

February 2013



# BOROUGH BIA\$

How the Bloomberg Administration Drains Outer Borough Businesses

*A Report by:*



**Bill de Blasio**

PUBLIC ADVOCATE FOR THE CITY OF NEW YORK

## EXECUTIVE SUMMARY

As New York City struggled through a deep recession in 2010, small business owners at retailers, shops and restaurants had every reason to expect City government would lighten the burden of fees and fines. That year, Mayor Bloomberg and City Council Speaker Quinn announced a 14-point plan and pledged a major overhaul to make it easier and less expensive for businesses to comply with City laws.<sup>1</sup>



But instead of delivering on those reforms, the City began an unannounced enforcement campaign that sharply increased the number of inspections, violations and fines on the city's businesses to compensate for lost revenue--filling budget gaps on the backs of outer borough small businesses. That trend continues to this day.

This deluge of fines could not have come at a worse time. Small businesses, the job growth engine in New York City, were already in dire straits. According to the respected risk assessment firm Dun & Bradstreet, one-in-six New York businesses is unable to pay bills on time.<sup>2</sup>

In response to pleas from small businesses, Public Advocate Bill de Blasio demanded fine-related records from City agencies that oversee businesses in April 2012.<sup>3</sup> Our office's objective was to determine how and why fines had increased so precipitously. When the City failed to comply with the information request, de Blasio sued to force the City to release the data.<sup>4</sup> This report represents the first detailed analysis of that information, and a first-ever report on the neighborhood-specific impact of the City's excessive fines on businesses.

The analysis reveals a concerted effort by two city agencies that regulate business operations to increase revenue through fines, increasing the number of inspections and the issuance of numerous low-level violations with a primary focus on outer borough communities. The Department of Consumer Affairs and the Department of Health and Mental Hygiene, two agencies that oversee small businesses, showed the most dramatic shift.<sup>5</sup> The study finds:

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<sup>1</sup> Press Release, New York City Council [http://council.nyc.gov/html/pr/biz\\_regulations\\_4\\_27\\_10.shtml](http://council.nyc.gov/html/pr/biz_regulations_4_27_10.shtml)

<sup>2</sup> U.S Business Trends Report", Dunn and Bradstreet, Accessed July, 26<sup>th</sup>, 2012. <http://www.dnb.com/asset/document/pdfs/16363535.pdf>

<sup>3</sup> The Office of the Public Advocate sent information requests to the following city agencies: The Department of Buildings, the Department of Mental Health and Hygiene, the Department of Consumer Affairs, the Department of Transportation, the Department of Sanitation, the Department of Finance and the Mayor's Office.

<sup>4</sup> Information and court documents pertaining to the Public Advocate's litigation is available online at [http://advocate.nyc.gov/files/PublicAdvocateFinalVerifiedArticle78%20Petition\(00118076\).PDF](http://advocate.nyc.gov/files/PublicAdvocateFinalVerifiedArticle78%20Petition(00118076).PDF) and [http://advocate.nyc.gov/files/PublicAdvocateFinalVerifiedArticle78%20Petition\(00118076\).PDF](http://advocate.nyc.gov/files/PublicAdvocateFinalVerifiedArticle78%20Petition(00118076).PDF)

<sup>5</sup> Data included in this report on inspections, violations, fines issued and revenue generated come from the New York City Department of Consumer Affairs and Department of Health and Mental Hygiene as the result of a lawsuit initiated by the Public Advocate after previous requests for information were ignored. Data for number of food service establishments in New York City over the 2002-2012 period also come from the NYC Department of Health and Mental Hygiene. Data for number of retail businesses in New York City over the 2002-2012 period could not be provided by the Department of Consumer Affairs. Instead, as recommended by industry experts, the Office used United States Census data for retailers, collected last at the end of 2010. These numbers are therefore not exact to the unit, but act as an

- Between Fiscal Years 2010 and 2012, DCA increased inspections by 66 percent, increased violations issued by 153 percent, and increased revenue from fines by 102 percent.
- For that same time period, DOHMH increased inspections by 55 percent to 98,176 visits, increased violations issued by 73 percent, and increased revenue from fines by 90 percent.
- In gross numbers, both agencies have increased annual fine revenue during this period by a combined \$50 million.
- Even as the number of violations issued spiked, the dollar amount of individual fines plummeted 30%, reflecting inspectors issuing a profusion of penalties for low-level violations.

Across neighborhoods and boroughs, the analysis showed deep inequities in the frequency of inspections and the likelihood of receiving fines.

- **Outer borough businesses are inspected more often.** Compared to the citywide average, businesses in the Bronx are inspected by Consumer Affairs eight percent more frequently, those in Brooklyn are inspected four percent more, as are those in Queens (two percent) and Staten Island (one percent). Businesses in Manhattan receive 14 percent fewer inspections than the citywide average.
- The most frequently inspected neighborhoods by Consumer Affairs were Morrisania (inspected 3.1x more often than the average neighborhood), Central and North Harlem (2.8x and 2.5x more often, respectively) and Highbridge (2.5x).
- **Outer borough businesses pay more in fines.** Because of more frequent inspections, Bronx businesses pay seven percent more Consumer Affairs fines on average, those in Brooklyn pay five percent more, as do those in Queens (four percent) and Staten Island (two percent). Businesses in Manhattan pay 18 percent less in fines per business than the citywide average.
- The most heavily fined neighborhoods by Consumer Affairs in FY2012 were Laurelton (fined at 5.8x the citywide average), Rosedale (4.4x), Woodlawn (3.8x), Red Hook (3.4x) and Edenwald (3.4x).
- **Of the 10 neighborhoods with the highest rate of health violations per restaurant, six were in Queens and four were in Brooklyn.**

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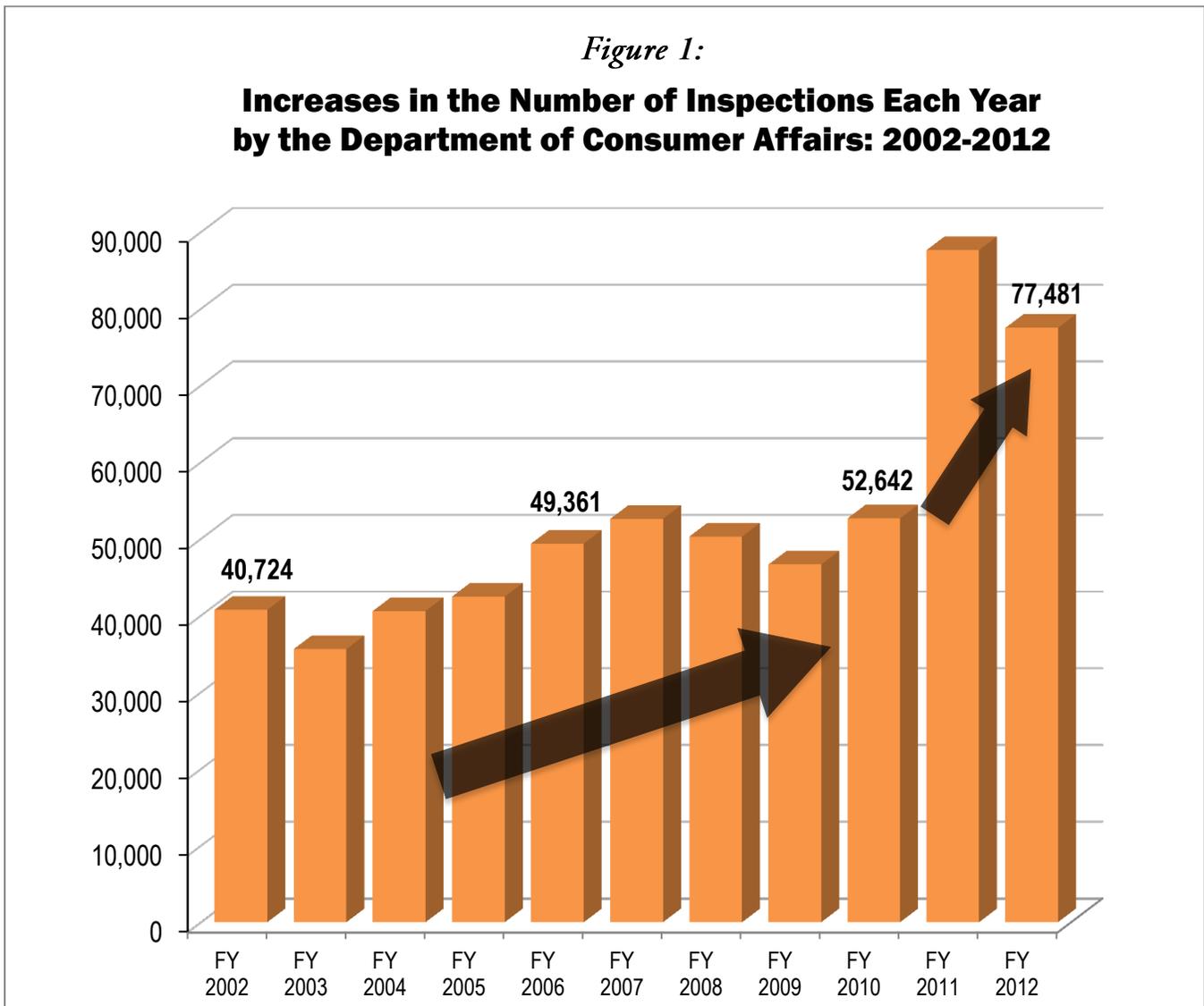
indicator for the number and growth of businesses across time, so as to show as false the argument that increases in inspection, violation and fines grew simply to keep pace with the increased number of businesses.

