

# **NYC Restaurants - Data Visualization Project**



# Our Mission

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New York City is famous for its restaurant scene. Thousands of eateries open each year to try to win a piece of that business. With that boom in business comes a need for regulation, **health and safety inspections from the DOHMH.**

Understanding the breakdown of inspections and the results they garnered can **help predict how restaurants will impact NYC** in the coming years.



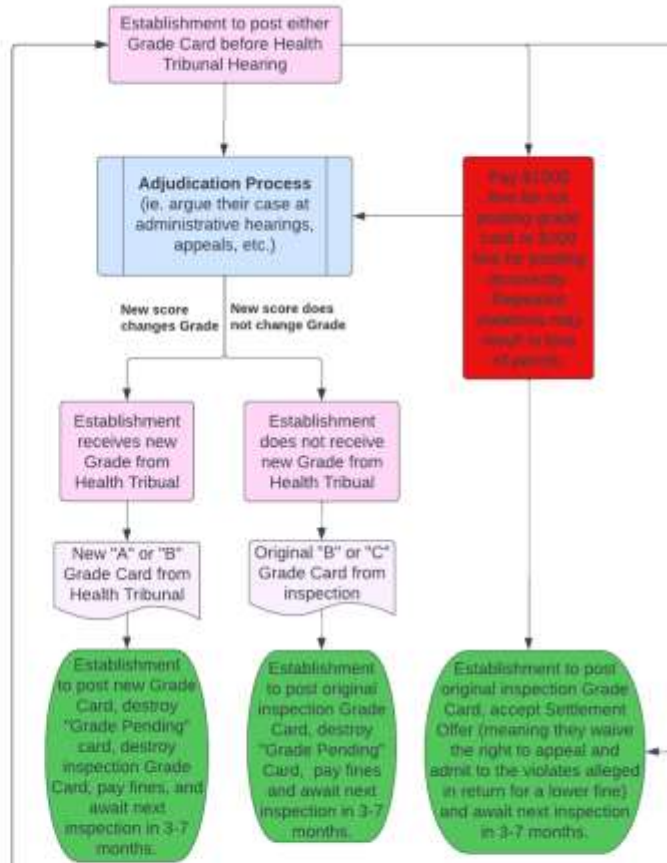
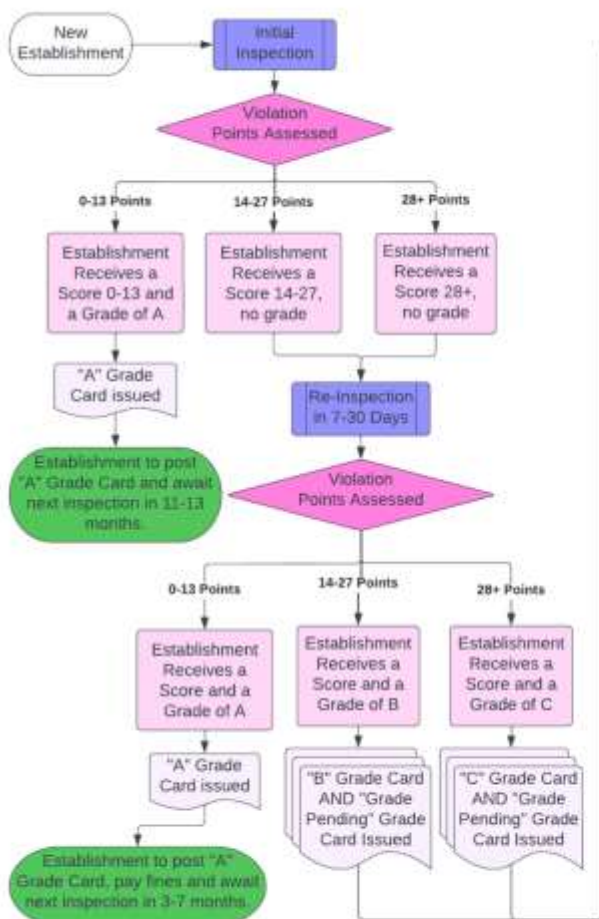
# Restaurant Data Project Overview



# Collect and Understand Dataset

- **Dataset Name:** Restaurant Inspection Data
- **Data Source:** DOHMH, available from NYC OpenData
- **Time Period:** 6 years from 4/4/2019 to 4/3/2022
- **Contents:** Inspection data for restaurants with permits
- **Data Dictionary:** summary of data fields and allowable values
- **About File:** explained quirks of the data and how not to use it
- **Process Workflow:** Inspection cycle, adjudication process, fines
- **Blue Book:** guidebook on violation scoring and grading





# Grade A, B, or C

This is the cycle NYC restaurants are subjected to if they want to keep their license.

**GREEN** = possible end point ...until next inspection cycle

NYC Restaurant Inspections Process



# Clean and Transform Data

- **Clean up NULLS on new restaurants:** “Not Applicable”
- **Clean up NULLS:** boroughs, DBA,
- **Revise Columns:** clunky made legible and easier to work with
  - Violation descriptions sorted into categories
  - Inspection results condensed, Address linked into one cell
- **Keep Data Focused:** removed columns like phone #, census lot
- **Create new datasets out of dataset:** List of Violations (319,627)
  - List of Restaurants (28,675) and List of Inspections (102,028)



## **Questions we can answer for NYC:**

1. What does the breakdown of violations show about the impact on communities of color?
2. How are chains operating in NYC?
3. How did COVID impact inspections?



