302%	488%	283%	336%	280%
0.5	1449%	1201%	486%	1261%	877%	1284%	1093%	1179%
1	214%	195%	172%	81%	129%	191%	164%	155%
2	252%	337%	118%	72%	77%	311%	194%	185%
5	114%	70%	113%	77%	77%	122%	95%	105%

Comparison: Thursday a.m., 3/25/2010 Data vs. Sunday, 4/25/10 Data
Location: Kingsland and Meeker Ave.

Particle Size	1	2	3	4	5	6	Average
0.3	491%	277%	390%	269%	551%	322%	383%
0.5	1148%	463%	1286%	439%	1439%	966%	957%
1	215%	169%	236%	110%	94%	199%	171%
2	110%	140%	87%	123%	242%	285%	164%
5	163%	63%	62%	165%	52%	104%	102%

Comparison: Thursday p.m., 3/25/2010 Data vs. Sunday, 4/25/10 Data
Location: Kingsland and Meeker Ave.

Particle Size	1	2	3	4	5	6	Average	Thurs., 3/25 a.m. - p.m. Average	3/18 & 3/25 a.m. - p.m. Average
0.3	274%	127%	279%	409%	395%	278%	294%	339%	309%
0.5	831%	620%	937%	483%	710%	1514%	849%	903%	1041%
1	200%	130%	228%	123%	151%	251%	180%	176%	165%
2	136%	306%	204%	101%	173%	349%	211%	188%	186%
5	68%	82%	105%	94%	89%	186%	104%	103%	104%

Intersection of Grand Street and Vandervoort Ave.

Comparison: Monday a.m., 3/29/2010 Data vs. Sunday, 4/25/10 Data
Location: Grand Street and Vandervoort Ave.

Particle Size	1	2	3	4	5	6	Average
0.3	248%	227%	259%	240%	210%	290%	246%
0.5	1113%	1581%	841%	357%	1865%	1230%	1165%
1	93%	79%	104%	66%	160%	111%	102%
2	139%	168%	322%	147%	158%	57%	165%
5	207%	46%	135%	42%	62%	117%	102%

Comparison: Monday p.m., 3/29/2010 Data vs. Sunday, 4/25/10 Data
Location: Grand Street and Vandervoort Ave.

Particle Size	1	2	3	4	5	6	Average	Mon., 3/29 a.m. - p.m. Average
0.3	148%	529%	169%	220%	277%	325%	278%	262%
0.5	2327%	714%	515%	611%	1076%	704%	991%	1078%
1	104%	141%	137%	95%	178%	104%	127%	114%
2	163%	140%	229%	276%	113%	60%	163%	164%
5	188%	84%	144%	115%	77%	51%	110%	106%

Comparison: Tuesday a.m., 3/30/2010 Data vs. Sunday, 4/25/10 Data
Location: Grand Street and Vandervoort Ave.

Particle Size	1	2	3	4	5	6	Average
0.3	207%	270%	316%	258%	275%	254%	263%
0.5	1154%	731%	1060%	385%	1654%	1022%	1001%
1	144%	118%	143%	101%	220%	120%	141%
2	193%	148%	313%	326%	108%	90%	196%
5	109%	67%	195%	50%	72%	90%	97%

Comparison: Tuesday p.m., 3/30/2010 Data vs. Sunday, 4/25/10 Data
Location: Grand Street and Vandervoort Ave.

Particle Size	1	2	3	4	5	6	Average	Mon., 3/29 a.m. - p.m. Average	3/29 & 3/30 a.m. - p.m. Average	All Data a.m. - p.m. Average	Average All Particle Sizes
0.3	190%	260%	315%	338%	426%	247%	296%	280%	271%	319%	355%
0.5	1423%	1425%	891%	840%	842%	459%	980%	991%	1034%	1031%	
1	108%	134%	144%	114%	129%	113%	124%	132%	123%	154%	
2	59%	142%	317%	335%	64%	201%	186%	191%	178%	172%	
5	152%	106%	198%	112%	103%	85%	126%	112%	109%	99%	

Exhibit 2

AM	Meeker & Vandervoort		Metropolitan & Lorimer		Metropolitan & Vandervoort		Meeker & Kingsland		Grand & Bushwick		Greenpoint & McGuiness		Grand & Vandervoort	
minutes per session	75	83	92	90	110	87	105	55	75	75	72	70	70	70
type of truck	10/22/2009	11/4/2009	10/02/09	10/16/2009	10/15/2009	10/16/2009	11/5/2009	11/6/2009	10/20/2009	10/21/2009	10/5/2009	10/8/2009	9/10/2009	9/11/2009
long haul	51	47	41	33	27	33	46	52	8	10	43	40	35	33
short haul	9	84	13	26	15	12	14	22	16	12	30	29	25	26
collection	7	10	13	13	6	4	3	5	5	4	9	12	6	13
large delivery (tractor trailer)	26	43	31	27	9	6	36	27	14	9	26	22	20	27
medium delivery	27	89	38	51	35	33	32	21	23	26	46	40	49	51
small delivery	30	86	52	55	42	24	20	14	41	24	37	33	55	55
flat bed truck	4	34	10	10	4	2	4	8	2	4	9	8	6	10
oil	1	8	4	9	4	6	9	3	0	1	15	6	7	9
cement truck	5	22	7	5	0	0	2	3	9	6	2	3	14	5
other		5		0	0	0	0	0	0	0	0	0	0	0
total trash trucks	67	141	67	72	48	49	63	79	29	26	82	81	66	72
total trash haul. trucks	60	131	54	59	42	45	60	74	24	22	73	69	60	59
total trash collect. trucks	7	10	13	13	6	4	3	5	5	4	9	12	6	13
total non-trash trucks	93	287	142	157	94	71	103	76	89	70	135	112	151	157
total trucks	160	428	209	229	142	120	166	155	118	96	217	193	217	229
% trash trucks	41.88%	32.94%	32.06%	31.44%	33.80%	40.83%	37.95%	50.97%	24.58%	27.08%	37.79%	41.97%	30.41%	31.44%
number of trash trucks per min	0.89	1.70	0.73	0.80	0.44	0.56	0.60	1.44	0.39	0.35	1.14	1.16	0.94	1.03
number of all trucks per min	2.13	5.16	2.27	2.54	1.29	1.38	1.58	2.82	1.57	1.28	3.01	2.76	3.10	3.27

