Final Report

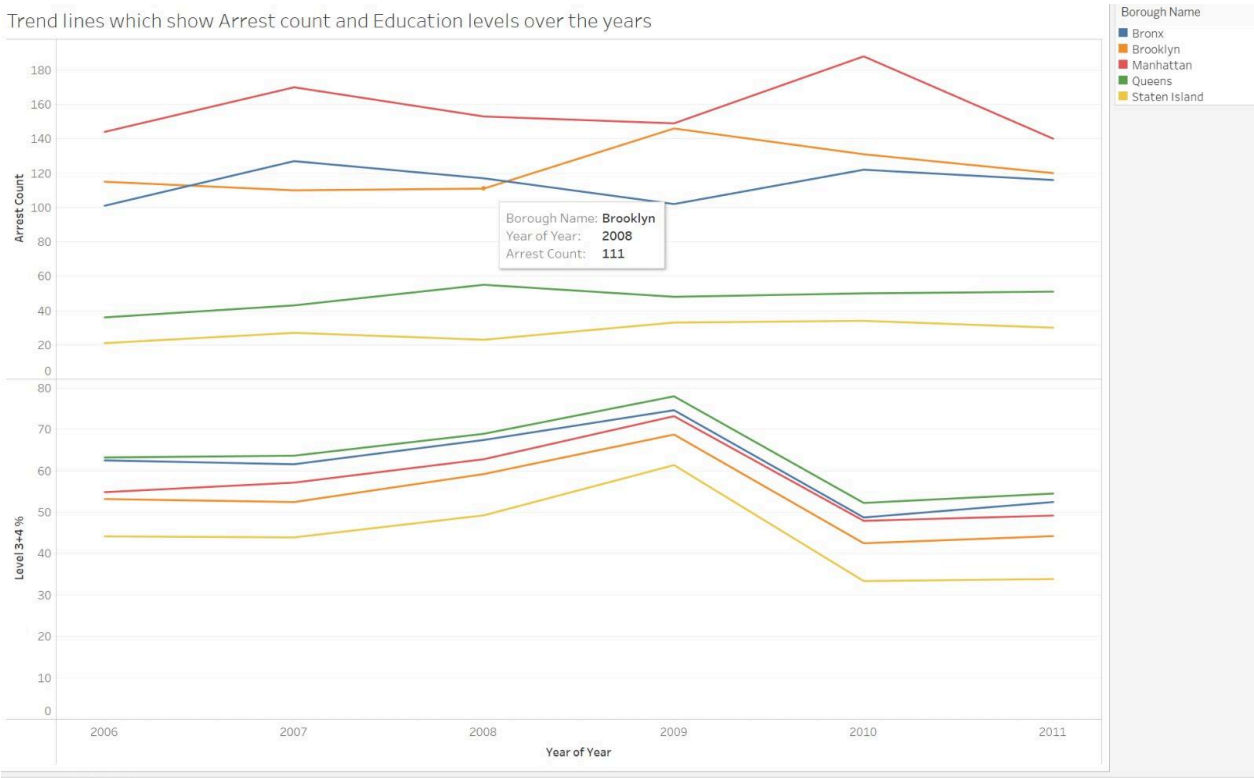
Data Discovery -2

Impact of Education on Aspects of Society in NYC

Chart 1 - Trend Lines with Arrest Counts and Education Levels:

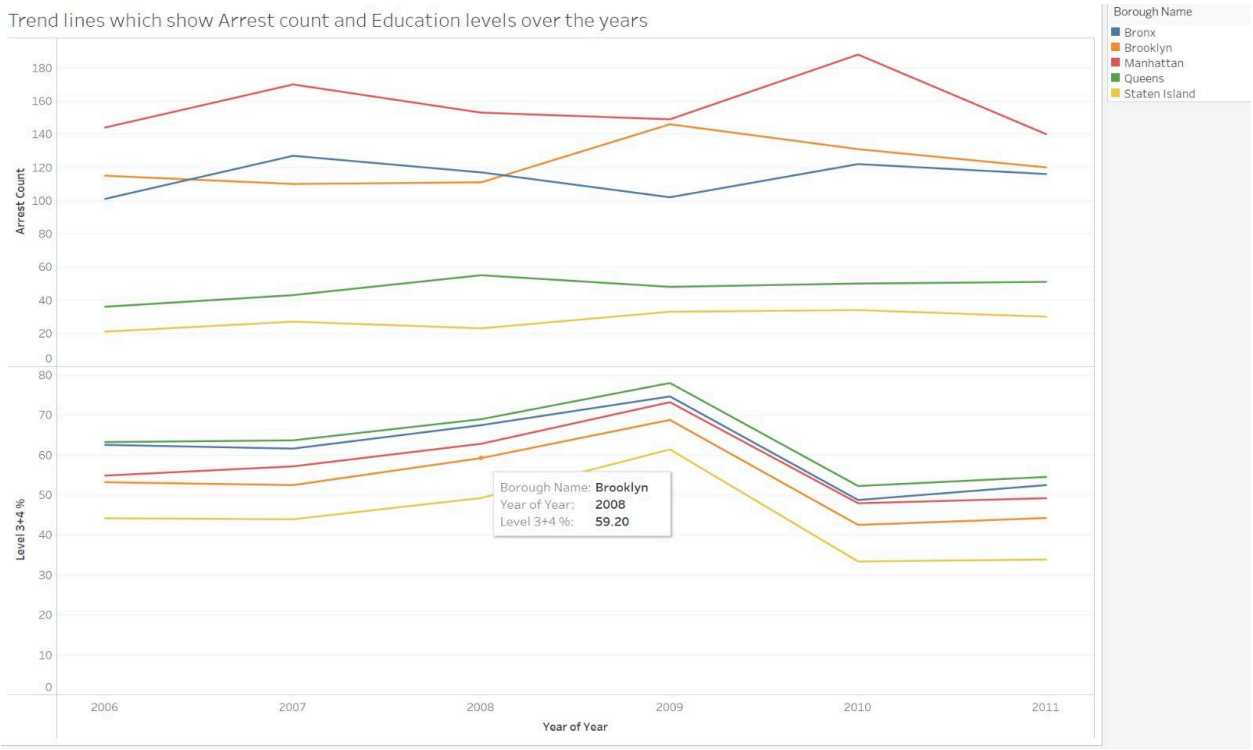
Hover Interactivity:

Hovering over a trend line allows users to quickly identify the corresponding borough, year, arrest count, and education level. This facilitates a detailed understanding of the data points.



Filtering:
Users can click on specific elements in the legend to isolate or exclude certain boroughs, making it easier to focus on trends within individual areas.

Zooming:
If your chart covers a wide range of years, the zoom feature allows users to narrow down the time frame and focus on specific periods of interest for more detailed analysis.



Scenario:
The above graph represents the correlation between arrest counts and education levels in different boroughs and specifically mentioned about brooklyn as an example.

As a policymaker focused on enhancing community well-being in Brooklyn, I analyze the comprehensive insights provided by the dashboard.

1. Correlation between Education and Crime Trends:
   - An assessment of trends in arrests, education levels, gunshot events, and perpetrator age groups finds a favorable association. Brooklyn, in particular, has seen a decrease in arrests as well as an increase in education levels throughout the years.

2. Efficiency in Resource Allocation:
   - The scatter plot illustrating poverty, school enrollment, and social services in Brooklyn indicates possible resource shortages or misallocations. The borough has a

high degree of poverty, a low level of education, and an increased frequency of gunshot events, indicating a need for focused resource allocation.