## **Coming up (for your curiosity!):**

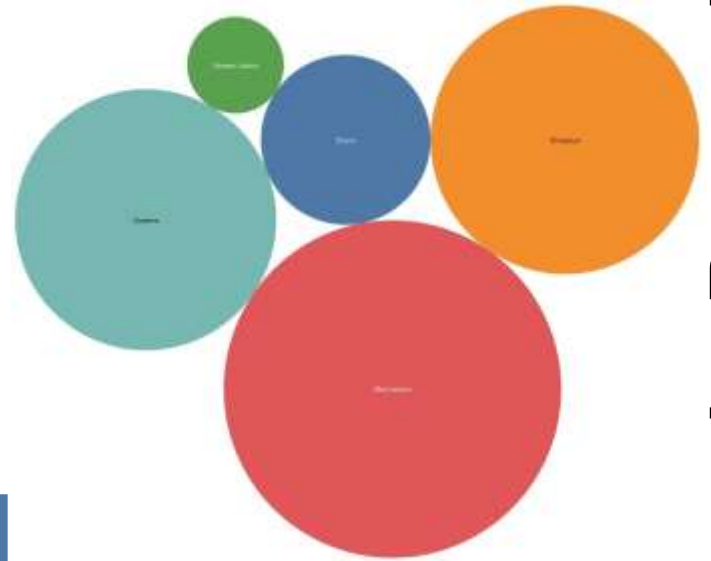
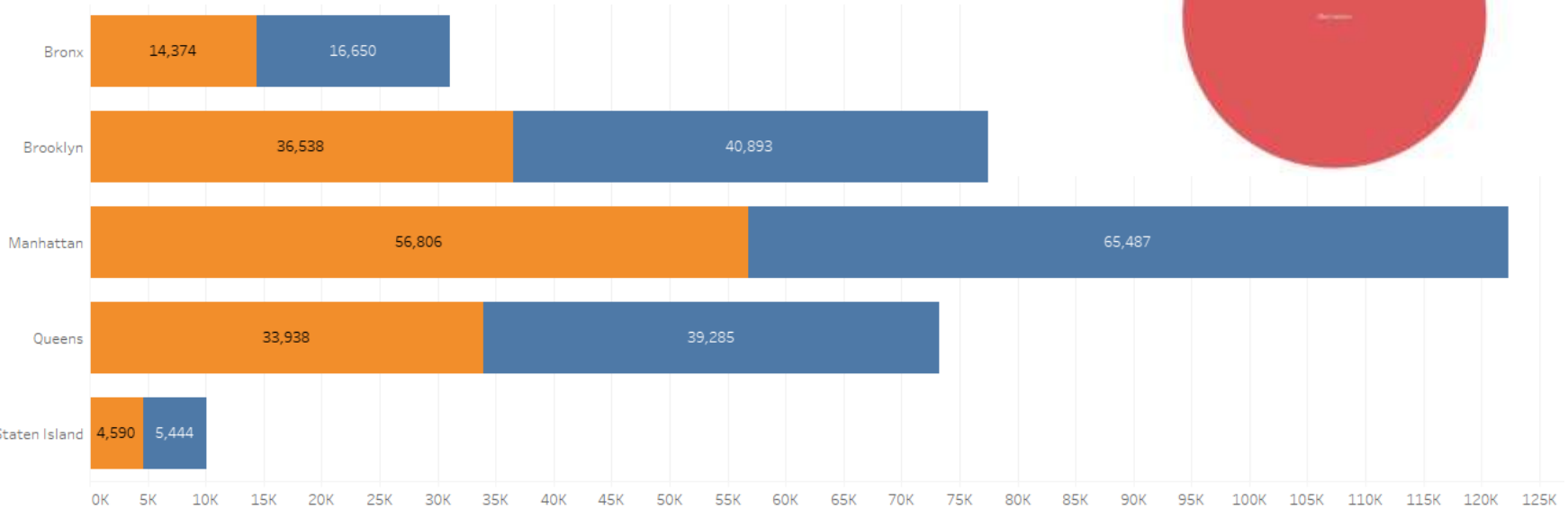
1. Where are most the rat/roach violations found?
1. Which restaurants got the most violations? The most inspections?





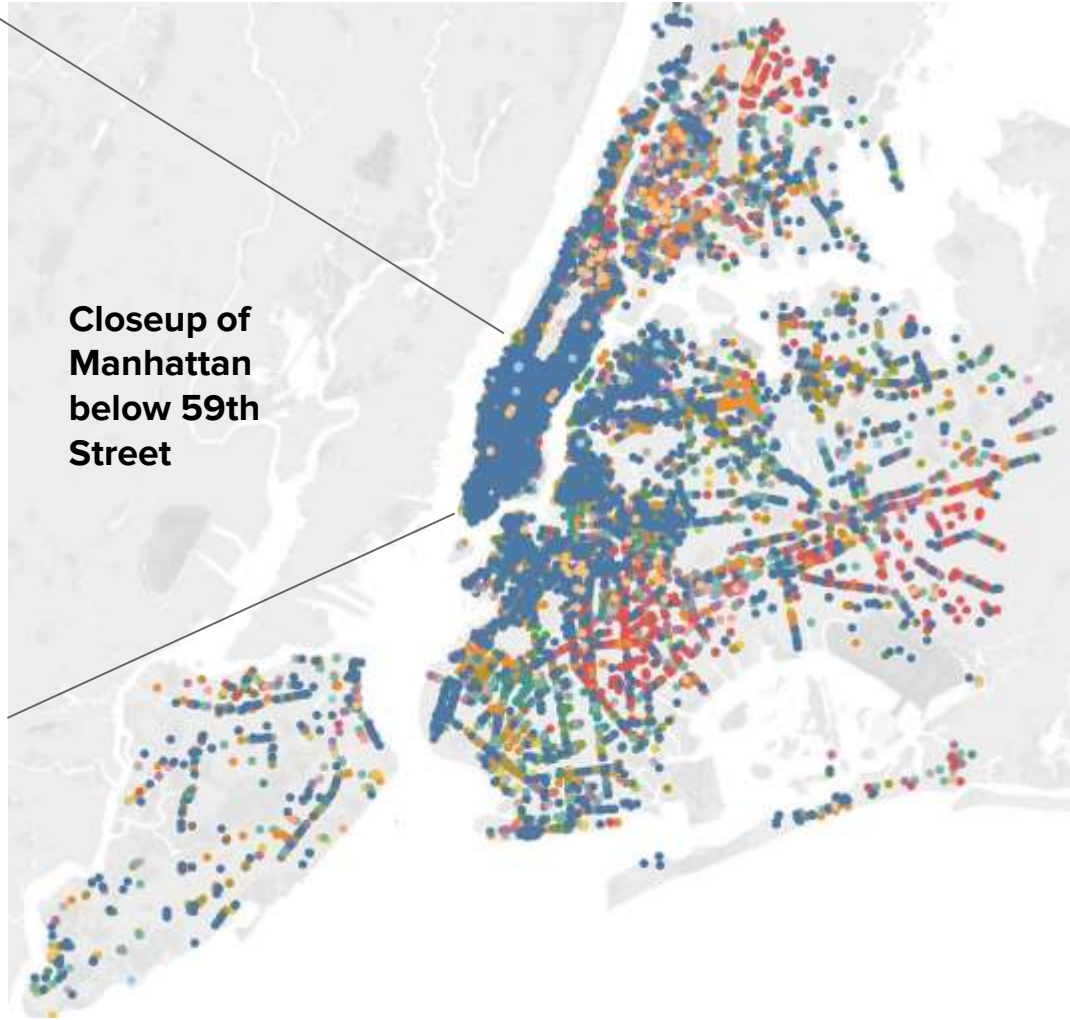
**Manhattan** has most violations  
but also most restaurants.