% Trash Trucks - AM	37.4%	31.7%	37.3%	44.5%	25.8%	39.9%	30.9%
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PM	Meeker & Vandervoort		Metropolitan & Lorimer		Metropolitan & Vandervoort		Meeker & Kingsland		Grand & Bushwick		Greenpoint & McGuiness		Grand & Vandervoort	
minutes per session	87	85	90	90	75	75	80	80	95	95	90	90	80	75
type of truck	10/22/2009	11/4/2009	10/2/2009	10/16/2009	10/15/2009	10/16/2009	11/5/2009	11/6/2009	10/20/2009	10/21/2009	10/5/2009	10/8/2009	9/10/2009	9/11/2009
long haul	41	37	25	26	24	37	52	41	6	9	44	44	44	26
short haul	13	18	17	14	17	14	21	10	10	14	22	20	14	14
collection	13	5	5	6	8	7	4	3	2	2	5	3	3	6
large delivery (tractor trailer)	31	21	27	27	12	10	37	17	12	11	33	12	24	27
medium delivery	38	76	54	57	44	39	37	20	27	27	40	33	52	57
small delivery	52	73	51	57	32	34	35	25	31	22	32	36	53	57
flat bed truck	10	9	7	3	3	3	0	2	1	3	2	2	3	3
oil	4	2	8	5	2	0	3	2	1	2	12	2	3	5
cement truck	7	2	5	2	0	0	0	1	2	3	3	1	6	2
other		0	0	0	0	0	0	0	0	0	0	0	0	0
total trash trucks	67	60	47	46	49	58	77	54	18	25	71	67	61	46
total trash haul. trucks	54	55	49	47	37	31	62	30	24	27	60	35	41	47
total trash collect. trucks	13	5	86	90	64	56	78	40	41	40	78	48	79	90
total non-trash trucks	142	183	132	141	88	83	109	62	70	60	105	81	129	141
total trucks	209	243	112	117	79	76	189	121	92	93	193	153	202	197
% trash trucks	32.06%	24.69%	41.96%	39.32%	62.03%	76.32%	40.74%	44.63%	19.57%	26.88%	36.79%	43.79%	30.20%	23.35%
number of trash trucks per min	0.77	0.71	0.52	0.51	0.65	0.77	0.96	0.68	0.19	0.26	0.79	0.74	0.76	0.61
number of all trucks per min	2.40	2.86	1.24	1.30	1.05	1.01	2.36	1.51	0.97	0.98	2.14	1.70	2.53	2.63
% Trash Trucks - PM	28.4%		40.6%		69.2%		42.7%		23.2%		40.3%		26.8%	
% Trash Trucks = AM & PM	32.9%		36.2%		53.2%		43.6%		24.5%		40.1%		28.9%	

Exhibit 3

609 Metropolitan Ave. (between Lorimer and Leonard Streets)

Date: 3/19/2010

Time Period of Survey: Morning Session (8:30-10:00am)

Particle Size

	1	2	3	4	5	6
0.3	610,610	1,596,086	730,052	669,794	660,046	1,190,715
0.5	580,381	327,588	401,502	558,734	330,502	278,972
1	27,117	40,079	28,580	45,613	32,109	53,096
2	24,736	46,077	39,152	38,722	24,381	22,057
5	3,609	3,388	2,272	3,003	1,915	3,130

Comments on

Condition of the Day:

Temperature was in the high 50's. Still quite cool. No winds. Clear skies.

Traffic was flowing for the entire period of surveying. No noticeable back-ups.

Date: 3/19/2010

Time Period of Survey: Afternoon Session (3:30-5:00pm)

Particle Size

	1	2	3	4	5	6
0.3	1,005,183	639,810	588,321	1,504,692	1,379,934	995,553
0.5	404,244	184,068	341,478	161,172	691,785	205,326
1	53,424	44,325	50,562	33,237	162,072	50,373
2	55,746	33,480	61,263	15,840	18,063	16,920
5	4,239	3,690	2,278	2,061	3,312	2,070

Comments on

Condition of the Day:

Was a clear day temperatures in the mid 60's. Winds were at a light breeze.

Date: 3/24/2010

Time Period of Survey: Morning Session (8:30-10:00am)

Particle Size

	1	2	3	4	5	6
0.3	1,535,727	1,217,197	893,092	1,524,536	1,453,504	1,126,210
0.5	433,424	489,533	663,327	329,751	243,765	551,364
1	51,327	41,282	35,986	38,045	48,592	35,188
2	49,418	50,894	51,236	20,512	15,265	50,796
5	4,516	4,224	1,775	4,623	2,276	2,100

Comments on

Condition of the Day:

Wind was moderate. Partly cloudy.

Temperatures in mid 50's

Date: 3/24/2010

Time Period of Survey: Afternoon Session (3:30-5:00pm)

Particle Size

	1	2	3	4	5	6
0.3	1,285,984	668,151	1,330,922	1,400,613	1,304,446	1,253,969
0.5	687,385	598,195	437,489	465,766	453,575	266,179
1	50,751	31,783	50,189	49,502	41,869	45,944
2	24,548	17,694	24,802	17,848	36,528	14,724
5	3,699	2,447	4,935	3,157	3,428	3,427

Comments on

Condition of the Day:

Clear skies, temperatures in high 50's. Light wind. Heavy traffic backed up on Metropolitan Ave. because of delivery.

Intersection of Kingsland Ave. and Meeker Ave.

Date: 3/18/2010

Time Period of Survey: Morning Session (8:30-10:00am)

Particle Size

	1	2	3	4	5	6
0.3	629,459	831,850	606,599	785,172	626,358	1,191,362
0.5	574,024	650,519	685,857	624,041	439,168	226,504
1	41,791	48,209	32,847	53,677	34,149	32,511
2	28,531	17,434	45,533	47,992	28,662	34,015
5	2,716	4,124	4,167	2,664	3,744	3,155

Comments on Condition of the Day:
 Skies were mostly clear. Morning traffic was steady moving. Very light breeze. Temperatures mid 50s.

Date: 3/18/2010

Time Period of Survey: Afternoon Session (3:30-5:00pm)

Particle Size

	1	2	3	4	5	6
0.3	1,544,887	686,935	831,561	976,545	1,113,393	1,371,288
0.5	392,606	615,689	258,196	693,273	332,664	474,464
1	54,341	54,507	36,243	35,879	44,276	37,243
2	43,809	47,718	28,670	18,062	15,969	42,406
5	2,675	2,176	4,844	1,702	3,398	2,816

Comments on Condition of the Day:
 Weather was warm, mid 50's, light breeze. Traffic was heaviest between Survey Sessions 1 and 4, where we can see a clear increase in particle counts.

Date: 3/25/2010

Time Period of Survey: Morning Session (8:30-10:00am)

Particle Size

	1	2	3	4	5	6
0.3	1,453,491	1,378,800	1,149,996	869,057	1,257,496	1,561,755
0.5	310,987	237,430	682,621	241,122	545,964	356,896
1	54,544	47,034	49,772	49,127	32,253	38,902
2	19,099	19,896	21,160	30,622	50,229	38,855
5	3,833	1,948	2,655	3,637	2,303	2,412

Comments on Condition of the Day:
 Day was warm. Slightly cloudy. No winds. During Survey Sessions 1-3 there was traffic backed up on Metropolitan Ave. This occurred because of delivery trucks double parked on Metropolitan Ave. causing traffic to move slower.

Date: 3/25/2010

Time Period of Survey: Afternoon Session (3:30-5:00pm)

Particle Size

	1	2	3	4	5	6
0.3	811,263	634,309	822,278	1,322,112	901,257	1,347,804
0.5	225,123	317,804	497,301	265,742	269,361	559,258
1	50,848	36,271	48,055	54,676	51,880	48,926
2	23,725	43,334	49,800	25,114	35,939	47,511
5	1,607	2,537	4,501	2,068	3,930	4,308

Comments on Condition of the Day:
 Traffic was flowing. No noticeable changes in traffic. Weather was fair. Clear skies, light winds, temperature in the 50s.

Intersection of Grand Street and Vandervoort Ave.

Date: 3/29/2010
Time Period of Survey: Morning Session (8:30-10:00am)

Particle Size

	1	2	3	4	5	6
0.3	1,065,674	594,536	981,596	1,082,973	627,303	1,025,976
0.5	286,095	677,514	499,502	206,882	621,654	668,301
1	31,125	30,739	36,940	28,731	36,552	49,894
2	33,811	51,873	50,986	16,612	51,058	14,352
5	4,879	1,773	2,854	1,757	2,492	4,707

Comments on Condition of the Day:
 Temperature was high 40's. Cooler than other days on surveys. Traffic was flowing. Wind was moderate.

