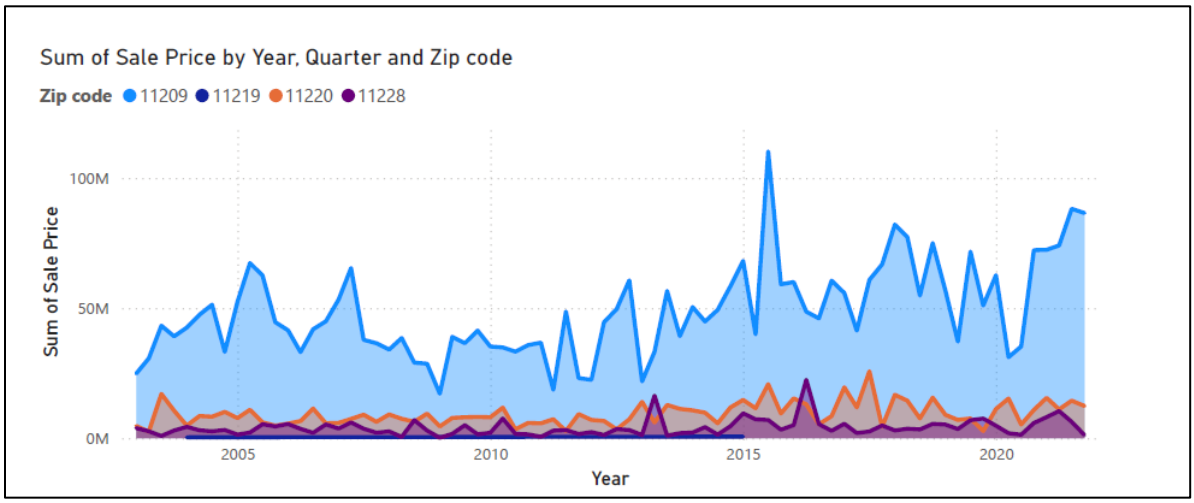
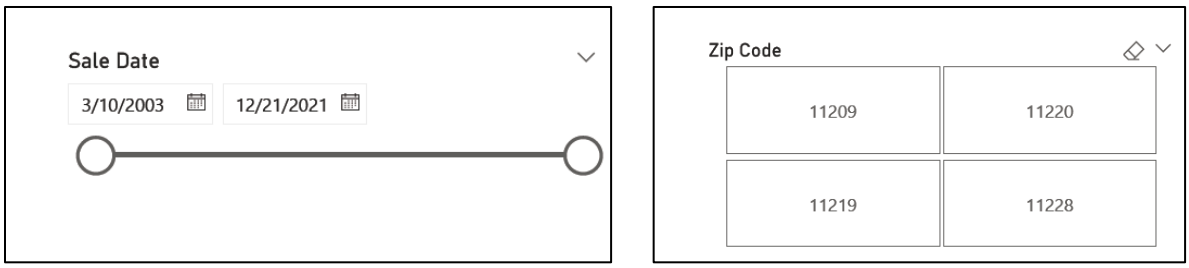


Visualization 1: Sum of Sales Price Over Time (Year and Quarters) by Zip Codes



Slicers/Filters

- *What is the visualization showing?*

This *area chart* represents the sum of real estate sales prices over time, broken down by year and quarter, across the four zip codes in Bay Ridge. Each zip code is shown in a different color, allowing for easy comparison of sales performance across these regions.