**Not Critical** vs **Critical** Violations  
were about split



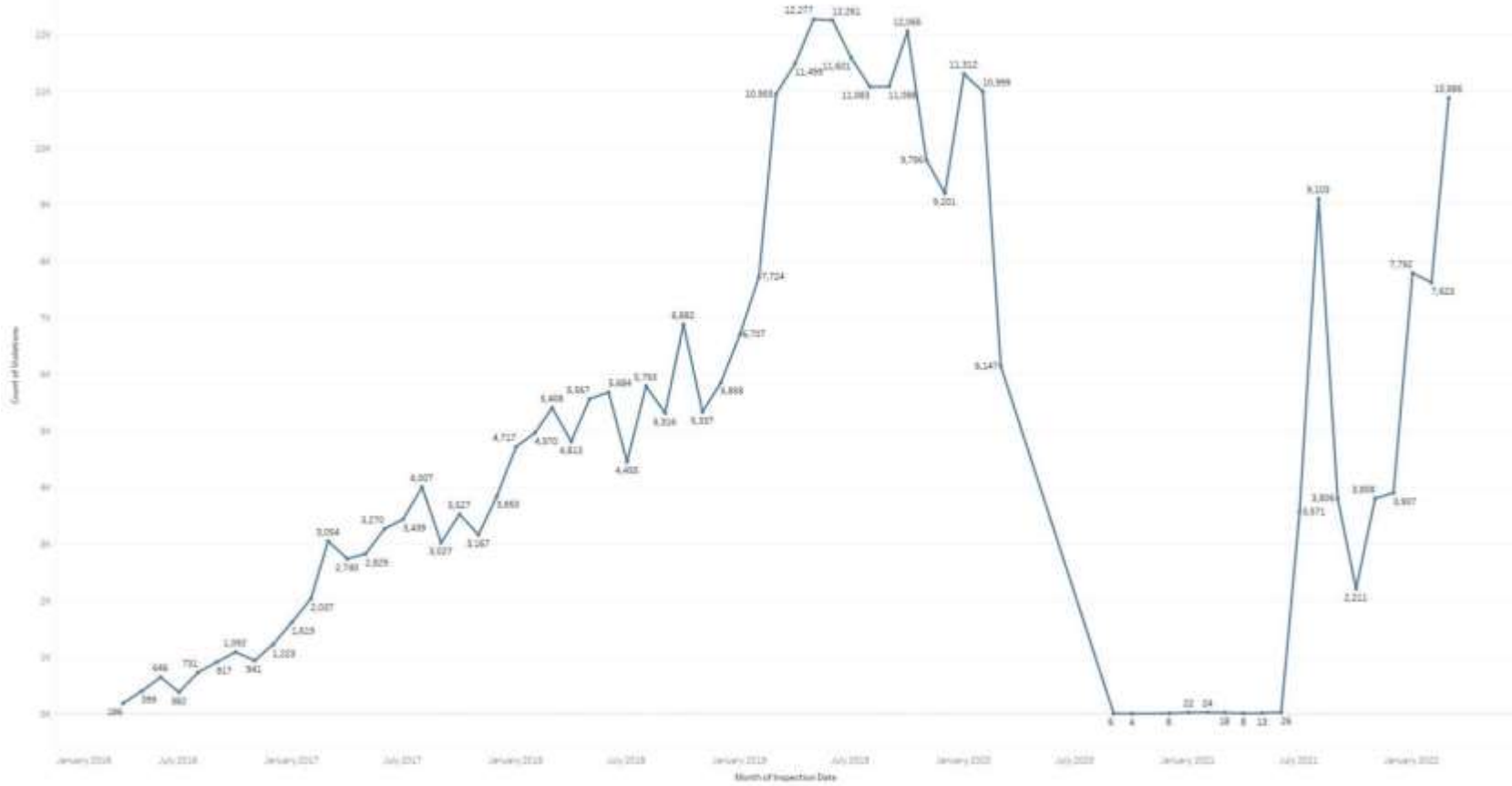
**Violations by Borough**

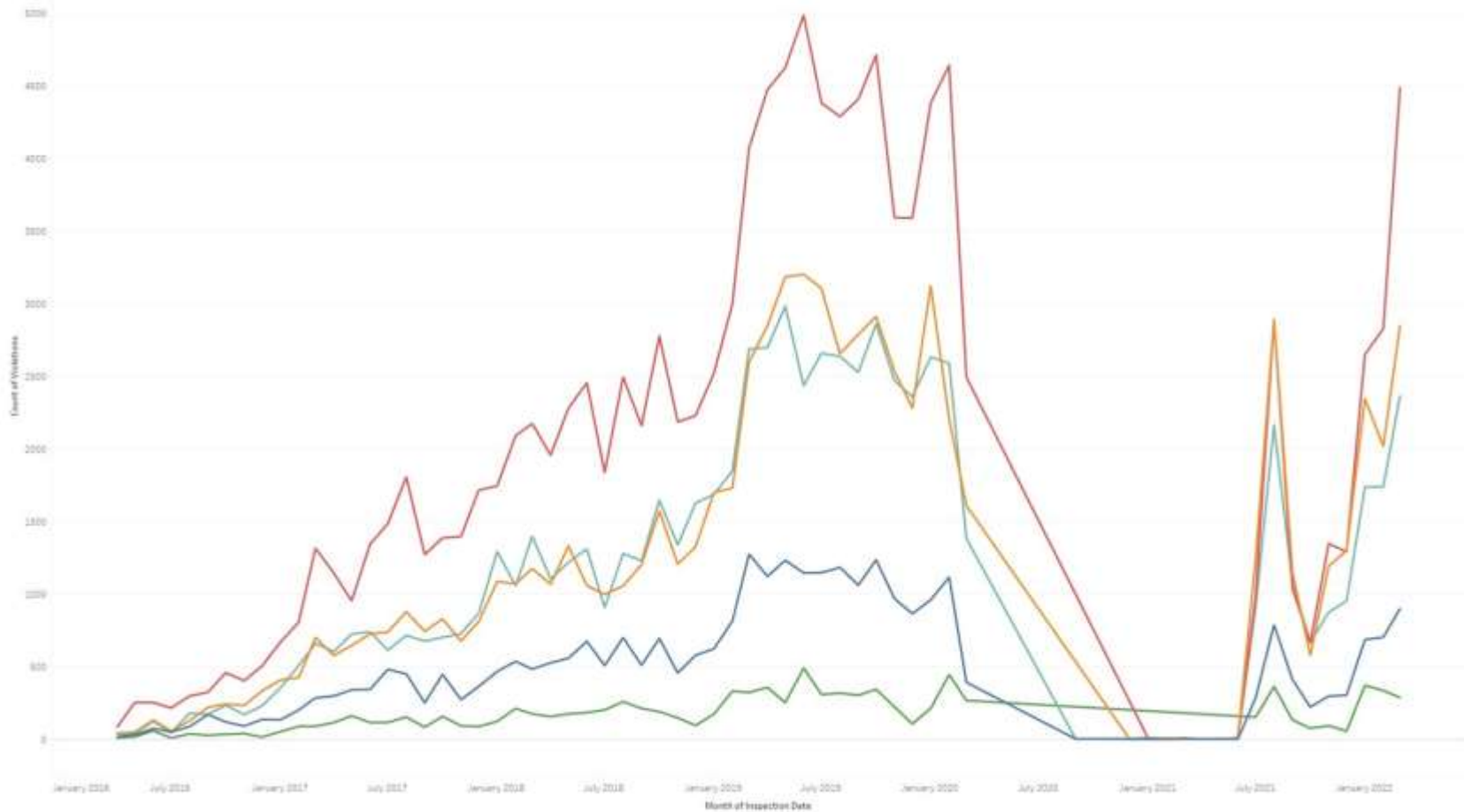




Closeup of  
Manhattan  
below 59th  
Street

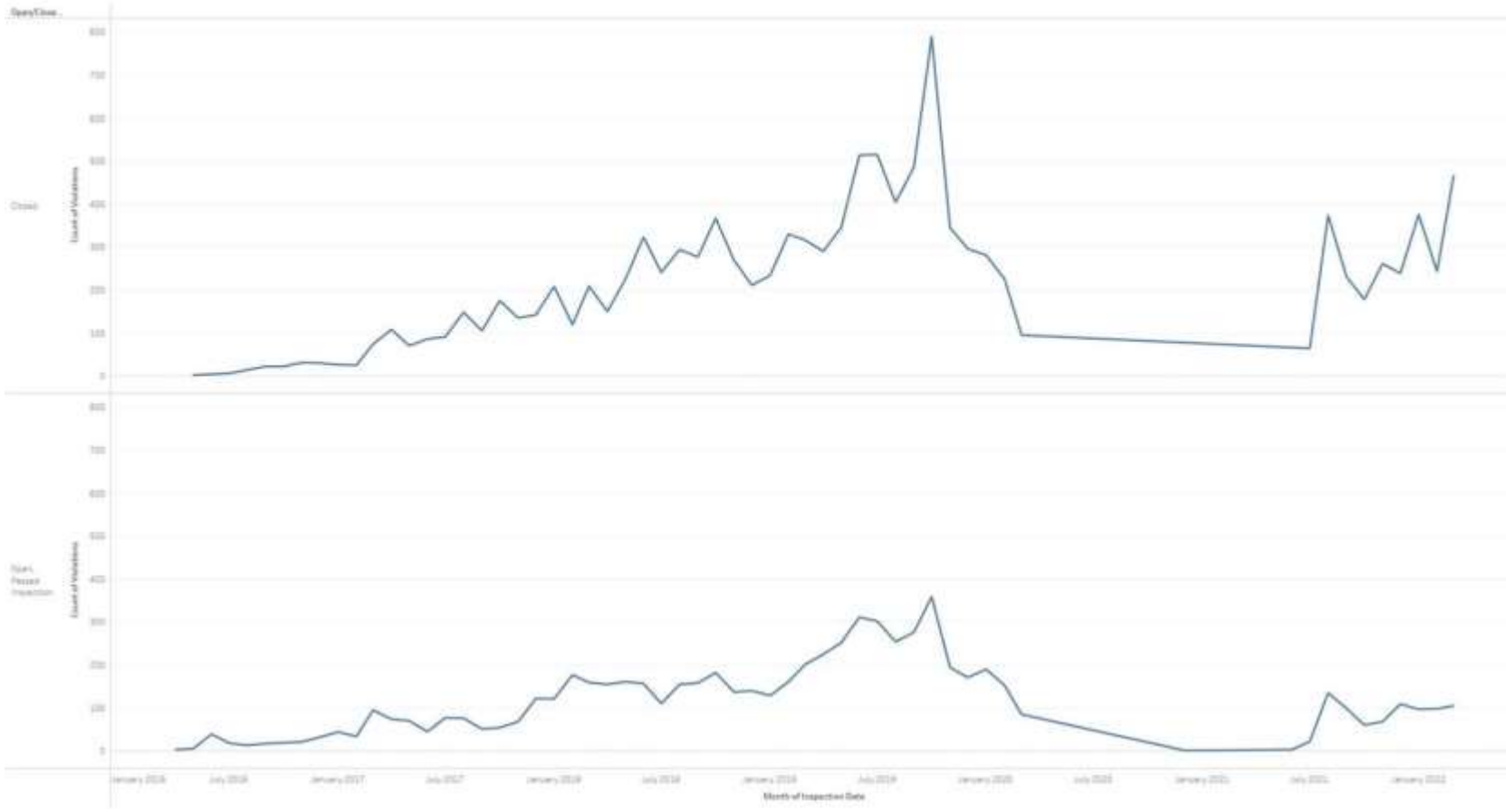






# # Violations by Borough Mar 2020 - July 2021





# # Violations Resulting in Passed Inspection vs Closure of Restaurant





# Violations by Cuisine (Top 4 of each are same)



Cuisine	Closed		Open, Passed Inspection		Open, Violations Cited		Total #
	#	% of total	#	% of total	#	% of total	
American	177	3.62%	16	0.33%	4693	96.05%	4886
Bakery Products/Desserts	56	7.37%	2	0.26%	702	92.37%	760
