Department of Education

Insights from 2020-2021 School Year

December 2022

Executive Summary

➢ The purpose of this presentation is to summarize the insights and findings from the 2020-2021 school year, specifically focusing on the high school population. There are 288,068 high school students attending 440 high schools whereby 75% of the high school population are economically disadvantaged. As a large majority of high school youth are economically disadvantaged, this presents a great challenge for the New York City Department of Education to devise solutions to enhance the likelihood of preparing high school graduates for college-readiness, employment opportunities, and seeing there are multiple options post-graduation that do not necessitate the enrollment in a post-secondary education.

Insight Questions

1. In this section, we cover specific questions the DOE created to understand their high school student population for the 2020-2021 school year.

    ➢ What is the overall average economic need index, graduation rate, and total number of students enrolled?

    ➢ What are the demographics of the student population by borough?

    ➢ What is the total number of high schools in New York City?

    ➢ What are the high schools with graduation rates of less than 20%?

    ➢ How many students receive a regent's high school diploma versus an advanced regent's high school diploma?

    ➢ How many students are enrolled in a school with specific economic need indexes, attendance rates, and graduation rates?

Overall Insights

➢ In total, there are 440 public high schools in New York City. Brooklyn has the largest number of high schools in New York City followed by the Bronx and Manhattan, respectively (124, 113, and 112).

➢ The average economic need index for New York City public schools is 76%, whereby the highest economic need index is Brooklyn (93%).

➢ Staten Island has the lowest enrollment of public high school students 18,798 (7%).

➢ Queens has the second highest number of high school students enrolled in New York City 77,243 (27%).

➢ Less than 1% (2,408) of students are enrolled in school with an economic need index of between 20%-25%.

Insight 1: Total Enrollment by Borough

➢ What is the total number of students enrolled?

   ➢ In total, there are 288,068 high school students enrolled in New York City public schools, with 81,234 (28%) enrolled in Brooklyn high schools.

Borough	Total Enrollment in Borough (#)	Total Enrollment in Borough (%)
Brooklyn	81,234	28%
Queens	77,243	27%
Manhattan	59,365	21%
Bronx	51,428	18%
Staten Island	18,798	7%
Grand Total	288,068	100%

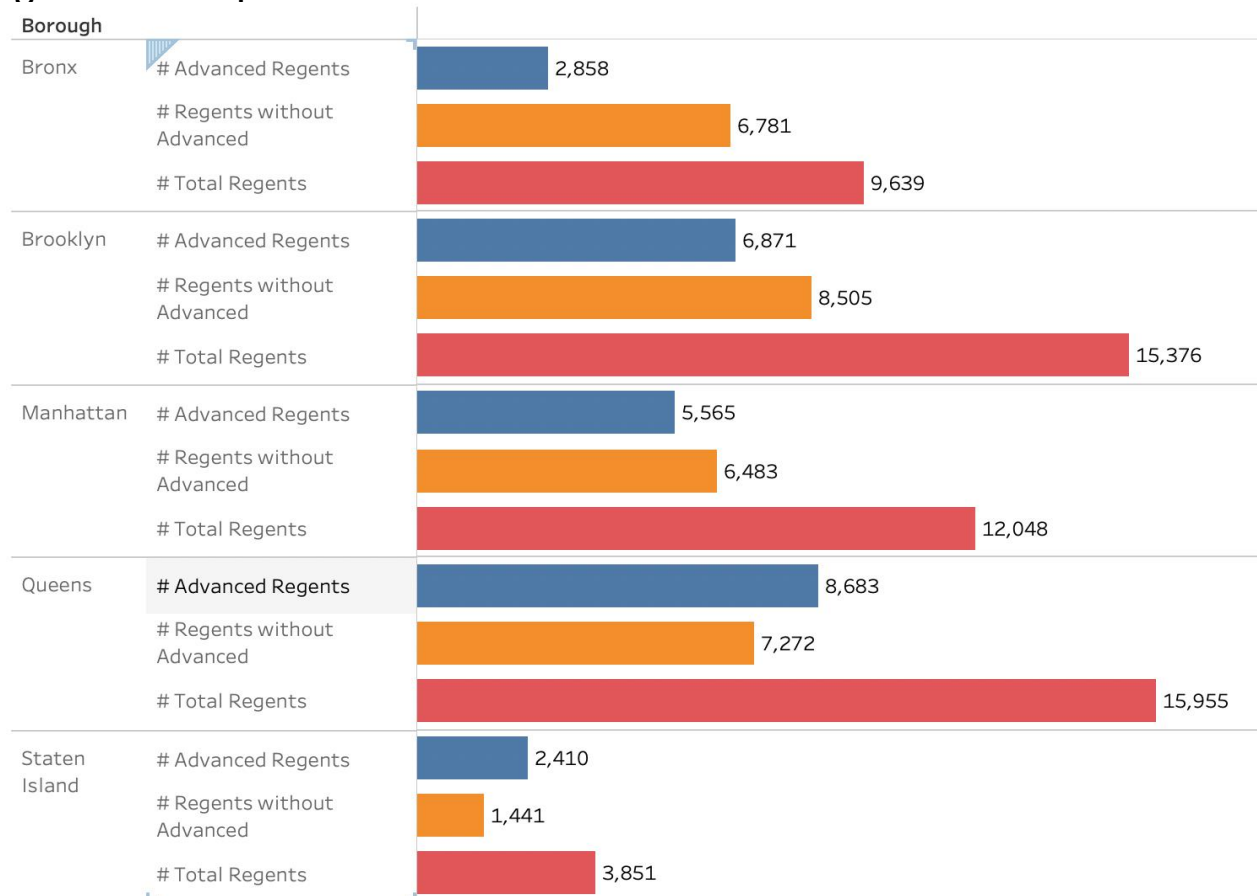# Insight 2: Total Enrollment by Race/Ethnicity by Borough