## PART I - DEPARTMENT OF CONSUMER AFFAIRS

The Department of Consumer Affairs regulates all consumer retail and service establishments in the City of New York. This means the Department inspects these businesses and cites them for violations of the City's Consumer Protection Law, Citations for Unlicensed Activity and other rules governing businesses.<sup>6</sup>

### 1) MORE Inspections and Violations

Inspections have increased by almost 70% in the past three years, moving from 46,635 in FY2009 to 77,481 in FY 2012. These trending increases were even sharper for violations issued by DCA inspectors, moving from 9,545 violations issued in FY2009 to 24,176 in FY2012, an increase of 127%. As monthly figures, this change was a move from 916 violations averaged each month in 2009, to 2084 violations per month in 2012.<sup>7</sup>

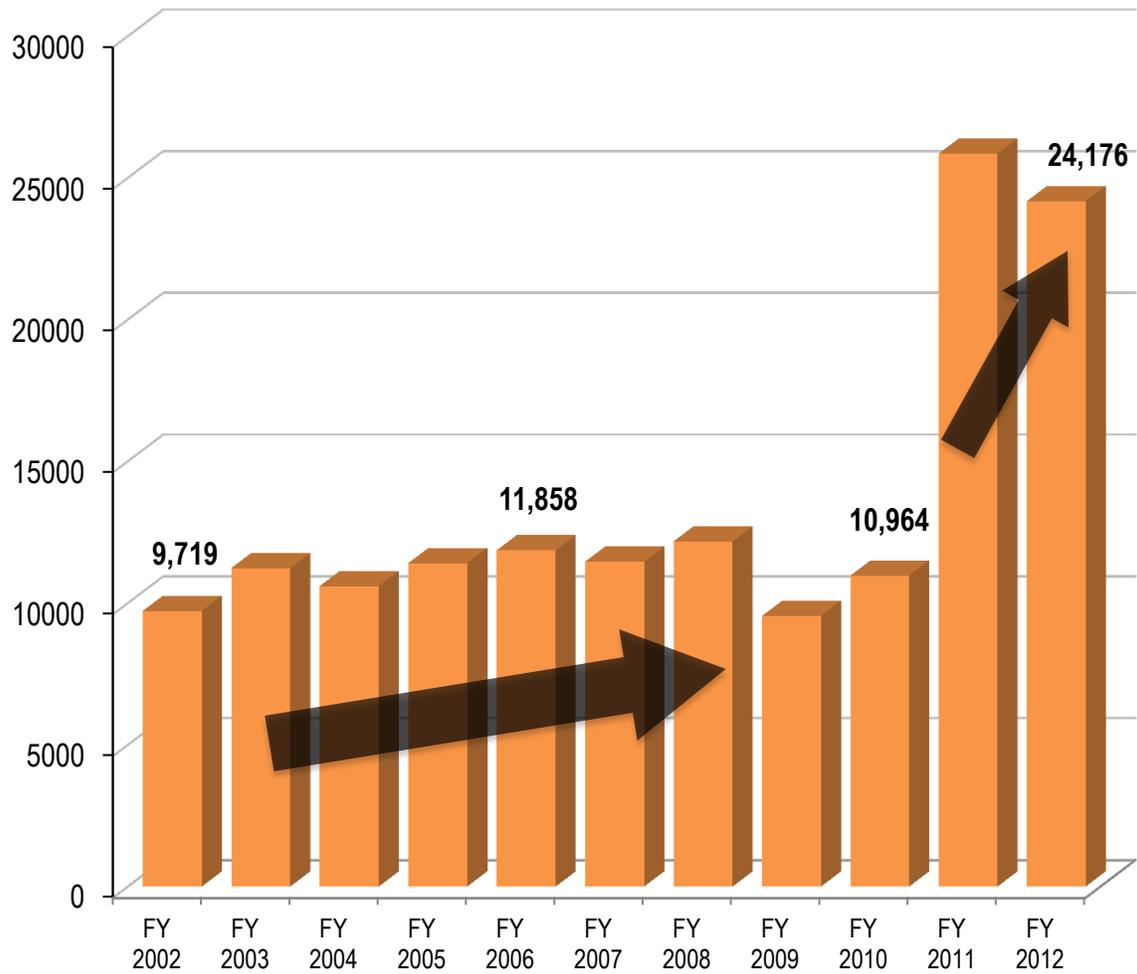


<sup>6</sup> The Department of Consumer Affairs provided data on inspections, violations, fines issued and revenue generated from FY2002 to FY2012

<sup>7</sup> Data provided by the New York City Department of Consumer Affairs on August 20, 2012

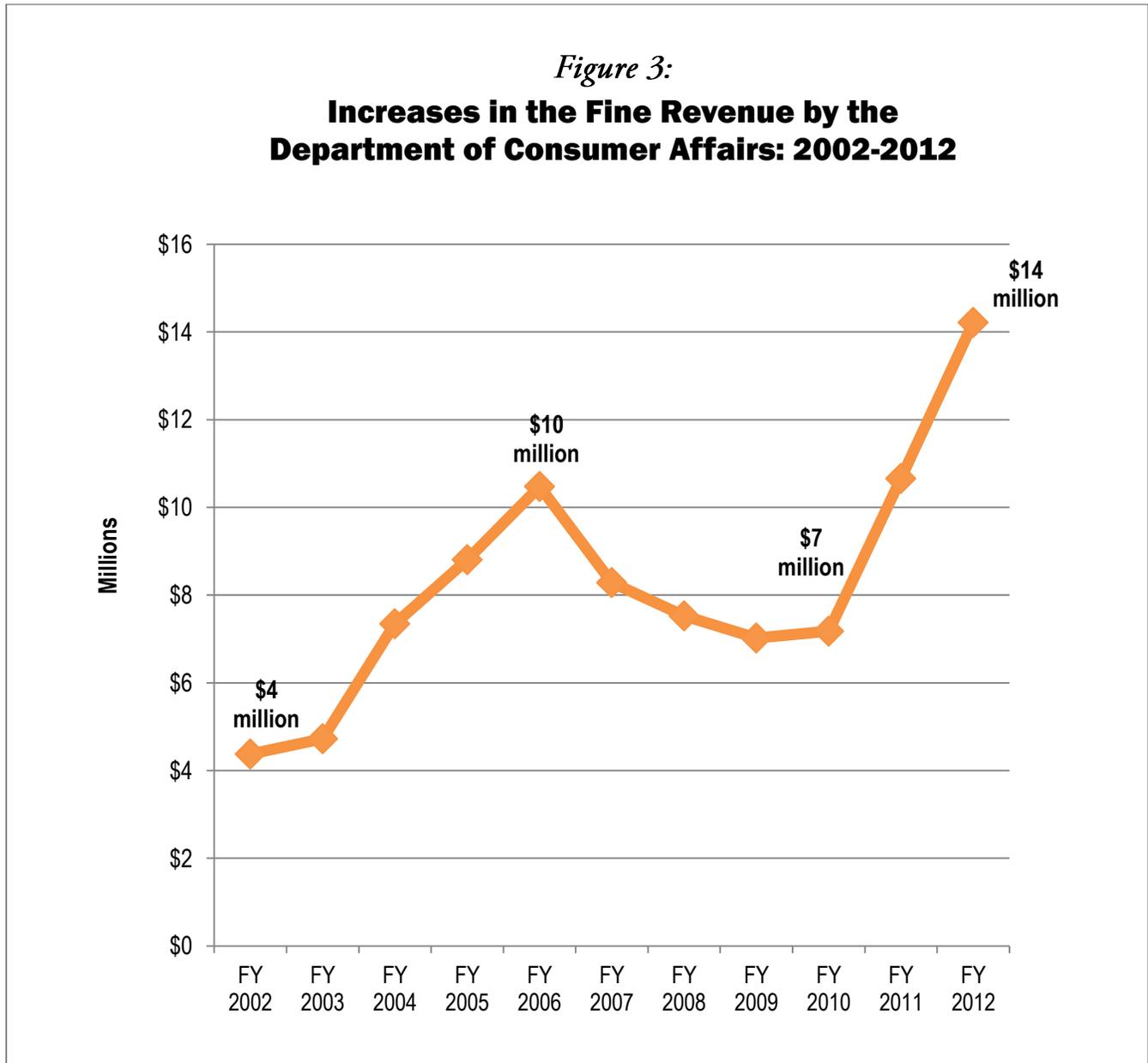
*Figure 2:*

**Increase in the Number of Department of Consumer Affairs Violations from 2002-2012**



## 2) MORE Revenue from the Pockets of Small Businesses

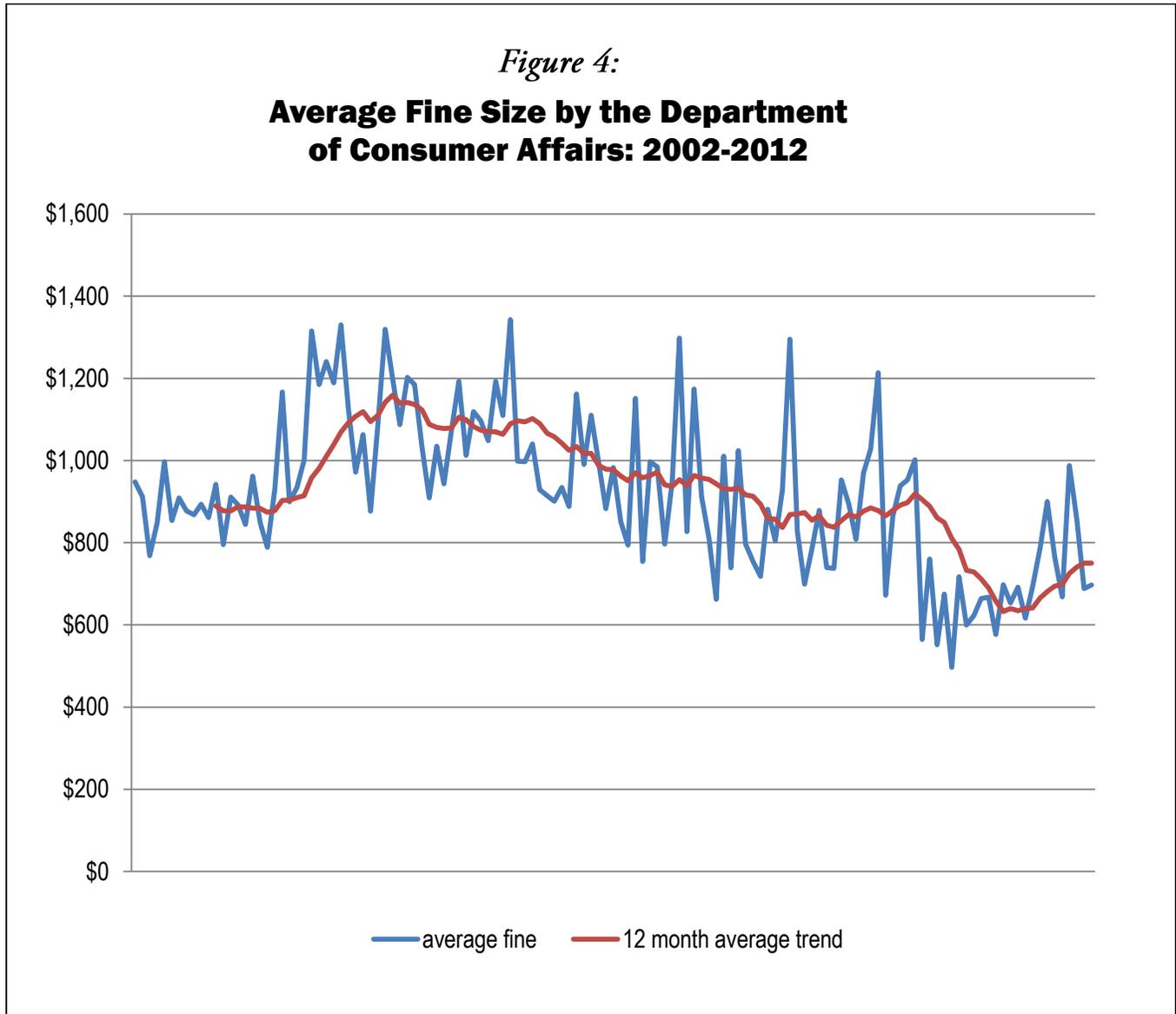
As a result of these increases in inspections and violations, the revenue generated by DCA from these fines has doubled over the same time period, demonstrated below in Figure 3. In FY2010, DCA generated \$7.1 million in revenue from business fines, and moved to \$14.2 million in 2012. The increases in inspections and fines have allowed DCA to obtain from the pockets of small business owners an additional \$10 million above previously established baseline levels around the city.



