

Heels Excel

What We Did

- First, we analyzed the distribution of the financial sector by location, which led us to consider Manhattan specifically, which is the market with the highest number of leasing transactions occurring there! (Slide 1 of content).
- Before narrowing in, we looked at which financial markets had the most available space, which supported our decision to narrow in on Manhattan (Slide 2 of content).
- Then, we explored how building quality, office size, and rental prices have evolved over the years across Manhattan's submarkets, while keeping in mind one of the city's most pressing challenges: the high cost of rent (Slide 3 of content).
- We established Atlanta as a promising alternative to Manhattan for companies on a tighter expansion budget.
- We analyzed commercial office lease data for the **Financial Services & Insurance** industry in **Manhattan** from 2018 to 2024. Our goal was to identify spatial trends, with a focus on understanding where leasing activity is most concentrated and how it relates to Manhattan's internal submarkets.

How We Did It

- Created **triple line** (Atlanta vs. Manhattan vs. National Overall Rent) and **bar plots** (stay and go transactions) in Microsoft Excel (Slide 3 of content).
- Plotted a **grid** of overall rent by office building quality in Manhattan submarket using **ggplot2** in R (Slide 3 of content).
- **Address Construction & Geocoding:** We merged address components into a single field for geocoding, then used the OpenCage Geocoding API in Python to generate latitude and longitude coordinates. Python (via JupyterLab) handled data cleaning, filtering, merging, and geocoding, while QGIS was used for mapping and spatial analysis.
- **Methods of Analysis:** We imported the geocoded data into QGIS as a point layer, then used categorized symbology to color-code leases by submarket, enabling clear visual analysis of leasing distribution across Manhattan.

Why We Did It

- We wanted to advise financial services and insurance companies on the **best submarkets to lease office space** considering company size, square footage available, transaction type, and average rent cost.
- **Stay and go transaction plots:** Stay transactions within specific submarkets of Manhattan reflect stability, and go transactions reflect desirability of companies to lease office space within submarkets. A high number of stay and go transactions within a specific submarket indicate both stability and appeal for financial service and insurance companies.
- We set out to identify trends in average rent across Manhattan's submarkets from 2018 to 2024, focusing on how those patterns vary by building quality. By comparing Class A (high quality) and Class O (lower quality) office spaces, we examined how rents have shifted over time. Our goal was to uncover which areas now offer the best value for businesses navigating a changing real estate market.

- We focused on uncovering micro-geographic patterns in Manhattan's financial office leasing to identify high-demand submarkets and leasing clusters. By filtering the data by industry and market, we created a focused dataset. Geocoding the addresses enabled spatial analysis in QGIS, where we visualized leasing hot spots and mapped submarket trends. This approach transformed raw data into actionable insights to support strategic leasing decisions.