➢ What are the total number of race/ethnicity of student enrollment by borough?

  ➢ There are 118,539 (41%) Hispanic students enrolled in high school whereby most Hispanic students reside in the Bronx.

Borough	# Asian	# Black	# Hispanic	# Missing Race/Ethni..	# Multi-Racial	# Native American	# White	Total (#)
Brooklyn	15,324	27,014	23,657	1,112	585	664	12,878	81,234
Queens	21,463	13,868	30,614	1,149	519	1,388	8,242	77,243
Manhattan	8,960	11,270	26,938	1,196	1,215	441	9,345	59,365
Bronx	3,680	12,454	31,868	212	256	488	2,470	51,428
Staten Island	2,788	2,544	5,462	187	206	88	7,523	18,798
Grand Total	52,215	67,150	118,539	3,856	2,781	3,069	40,458	288,068

Borough	Total Asian Student Population (%)	Total Black Student Population (%)	Total Hispanic Student Population (%)	Total Missing Race/Ethnicity Student Population (..	Total Multi-Racial Student Population (..	Total Native American Student Population (..	Total White Student Population (%)	Total Student Population (%)
Brooklyn	29%	40%	20%	29%	21%	22%	32%	28%
Queens	41%	21%	26%	30%	19%	45%	20%	27%
Manhattan	17%	17%	23%	31%	44%	14%	23%	21%
Bronx	7%	19%	27%	5%	9%	16%	6%	18%
Staten Island	5%	4%	5%	5%	7%	3%	19%	7%
Grand Total	100%	100%	100%	100%	100%	100%	100%	100%