Date: 3/29/2010
Time Period of Survey: Afternoon Session (3:30-5:00pm)

Particle Size

	1	2	3	4	5	6
0.3	637,893	1,383,811	639,066	995,521	825,738	1,149,407
0.5	598,365	305,990	305,414	353,842	358,577	382,271
1	34,726	54,480	48,625	41,571	40,677	46,694
2	39,484	43,202	36,228	31,299	36,432	15,088
5	4,438	3,210	3,047	4,785	3,094	2,058

Comments on Condition of the Day:
 Temperature was warmer than in the morning. Mid 50's. Traffic was heavy but steadily moving. No backed up or stalled traffic.

Date: 3/30/2010
Time Period of Survey: Morning Session (8:30-10:00am)

Particle Size

	1	2	3	4	5	6
0.3	890,723	707,519	1,197,825	1,165,339	819,435	897,928
0.5	296,770	313,067	629,082	223,089	551,376	555,335
1	48,141	45,617	50,698	44,126	50,273	53,727
2	46,806	45,542	49,681	36,942	34,821	22,687
5	2,585	2,557	4,126	2,086	2,904	3,599

Comments on Condition of the Day:
 Partly cloudy temperatures in the mid 50's. Traffic along Grand Street was backed up but only between Sessions 2-4. Traffic was heavy but moving during other sessions. No stalled or idling trucks for extended periods of time.

Date: 3/30/2010
Time Period of Survey: Afternoon Session (3:30-5:00pm)

Particle Size

	1	2	3	4	5	6
0.3	815,334	680,965	1,194,280	1,525,374	1,272,182	872,609
0.5	365,951	610,568	529,016	486,486	280,744	249,577
1	36,087	51,825	51,159	49,595	29,387	50,634
2	14,423	43,641	50,235	37,982	20,793	50,729
5	3,593	4,076	4,174	4,652	4,124	3,414

Comments on Condition of the Day:
 High 50's. No unusual traffic stalls or idling. Noticeable number of collection trucks that passed by (12 in total). Light wind.

Sunday Survey Data

Date: 4/25/10

Location: 609 Metropolitan Ave. (between Lorimer and Leonard Streets)

Comments on Condition of the Day:
Not much traffic at Metropolitan Ave. between Lorimer and Leonard. Steady moving car traffic. Very few delivery trucks passing by.

Particle Size

	1	2	3	4	5	6
0.3	202,566	361,716	443,070	201,050	325,151	494,814
0.5	25,034	57,069	39,165	44,321	59,756	59,184
1	27,317	17,978	36,901	24,665	27,023	43,233
2	24,699	21,098	15,880	33,957	18,194	26,198
5	4,659	2,442	4,145	4,183	4,817	3,590

Date: 4/25/2010

Location: Kingsland and Meeker Ave.

Comments on Condition of the Day:
Traffic was very light during survey time. Almost no trucks except for some small delivery sized trucks (Budget self-moving trucks).

Particle Size

	1	2	3	4	5	6
0.3	296,082	497,810	294,740	322,911	228,197	484,767
0.5	27,099	51,281	53,081	54,982	37,941	36,940
1	25,386	27,893	21,108	44,482	34,257	19,526
2	17,387	14,178	24,362	24,973	20,790	13,621
5	2,346	3,111	4,303	2,204	4,409	2,310

Date: 4/25/10

Location: Grand Street and Vandervoort Ave.

Comments on Condition of the Day:
Weather overnight was thunder storms and heavy rains. Traffic at Grand Street was very light. Noticed that the gas station was particularly busy.

Particle Size

	1	2	3	4	5	6
0.3	429,797	261,632	379,067	451,762	298,328	353,902
0.5	25,714	42,847	59,361	57,947	33,328	54,331
1	33,505	38,687	35,553	43,539	22,803	44,792
2	24,288	30,831	15,852	11,335	32,303	25,218
5	2,362	3,843	2,113	4,161	4,008	4,018

Attachments



- ◆ O.U.T.R.A.G.E is working to reduce the number and impact of Garbage Trucks passing through our neighborhood!
- ◆ Now is the time for you to GET INVOLVED! We need your help to send a message to the City and State about what is going on in our Streets and why we need real enforcement
- ◆ HELP US! Update our TRUCK COUNTS! Take Pictures! Tell Stories!

COME JOIN US TO COUNT & CURB TRUCKS!

Monday, Aug. 3rd, 2009

6-7 P.M.

Community Room

609 Metropolitan Ave.

(bet. Lorimer and Leonard)

Too Many
Garbage TRUCKS!

- ◆ Too Much Noise!
- ◆ Can't Open Windows?
- ◆ Can't Breathe?
- ◆ Too Much Dirt and Smell!

For more information, contact Betamia
(718) 388-5454 ext. 124— bcoronel@stnicksnpc.com
Or Alison (718) 388 5454 x 125
O.U.T.R.A.G.E 11 Catherine Street Brooklyn, NY 11211

OUTRAGE Air Monitoring 2010 UPDATE

With the help of student volunteers from Rutgers University and local high schools, our State DEC Grant and our consultant, Steve Fleishacker, OUTRAGE has been able to successfully record particle counts at some of the major intersections of our community. These particle counts have been taken in an effort to provide evidence that our community is overburdened with truck traffic and that it is having serious effects on quality of air for the members of this community.

What: Particles of different sizes are counted with the GT-321 Particle Counter. The particles measured in microns are measured at various sizes. The sizes that are measured are 0.3, 0.5, 1.0, 2.0, 5.0.

Where: Three intersections were chosen for particle counts.

Kingsland Ave. and Meeker Ave.

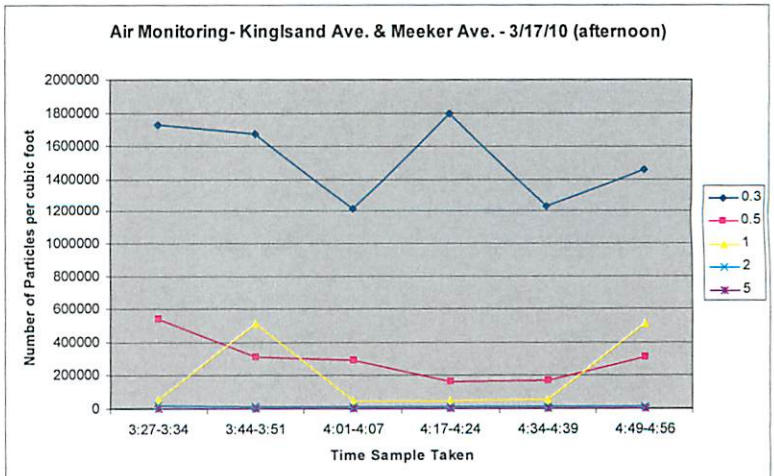
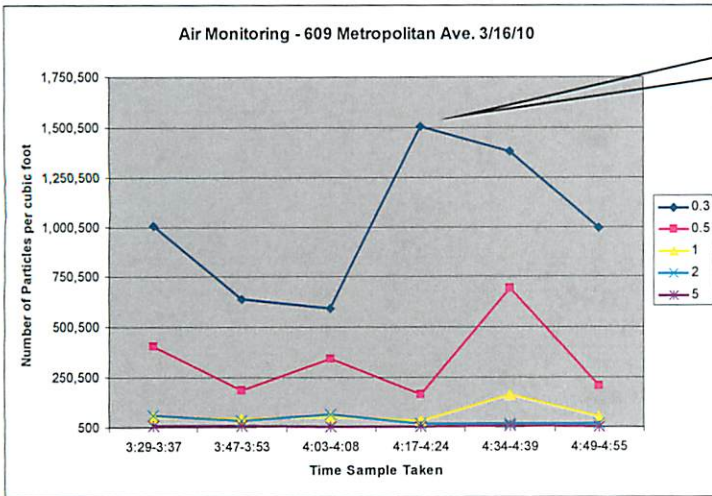
Metropolitan Ave. (between Leonard and Lorimer)

Grand Street and Vandervoort Ave. (to be completed)

When: Locations are surveyed during rush hours 8:30-10:30am & 3:30-5:30pm. Volunteers are shown how to use the machine and record vital information regarding the environment during times particles are being counted.