Caribbean	90	13.01%	1	0.14%	601	86.85%	692
Chinese	252	11.55%	1	0.05%	1928	88.40%	2181
Coffee/Tea	64	3.62%	3	0.17%	1700	96.21%	1767
Italian	47	4.97%	1	0.11%	898	94.93%	946
Japanese	73	8.50%		0.00%	786	91.50%	859
Latin American	68	8.46%		0.00%	736	91.54%	804
Mexican	55	6.63%	1	0.12%	774	93.25%	830
Pizza	94	6.03%	1	0.06%	1464	93.91%	1559
<b>Grand Total</b>	<b>976</b>	<b>6.39%</b>	<b>26</b>	<b>0.17%</b>	<b>14282</b>	<b>93.44%</b>	<b>15284</b>

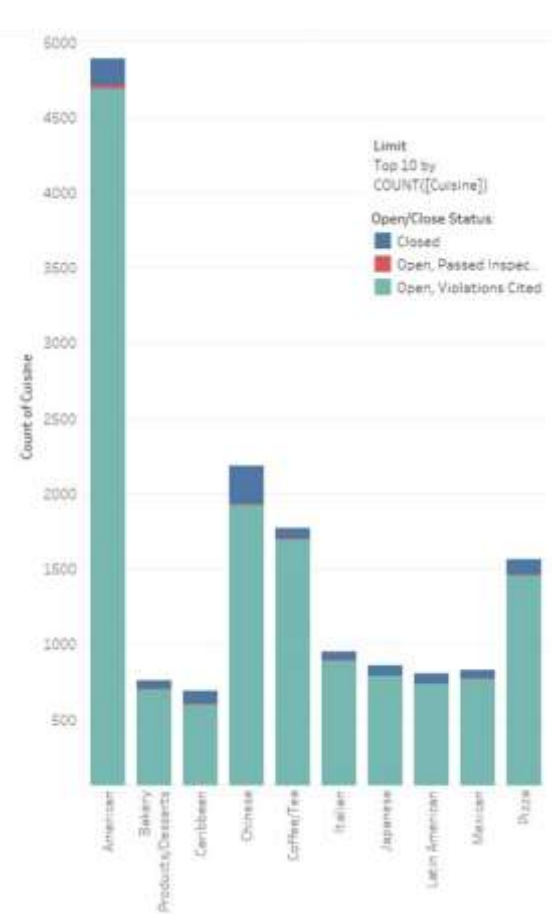
Rates of Inspections leading to CLOSURE:

- 13.01%** Chinese
- 11.55%** Caribbean
- 3.62%** American
- 3.62%** Coffee/Tea

Rates of Inspections leading to IMMEDIATE PASS:

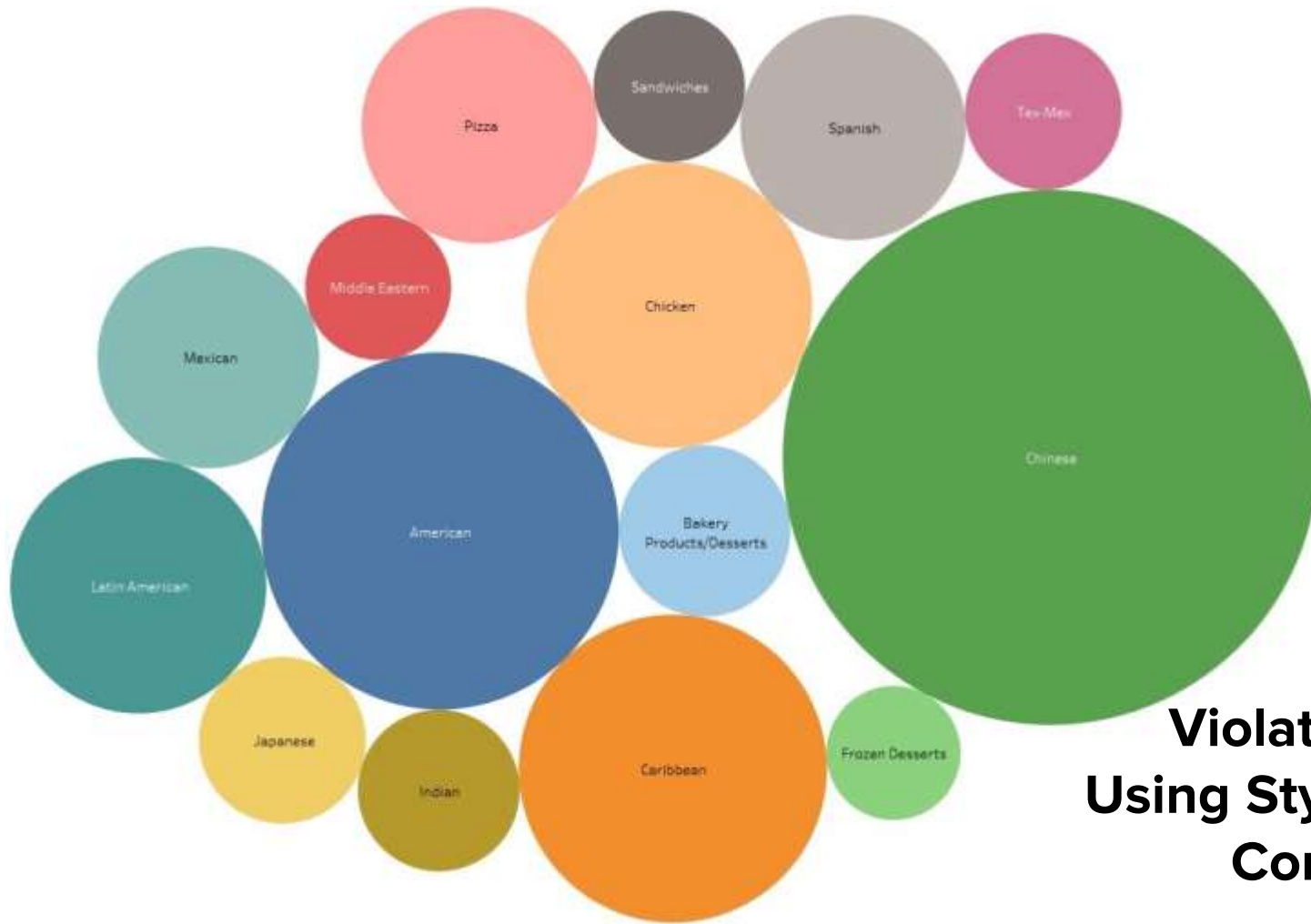
- 0.00%** Latin American
- 0.00%** Japanese
- 0.33%** American
- 0.26%** Bakery

Most Fall in the Middle



# Closure Rate by Cuisine





- Top 10:**
1. Chinese
  2. American