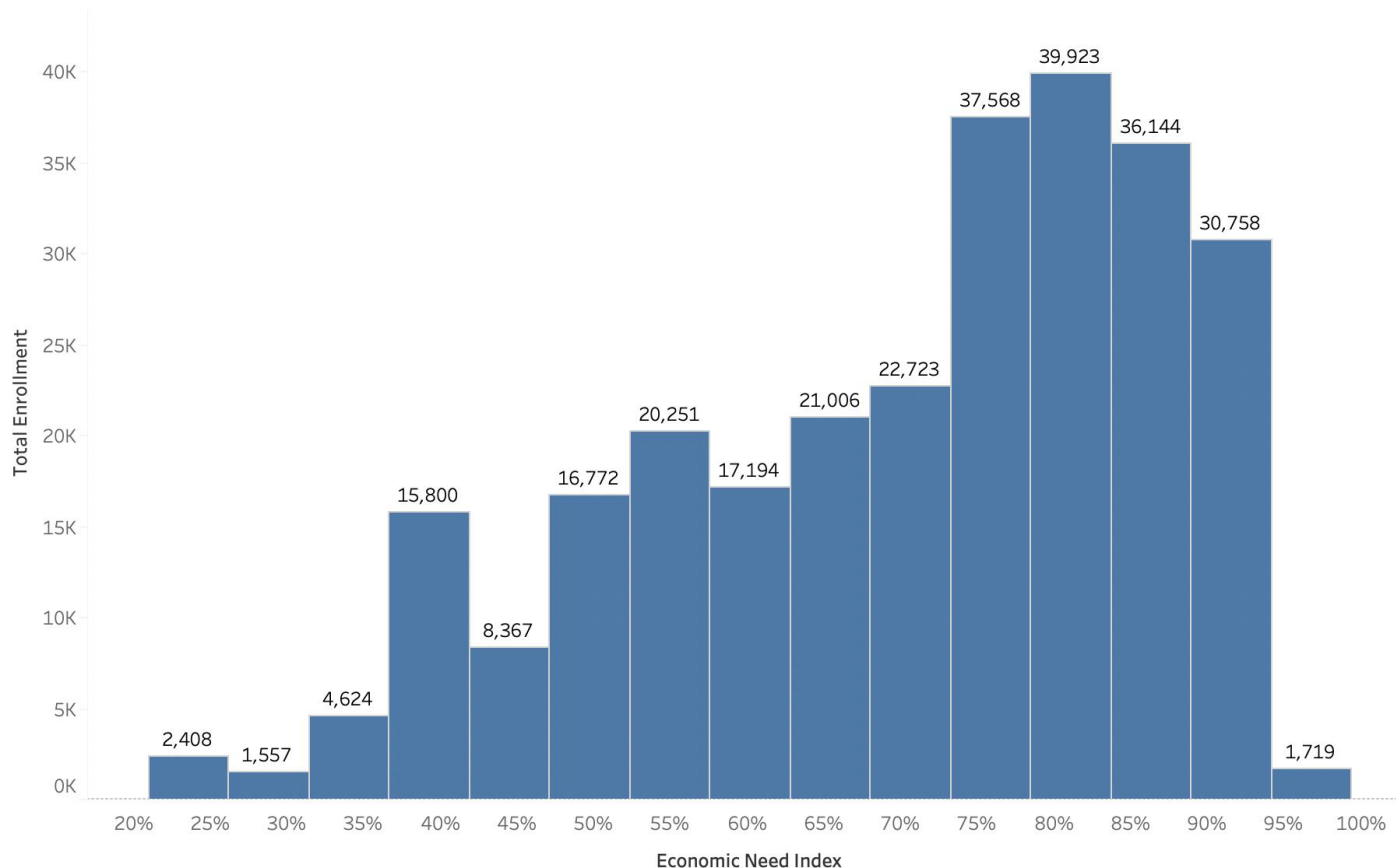# Insight 3: Number of Students Graduating With Various Degrees

➢ What is the total number of students graduating with a specific degree?

    ➢ Queens and Brooklyn graduated students with the highest number of regent high school diplomas.

Borough		
Bronx	# Advanced Regents	2,858
	# Regents without Advanced	6,781
	# Total Regents	9,639
Brooklyn	# Advanced Regents	6,871
	# Regents without Advanced	8,505
	# Total Regents	15,376
Manhattan	# Advanced Regents	5,565
	# Regents without Advanced	6,483
	# Total Regents	12,048
Queens	# Advanced Regents	8,683
	# Regents without Advanced	7,272
	# Total Regents	15,955
Staten Island	# Advanced Regents	2,410
	# Regents without Advanced	1,441
	# Total Regents	3,851