What do our results saying thus far: Below is a graph of particles counted at Metropolitan Avenue on March 16th during the afternoon rush hour and Kingsland Ave. & Meeker Ave. on March 17th during afternoon rush hour.

When particle counts were peaking we saw 4 trucks back to back idling at a red light—see below





O.U.T.R.A.G.E.

Williamsburg/Greenpoint Organizations United for Trash Reduction And Garbage Equity

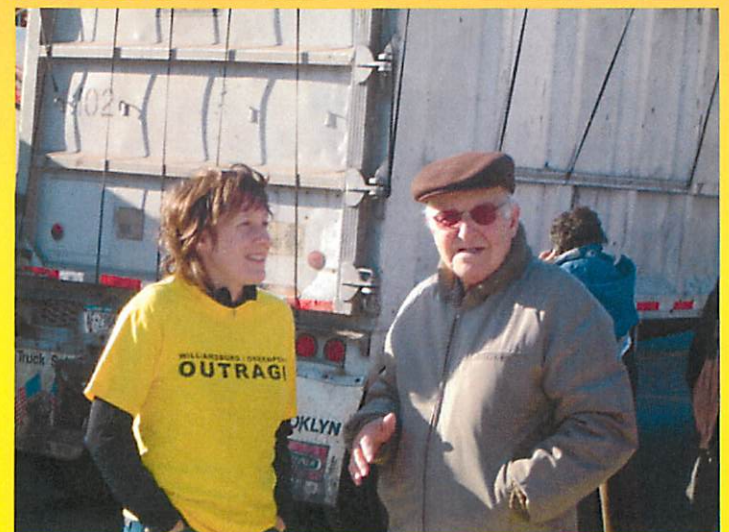
What we found in the Community Truck and Air Particle Survey!

What are we looking for?

- Have there been any changes in truck traffic since 2004?
- How can we use the information we gather to pressure the City to implement the SWMP.
- How can we use the information we gather to engage
 - more community members
 - the City
 - other elected officialsto help us to cut the number and impact of Trash Trucks in CB1?

Surveyed Intersections

- Sites were picked by looking at:
 - Recommendations from the community
 - Sites that were surveyed during the last community truck survey in 2004



What Intersections Did We Survey?



- ❑ Metropolitan Ave. & Lorimer St.
- ❑ Metropolitan Ave. & Bushwick Ave.
- ❑ Metropolitan Ave. & Vandervoort Ave.
- ❑ Grand St. & Bushwick Ave.
- ❑ Grand St. & Vandervoort Ave.
- ❑ Kingsland Ave. & Meeker Ave.
- ❑ Vandervoort Ave. & Meeker Ave.
- ❑ Greenpoint Ave. & McGuinness Blvd.

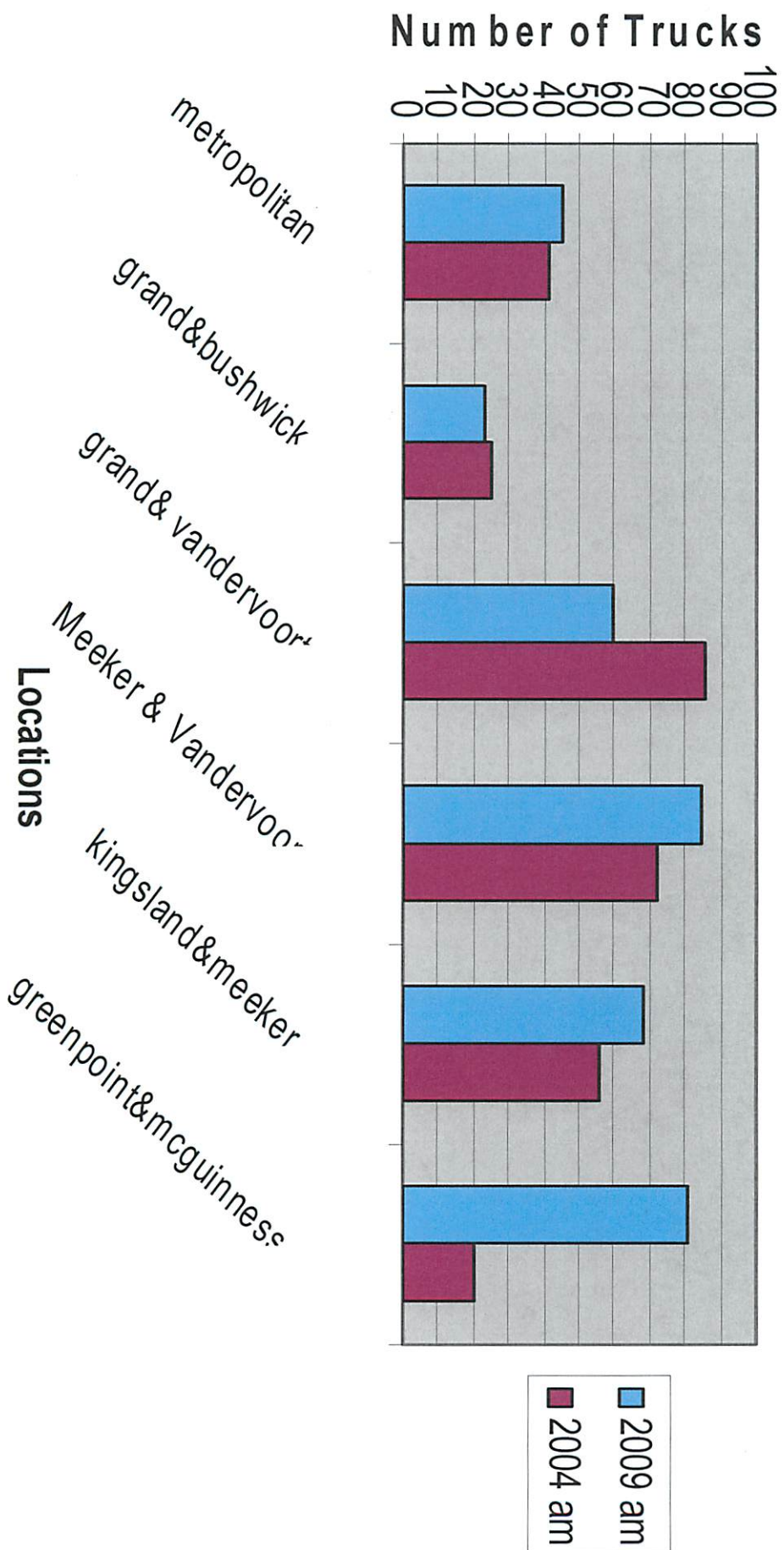
How was each surveyed?

- Each site was surveyed on two different days.
 - 8:30-10:30am
 - 4:30-6:00pm
- Volunteers were trained on how to fill out survey sheets prior to survey dates.