- *How did you build the visualization?*

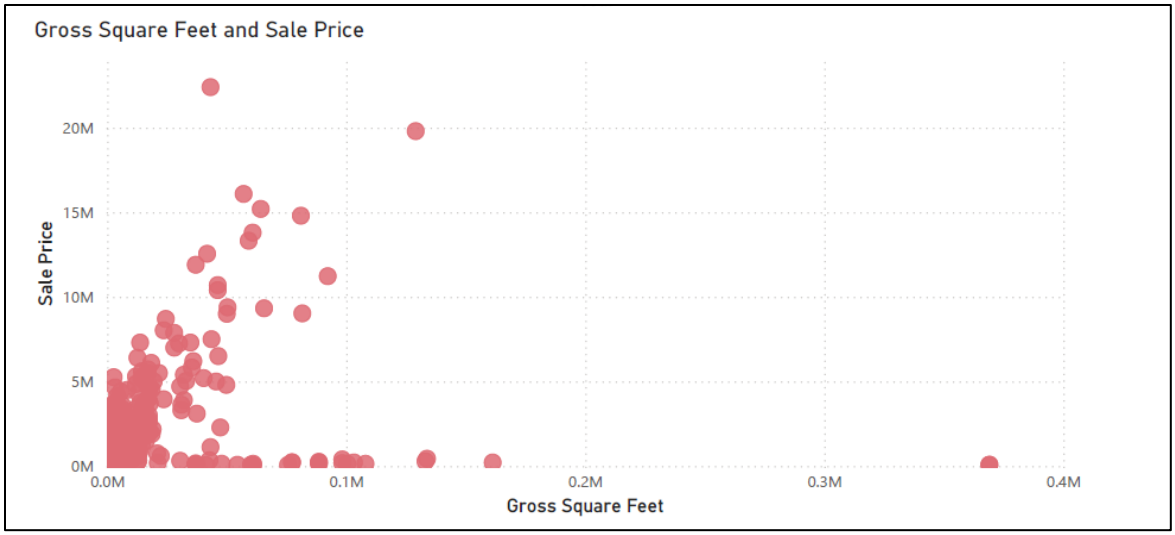
I selected an area chart in Power BI. For the X-axis, I used the "Year and Quarter" fields, while the Y-axis represents the "Sum of Sales Price." The "Zip Codes" variable was set as the legend to differentiate the data by zip code. Bay Ridge encompasses four zip codes: 11209, 11219, 11220, and 11228, each of which is individually represented in this chart. Also, I added *two slicers*—for zip codes and sales dates. This allows users to filter data on their area of interest and desired time frame.

- *What insights can be drawn from it?*

The chart shows that the sum of sales prices fluctuates significantly from quarter to quarter, with no clear trend of consistent growth or decline over time. However, sales in the 11209 zip code consistently remain the highest among the four zip codes, peaking at approximately $110 billion in Q3 2015, marking the record high for the entire dataset. Zip code 11220 generally ranks as the second highest in sales, while 11228, although often lower than 11220, occasionally surpasses it (e.g., Q2 2013 and Q2 2016). The 11219 zip code consistently shows the lowest sales throughout the available data, and sales data is not available past Q1 2015.

- *How does this visualization help in understanding the overall data?*

This area chart provides a comprehensive view of how sales prices vary over time and across different parts of Bay Ridge. By comparing zip codes, we gain insights into which areas have higher sales, allowing us to identify which neighborhoods may be more sought-after or have higher-value properties. The chart also highlights the volatility of the real estate market in these areas, with fluctuations that could indicate seasonal trends or changes in market demand. It helps us to contextualize the overall dynamics of Bay Ridge's real estate market over the specified period.



Visualization 2: Gross Square Feet vs. Sale Price

- *What is the visualization showing?*

This *scatter plot* illustrates the relationship between the size of properties (measured in Gross Square Feet) and their sale prices. Each point on the plot represents a different property, with size on the horizontal axis and sale price on the vertical axis.

- *How did you build the visualization?*

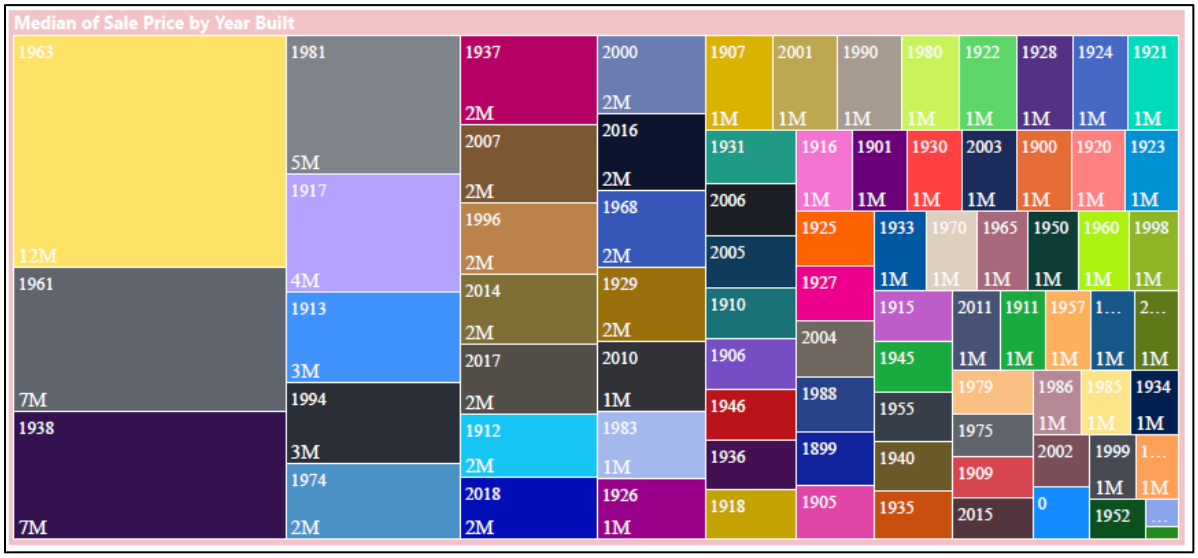
To create this scatter plot in Power BI, I chose the scatter chart option from the visualization tools. I placed the Gross Square Feet variable on the X-axis and the Sales Price variable on the Y-axis. Similar to the first visualization, I added *two slicers*—one for zip codes and another for sales dates. These allow users to filter the data based on their desired zip code(s) and specific date ranges.