### 3) Nickel-and-Diming Small Businesses with Nuisance Violations

A deeper look into the dollar amounts of the fines issued over this time period further shows that the increased revenue DCA generates is from a concerted effort to inspect and issue violations more frequently, even if the increased revenue comes citing business owners on matters of lesser importance.

From 2002-2009, the average fine amount for DCA violations was \$966 dollars. In the three years that followed, from 2010-2012 when DCA doubled its fine revenue, the average fine amount actually *dropped* to an average of \$697<sup>8</sup>. Business owners are paying more frequently for smaller and smaller offenses, and the aggregate effect is devastating to the city's small businesses.

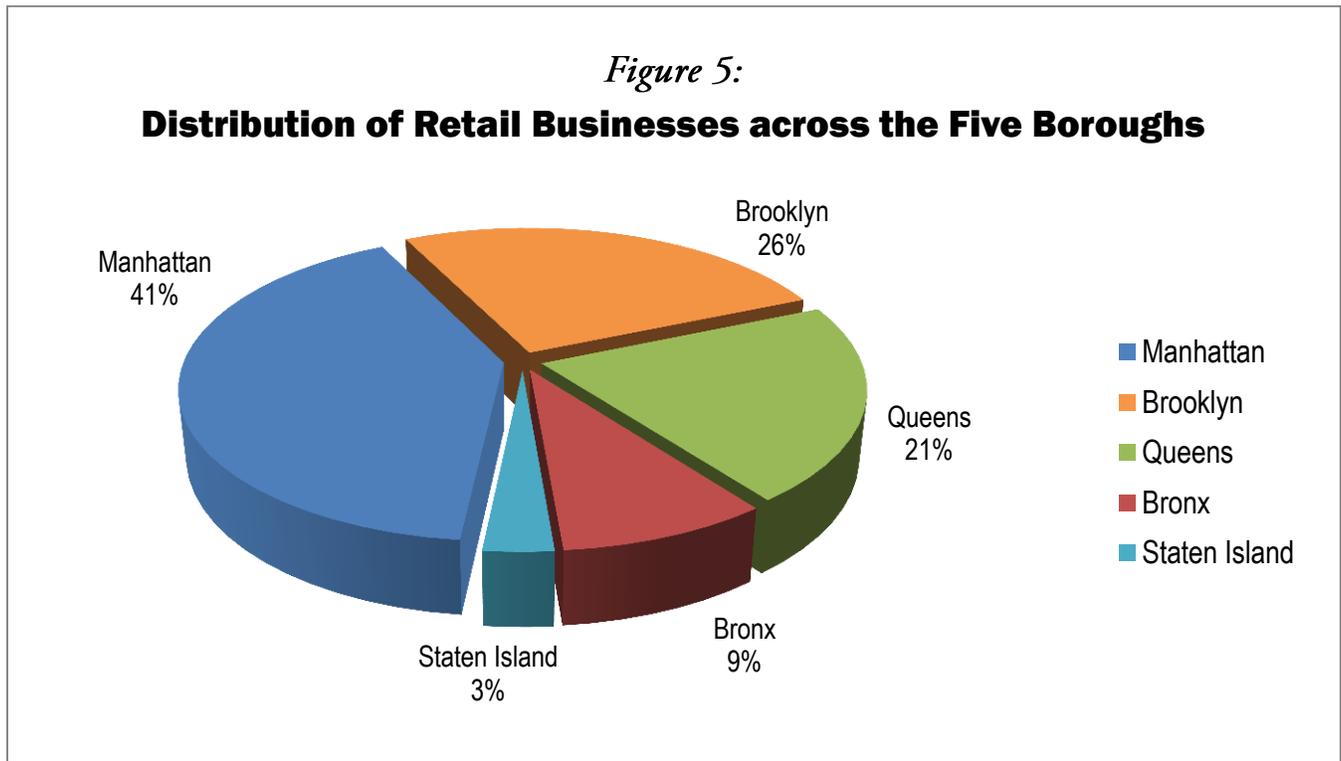


<sup>8</sup> Fine amount data was analyzed on a monthly basis, as the average violation amount per month in each month from July 2001 to June 2012. Since changes in fine amounts may be partially subject to changes in the value of the dollar over time, these monthly fine amount averages were normalized to May 2012 real dollars using the U.S. Department of Labor's Consumer Price Index<sup>8</sup>. Due to slight mismatches among the original DCA, DOITT and Census Bureau datasets, as well as missing fine amount data, the dataset that was ultimately analyzed consisted of 95% of the original dataset provided by DCA (N=144,165).

#### 4) Unequal Borough Fine Distribution

Following the Public Advocate’s litigation, DCA provided the Public Advocate with inspection, violation and revenue data at a local level. Analysis of how regulatory enforcement and fining is distributed across neighborhoods and boroughs is deeply troubling.

An analysis of 2010 Economic Census Data shows an approximate distribution<sup>9</sup> of retail businesses across the five boroughs as follows:



Comparison of these percentages against distributions of inspections, violations issued, and fines generated *consistently* shows the same result: the outer-boroughs bear a disproportionate burden.

**Inspections** in FY 2012 broke down as follows: of the 76,515 total inspections conducted citywide, Manhattan businesses received 16% less of the citywide share than expected, and the Bronx getting 10% more than expected.

Borough	Percentage of total DCA inspections conducted in borough during FY 2012	Disparity based on number of retail businesses in borough
Brooklyn	30%	↑ 4% more inspections
Bronx	19%	↑ 10% more inspections
Queens	23%	↑ 2% more inspections
Staten Island	3%	= No significant disparity
Manhattan	25%	↓ 16% fewer inspections

<sup>9</sup> DCA could not provide the Public Advocate’s office with an exact count of businesses under its jurisdiction given the large and fluid number. Census data provides expected distribution based on the approximately 49,445 retail businesses identified in New York City.

**Violations** in FY 2012 broke down as follows: of the 24,176 total violations issued citywide, Manhattan businesses again received violations at a slower clip than expected, with the rest of the boroughs getting cited more often:

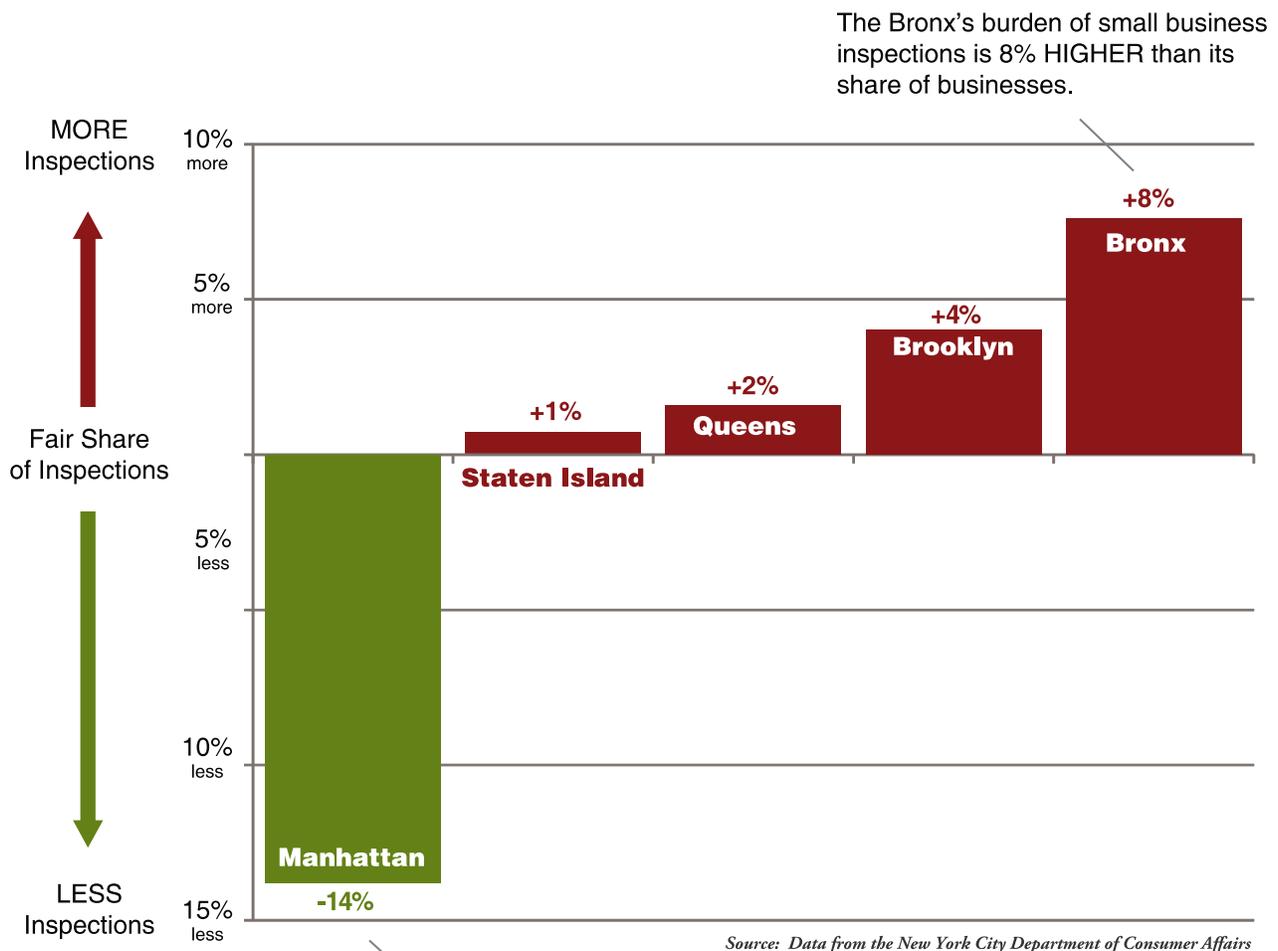
<b>Borough</b>	<b>Percentage of total DCA violations issued in borough during FY 2012</b>	<b>Disparity based on number of retail businesses in borough</b>
Brooklyn	28%	↑ 2% more violations
Bronx	11%	↑ 2% more violations
Queens	22%	↑ 1% more violations
Staten Island	4%	↑ 1% more violations
Manhattan	35%	↓ 6% fewer violations

**Fines** in FY 2012, broke down as follows: of the \$22,103,392 in fines issued citywide, Manhattan was fined almost \$4 million less than expected, with the Bronx and Brooklyn paying significantly more than their share.