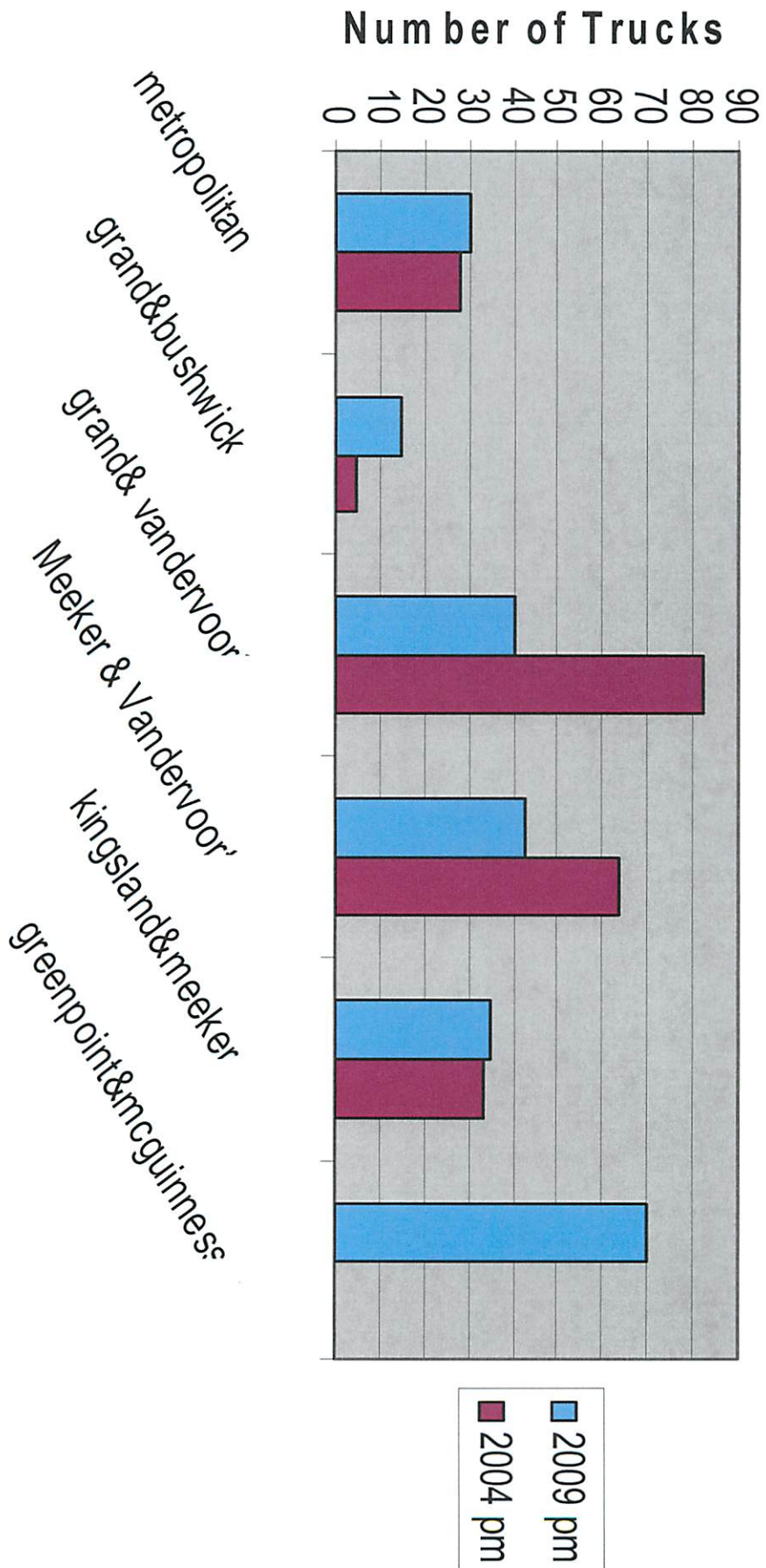
Survey Forms

- We tried to get more information about truck traffic than in 2004. We recorded on the new survey sheets:
 - **Type of truck**
 - Long Haul, Short Haul, Collection or Other
 - **License plate (State)**
 - **Problems**
 - Black Smoke from exhaust
 - Leaking fluids
 - Black tarp or Over flowing garbage

Trucks Per Hour



Trucks Per Hour



[What we found....]

- While some intersections saw a decrease in traffic, the majority of intersections saw significant increases in traffic, in both am and pm rush hours.

Air Particle Count

- Analyzed locations where truck counts were done and picked locations for Air Particle counts.
- Selected 3 Locations
 - Metropolitan Ave
 - Kingsland & Meeker
 - Grand & Vandervoort
- Air samples were taken on Sunday as well; the only day transfer stations are closed.

[What did we actually measure?]

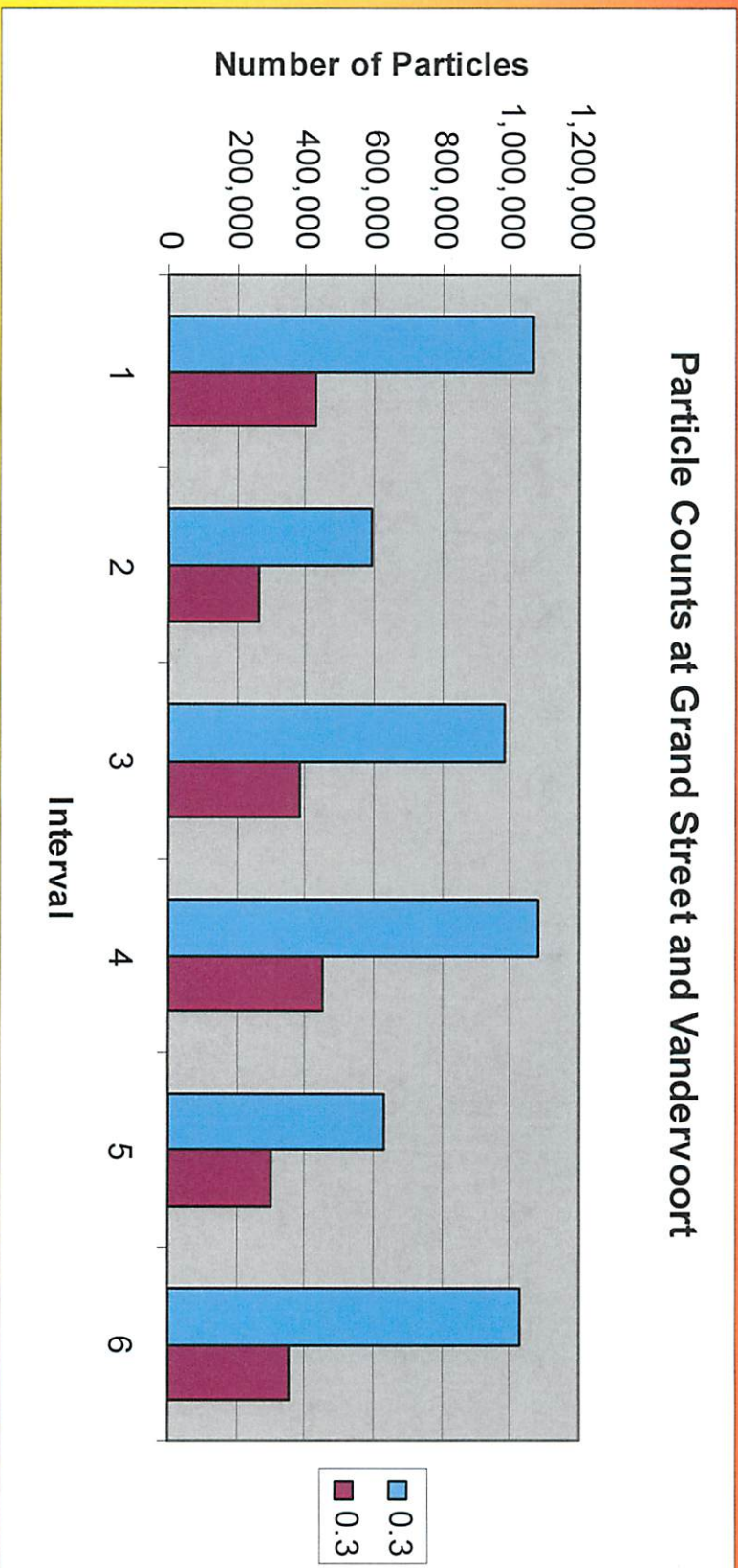
- Measured number of particles in the air in that moment.
- Did not specify what kind of particle; just size and number.
- Particle that are absorbed into the lungs and body are 2.5 microns and smaller.