As a policymaker, I observe the positive trend in Brooklyn where arrest rates decline with increasing education levels. To capitalize on this, I decide to implement a targeted strategy:

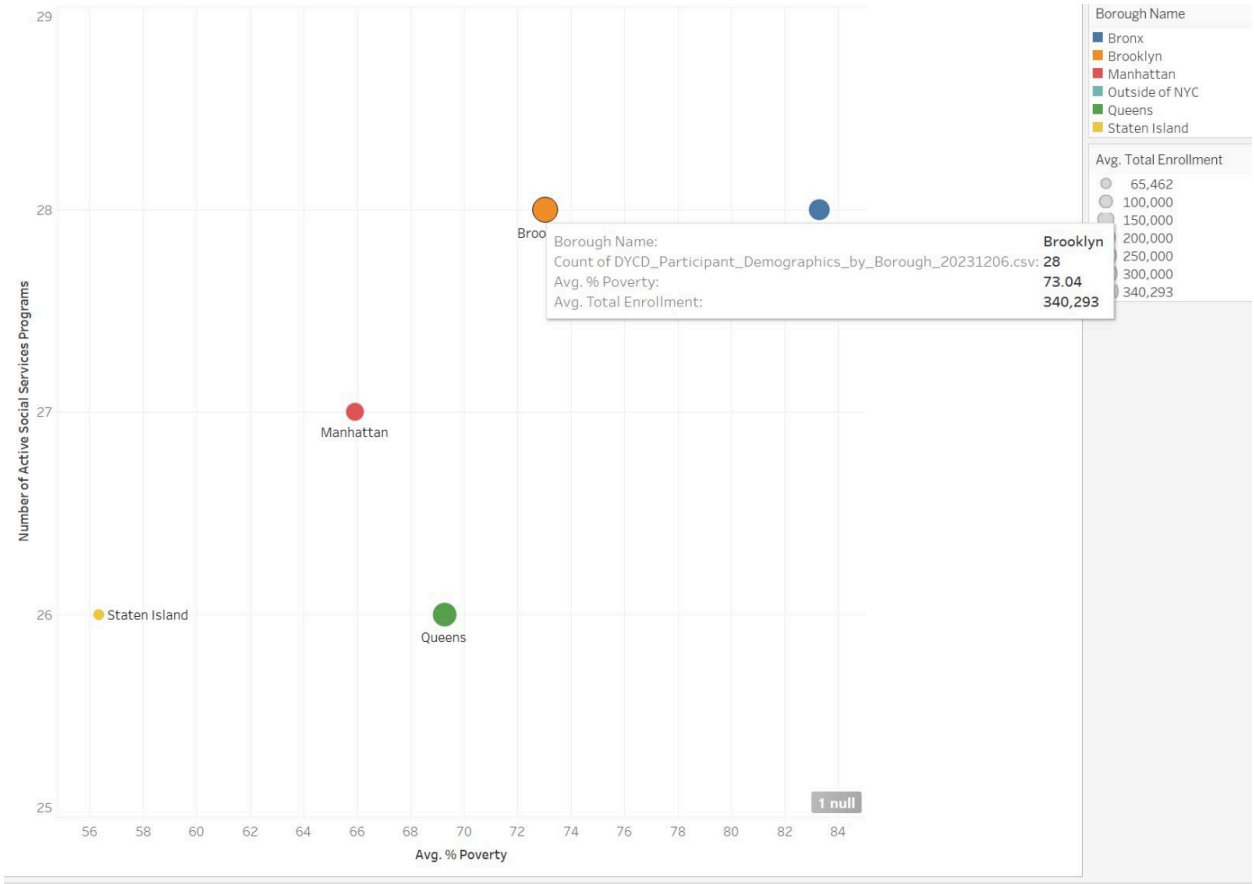
Resource Reallocation.

Tailored Education Programs.

Holistic Outreach Initiatives.

This scenario reflects a data-driven approach to policy making, leveraging insights from the dashboard to tailor strategies specific to the challenges and opportunities presented in Brooklyn.

Chart 2 - Scatter Plot with NGOs, Poverty Percentage, and Enrollments:



Tooltip Interactivity:

Hovering over a data point reveals information about the specific borough, NGO count, average poverty percentage, and enrollment size. This helps users understand the relationship between these variables.

Color Coding:
Differentiating data points with colors for boroughs makes it easy to distinguish patterns and trends among various areas.

Size Encoding:
Using the size of the data points to represent enrollments provides an additional layer of information, helping users identify the significance of each point in terms of educational impact.