- *What insights can be drawn from it?*

The scatter plot reveals a general positive correlation between the size of properties and their sale prices, meaning that larger properties tend to have higher prices. However, there are notable exceptions: some of the largest properties have lower prices, while some smaller properties sell for much higher prices. This suggests that factors other than just size, such as neighborhood quality, school systems, and property condition, also significantly impact sale prices.

- *How does this visualization help in understanding the overall data?*

This scatter plot helps in understanding how property size relates to sale prices in the real estate market. It allows us to identify patterns, such as whether larger homes generally sell for more or if there are outliers. This visualization encourages further investigation into the reasons behind these price variations, helping us consider other factors—like location and property features—that might influence real estate prices. Overall, it provides valuable insights into the dynamics of property sales in the area.



Visualization 3: Sale Price by Year Built

- *What is the visualization showing?*

This *TreeMap* displays the median sales prices of residential properties categorized by their year built, ranging from 1899 to 2018. Each rectangle represents a specific year, with the size of the rectangle corresponding to the median sales price for properties built in that year.

- *How did you build the visualization?*

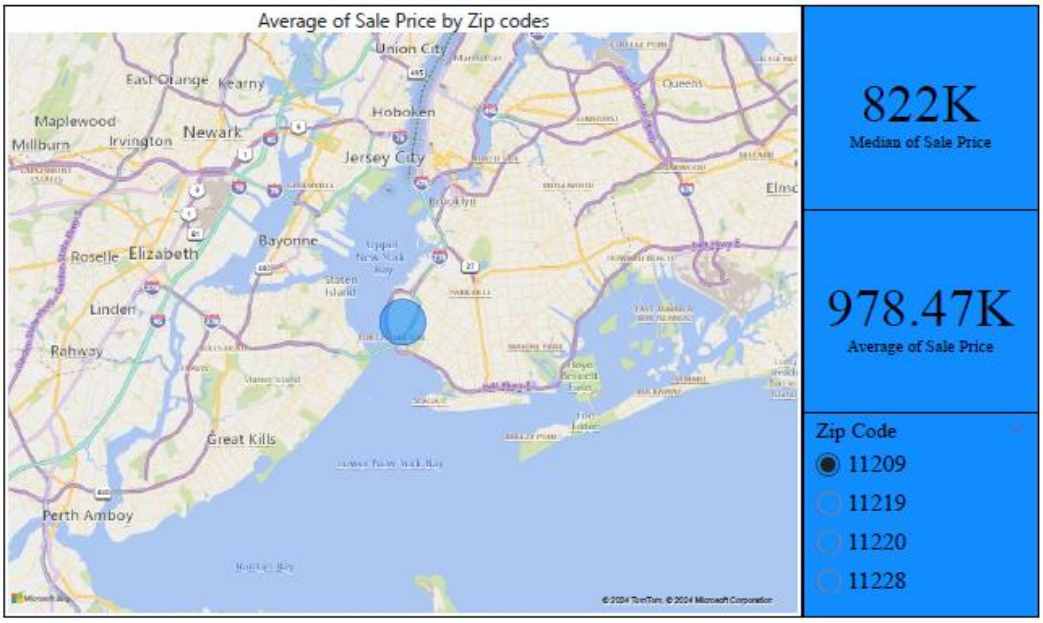
To create the treemap in Power BI, I selected the treemap visualization option. For the x-axis, I used the Year built variable, which includes years from 1899 to 2018. The values represent the median Sales Price.

- *What insights can be drawn from it?*

The treemap reveals that the most expensive properties were built in 1963, with a median sales price around $12 million. Properties built in 1961 and 1938 follow closely, both having median prices of about $7 million. In contrast, homes built in 1899 have much lower median sales prices of approximately $780,000. *Interestingly*, properties built in 2018 have the same median value as those built in 1912, both at $2 million, indicating that older homes can rival or even surpass the prices of newer constructions.