[What did we find?]

- There are huge spikes in number of particles during the time of trucks idling and acceleration.
- There were significant decreases in readings on days that Waste Transfer Stations were closed.

Grand & Vandervoort

Particle Counts at Grand Street and Vandervoort



Conclusions

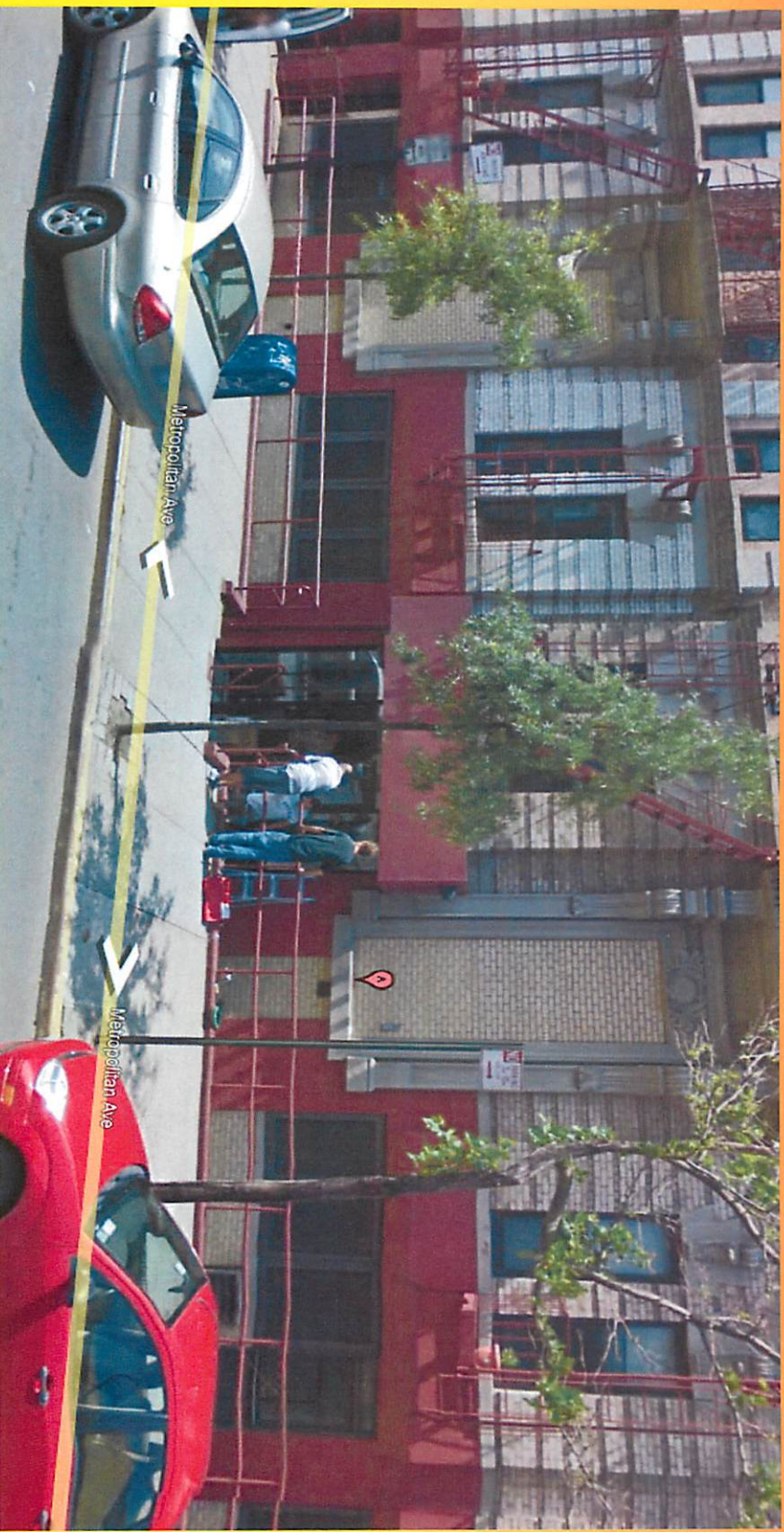
- In some places , there seems to have been a decrease in truck traffic in our community, at other places there have been significant increases.
- There is a correlation between trucks on our streets and number of particles in our air.
- The composition of these particles is unknown but safe to conclude by-products of diesel exhaust.
- It is clear that significant amounts of Trash Trucks continue to add environmental risks in our community.

What are OUR Next Steps?

- Engage our Community!
- Begin Our Letter Signing Campaign to Mayors office to:
 - Fulfill on promises of SWMP
 - Create a Taskforce for Enforcement of Truck regulations and signage.

[Metropolitan Ave. & Lorimer St.]

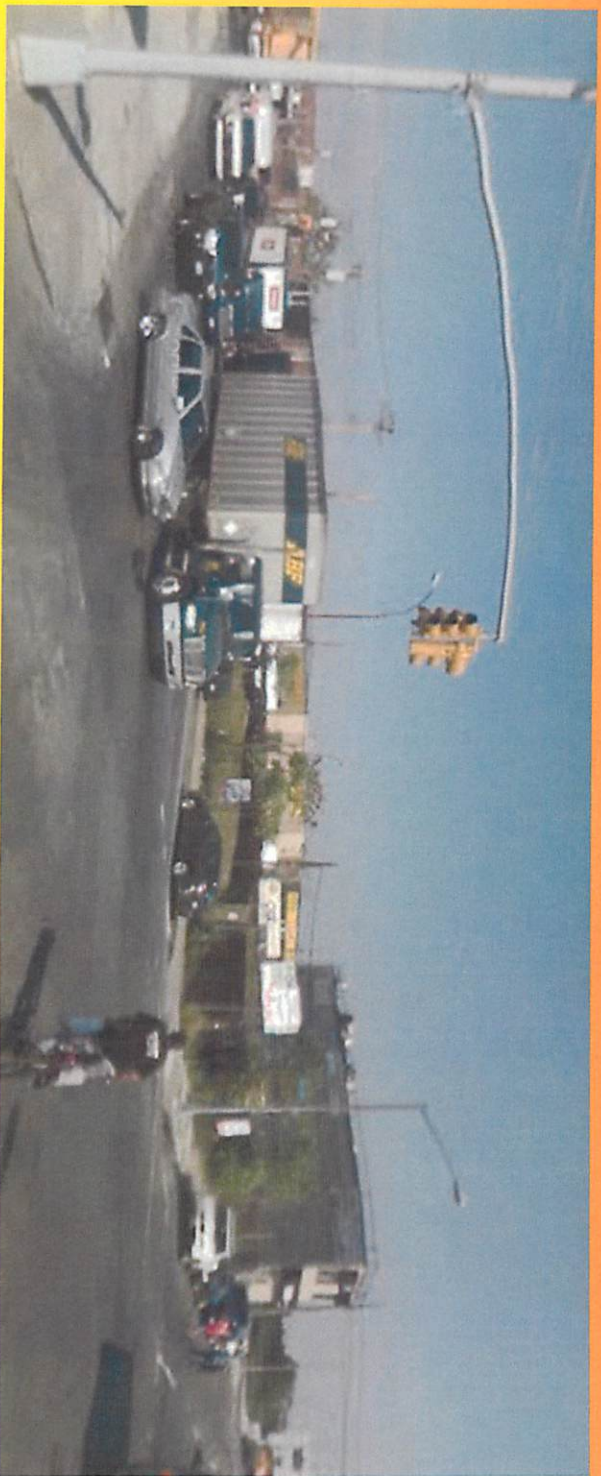
In front of 609 Metropolitan Ave.