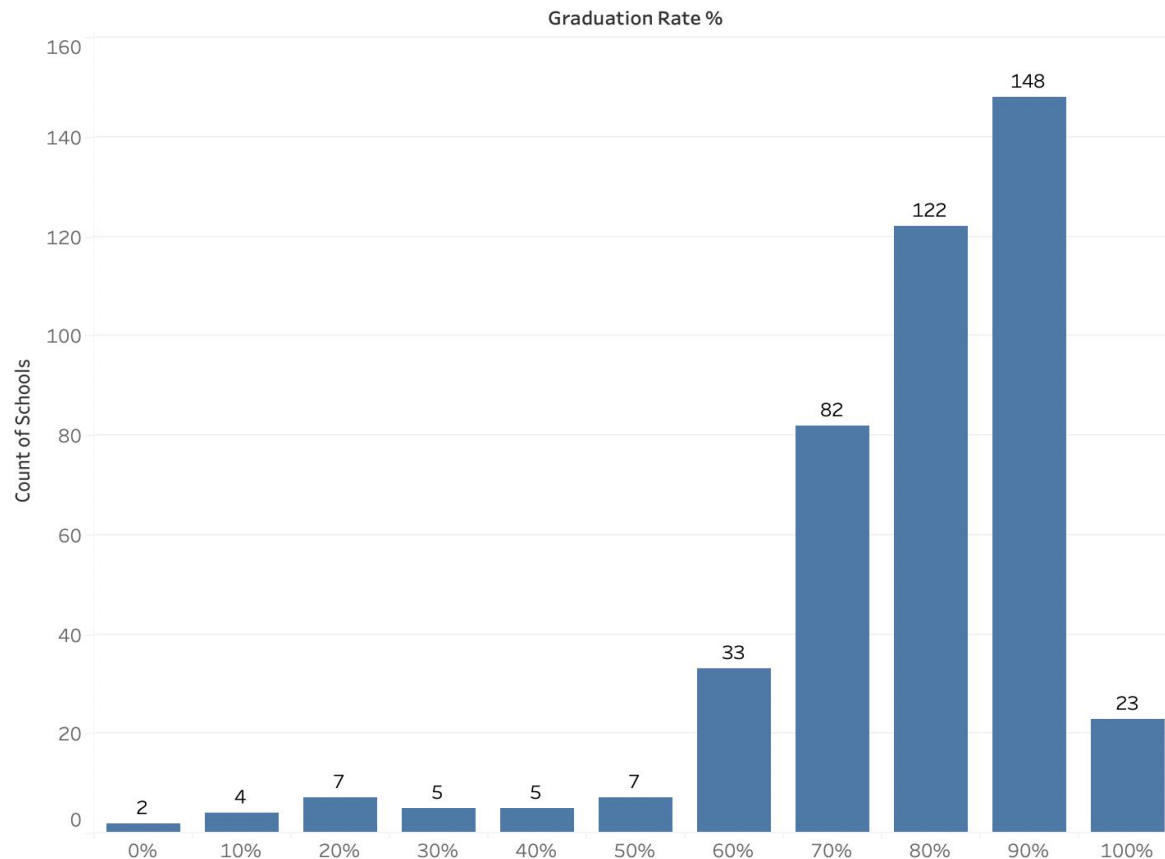# Insight 4: Number of Students in Economic Need Index Threshold

➢ What is the total number of students within an economic need index threshold?

   ➢ Half of all (144,393) New York City public school students are in the economic need index threshold between 75%-95%.
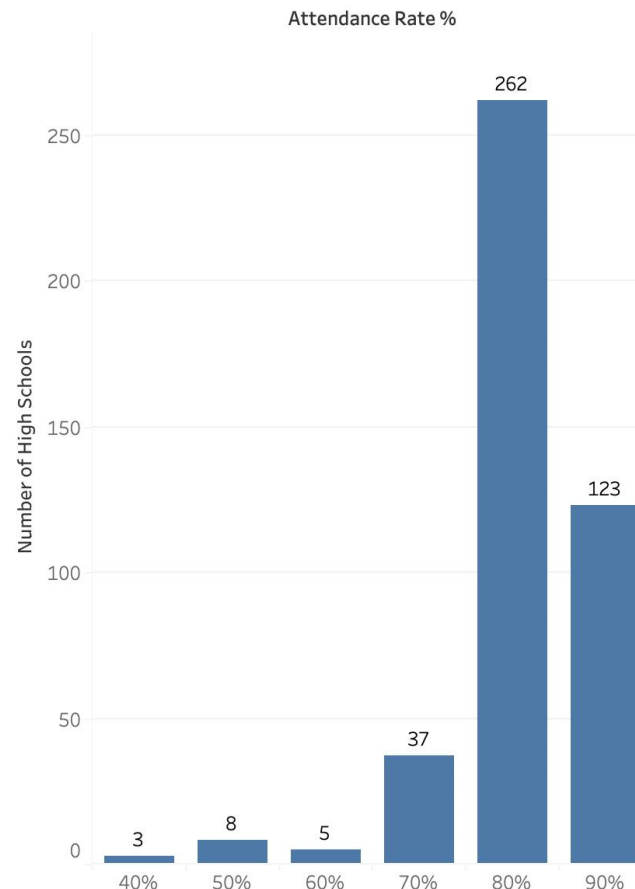
Insight 5: Number of High Schools in each Graduate Rate Threshold

➢ What is the total number of students with a school of less than 70% graduation rate?

  ➢ One-third (144) of New York City public schools have a graduation rate of less than 70%.

Graduation Rate %

Insight 7: Number of High Schools in each Attendance Rate Threshold

➢ What is the total number of high schools within a school of an 80% attendance rate?

    ➢ Nearly 60% (262) of high schools have an attendance rate of 80%.

Attendance Rate %

Insight 6: Number of High Schools in the Bottom 20% Graduation Rate

➢ What are the schools in the bottom 20% graduation rate?