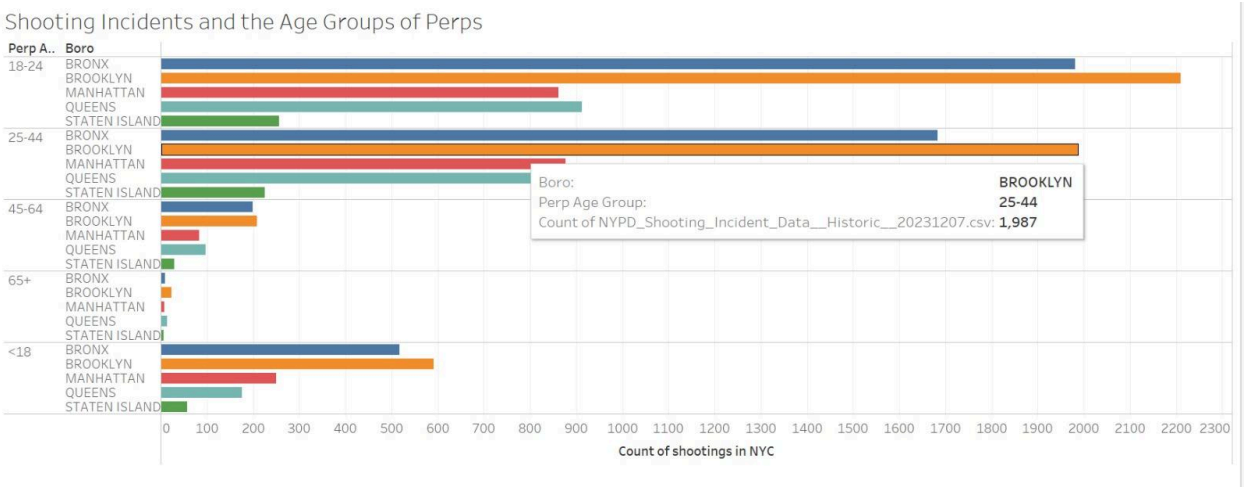
Scenario:
Creating a scenario for a Scatter Plot visualization involves describing the relationships between the variables represented on the plot. In this case, the Scatter Plot includes NGOs, Poverty Percentage, and Enrollments.

Policy makers and the NGO's can see a trend of highest enrollment in brooklyn has caused a reduced rate of crime and a substantial increase of education among the youth contributing to this trend.
This scatter plot also showcases us the number of enrollment in other boroughs which gives the policy makers and the NGO's the idea to improve the number of enrollment in other boroughs to get a positive trend like brooklyn.

The scatter plot provides a visual narrative of the complex interplay between NGOs, poverty, and educational enrollments. It prompts policymakers and researchers to delve deeper into understanding the specific interventions that contribute to poverty reduction and increased educational opportunities.

This visualization serves as a powerful tool for decision-makers to tailor their strategies, allocate resources effectively, and ultimately foster sustainable development in the region.

Chart 3 - Bar Graph with Shootings, Boroughs, and Age Groups:



Bar Highlighting:

Selecting or hovering over a specific bar highlights relevant information about shootings, boroughs, and age groups. This aids in comparing values within and across different categories.