<b>Borough</b>	<b>Percentage of total DCA fines issued in borough during FY 2012</b>	<b>Disparity based on number of retail businesses in borough</b>
Brooklyn	31%	↑ 5% more violations
Bronx	20%	↑ 11% more violations
Queens	22%	↑ 1% more violations
Staten Island	4%	↑ 1% more violations
Manhattan	23%	↓ 18% fewer violations

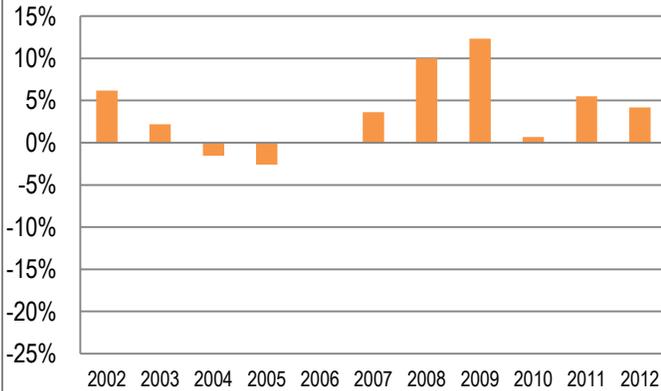
Comparing inspection data over the past decade, it is clear that for the entirety of the Bloomberg Administration, apportionment of violations across the boroughs has been lopsided. The figure below charts the “Borough Bias” from FY 2002 to FY 2012, which measures the discrepancy between *expected* share of total city inspections per borough, versus actual share. In varying degrees, but consistently over time, Manhattan is spared while Brooklyn, Queens and the Bronx are overburdened.

*Figure 6:*  
**Borough-by-Borough Distribution of Inspections by the Department of Consumer Affairs from 2002-2012**



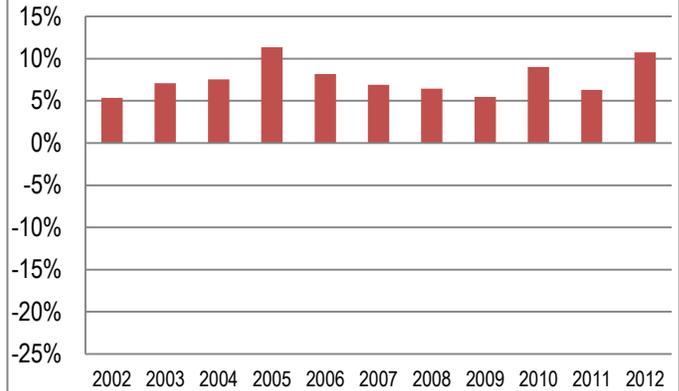
## BROOKLYN

*Brooklyn businesses have faced a disproportionately HIGHER amount of inspections for 8 of the last 11 years*



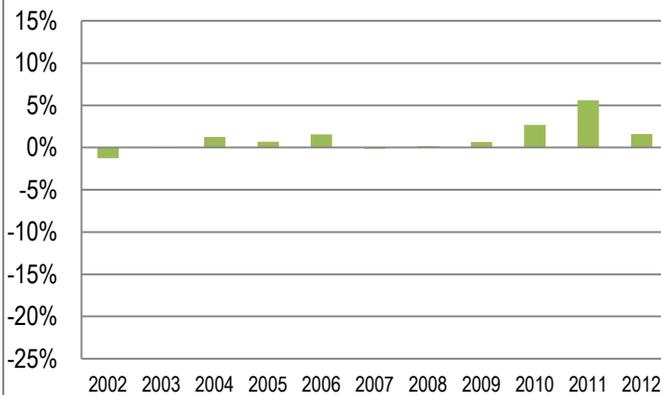
## BRONX

*Bronx businesses have faced a disproportionately HIGHER amount of inspections each year for last 11 years*



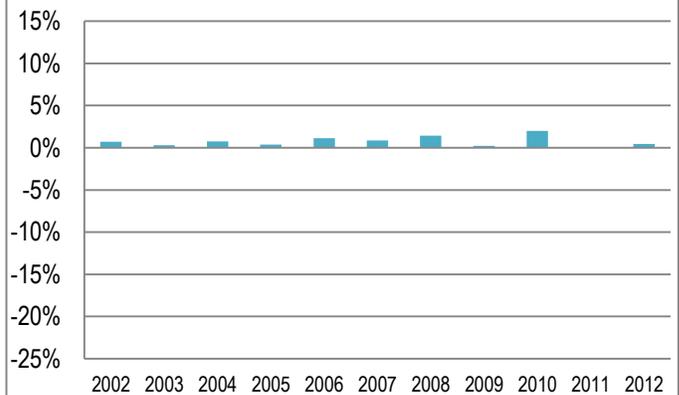
## QUEENS

*Queens businesses have faced a disproportionately HIGHER amount of inspections for 8 of the last 11 years*



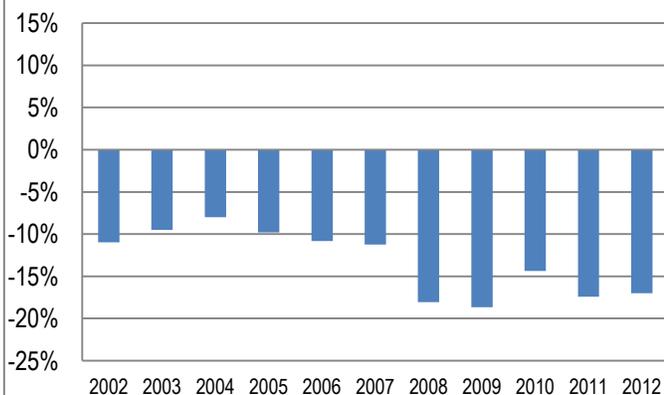
## STATEN ISLAND

*Staten Island businesses have faced a disproportionately HIGHER amount of inspections for 10 of the last 11 years*



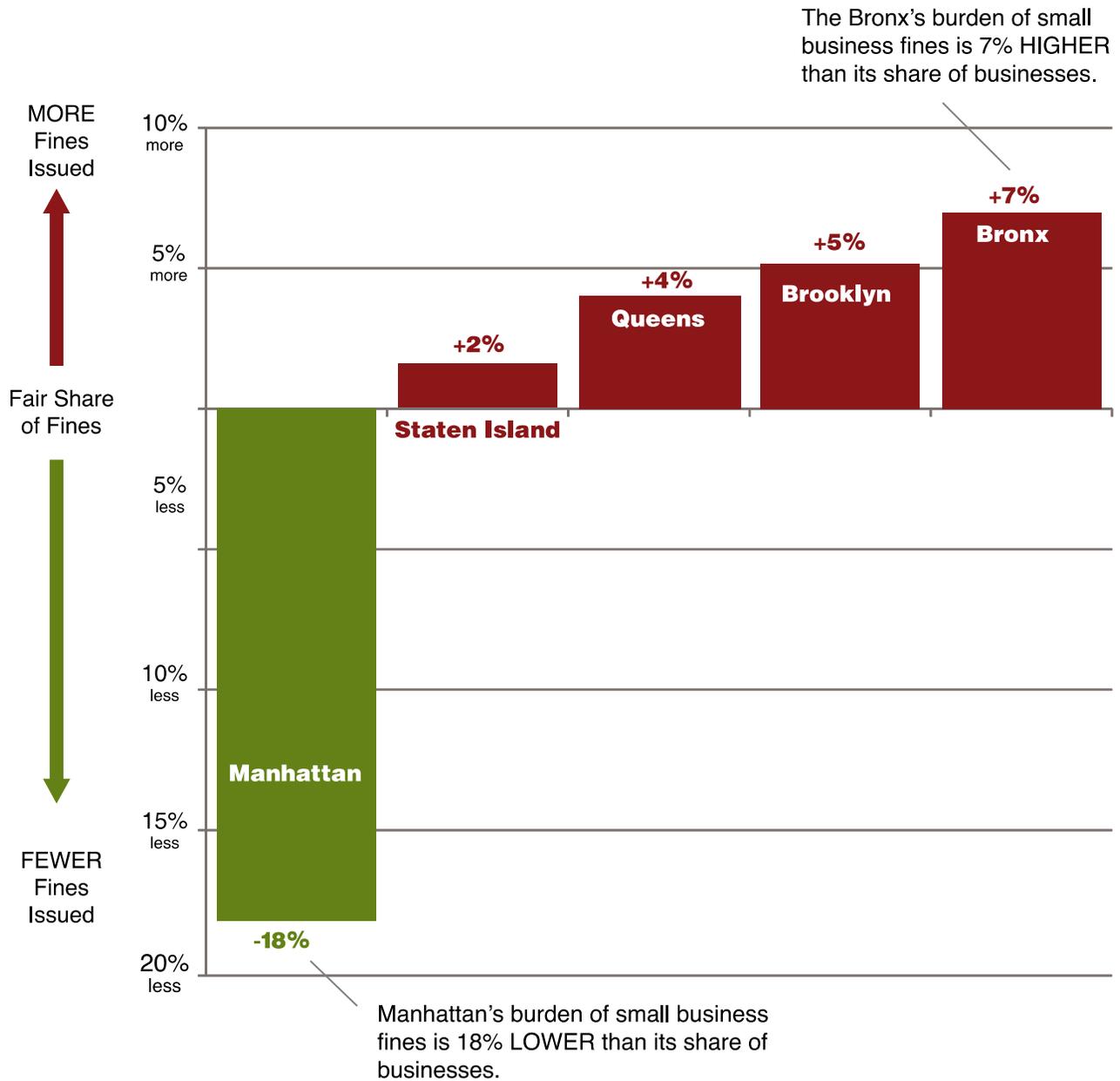
## MANHATTAN

*Manhattan businesses have faced a disproportionately LOWER amount of inspections each year for the last 11 years*