- *How does this visualization help in understanding the overall data?*

This treemap provides insightful overview of the relationship between the year built and median sales prices. It highlights the intriguing trend where older homes can achieve comparable or higher values than newer properties. This understanding encourages further exploration into the factors influencing property values, such as neighborhood appeal, historical significance, and property condition, helping stakeholders make more informed decisions in the real estate market.



Visualization 4: Average of Sales Price by Zip Codes

- *What is the visualization showing?*

This *map* displays the average sales price by zip code within Bay Ridge, New York, using shaded areas to visually represent the data. It includes slicers for selecting specific zip codes, allowing users to focus on areas of interest. Additionally, there are two card visuals beside the map that dynamically update to show the median and average sales prices for the selected zip codes.

- *How did you build the visualization?*

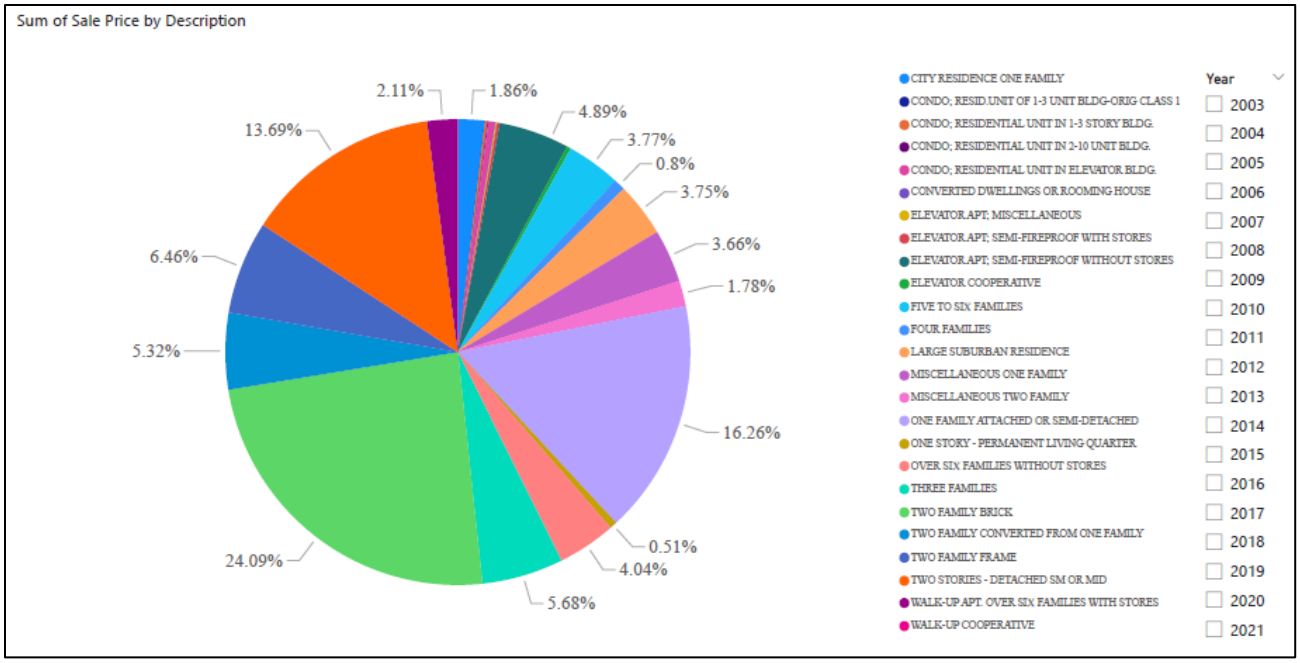
I created this map visualization by selecting the Map option in Power BI. I used the Zip Code field for the Location input and placed Average Sales Price in the Bubble Size field. Then, I added a Slicer for zip codes, enabling single filtering. I also included two Card visuals and linked them to the average and median sales price metrics, creating better visuals.

- *What insights can be drawn from it?*

This visualization enables users to visually explore which zip code areas in Bay Ridge have higher or lower average sales prices. By observing the differences in shaded areas or markers, users can quickly identify which neighborhoods are more expensive. The median and average price cards provide a quick comparison metric for users to determine if a specific area fits within their preferred price range. This can help in assessing whether a particular zip code is closer to the high or low end of the real estate market in Bay Ridge.

