

NY Restaurant Inspection and Violation

Use Tableau to create a dashboard that enhances awareness of food safety among government officials and residents in New York counties.

Xinyue Hu

O1Introduction

- What kind of product do I aim to launch?
- Why did I choose Tableau for this project?
- How did I select and prepare the data for analysis?
- What challenges did I encounter during the process?

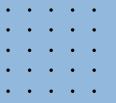
O2Process

- How did I make this dashboard?
- What functions in this dashboard can help me achieve my proposed goals?

03 Next Step

- Add NYC content
- Incorporate Python to predict future inspection results





Introduction

- Problem, proposed goals, and solution
- Data selection
- Challenges



Problem

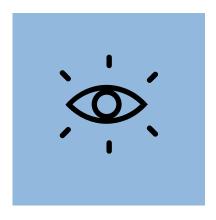
Food Service Establishment: Last Inspection Health

This data includes the name and location of food service establishments and the violations that were found at the time of their last inspection. Although violation details are collected on inspection reports (i.e., the actual food item, quantity and temperature of food found out of temperature control) as well as corrective actions for critical violations, this data set is limited to the violation number and the corresponding general violation description. This dataset is for reporting purposes only. Any concerns about

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Low accessibility and convenience

Government websites often present this data in **lengthy tables or static reports**, making it difficult for residents and business owners to extract meaningful insights.

There are also **no filtering** options to focus on specific areas, types of violations, or the portion of violations.



Proposed Goals



Increasing the awareness and accessibility of Inspection Results

The government can identify regions with the **highest** number of violations and analyze the **frequency** of specific types of violations.

Residents can **easily access** inspection information for restaurants in their living area and conveniently **submit complaints** to the government.



Solution: Dashboard





Data Visualization

I created an interactive dashboard by Tableau. The dataset comes from the official inspection results of restaurants across all counties in New York State. This dashboard allows users to easily access specific county data, identify the most frequent violations, or search for detailed information about specific restaurants and their associated corporations.

Interactive charts and maps enable users to click on specific regions or categories to drill down into detailed data, such as the frequency of certain violations in a selected county. Users can customize their view by toggling between different metrics (e.g., total violations, critical violations, or non-critical violations) to gain deeper insights.





Data Selection

At first, I planned to use official data from Los Angeles officials for the project. However, while preparing the data, I found it was missing key information needed for map visualization, like postal codes and geographic longitudes. Also, the dataset didn't provide detailed descriptions of violations, which meant that the final outcome would only be able to display food safety scores.

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ARIEL COURT APTS SPA POOL	2020-01-31		535 GAYLEY AVE	LOS ANGELES	PR0051541
B AND B CORPORATION	2024-06-06	99	7782 SAN FERNANDO RD	SUN VALLEY	PR0138220
LOWE'S #1852	2023-09-06	100	13500 PAXTON ST	PACOIMA	PR0130707
AFC SUSHI @ RALPH'S # 55	2024-04-30	100	521 W FOOTHILL BLVD	LA CANADA FLINTRIDGE	PR0160430
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NEWCASTLE GARDENS SPA POOL	2020-06-15		5461 NEWCASTLE AVE	ENCINO	PR0060647