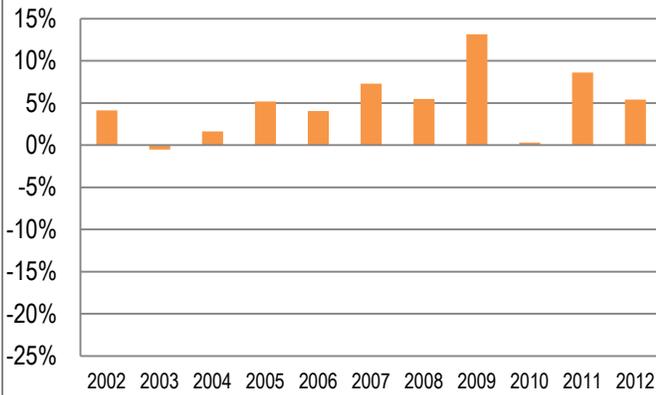
Comparing data on the amount of fines issued over the past decade, it is clear that for the entirety of the Bloomberg Administration, apportionment of fines across the boroughs has also been lopsided. The figure below charts the "Borough Bias" from FY 2002 to FY 2012, which measures the discrepancy between *expected* share of total city fines per borough, versus actual share. In varying degrees, but consistently over time, Manhattan is spared while Brooklyn, Queens and the Bronx are overburdened.

*Figure 7:*  
**Borough-by-Borough Distribution of Fines Issued by the Department of Consumer Affairs from 2002-2012**



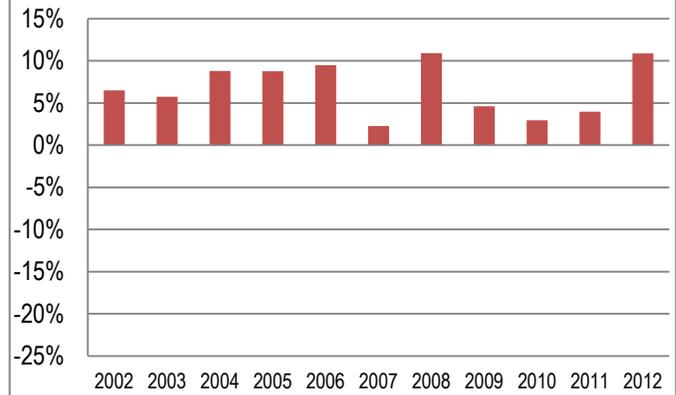
## BROOKLYN

*Brooklyn businesses have faced a disproportionately HIGHER amount of fines for 10 of the last 11 years*



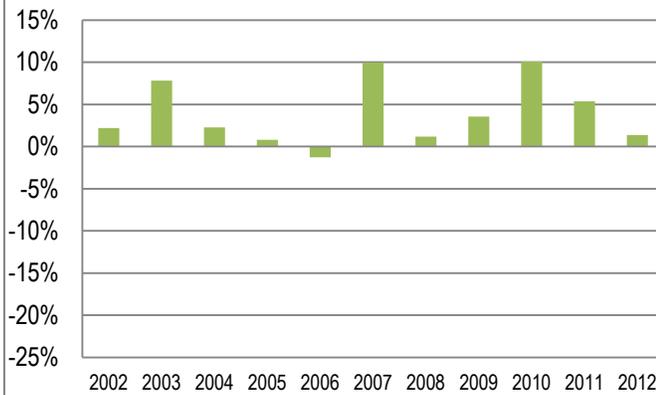
## BRONX

*Bronx businesses have faced a disproportionately HIGHER amount of fines each year for last 11 years*



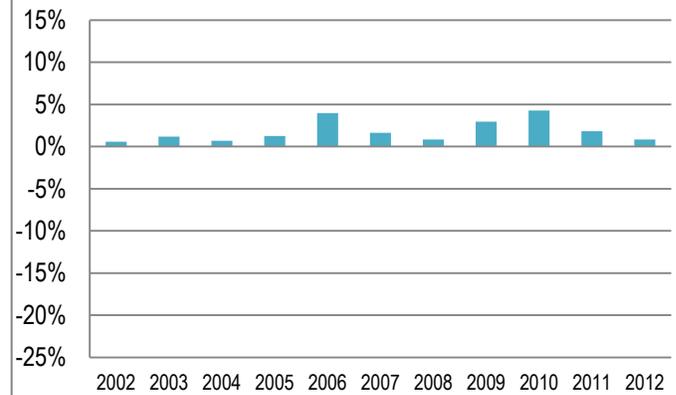
## QUEENS

*Queens businesses have faced a disproportionately HIGHER amount of fines for 10 of the last 11 years*



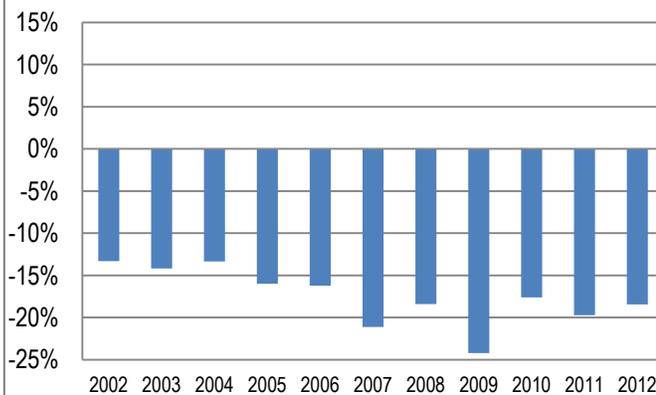
## STATEN ISLAND

*Staten Island businesses have faced a disproportionately HIGHER amount of fines each year for last 11 years*



## MANHATTAN

*Manhattan businesses have faced a disproportionately LOWER amount of fines each year for the last 11 years*



Further analysis by zip code reveal even more disproportionate inspection trends and revenue pulled from small businesses in various neighborhoods.

**Zip Codes with the Highest Rate of Consumer Affairs Inspections in FY2012\*\***

Zip Code	Neighborhood	Borough	# of Retail Businesses	# of DCA Inspections	Rate Compared to Citywide Average
10459	Morrisania	Bronx	191	1295	3.1X
10030	Harlem	Manhattan	33	206	2.9X
10026	Harlem	Manhattan	58	319	2.5X
10039	North Harlem	Manhattan	33	181	2.5X
10452	Highbridge	Bronx	209	1125	2.5X
10456	Claremont Village	Bronx	179	931	2.4X
11420	South Ozone Park	Queens	67	348	2.4X
10031	Hamilton Heights	Manhattan	138	712	2.4X
10466	Edenwald	Bronx	145	706	2.3X
10470	Woodlawn	Bronx	46	220	2.1X

**Zip Codes with the Highest Rate of Consumer Affairs Violations in FY 2012\*\***

Zip Code	Neighborhood	Borough	# of Retail Businesses	# of DCA Violations	Rate Compared to Citywide Average
10459	Morrisania	Bronx	191	483	3.7X
10466	Edenwald	Bronx	145	316	3.2X
10039	North Harlem	Manhattan	33	67	3.0X
11421	Woodhaven	Queens	112	223	3.0X
10470	Woodlawn	Bronx	46	79	2.5X
10030	Harlem	Manhattan	33	55	2.5X
10472	Soundview	Bronx	172	280	2.4X
11412	St. Albans	Queens	45	73	2.4X
10456	Claremont Village	Bronx	179	275	2.3X
11427	Queens	Bellaire	40	61	2.3X

