A Tale of Two Mayors



Above: A characteristic building plan making use of a small-scale DeBlasio rezoning, which permits construction higher than the surrounding area. (Source: Verde, 2021)

Did Mayor DeBlasio's Rezonings Significantly Change Housing Construction and Population Growth?

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Abstract

Zoning has long been an important tool for shaping New York City. The Mayor, through the Department of Planning, exerts considerable influence over this process. Mayor Bill DeBlasio (2014-2021) promised to build more housing and accommodate more population growth than his predecessor, Michael Bloomberg (2001-2013), who largely used rezoning to preserve neighborhoods as they were. Understanding the degree to which DeBlasio succeeded in this helps future planners and politicians make their own decisions. This article compares the Bloomberg and DeBlasio Administrations by analyzing housing construction and population change in areas rezoned during their respective tenures. Results showed that areas rezoned by DeBlasio led to much more housing and population growth in relation to existing housing supply and population. However, DeBlasio blockgroups impact on the city is unclear, because many neighboring areas unzoned by either mayor saw similar patterns of growth.

Introduction

The frequent European perception of the United States as hands-off and uninvolved regarding regulation is false when it comes to urban zoning. Proactive zoning, ranging from the segregation of land uses to required minimums of lawn cover, often forces the free market to build the sprawling, car-dependent, single-family suburban landscape that is emblematic of America (Vox, 2021). However, New York City's density and complexity means it is zoned to a unique degree, with a whopping 1478 pages of zoning regulation establishing minimums and maximums within hundreds of categories, within boundaries ranging from the individual tax lot to entire neighborhoods (Etherington, 2019). The first zoning law in the United States was a 1916 New York law which set maximum areas for the taller floors of skyscrapers (Etherington, 2019). The law was passed in response to the new Skyscrapers which blocked sunlight from reaching the street (Plitt & Rosenburg, 2019), because developers, free from regulation, wanted to build and rent as much floor space as possible. These maximums gave rise to the iconic "Wedding Cake" style of buildings, such as the Empire State Building (Plitt & Rosenburg, 2019). The measure was popular and made the city more livable, leading to decades of increasingly detailed restrictions on the free market which are more proactive than the typical American city. Examples include minimums of affordable housing, incentives for mixed commercial-residential development, and maximum floor-area ratio. (Department of Planning, 2021)

The amendment to, or introduction of, zoning law, known as rezoning, does not take place in an anonymously bureaucratic bubble: It is an open political process, often complex and contentious, in which the mayor plays a large role. The rezoning of the residential Manhattan neighborhood of Inwood, seen by some as a potential for new affordable housing and by others as an attempt by real estate to gentrify, was a years-long process. Former political allies fought against one another, and the issue was delayed and taken to court multiple times over several years (Gothamist, 2021).

Amendments to the zoning code begin with a proposal from an individual, interest group, or the New York Department of Planning, an office of the Mayor (Department of Planning, 2021). For every proposal, the Department of Planning oversees a ULURP (Uniform Land Use Review Procedure), in which the Department of Planning approves a plan as legitimate, the local community board is given 60 days to review it and hold public hearings, and the affected local p[oliticians get a review. This is not the political process: This is the preparation *before* the planning process. ULURP's complexity makes it inevitable that the Mayor which controls the Department of Planning will have great influence in plan approval, process supervision, the dissemination of maps and information, research, and influence the rezoning's narrative. This is especially true in small rezonings, and neighborhoods with less civic participation (Sinel, 2017)

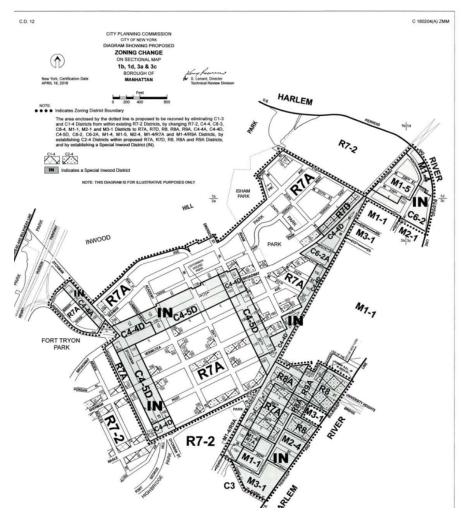


Figure 1

A map produced as part of the 150-page rezoning report made by the

Department of Planning, as part of the complex and contentious Inwood Rezoning.

Producing maps and reports, which are used by citizens and local politicians to understand rezonings as part of the approval process, is an indirect way the Mayor exerts influence through the Department of Planning

(Source: City Planning Commission)

After the ULURP, All changes must be approved by the City Council *and* the City Planning Commission. The 13-member City Planning Commission is where the Mayor has the most influence: The mayor has complete control over its chair, and elects an additional 6 members to 5-year terms. The last two mayors of New York served 12 and 8 years, respectively, so while Commissioner terms run on an independent schedule, each mayor was able to replace or re-nominate over half the Commission within their tenure. The other 6 members are selected by the Borough Presidents and a Public Advocate. (City Planning Commission, 2021). The Mayor's final tool of influence is to veto a rezoning proposal, which requires a 2/3rds majority of the City Council to override. While each rezoning involved a range of external factors and stakeholders, it is safe to speak of rezoning by mayoral administration, especially when looking at the two mayors in question.

