**NEW YORK CITY COLLEGE OF TECHNOLOGY**

# Brooklyn Real Estate and Gentrification

## Part 1: Hypothesis

Q: What is a Hypothesis?

A: a supposition or proposed explanation made on the basis of limited evidence as a starting point for further investigation. Most of the time a hypothesis comes in the form If _____[I do this] _____, then ____[this]_____ will happen.

*Your job is to come up with a hypothesis for the research questions presented  below. Follow the points in the "Assignment" section to help guide you.*

**Research Questions:** From 1990 to 2000 rent prices increased sharply throughout Brooklyn. Which of the following variables do you think had the strongest relationship with these increases in rent prices: the percentage of people of color in the neighborhood, the percentage of total renters in a neighborhood, or the median income in the neighborhood?

**Assignment:** *provide at least ½ a page (typed) including the following information:*

1. What is gentrification?
2. Which three neighborhoods in Brooklyn do you think have had highest increase in rent from 1990-2000 and why do you think that?
3. Which of the following variables do you think had the closest relationship with these increases in rent prices: the percentage of people of color in the neighborhood, the percentage of renters in a neighborhood, or the median income in the neighborhood? Why?

# Need Help Getting Started?

## Below are some suggested sources for background reading:

- ## Gentrification:

http://observer.com/2015/01/gentrification-may-be-complicated-but-its-not-a-myth-and-neither-is-displacement/

http://www.slate.com/articles/news_and_politics/politics/2015/01/the_gentrification_myth_it_s_rare_and_not_as_bad_for_the_poor_as_people.single.html

- ## Brooklyn Rent Trends:
http://www.mns.com/brooklyn_rental_market_report

- ## Current Rent Maps:

http://ny.curbed.com/archives/2015/02/16/mapping_the_cheapest_priciest_places_to_rent_in_nyc.php#more

- ## NYC Rent Price Determinants:

http://www.michiganjb.org/issues/1/article3.pdf

# Part 2: Methods- Data and Planning

## Step 1: Review the data!

*Take a minute to look at the data below. The first table shows the average (median) rent prices in Brooklyn by neighborhood in 1990 and 2000.*

| Zip Code | Median Rent in 1990 | Median Rent in 2000 | Percent Increase |
|---|---|---|---|
| 11201 - Brooklyn Heights/Cobble Hill | $519 | $719 | |
| 11203 - East Flatbush | $512 | $594 | |
| 11204 - Parkville/Bensonhurst | $527 | $798 | |
| 11205 - Fort Greene | $421 | $712 | |
| 11206 - Williamsburg/Bedford-Stuyvesant | $322 | $679 | |
| 11207 - East New York | $454 | $667 | |
| 11208 - Cypress Hills | $501 | $665 | |
| 11209 - Bay Ridge | $524 | $738 | |
| 11210 - Vanderveer | $517 | $738 | |
| 11211 - Williamsburg | $371 | $809 | |
| 11212 - Brownsville | $415 | $619 | |
| 11213 - Brower Park/Crown Heights | $443 | $515 | |
| 11214 - Bath Beach/Bensonhurst | $521 | $533 | |
| 11215 - Park Slope/Windsor Terrace | $586 | $617 | |
| 11216 - Bedford-Stuyvesant | $409 | $871 | |
| 11217 - Park Slope/Gowanus | $538 | $758 | |
| 11218 - Kensington/Windsor Terrace | $524 | $1,521 | |
| 11219 - Borough Park | $502 | $1,122 | |
| 11220 - Sunset Park | $506 | $608 | |
| 11221 - Bushwick/Bedford-Stuyvesant | $421 | $763 | |
| 11222 - Greenpoint | $430 | $797 | |
| 11223 - Gravesend/Homecrest | $492 | $763 | |
| 11224 - Coney Island | $353 | $800 | |
| 11225 - Crown Heights | $479 | $718 | |
| 11226 - Flatbush | $510 | $822 | |
| 11228 - Dyker Heights | $568 | $690 | |
| 11229 - Homecrest/Madison | $497 | $719 | |
| 11230 - Midwood | $486 | $558 | |
| 11231 - Carroll Gardens/Red Hook | $492 | $443 | |
| 11232 - Industry City/Sunset Park | $477 | $597 | |
| 11233 - Stuyvesant Heights | $403 | $646 | |
| 11234 - Flatlands/Mill Basin | $600 | $772 | |
| 11235 - Sheepshead Bay/Brighton Beach | $486 | $714 | |
| 11236 - Canarsie | $577 | $588 | |

| Zip Code | | |
|---|---|---|
| 11237 - Bushwick | $453 | $529 | |
| 11238 - Prospect Heights | $471 | $594 | |