**Zip Codes with the Highest Rate of Consumer Affairs Fines in FY 2012\*\***

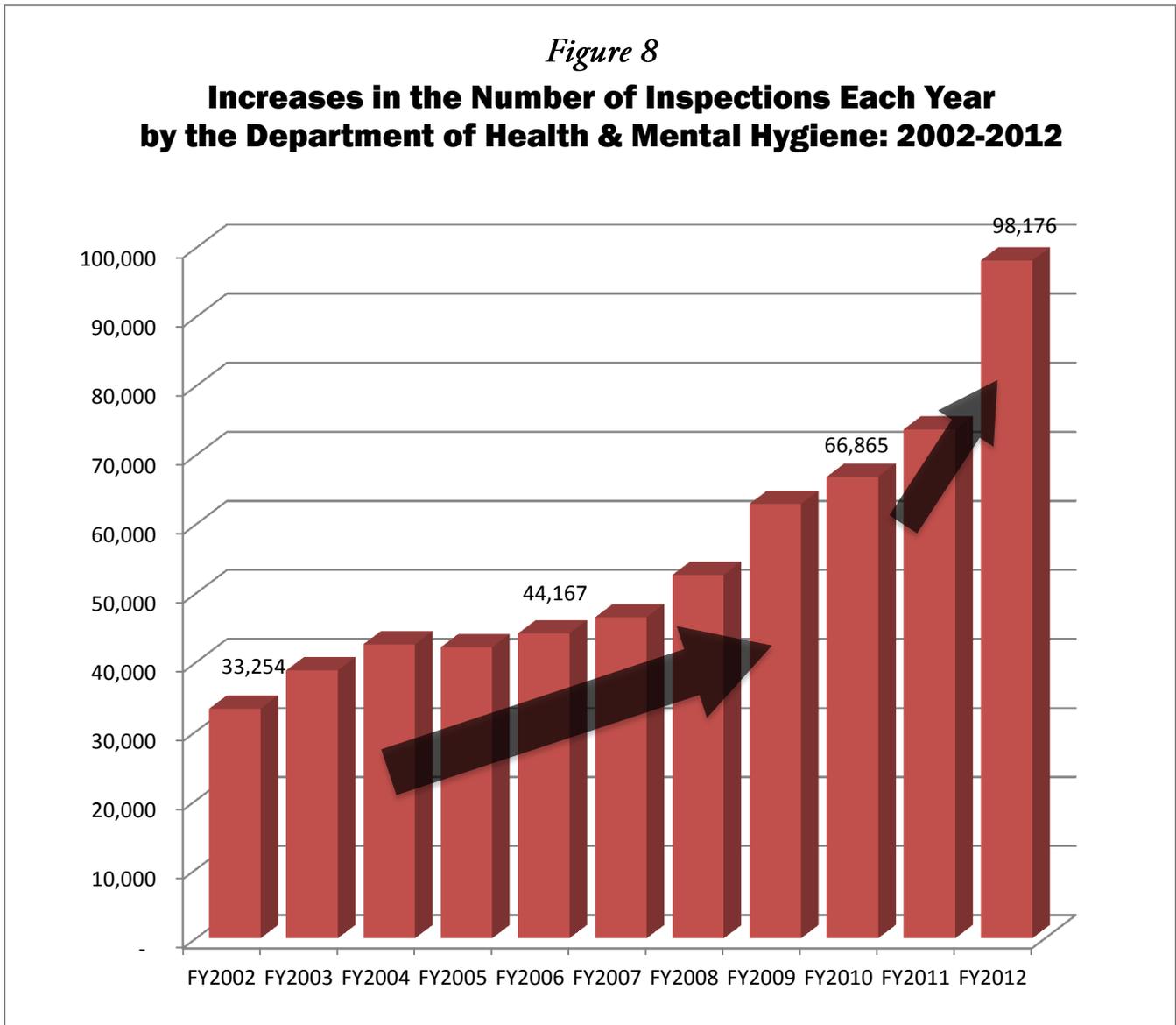
Zip Code	Neighborhood	Borough	# of Retail Businesses	Total Amount of DCA Fines	Rate Compared to Citywide Average
11413	Laurelton	Queens	67	\$253,668	5.8X
11422	Rosedale	Queens	68	\$193,400	4.4X
10470	Woodlawn	Bronx	46	\$113,153	3.8X
11231	Red Hook	Brooklyn	194	\$433,918	3.4X
10466	Edenwald	Bronx	145	\$318,314	3.4X
11369	East Elmhurst	Queens	39	\$76,419	3.0X
10459	Morrisania	Bronx	191	\$351,865	2.8X
10456	Claremont Village	Bronx	179	\$321,274	2.8X
10037	Harlem	Manhattan	37	\$62,875	2.6X
10461	Pelham Bay	Bronx	182	\$299,575	2.5X

\*\* Excludes airports and zip codes with less than 20 businesses. Number of retail businesses by zip code is based on data from the U.S. Census Bureau. Inspection, Violation and Fine data by zip code was provided by the Department of Consumer Affairs

## PART II - DEPARTMENT OF HEALTH AND MENTAL HYGIENE

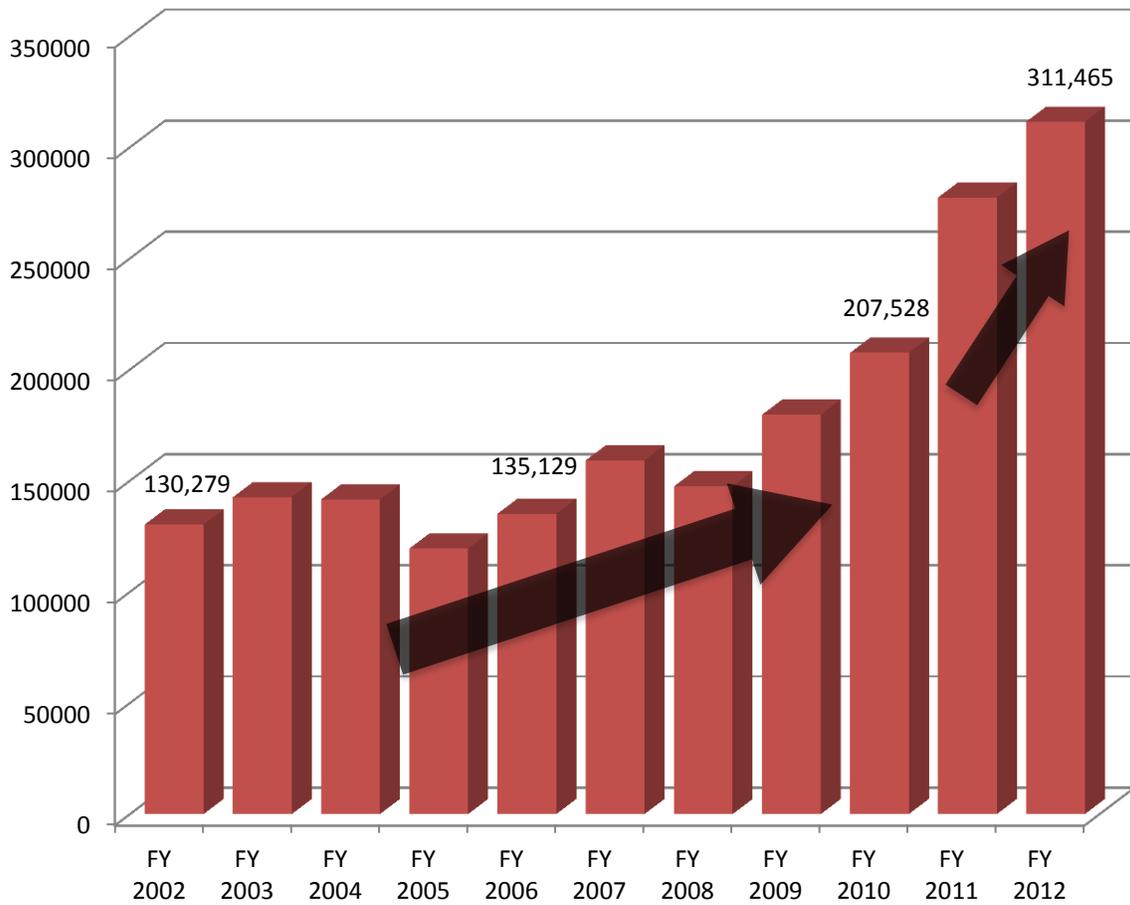
### 1) MORE Inspections and Violations

Department of Health and Mental Hygiene inspections have increased by 56% in the past three years, from 62,945 in FY2009 to 98,176 in FY2012. Violations issued by DOHMH inspectors increased at an even greater rate of 73%, growing from 179,677 violations issued in FY2009 to 311,465 in FY2012.



*Figure 9*

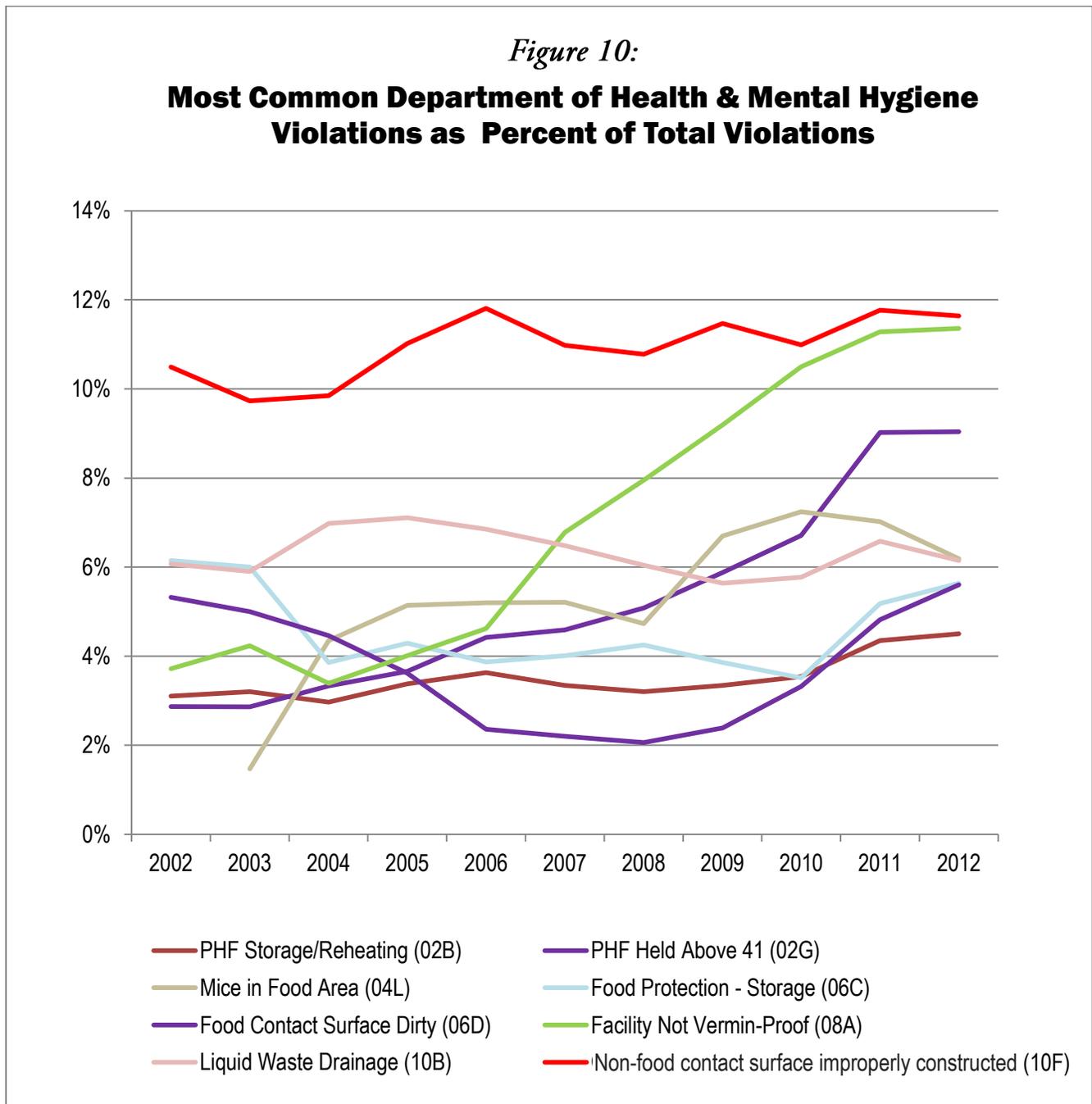
**Increases in the Number of Violations Given Out Each Year by the Department of Health & Mental Hygiene: 2002-2012**



## 2) Increased Use of Small Subset of Violation Categories

Beside the gross increase of inspections and violations over the FY2010-FY2012 period, DOHMH also supplied data regarding the types of violations issued, many of which are subjective and allow inspectors leeway. Out of 94 possible health violation categories, DOHMH has increasingly relied on a small group of violation categories for the majority of violations issued.