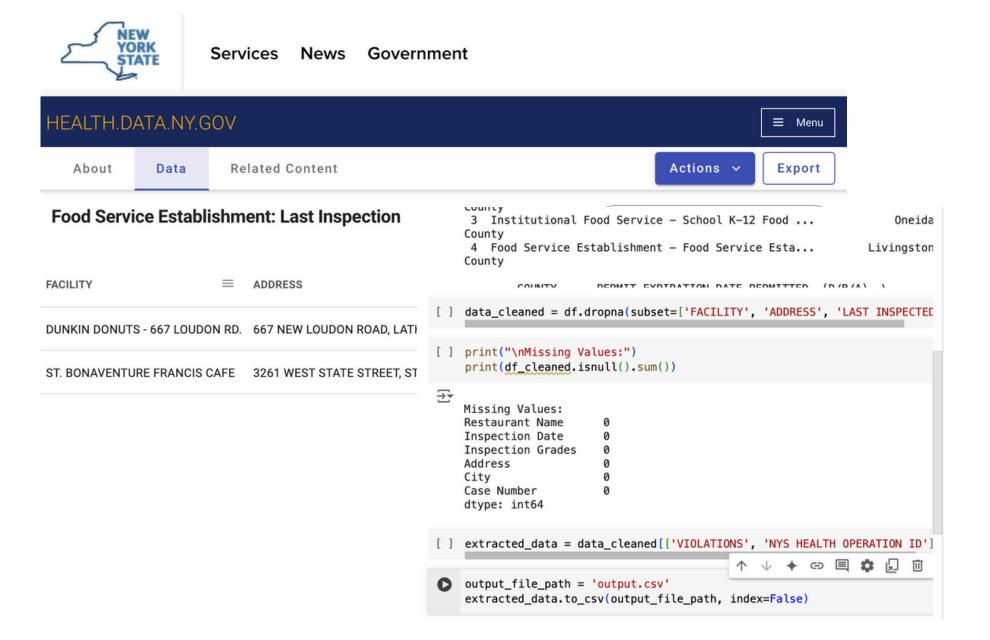
Process

- Data preparation
- Visualization
- Filters







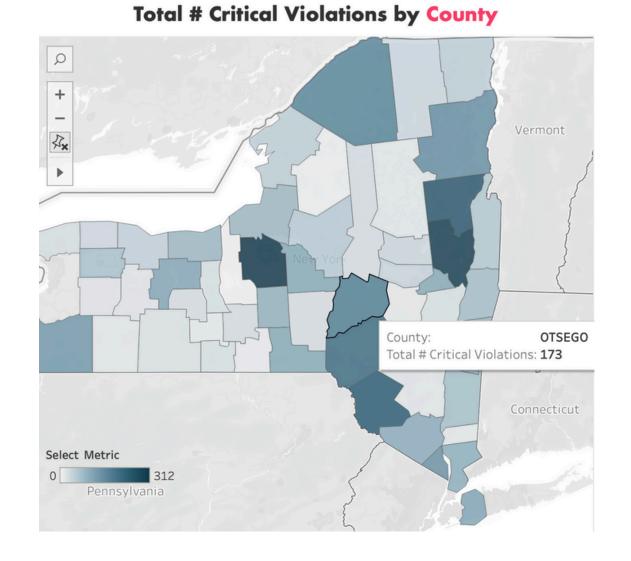


- Conducted data sourcing from official government websites
- Clean the data and deal with the missing value
- Extracted [Violations] and [NYS
 Health Operation ID] for further
 analysis and integration

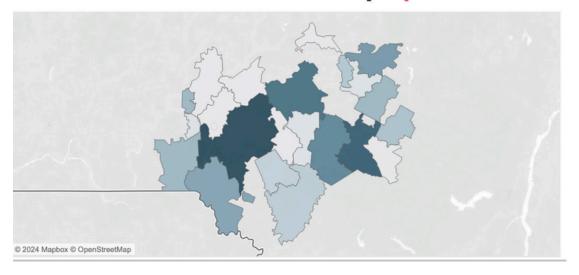


Map

- Color Coding
- Highlights the conditions in specific areas based on ZIP codes
- Integration of multiple data layers