- *How does this visualization help in understanding the overall data?*

This map provides an intuitive way to compare the relative affordability of different neighborhoods in Bay Ridge. By incorporating slicers, the map becomes a nice tool for narrowing down areas based on user preferences, such as proximity to Lower New York Bay or Upper New York Bay. The card visuals further enhance usability to access key statistics at a glance, it can be very useful for investors, homebuyers, or real estate professionals who are analyzing Bay Ridge's real estate market.



Visualization 5: Sales by All 25 Categories by Description with Year Slicer (2003-2021)

- *What is the visualization showing?*

This *pie chart* illustrates the percentage of total sales prices across 25 distinct property categories, with a slicer enabling users to filter by years from 2003 to 2021. This allows for analysis of sales trends across multiple years and the identification of top-selling property types over time.

- *How did you build the visualization?*

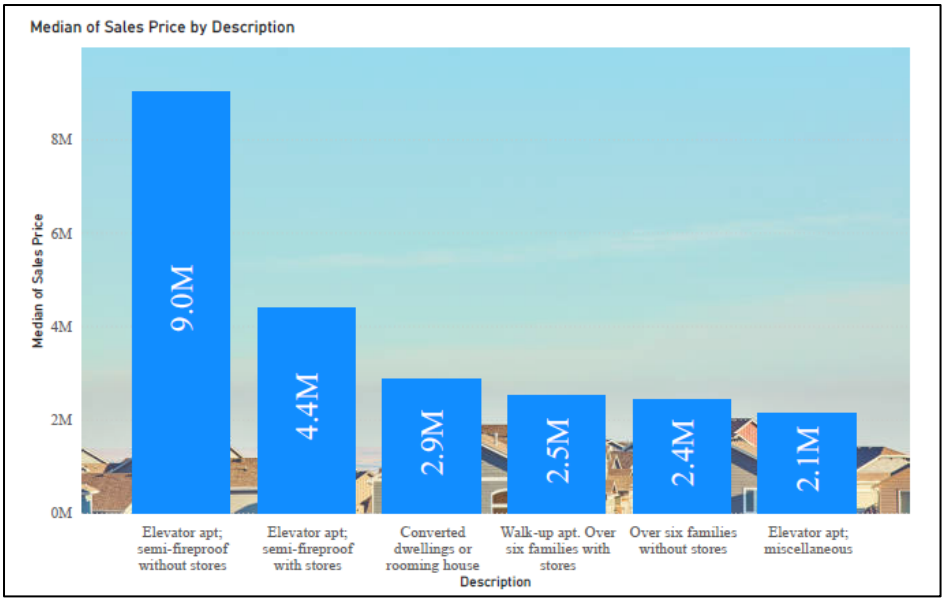
I created the pie chart, selecting the sum of sales prices and setting the property descriptions as categories. I added a slicer for sales dates, allowing users to filter the data by year(s) and view which categories generated the most sales over time.

- *What insights can be drawn from it?*

The top five categories make up 66.2% of total sales. “Two Family Brick” leads with 24.1%, followed by “One Family Attached or Semi-Detached” at 16.3%, and “Two Stories - Detached Small or Mid” at 13.7%. This suggests that multi-family and detached properties are the most significant contributors to sales.

- *How does this visualization help in understanding the overall data?*

The pie chart, coupled with the slicer, enables a dynamic exploration of sales trends by category across different years. This can help stakeholders identify popular property types and track market shifts over time.



Visualization 6: Median Sales Prices of Top 5 Categories by Description

- *What is the visualization showing?*

The *column chart* illustrates the median sales prices of the top five property categories based on their descriptions.

- *How did you build the visualization?*

I calculated the median sales prices for 25 distinct property categories in Excel and sorted them to identify the top five. After creating a simple table with this data, I imported it into Power BI, where I created the column chart by assigning property categories to the X-axis and median sales prices to the Y-axis.

- *What insights can be drawn from it?*

The chart shows that "Elevator Apt; Semi-Fireproof Without Stores" has the highest median sales price at $9,025,000. The second highest, "Elevator Apt; Semi-Fireproof With Stores," is $4,391,275, nearly half the price of the first category. The remaining categories—"Converted Dwellings or Rooming House," "Walk-Up Apt. Over Six Families With Stores," and "Over Six Families Without Stores"—range from $2.4 million to $2.8 million. This suggests a premium value for the top two categories, indicating they are more desirable property types.

- *How does this visualization help in understanding the overall data?*

This column chart effectively shows the distribution of median sales prices among the top five property categories. It highlights price differences, aiding stakeholders in identifying valuable properties. The visualization encourages further exploration into the factors contributing to these disparities, such as location and amenities, providing a concise overview of market trends in property pricing.