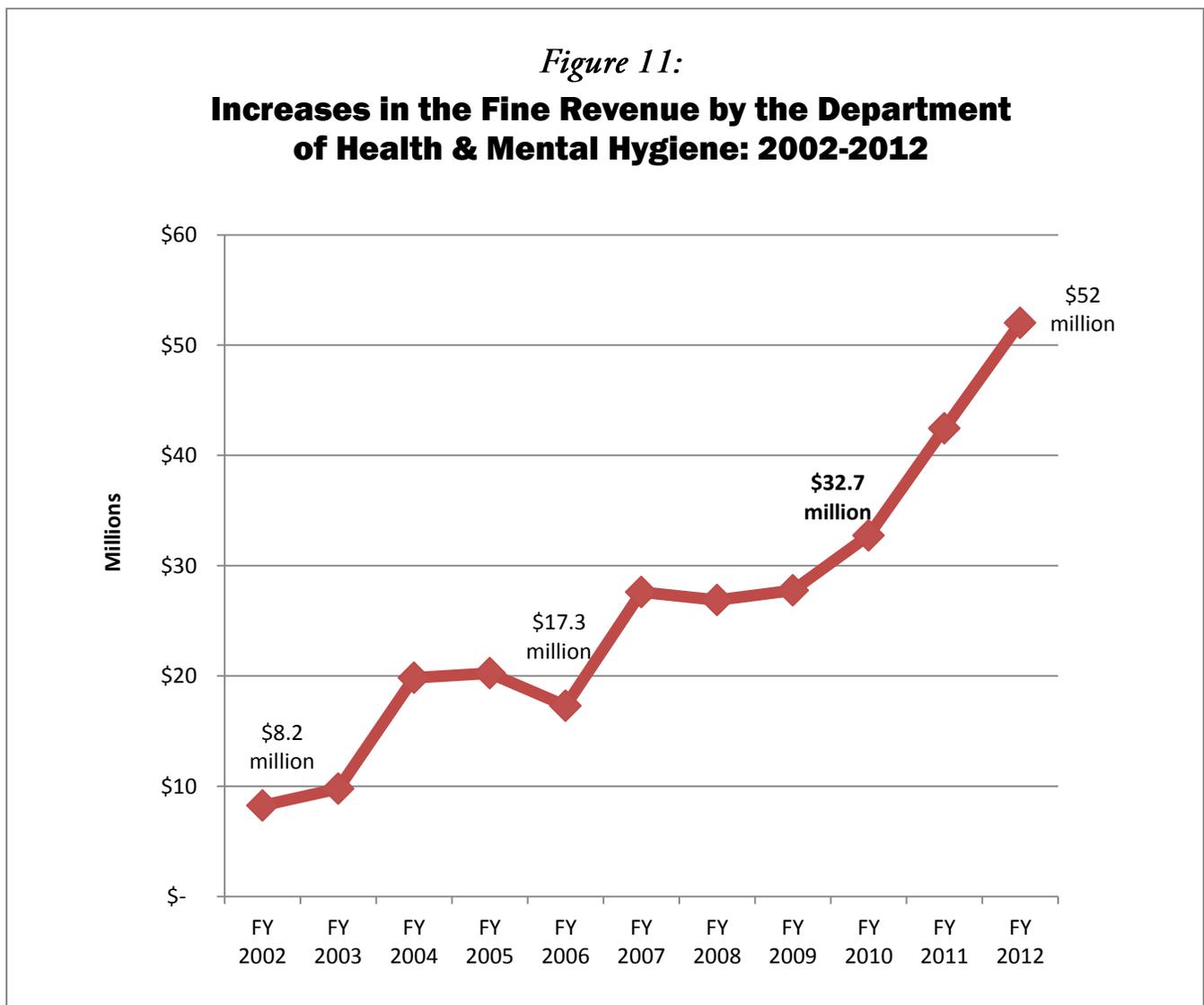
In FY 2002, the top eight most frequent violations comprised 38% of all violations issued. This percentage increased across time, hitting a peak of 60% of all violations in FY 2012. The figure below charts the growth of these eight violations over time



The data shows the violation most often cited is “Non-Food Surface Improperly Constructed.” Industry experts have questioned this violation category as extremely subjective, which inspectors give incredible leeway in penalizing restaurant owners for non-compliance. This violation makes up on average 10% of all violations issued every year, and in FY 2012 alone, more than 36,000 such violations were issued to the roughly 27,000 food service establishments in the city.

### 3) Increased City Revenue from Small Businesses

As a result of these increases in inspections and violations, revenue generated by DOHMH from these fines has doubled over the same time period, demonstrated below in Figure 11. In FY2009, DOHMH generated \$27.8 million from food service establishment fines, and moved to \$52.0 million in FY2012, an increase of 87% over three years, and an aggregate of \$40 million additional money taken out of the food industry over the baseline numbers of the previous decade. The approximately 27,000 food service establishments in the city paid an average of \$1,925 dollars in fines in 2012.



#### 4) Inequity of Distribution

DOH provided the Public Advocate with detailed violation data by zip code. Of the 10 neighborhoods with the highest rate of health violations per restaurant, six were in Queens and four were in Brooklyn.

##### Zip Codes with the Highest Rate of Health Violations per Restaurant in FY 2012\*\*

Zip Code	Neighborhood	Borough	Health violations issued in 2012	# of restaurants receiving fines	Avg Violations per Restaurant	Comparison to Citywide Average
11225	Prospect Lefferts Gardens	Brooklyn	1,518	57	26.63	168%
11216	Bedford-Stuyvesant	Brooklyn	2,297	87	26.40	166%
11420	South Ozone Park	Queens	1,102	43	25.63	161%
11428	Queens Village	Queens	624	25	24.96	157%
11412	St. Albans	Queens	572	23	24.87	157%
11208	Cypress Hills	Brooklyn	1,818	74	24.57	155%
11422	Rosedale	Queens	612	25	24.48	154%
11369	East Elmhurst	Queens	875	36	24.31	153%
11372	Jackson Heights	Queens	5,831	241	24.20	152%
11368	Corona	Queens	3,788	161	23.53	148%

\*\* excludes zip codes with fewer than 20 businesses

## PART III – COMBINED SUMMARY:

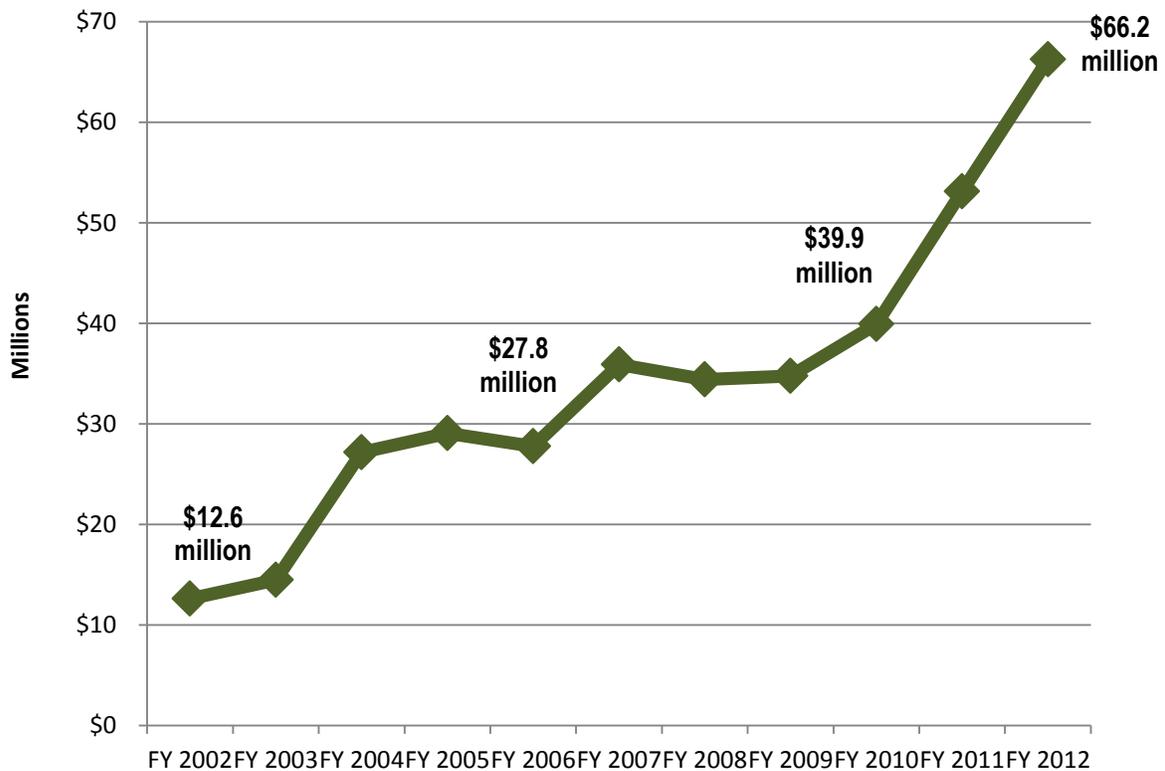
From FY2010-FY2012, total inspections of businesses performed by the Department of Consumer Affairs and the Department of Health and Mental Hygiene have risen by 60% from 109,580 to 175,657. Violations issued to businesses from these two agencies have risen 77% from 189,222 to 335, 641. Revenue has risen by 90% from \$34.9 million to \$66.2 million.

As a result of these agencies' coordinated squeeze of businesses operating in the city, more than \$50 million *additional* dollars have been extracted from the five boroughs. The table below indicates joint revenue generated by DCA and DOHMH over the past decade.