[Metropolitan Ave. & Vanderwoort Ave]



Grand St. & Vandervoort Ave.



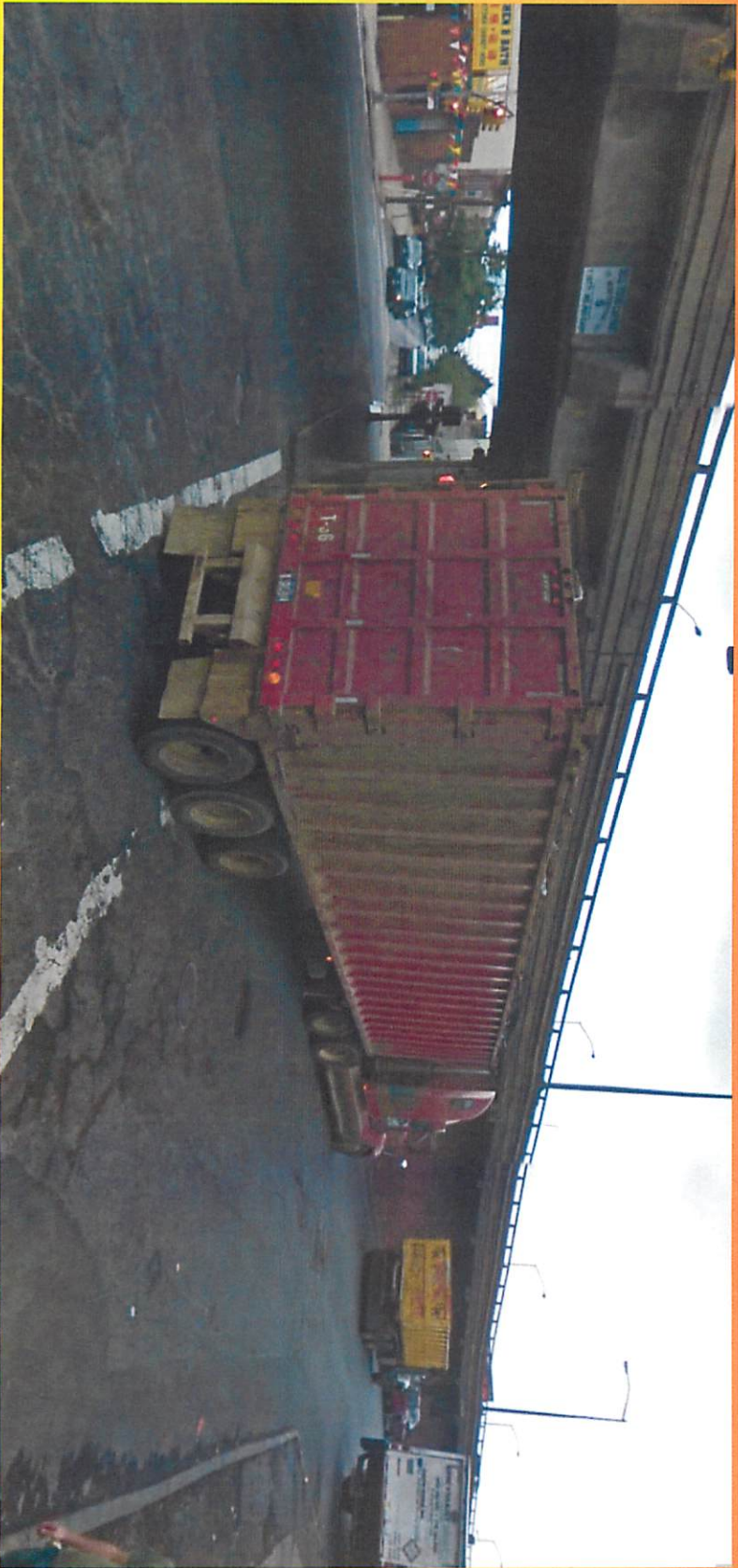
[Kingsland Ave. and Meeker Ave.]



Vandervoort Ave. and Meeker Ave.



Vandervoort Ave. and Meeker Ave.



Greenpoint Ave. and McGuinness Blvd



Some of our Volunteers



A decorative graphic consisting of a horizontal bar with a green-to-white gradient. A large black bracket is positioned above the bar, and a large orange bracket is positioned below it. A thin orange circle is drawn around the text 'O.U.T.R.A.G.E.' and the 'Community Truck Survey' text.

Williamsburg-Greenpoint

O.U.T.R.A.G.E.

Community Truck Survey

Fall 2009 Results

Purpose of Study

- To compare data collected to the 2004 Community Truck Survey and analyze whether there has been a significant decrease in truck traffic within CB1.
- To gather quantitative data that will support the community's recommendation for further study of moving truck traffic from Metropolitan Ave. to Meeker Ave.
- To inform the community of current data reflecting our community's burden with truck traffic, specifically trash haul trucks.
- To brainstorm ideas on how to further pressure the city to keep their promises.

Slide 2

BC1

Maybe there is a better way of stating this?
Betarmia Coronei, 2/17/2010

Surveyed Intersections

- Sites were picked on the basis of:
 - Recommendations from the community
 - Sites that were surveyed on the last community truck survey in 2004

- A total of eight sites were surveyed by the OUTRAGE Organizer and volunteers. The following intersections were surveyed on two separate days during both morning and evening rush hours
 - Metropolitan Ave. and Lorimer St.
 - Metropolitan Ave. and Bushwick Ave.
 - Metropolitan Ave. and Vandervoort
 - Grand St. and Bushwick Ave.
 - Grand St. and Vandervoort
 - Kingland Ave. and Meeker Ave.
 - Vandervoort and Meeker Ave.
 - Greenpoint Ave. and McGuinness Blvd.

How were sites surveyed

- Sites were surveyed twice on each survey date
 - 8:30-10:30am
 - 4:30-6:00pm
- Volunteers were trained on how to fill out survey sheets prior to survey dates.
- Categories that were recorded with the new survey sheets were:
 - Type of truck
 - Long Haul, Short Haul, Collection or Other
 - Black Smoke from exhaust
 - Leaking fluids
 - Black tarp or Over flowing hauls
 - License plate State

Results- Metropolitan Ave. & Lorimer St.