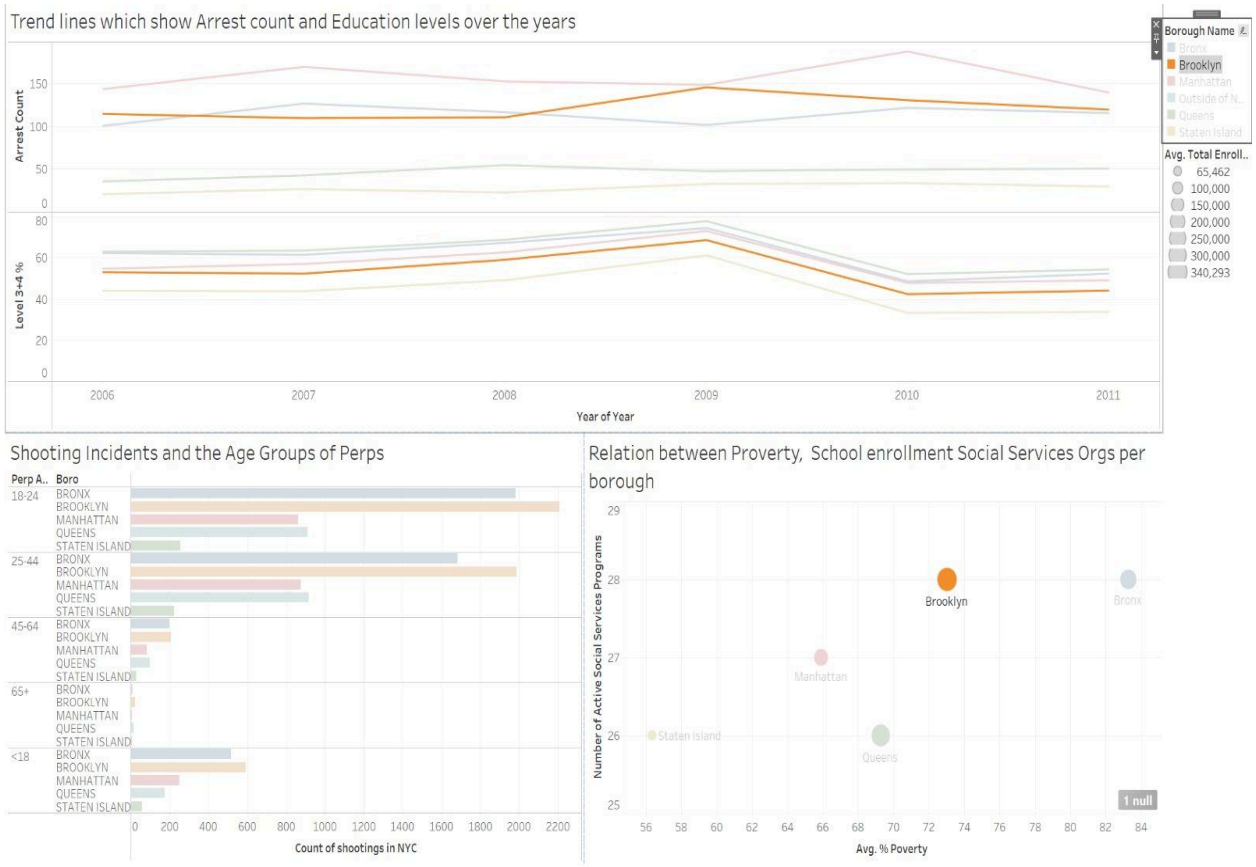
Filtering and Highlight Actions:
Users can employ filters or highlight actions to focus on specific boroughs or age groups, allowing for a more detailed analysis of the impact of education on shootings in those specific segments.

Linking to Other Dashboards:
If applicable, you can set up actions to link this chart to other dashboards, enabling users to explore deeper insights and correlations by transitioning between related visualizations.

Scenario:
The bar graph representing the different boroughs, the age group of the shooters and the count of shootings happened with this information, the policy maker can come to an interpretation that the age group of 18-24 has done the most number of shootings and especially Brooklyn has the highest number of shootings over all age groups.
To mitigate the issue the perpetrator should have better education and better standards of living.
This gives an idea what the policymakers have to do to mitigate the issues.

Overall, these interactive features empower users to explore, analyze, and draw meaningful inferences from the data by providing detailed information, enabling focus on specific elements, and supporting dynamic comparisons.

Combined Legends:



If you're using similar categorical legends across charts, combine them into a single legend. This ensures consistency and makes it easier for users to interpret the information.

Scenario:

The whole dashboard gives us the overview of the different trends and the inferences which can be inferred from it.

Contributions:

The overall project was divided into 4 parts so equally spreading amongst the group members.

Spencer was responsible for the first visualization which was about crime and education in different boroughs.**Sri Ram** was working with the education and usage of social services in different boroughs.**Kissan** was working with the social services and the crime in different boroughs which brought us lot of insights about the crime done in each boroughs in spite of the facilities the social workers provide.**Akhil** was working with the linkage of the dashboards with the datasets and bringing out a meaningful visualization using our individual visualizations.The documentation parts where done by all the four team members.