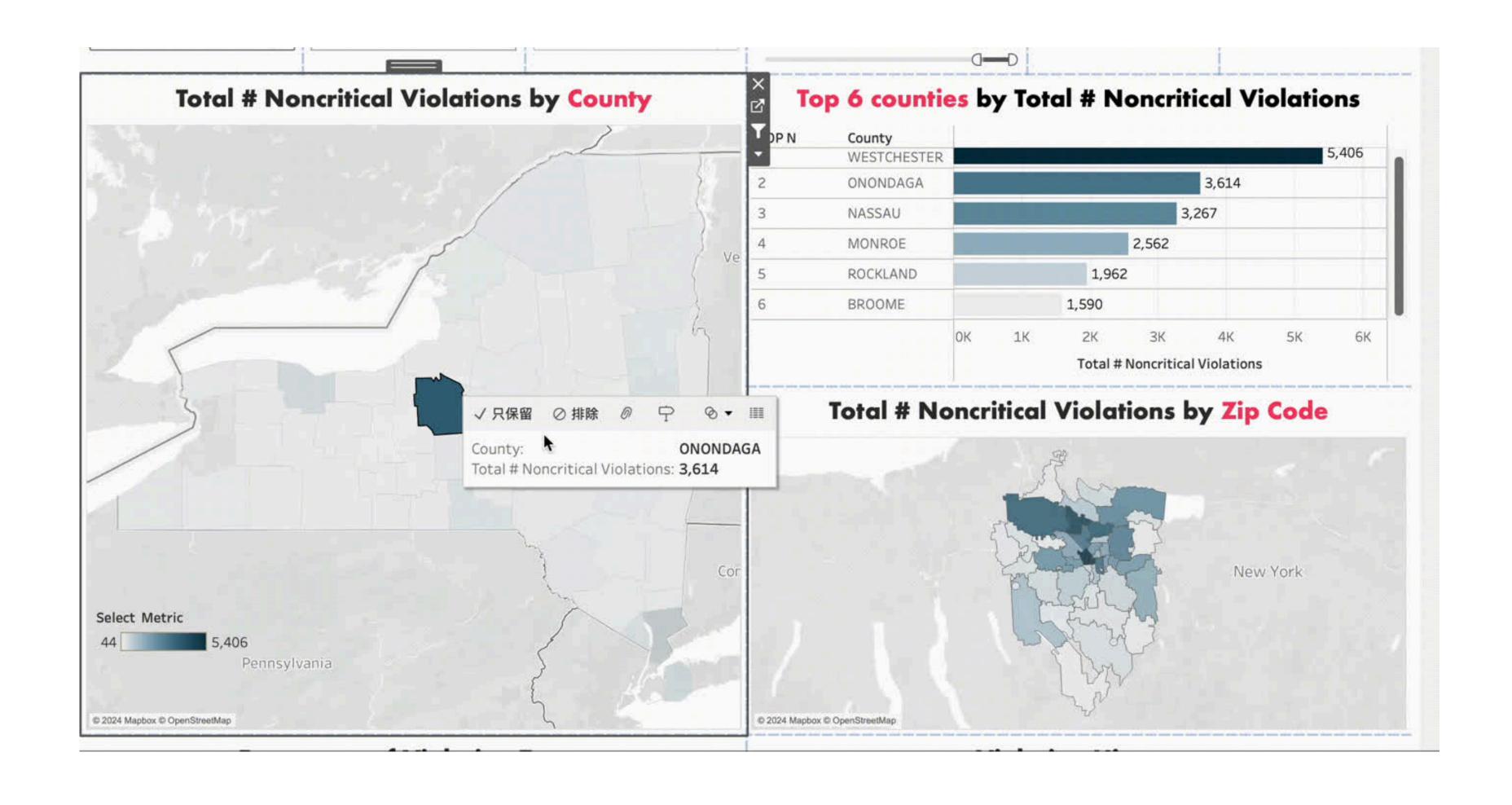


Total # Critical Violations by Zip Code



Visualization

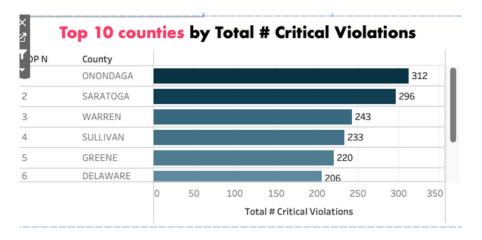






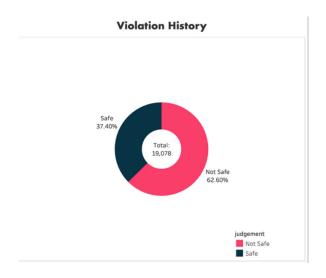
Charts

- Bar chart / Marimekko chart / Pie Chart / Line Chart...
- Compare metrics across categories