AM		
Minutes per session	92	90
Type of truck	10/02/09	10/16/2009
Long Haul	41	33
Short Haul	13	26
Collection	13	13
Other	142	157
Total trash trucks	67	72
Total trash haul. trucks	54	59
Total trash collect. trucks	13	13
Total non-trash trucks	142	157
Total trucks	209	229
% Trash Trucks	32.06%	31.44%
Number of Trash Trucks Per Min	0.73	0.80
Number of all trucks per min	2.27	2.54

PM		
Minutes per session	90	90
Type of truck	10/2/2009	10/16/2009
Long Haul	25	26
Short Haul	17	14
Collection Truck	5	6
Other	132	141
Total trash trucks	47	46
Total trash haul. trucks	49	47
Total trash collect. trucks	86	90
Total non-trash trucks	132	141
Total trucks	112	117
% Trash Trucks	41.96%	39.32%
Number of Trash Trucks Per Min	0.52	0.51
Number of all trucks per min	1.24	1.30

Results- Metropolitan Ave. & Vandervoort Ave



AM		
minutes per session	110	87
type of truck	10/15/2009	10/16/09
Long Haul	27	33
Short Haul	15	12
Collection	6	4
Other	94	71
Total trash trucks	48	49
Total trash haul. trucks	42	45
Total trash collect. trucks	6	4
Total non-trash trucks	94	71
Total trucks	142	120
% Trash Trucks	33.80%	40.83%
Number of Trash Trucks Per Min	0.44	0.56
Number of all trucks per min	1.29	1.38

PM		
Minutes per session	75	75
type of truck	10/15/2009	10/16/2009
Long Haul	24	37
Short Haul	17	14
Collection	8	7
Other	88	83
Total trash trucks	49	58
Total trash haul trucks	37	31
Total trash collect. trucks	64	56
Total non-trash trucks	88	83
Total trucks	79	76
% Trash Trucks	62.03%	76.32%
Number of Trash Trucks Per Min	0.65	0.77
Number of all trucks per min	1.05	1.01

Results- Grand St. & Bushwick Ave.



AM		
minutes per session	75	75
type of truck	10/20/2009	10/21/2009
Long Haul	8	10
Short Haul	16	12
Collection	5	4
Other	118	96
Total trash trucks	29	26
Total trash haul. trucks	24	22
Total trash collect. trucks	5	4
Total non-trash trucks	89	70
Total trucks	118	96
% Trash Trucks	24.58%	27.08%
Number of Trash Trucks Per Min	0.39	0.35
Number of all trucks per min	1.57	1.28

PM		
Minutes per session	95	95
type of truck	10/20/2009	10/21/2009
LH	6	9
SH	10	14
COL	2	2
Other	70	60
Total trash trucks	18	25
Total trash haul. trucks	24	27
Total trash collect. trucks	41	40
Total non-trash trucks	70	60
Total trucks	92	93
% Trash Trucks	19.57%	26.88%
Number of Trash Trucks Per Min	0.19	0.26
Number of all trucks per min	0.97	0.98

Results- Grand St. & Vandervoort Ave.



Grand & Vandervoort- AM		
minutes per session	70	70
type of truck	9/10/2009	9/11/2009
Long Haul	35	33
Short Haul	25	26
Collection	6	13
Other	151	157
Total trash trucks	66	72
Total trash haul. trucks	60	59
Total trash collect. trucks	6	13
Total non-trash trucks	151	157
Total trucks	217	229
% Trash Trucks	30.41%	31.44%
Number of Trash Trucks Per Min	0.94	1.03
Number of all trucks per min	3.10	3.27

Grand & Vandervoort- PM		
Minuetes per session	80	75
type of truck	9/10/2009	9/11/2009
LH	44	26
SH	14	14
COL	3	6
Other	129	141
Total trash trucks	61	46
Total trash haul. trucks	41	47
Total trash collect. trucks	79	90
Total non-trash trucks	129	141
Total trucks	202	197
% Trash Trucks	30.20%	23.35%
Number of Trash Trucks Per Min	0.76	0.61
Number of all trucks per min	2.53	2.63

Results- Kingsland Ave. and Meeker Ave.



AM		
minutes per session	105	55
type of truck	11/5/2009	11/6/2009
Long Haul	46	52
Short Haul	14	22
Collection	3	5
Other	103	76
Total trash trucks	63	79
Total trash haul trucks	60	74
Total trash collect. trucks	3	5
Total non-trash trucks	103	76
Total trucks	166	155
% Trash Trucks	37.95%	50.97%
Number of Trash Trucks Per Min	0.60	1.44
Number of all trucks per min	1.58	2.82

PM		
Minutes per session	80	80
type of truck	11/5/2009	11/6/2009
Long Haul	52	41
Short Haul	21	10
Collection	4	3
Other	109	62
Total trash trucks	77	54
Total trash haul. trucks	62	30
Total trash collect. trucks	78	40
Total non-trash trucks	109	62
Total trucks	189	121
% Trash Trucks	40.74%	44.63%
Number of Trash Trucks Per Min	0.96	0.68
Number of all trucks per min	2.36	1.51

Results- Vandervoort Ave. and Meeker Ave.



AM		
minutes per session	75	83
type of truck	10/22/2009	11/4/2009
Long Haul	51	47
Short Haul	9	84
Collection	7	10
Other	93	287
Total trash trucks	67	141
Total trash haul. trucks	60	131
Total trash collect. trucks	7	10
Total non-trash trucks	93	287
Total trucks	160	428
% Trash Trucks	41.88%	32.94%
Number of Trash Trucks Per Min	0.89	1.70
Number of all trucks per min	2.13	5.16

PM		
Minutes per session	87	85
type of truck	10/22/2009	11/4/2009
Long Haul	41	37
Short Haul	13	18
Collection	13	5
Other	142	183
Total trash trucks	67	60
Total trash haul. trucks	54	55
Total trash collect. trucks	13	5
Total non-trash trucks	142	183
Total trucks	209	243
% Trash Trucks	32.06%	24.69%
Number of Trash Trucks Per Min	0.77	0.71
Number of all trucks per min	2.40	2.86

Results- Greenpoint Ave. and McGuinness Blvd



AM		
minutes per session	72	70
type of truck	10/5/2009	10/8/2009
Long Haul	43	40
Short Haul	30	29
Collection	9	12
Other	135	112
Total trash trucks	82	81
Total trash haul. trucks	73	69
Total trash collect. trucks	9	12
Total non-trash trucks	135	112
Total trucks	217	193
% Trash Trucks	37.79%	41.97%
Number of Trash Trucks Per Min	1.14	1.16
Number of all trucks per min	3.01	2.76

PM		
Minutes per session	90	90
type of truck	10/5/2009	10/8/2009
Long Haul	44	44
Short Haul	22	20
Collection	5	3
Other	105	81
Total trash trucks	71	67
Total trash haul. trucks	60	35
Total trash collect. trucks	78	48
Total non-trash trucks	105	81
Total trucks	193	153
% Trash Trucks	36.79%	43.79%
Number of Trash Trucks Per Min	0.79	0.74
Number of all trucks per min	2.14	1.70

[Conclusions]

- There has not been any significant decrease in truck traffic in our community.
- Trash Trucks continue to add environmental risks our community.
- Data collected supports community view that moving truck traffic from Metropolitan Ave. to Meeker Ave. will not be an effective solution.

Next Steps

- Air Quality Monitoring
 - Volunteers Needed – Sign Up Sheet Available
- Letter Signing Campaign
 - Help us pressure the City and the Mayor.

Special Thanks to the Volunteers!