Fiscal Year	Total Fine Revenue
2002	\$12,621,324.00
2003	\$14,489,748.00
2004	\$27,160,512.00
2005	\$29,064,402.00
2006	\$27,761,925.00
2007	\$35,894,150.00
2008	\$34,409,213.00
2009	\$34,776,094.00
2010	\$39,908,118.00
2011	\$53,106,892.00
2012	\$66,240,172.00

*Figure 10:*

### Increases in the Fine Revenue from Small Businesses: 2002-2012



## APPENDIX A: METHODOLOGY

The Department of Consumer Affairs (DCA) and Department of Health and Mental Hygiene (DOHMH) provided the Office of the Public Advocate (Office) with detailed violation data covering 11 years, from July of 2001 to June of 2012. The DCA dataset consisted of 151,815 violations and the DOHMH dataset consisted of 1,959,069 violations. Both datasets included the date of violation, type, location and amount of each fine. The objective of the Office's analyses was to understand how violation characteristics – including frequency, type, location and amount – have changed over time, particularly in the last three years, during which the Office has received a surge in complaints from small businesses regarding unfair fining practices by these two agencies. With the exception of fine amounts exacted by DOHMH, the findings described in section pertain to analyses of violation frequency, type, location by zip code and fine amounts. Since 39% of the fine amount data provided to the Office by DOHMH was missing, fine amount analysis could not be performed on that dataset. Methods used for both datasets are described below.

**Total Businesses by Borough:** The business categories that DCA regulates do not neatly correspond to NAICS code definitions used by the Census Bureau. Since DCA could not provide the Office with the number of businesses it regulates and most DCA-regulated businesses are retail vendors, businesses included within NAICS codes 44-45 (Retail) and 42 (Wholesale) were used as indicators for the number of businesses in the city that DCA regulates. To establish the number of retail and wholesale businesses by borough, Census Bureau data by zip code was merged with the NYC Planning Borough Data set, resulting in the total number of businesses per borough.

### **Methods for DCA Analysis**

To analyze changes in the frequency of violations, amounts of fines, locations and types of violations issued by DCA, *violation frequency* and *fine amount* variables were generated.

**Inspections:** The number of inspections was determined by the data provided by the Department of Consumer Affairs, in which the total number of violations was given for each fiscal year, from 2002 to 2012.

**Revenue:** The revenue generated by Department of Consumer Affairs was determined by the data provided by DCA, which included the total revenue for the Department by each fiscal year, from 2002 to 2012.

**Violation Frequency:** The total number of violations per fiscal year was analyzed, as the total number of violations occurring each month which was aggregated in Fiscal Year.

### **Geographic Methodology:**

**Violations per Zip Code:** The Department of Consumer Affairs provided the office with a data set for individual violation. This data set included inspection date Certificate number, City, State and Zip code. This data set was then filtered to remove any non-New York City zip codes. To narrow inspection by zip code and for fiscal year, each certificate number was coded to reflect the fiscal year it fell under and each zip code the certificate number was in. The number of certificates in each zip code per year was tallied to provide the sum of each violation per zip code.

**Inspections per Zip Code:** The Department of Consumer Affairs provided the office with a data set for individual inspections. This data set included inspection date, Certificate number, City, State and Zip code. This data set was then filtered out to remove any non-New York City zip codes. To get inspection by zip code and for fiscal year,

each certificate number was coded to reflect the fiscal year it fell under and each zip code the certificate number was in. The number of certificates in each zip code per year was tallied to provide the sum of each inspection per zip code.

**Inspections per Borough:** The Department of Consumer Affairs provided the office with a data set for individual inspections. This data set included inspection date, Certificate number, City, State and Zip code. This data set was then filtered out to remove any non- New York City borough. To get inspection by Borough and for fiscal year, each certificate number was coded to reflect the fiscal year it fell under and each zip code the certificate number was in. The zip code was then matched to its corresponding Borough. The number of certificates in each zip code per year was tallied to provide the sum of each inspection per borough.

**Average Fine Amount:** DCA's fine data was analyzed on a monthly basis, as the average violation amount per month in each month from July 2001 to June 2012. Since changes in fine amounts may be partially subject to changes in the value of the dollar over time, these monthly fine amount averages were normalized to May 2012 real dollars using the U.S. Department of Labor's Consumer Price Index<sup>10</sup>. Due to slight mismatches among the original DCA, DOITT and Census Bureau datasets, as well as missing fine amount data, the dataset that was ultimately analyzed consisted of 95% of the original dataset provided by DCA (N=144,165).

**Total Businesses per Zip Code:** The businesses that DCA regulates do not neatly correspond to NAICS code definitions used by the Census Bureau, since most DCA-regulated businesses retail businesses, NAICS code 44-45 (Retail) and 42(Whole Sale) were assumed the number of businesses that DCA regulates. DCA could not provide the office with the number of business it regulates. To establish which zip codes are within NYC, the zip code dataset from Department of Information Technology and Telecommunications (DOITT)<sup>11</sup> was merged with census bureau industry data for 2001 – 2010. Since industry data is not yet available for 2011 and 2012, 2010 figures were assumed for 2011 and 2012.

**Violation and Inspection per Business:** The violation frequency variable was calculated by dividing the number of violations per Fiscal Year by the number of retail businesses in the corresponding year within NYC zip codes, yielding *violations per business* for each fiscal year. To establish which zip codes are within NYC, the zip code dataset from Department of Information Technology and Telecommunications (DOITT)<sup>12</sup> was merged with census bureau industry data for 2001 – 2010. Since industry data is not yet available for 2011 and 2012, 2010 figures were assumed for 2011 and 2012. For location analyses, the violations per business and inspections per fiscal year was calculated for each zip code, by merging number of businesses data from the Census Bureau Industry dataset by zip code and year. Due to slight mismatches among the original DCA, DOITT and Census Bureau datasets, the dataset that was ultimately analyzed consisted of 98.1% (N=148,968) of the original dataset provided by DCA.

**Fine Amounts per Borough:** The fine amount per borough was analyzed on a fiscal year basis, as the total number of the fine amount given in each fiscal year per borough.

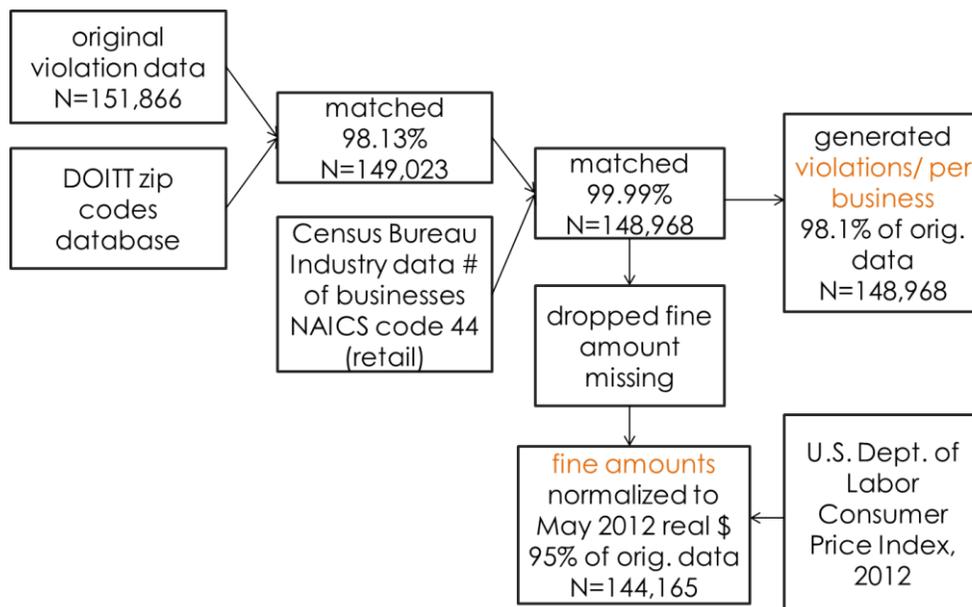
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<sup>10</sup> U.S. Department of Labor Consumer Price Index available at: <http://www.bls.gov/cpi/>

<sup>11</sup> Zip code data available via NYC Open Data at: NYC Open Data <https://nycopendata.socrata.com/Social-Services/Zip-Codes-Map/zsjh-u7ve>

<sup>12</sup> Zip code data available via NYC Open Data at: NYC Open Data <https://nycopendata.socrata.com/Social-Services/Zip-Codes-Map/zsjh-u7ve>

The figure below describes the process that was used to generate DCA violation frequency and fine amount variables.



## **Methods for DOHMH Analysis**

In order to analyze changes in the frequency of violations, locations of violations and types of violations issued by DOHMH, a *violation frequency* variable was generated.

**DOHMH Violation Frequency:** was analyzed on a fiscal year basis, as the total number of violations occurring in each fiscal year from 2002 to Fiscal Year 2012

**DOHMH Inspections:** The number of inspections was determined by the data provided by the Department of Health and Mental Hygiene, in which the total number of violations were given for each fiscal year from 2002 to 2012.

**DOHMH Revenue:** The fines generated from Restaurant inspections were determined by the data provided by DOHMH which included the total revenue for each fiscal year from 2002 to 2012.

**Most Common Department of Health & Mental Hygiene Violations as a Percent of Total Violations:** The most common violations were determined by using the DOHMH data set, which provided a code of each type of violation given by DOHMH and the date it was given. Each type of violations was coded to reflect the fiscal year it fell under, then each violation type was summed up for the fiscal year providing the total number of the particular violation that were given for each fiscal year. Each total was then divided by the total number of violations given that year to give the percent total of violations. The top violations were filtered out for each year, reflecting the top violations given by DOHMH.

**DOHMH Business Number:** The number of restaurant businesses in each year was based on Census Bureau Industry data<sup>13</sup>. Although the restaurants that DOHMH regulates do not perfectly correspond to NAICS code definitions used by the Census Bureau, NAICS codes 722110 – 722410 (Food Services and Drinking Places) were

<sup>13</sup> Census Bureau Industry data available at: <http://www.census.gov/econ/cbp/index.html>

assumed to be an indicator of fluctuations in the number of restaurants that DOHMH regulates. The violation frequency variable was calculated by dividing the number of violations per month by the number of food services and drinking places businesses in the corresponding year within NYC zip codes, yielding *violation per business per month*. To establish which zip codes are within NYC, the zip code dataset from Department of Information Technology and Telecommunications (DOITT)<sup>14</sup> was merged with Census Bureau industry data for 2001 – 2010. Since industry data is not yet available for 2011 and 2012, 2010 figures were assumed for 2011 and 2012. For location analyses, the violations per business variable was calculated for each zip code, by merging number of businesses data from the Census Bureau Industry dataset by zip code and year. Due to slight mismatches among the original DOHMH, DOITT and Census Bureau datasets, the dataset that was ultimately analyzed consisted of 99.6% (N=1,951,541) of the original dataset provided by DOHMH.

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<sup>14</sup> Zip code data available via NYC Open Data at: NYC Open Data <https://nycopendata.socrata.com/Social-Services/Zip-Codes-Map/zsjh-u7ve>