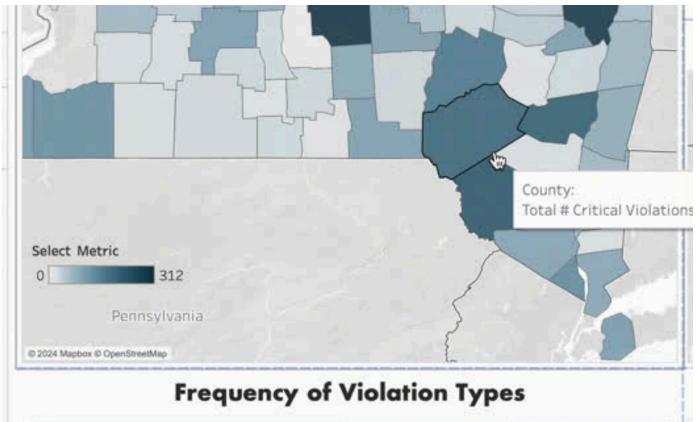
Frequency of Violation Types







Visualization

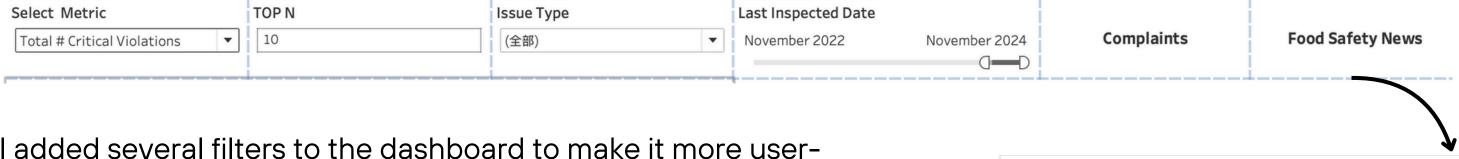


No violations found. Item 10B- Non-food Item 8A- Food not contact surfaces and protected during 7,137 equipment are storage, preparation, 30.75% improperly designed, display, constructed, installed, transportation and service, from potential maintained (equipment not readily sources of contamination (e.g., accessible for cleaning, surface not smooth food uncovered, mislabeled, stored on finish) floor, missing or 3,461 inadequate sneeze 14.91% guards, food containers double stacked) Item 11D- Non food contact | Item 12Esurfaces of equipment not Handwashing Item 15A- Floors, walls, ceilings, not smooth, clean facilities

properly constructed, in disrepair, dirty

4,245 18.29% 2,945 12.69% inaccessible, improperly located, dirty, in disrepair, improper fixtures, soap, and single service

Filters



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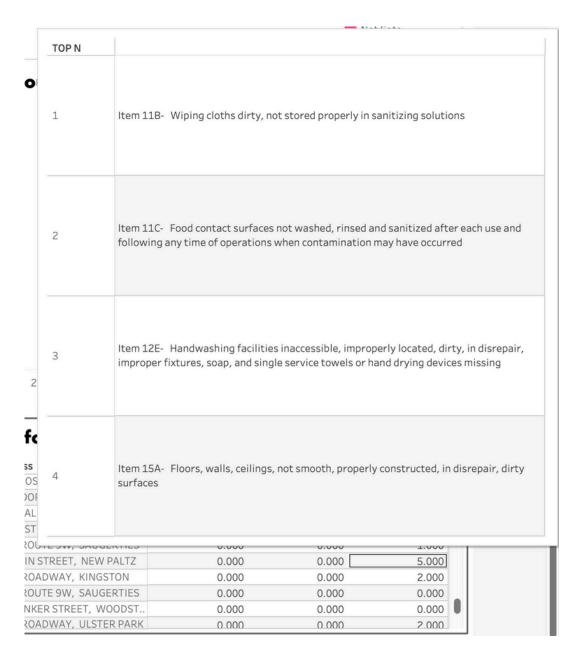
Outbreaks

friendly. Users can choose metrics like critical or non-critical violations and view rankings. This allows the government to easily identify which counties need the most attention for food safety issues.

Filters



At the bottom of the dashboard, I added a filter that allows users to search for a specific restaurant by name and view its inspection data. If the restaurant has a violation history, users can hover over the numbers to see the specific details of the violations.



Next Step



Add NYC dataset

Since the datasets for New York State and New York City are separate, I will incorporate NYC data later to enhance my dashboard.

Prediction

I've used Tableau's prediction feature to showcase a possible future trend. But I also plan to use GLM model to further predict future inspection results.

Thank You