  3. Caribbean
  4. Chicken
  5. Latin American
  6. Spanish
  7. Pizza
  8. Mexican
  9. Tex-Mex
  10. Bakery

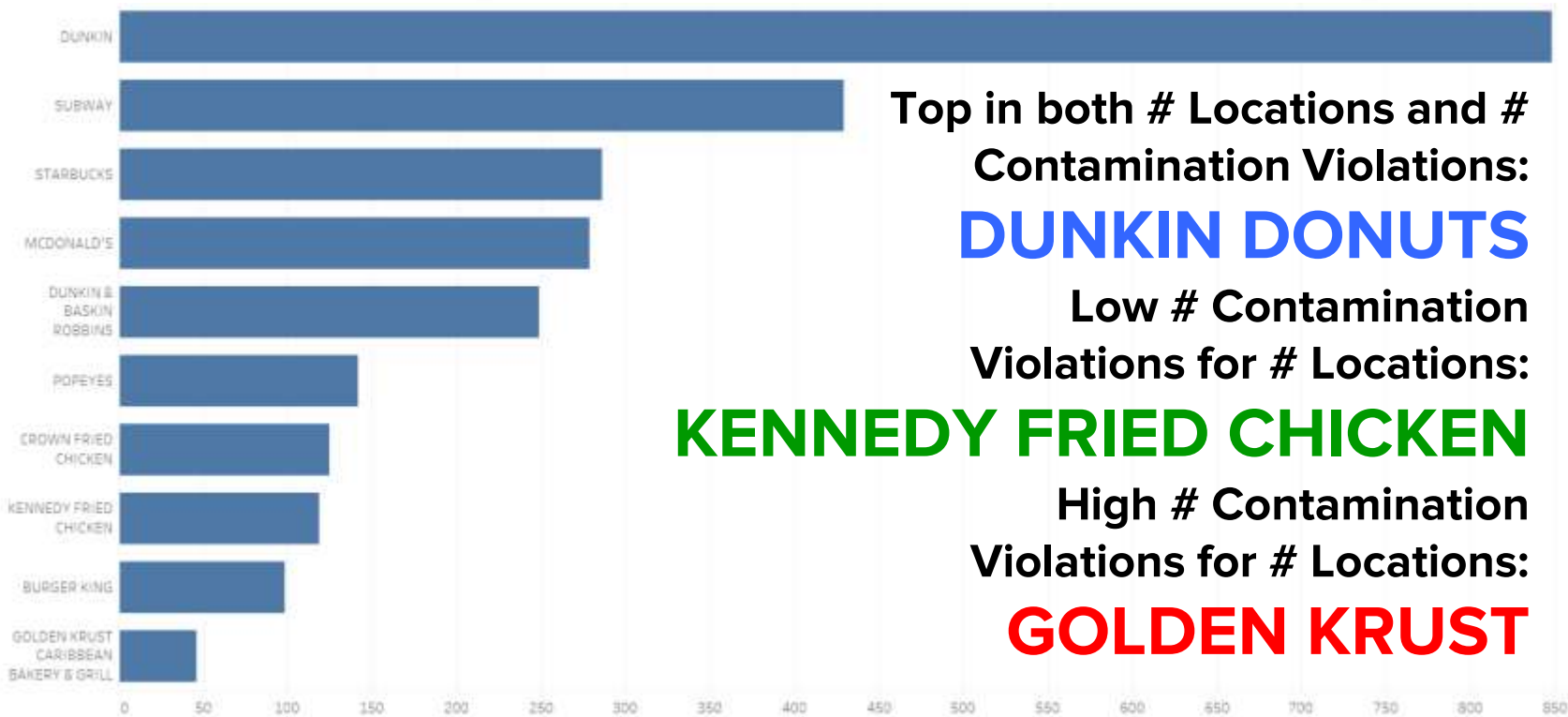
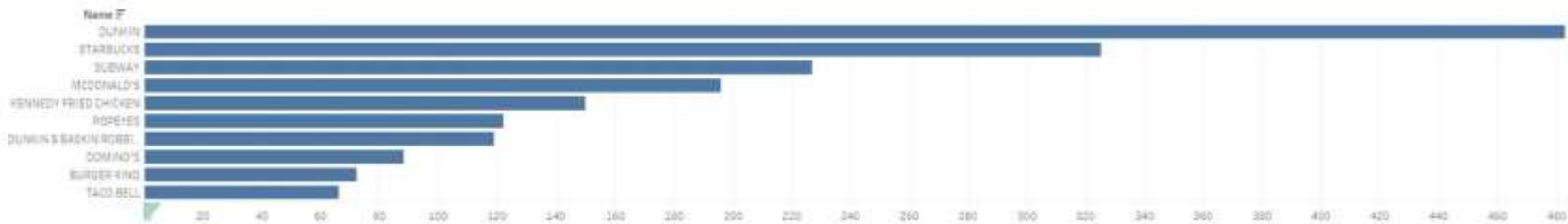
**Grand Total:**  
**706**