  ➢ Below is a list of 11 schools in the bottom 20%.

Graduation Rate %	School Name	
10%	Queens Academy High School	11%
	Professional Pathways High School	14%
	Aspirations Diploma Plus High School	16%
	Metropolitan Diploma Plus High School	18%
20%	Brooklyn High School for Leadership and Community Service	20%
	Arturo A. Schomburg Satellite Academy Bronx	21%
	Bronx Arena High School	21%
	Liberation Diploma Plus	21%
	Independence High School	22%
	Brooklyn Democracy Academy	23%
	Olympus Academy	23%

Areas to Focus for 2022-2023 School Year

➢ Based on the insights shown for the 2020-2021 school year, our focus for the upcoming school year is the following:

    ➢ Work closely with schools that have less than a 70% graduation rate by devising a taskforce of parents, teachers, principals, DOE administrators, community-based organizations to create resources and strategies to better support students who are academically struggling.

    ➢ As half of the New York City public school students are within a school within with a high economic need index between 75% to 95%. We will work with school principals and administrators to provide additional supportive resources to their students to ensure their academic learning, behavioral needs, and career and college preparedness is prioritized to ensure every student has an equal chance of realizing their potential.

    ➢ DOE administrators will work closely with the 16 high schools who have less than a 60% attendance rate for their school to ensure their students are able to attend classes and receive the quality public school education they deserve and are on track to graduate.

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Appendix: EDA SQL Queries in Google BigQuery

A. Count the number of high schools in the 2021 NYCDOE Graduation Dataset.

```
1    SELECT COUNT(School_Name)
2    FROM nycdoe-high-schools.2021_Graduation_Rates.2021_Demographics;
```
Number of High Schools hosted with ❤️ by **GitHub**   view raw

C. Count the total number of cells with the graduation % incomplete.

```
1    SELECT
2      COUNT(__Grads_6)
3    FROM
4      nycdoe-high-schools.2021_Graduation_Rates.2021_Graduation_Rates
5    WHERE
6      __Grads_6 = 's';
7
```
incomplete graduation % hosted with ❤️ by **GitHub**   view raw

Appendix: EDA SQL Queries in Google BigQuery

The first case statement rates schools based on their advanced regent's percentage.

```sql
1   SELECT
2     School_name,
3     __Advanced_Regents_of_Cohort,
4   CASE
5     WHEN __Advanced_Regents_of_Cohort between '0.0' and '25.0' THEN 'Low rate'
6     WHEN __Advanced_Regents_of_Cohort between '25.1' and '50.0' THEN 'Improving rate'
7     WHEN __Advanced_Regents_of_Cohort between '50.1' and '75.0' THEN 'Slightly improving
    rate'
8     WHEN __Advanced_Regents_of_Cohort between '75.0' and '90.0' THEN 'High rate'
9     ELSE 'Perfect rate' END AS Advanced_regents_rate
10   FROM `nycdoe-high-schools.2021_Graduation_Rates.2021_Graduation_Rates`
11   WHERE
12     __Advanced_Regents_of_Cohort IS NOT NULL
13  ORDER BY
14     __Advanced_Regents_of_Cohort ASC;
```

Rating of Advanced Regents hosted with ❤️ by GitHub   view raw

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11   WHERE
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```

Rating of Advanced Regents hosted with ❤️ by **GitHub**   view raw

Overall Insights

➤ **Datasets For the datasets - I used information from three different datasets provided by the DOE InfoHUB and NYC Open Data.

➤ 2021 NYC High School Directory - I used the 2021 NYC High School Directory to find out how many high schools exist within the NYCDOE educational system and to gain a broader understanding of how those schools perform in terms of college readiness, attendance, academic success, and many other factors. This dataset offers a descriptive understanding of what the high school has to offer for prospective high school students and their families. The link for the dataset is: (url).

➤ NYCDOE Demographic Snapshot - I used the NYCDOE Demographic Snapshot to provide the demographic information for all high schools within the NYCDOE educational system. This dataset contains information describing the race/ethnicity and gender characteristics of the student population, total enrollment per grade level and the school itself, along with the amount of students in the poverty and are economically disadvantaged. The link for the dataset is (url).

➤ 2021 NYC Graduation Rates - I used the NYCDOE 2021 Graduation Rates spreadsheet to provide the graduation information for the high schools within New York City. This dataset contains the important characteristics of how many students graduated the high school, the graduation rate for specific hgih school diplomas such as regents and advanced regents, while at the same providing the total percentage and count of students dropping out from the high school. The link for this spreadsheet is found (url).