*he second table shows the percentage of people of color, the*
*ercentage of total renters, and the median household income per*
*eighborhood in 2000.*

| Zip Code | % People of Color | % of Renters | Median Household Income |
|---|---|---|---|
| 11201 - Brooklyn Heights/Cobble Hill | 37 | 65 | $56,293 |
| 11203 - East Flatbush | 97 | 62 | $37,341 |
| 11204 - Parkville/Bensonhurst | 26 | 66 | $31,798 |
| 11205 - Fort Greene | 77 | 83 | $28,070 |
| 11206 - Williamsburg/Bedford-Stuyvesant | 75 | 91 | $18,661 |
| 11207 - East New York | 91 | 76 | $24,163 |
| 11208 - Cypress Hills | 85 | 73 | $27,078 |
| 11209 - Bay Ridge | 23 | 72 | $44,518 |
| 11210 - Vanderveer | 68 | 57 | $42,967 |
| 11211 - Williamsburg | 37 | 87 | $23,567 |
| 11212 - Brownsville | 97 | 85 | $20,839 |
| 11213 - Brower Park/Crown Heights | 87 | 84 | $26,366 |
| 11214 - Bath Beach/Bensonhurst | 28 | 71 | $33,765 |
| 11215 - Park Slope/Windsor Terrace | 32 | 69 | $53,313 |
| 11216 - Bedford-Stuyvesant | 98 | 83 | $25,135 |
| 11217 - Park Slope/Gowanus | 51 | 77 | $49,567 |
| 11218 - Kensington/Windsor Terrace | 44 | 74 | $36,432 |
| 11219 - Borough Park | 28 | 75 | $26,648 |
| 11220 - Sunset Park | 65 | 75 | $30,152 |
| 11221 - Bushwick/Bedford-Stuyvesant | 91 | 79 | $22,305 |
| 11222 - Greenpoint | 20 | 81 | $33,578 |
| 11223 - Gravesend/Homecrest | 27 | 67 | $32,104 |
| 11224 - Coney Island | 44 | 78 | $21,281 |
| 11225 - Crown Heights | 93 | 85 | $30,192 |
| 11226 - Flatbush | 93 | 89 | $29,498 |
| 11228 - Dyker Heights | 19 | 50 | $44,932 |
| 11229 - Homecrest/Madison | 25 | 58 | $37,812 |
| 11230 - Midwood | 27 | 73 | $32,327 |
| 11231 - Carroll Gardens/Red Hook | 37 | 78 | $45,154 |
| 11232 - Industry City/Sunset Park | 57 | 78 | $28,395 |
| 11233 - Stuyvesant Heights | 96 | 80 | $22,754 |
| 11234 - Flatlands/Mill Basin | 42 | 37 | $51,446 |
| 11235 - Sheepshead Bay/Brighton Beach | 23 | 68 | $31,013 |
| 11236 - Canarsie | 82 | 54 | $42,370 |
| 11237 - Bushwick | 73 | 90 | $23,104 |

| 11238 - Prospect Heights | 83 | 78 | $39,917 |
|---|---|---|---|

# ep 2: Make a Data Plan!

**signment:** *We are making a plan for how to best analyze our data- you are not actually ing to do all the calculations yet. For now, review the data presented above and provide at st a ½ page (typed) paragraph containing the following information:*

**\* HINT:  Remember, you need to analyze this data in a way that will help you to <u>prove or disprove </u>the hypothesis you made in part 1.**

1.  What are the percentage increases in rent from 2000-2010 by neighborhood in Brooklyn?

2.  You will need to make a chart or graph of the data presented. Which **chart type** (bar graph, line graph, pie chart, etc.) do you think will help you best analyze this data and support your hypothesis? Explain your choice of chart type.

3.  List **<u>THREE</u> basic statistics**  (average, range, minimum, maximum, etc.) that you think would help you better understand your data and discover whether your data supports your hypothesis.
    *   Here are some examples of some basic statistics that may be helpful; you may use any of these examples, but you must provide at least **ONE** additional idea of your own.
        ➢  What is the range of the percent increases in rent in Brooklyn?
        ➢  Which neighborhood in Brooklyn had highest increase in rent?
        ➢  What is the average increase in rent for all of Brooklyn?

# Part 3: Data Analysis and Results

**Assignment: DO THE MATH!** <u>Using your data plan</u>, *provide at least 1 page (typed) including the following information.*

1. Provide a chart (drawn or made on a computer) that best displays your data.
2. Explain the basic trends we can gather from this chart (1-3 sentences)
3. Provide at least <u>three</u> basic statistic that describes your data
4. Explain what the statistic(s) are telling us about the data  (1-3 sentences)

# Part 4: Conclusions

**Assignment:** *provide at least 1 page (typed) including the following information:*

1. Restate your hypothesis from part 1.
2. Did your data analysis support your hypothesis?
3. Which method of analysis (charts, statistics, number transformation) was the most helpful in determining your conclusion? Why?
4. Do your findings match what other researchers have found (use the Observer, Slate, or other articles to back up your statements). If your data did not match up with the expected pattern, can you think of a reason why?
5. Can you think of another data source or methodology that would help you to improve this research?
6. What did this project teach you about quantitative reasoning?

## ★ Keep Calm and Reason On! ★

*Data not working out? KEEP CALM! Remember, the point of this project is to build your quantitative reasoning skills, not to necessarily be "right" about everything.  Here are some tips to help you through some common data "freak outs":*

…**Your hypotheses was wrong-** *it's OK!!* Double check your math to be sure that your calculations are correct, and use this week's assignment to report on what you have learned.

**...Your data does not match what other researchers have found.** *Don't Freak Out!!* Again, double check your calculations and report on what YOU have found. Point our some potential reasons your data may not match.

**...You think you chose the wrong data plan (graphs, stats, etc.).** *Keep Breathing!!* This is the section of the paper where you get to explain what you would add to this project or do differently if you were to do the project again. If you think your data plan choices were incorrect, this is your chance to explain yourself- and if you're really brave- give it another try!