## Violations for Using Styrofoam Containers

**Cuisines Still Using Styrofoam**







Top in both # Locations and # Contamination Violations:

**DUNKIN DONUTS**

Low # Contamination Violations for # Locations:

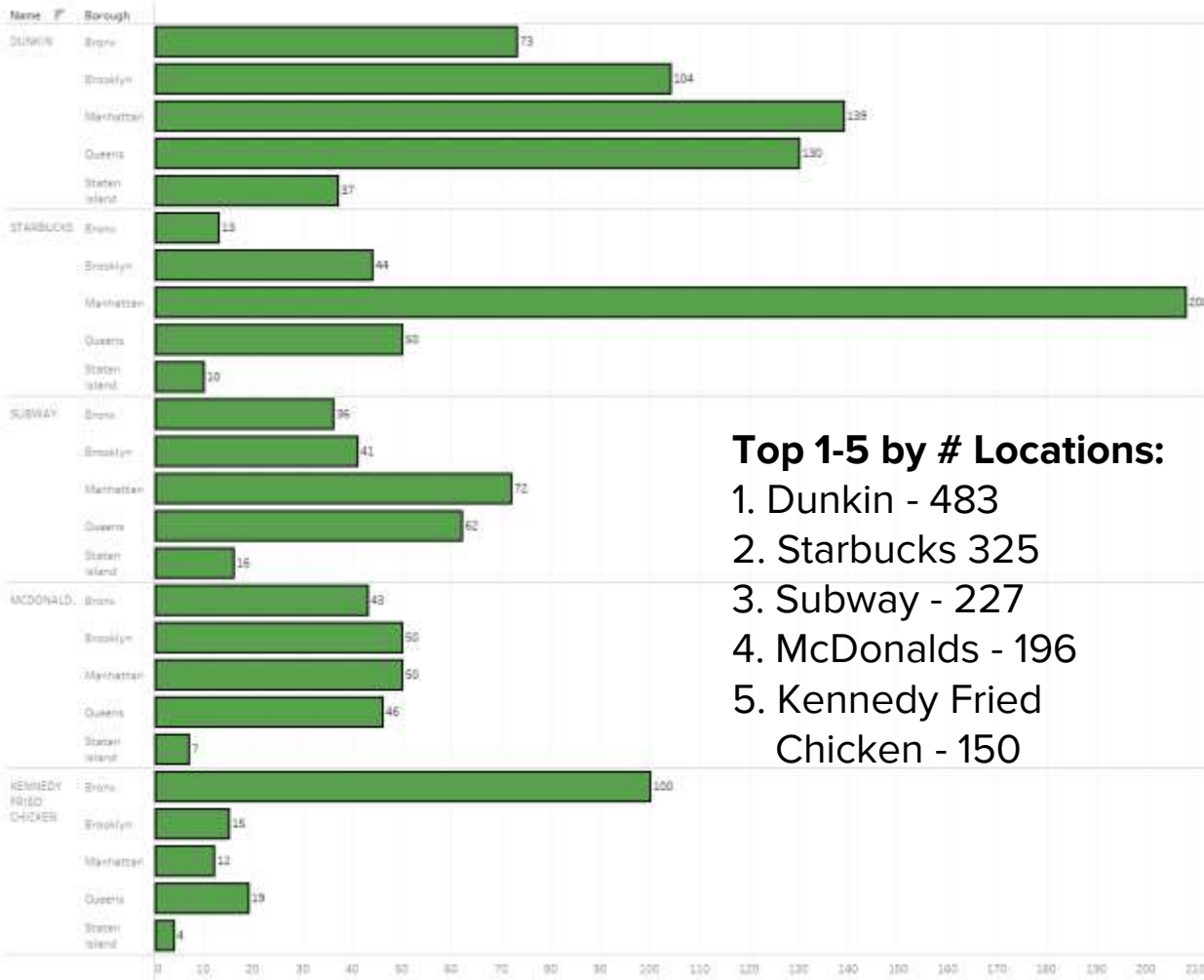
**KENNEDY FRIED CHICKEN**

High # Contamination Violations for # Locations:

**GOLDEN KRUST**

Chains with most Locations



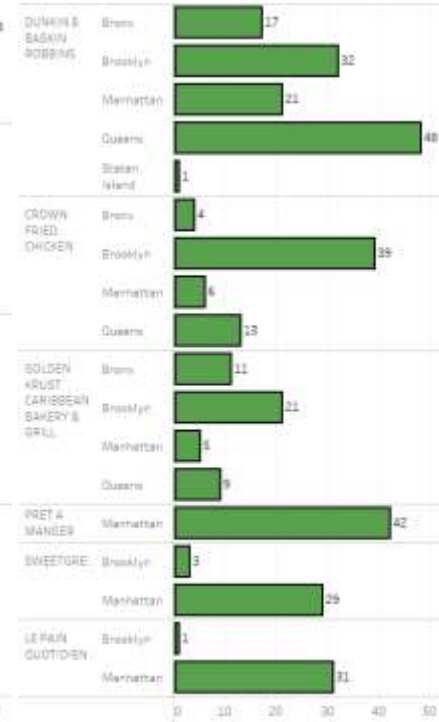


**Top 1-5 by # Locations:**

1. Dunkin - 483
2. Starbucks 325
3. Subway - 227
4. McDonalds - 196
5. Kennedy Fried Chicken - 150

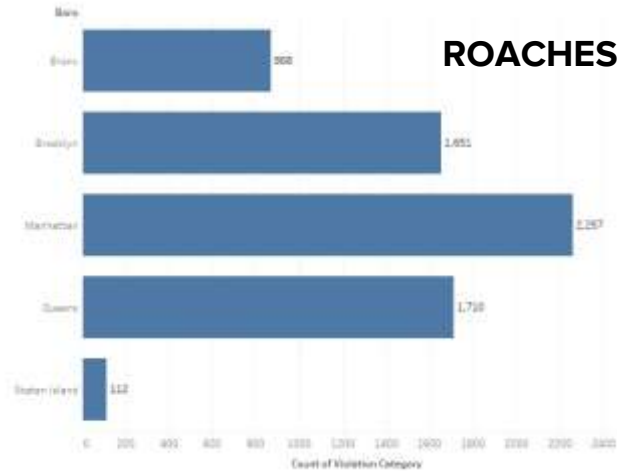
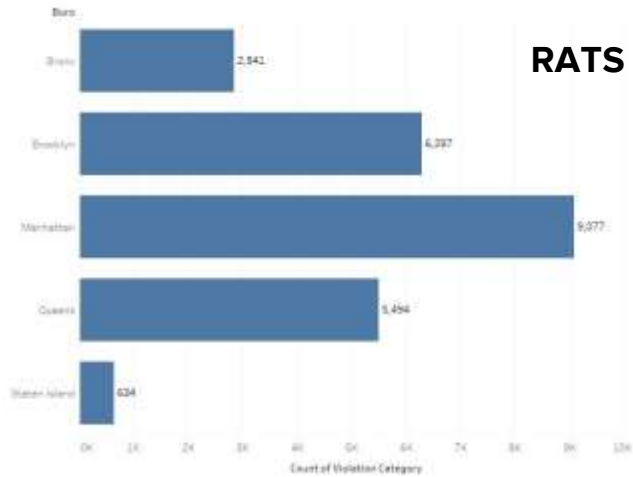
\*Each Chain has at least 32 separate locations.

**Top 6-10 by # Locations:**



**Distribution of Large Chains\* by Borough**

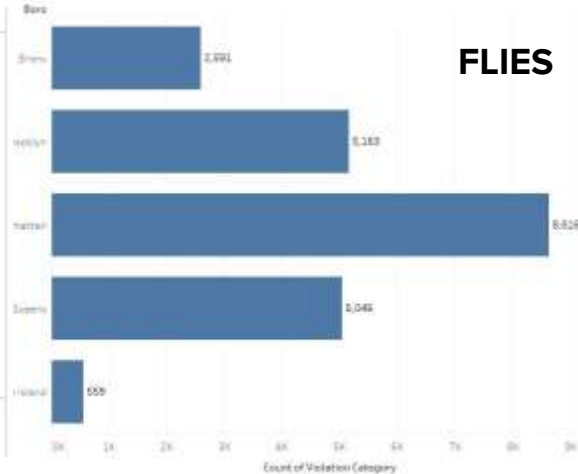
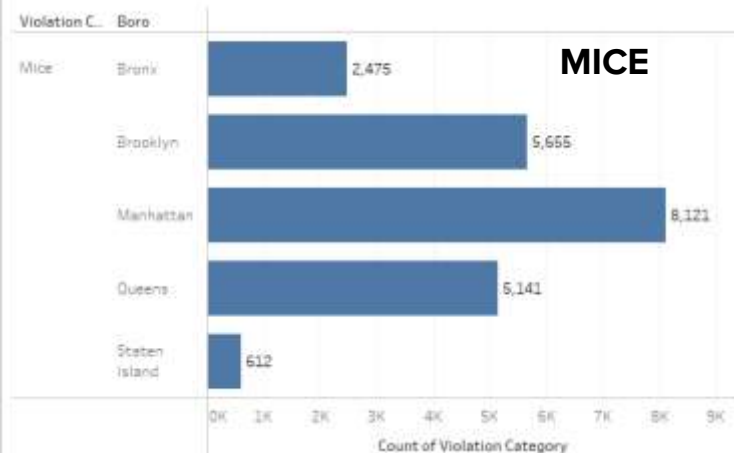




Manhattan has most:  
**9,077** Rat  
**2,257** Roach  
**8121** Mice  
**8616** Flies

Staten Is has least:  
**634** Rat  
**112** Roach  
**612** Mice  
**559** Flies

Vermin by Borough



# Recommendations

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New York City has a wonderfully diverse population and each day, people from around the world share a piece of their culture through food. The burden of operating these eateries, particularly on immigrants, comes with a lot of **red tape**. It would be beneficial for NYC's cultural scene as well as the business owners for DOH to provide **outreach and support in a multitude of languages**. It would be terrible to continue to allow language to be the **barrier to compliance** especially since it comes with financial penalties.