The last two mayors of New York City were quite politically different from one another, with different philosophies towards, and implementations of, rezoning. Michael Bloomberg (2001-2013), a 3-term Republican (later Independent) who was the 17th richest person alive during his tenure, focused on quality of life issues and development of formerly industrial areas, and during his tenure income inequality and gentrification rose massively. A key feature of his rezonings involved "Downzoning" to "reinforce neighborhood character" (Politico, 2014). Bill DeBlasio, a 2-term Democrat (2014-2021) first ran for election promising to break from Bloomberg's policies, which he blamed for wealth inequality and the creation of a "Tale of Two Cities," (Barbaro & Chen, 2013). During the race, DeBlasio stated "[Bloomberg] is rushing to put a lot of things in place, and we're going to review everything," believing many policies to be against the interest of the city (Gonan, 2013). DeBlasio promised more housing and affordability, using zoning as a tool for increasing density and new construction (Navarro & Grynbaum, 2014).

Abrupt changes in the timing of new rezonings justify the classification of rezoning by mayoral term. Bloomberg's first rezoning bigger than a city block was not until 9 months into his term. While 35 rezonings were adopted in Bloombergs last year, there were only 16 in DeBlasio's first, with none in the first two months. Both administrations saw the most rezonings occur in the middle of their term.

Existing research, conducted at the end of the Bloomberg administration, established that Bloomberg's rezonings negatively affected housing development and population growth overall (Sinel, 2017) but not in every case (Kober 2020) and with some notable exceptions in which the opposite happened. No such analysis was available for the DeBlasio administration, as it was still underway, and there was a delay between rezoning approval and developer requests to build, and for people to move based on such development. Now that DeBlasio's term is over as of January 1st, 2022, for the first time similar reflections are possible for the DeBlasio administration. To

update existing understanding of the mayor's effect on housing and population growth, this paper researches if rezonings under DeBlasio's tenure were significantly different than those under the Bloomberg administration. This is done through comparison of population growth and new housing construction in areas rezoned by each mayor, as well as comparison to the city at large. 2021, the last year of DeBlasio's term, conveniently coincides with the results of the 2020 Census, allowing accurate comparisons of changes in population over a 10 year period. Comparing the rezonings implemented under each mayor with each other (and with the city at large) allows for better understanding of, in practice, which policies best lead to housing development and population growth. By updating knowledge of rezoning and politics on population growth and housing development, this paper will seek to allow a better understanding of how housing development and population growth does (or does not) occur. Both conclusions can serve useful for future politicians and urban politicians looking to increase housing and accommodate population growth

Normative questions about what a neighborhood should look like, whether DeBlasio's rezonings were "good" for the city, or whether more housing meant more affordable housing, are beyond the scope of this paper. The comparison made will be purely descriptive.

First, a background on zoning and New York politics will be provided, followed by an explanation of the work by Sinel (2017), from which this paper expands. Secondly, the methodology will be presented. Thirdly, results on differences and similarities between the two administrations will be presented.

Theoretical Framework

At its most basic, zoning in the United States differentiates between permissible land use. New York goes one step further and specifies a category, with each category corresponding to minimums and Maximums. For example, residential plots range from R1, which effectively mandate single family detached homes, to R10, which permits high rises (Department of Planning, 2021). In between is a wide range of permissible building types.

The primary tool used to create these housing types is maximum FAR (Floor Area Ratio), the percentage of a plot which a building's total floor space may occupy. R1 zoning mandates a maximum FAR of 0.5, leading to houses with large yards. R10 zoning set a maximum FAR of 10, permitting either:

- A 10-floor building which occupies the entire lot,
- A 20-floor building which occupies half the lot,
- A 40 -floor building which occupies 1/4th the lot...etc (Department of Planning, 2021) Minimums for open lot space may exist as well.

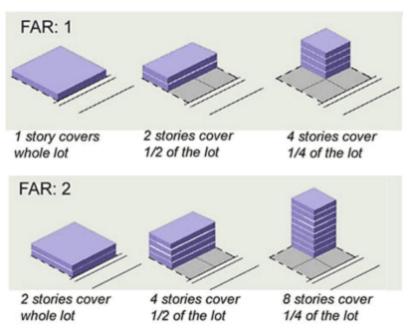


Figure 1. FAR Illustration (Image Credit: Julie Campoli, Visualizing Density)

Figure 2.

Source: American Planning Association

The traditional regulation of FAR, depicted above, dates to 1961, at which point the zoning code was looking to accommodate 16 Million people by 2000 (Scott, 2005), and dates from a time when "Towers in the Park" was a common ideal (Sinel, 2017). FAR for residential buildings in New York City assumes n that developers want the maximum floor area they can possibly build, so maximums will be reached. Instead, New York City's population declined as people left for the suburbs, and many outer neighborhoods were zoned for much higher FARs than were actually built (Scott 2005). However, record-breaking population growth and a real estate boom in the 1990s meant that achieving maximum FAR was once again financially viable, and developers began building bigger, taller, denser, and more multi-family (Scott 2005). The real estate market has only climbed since then, with the median home price in 2019 double that of 2010, (Andrews, 2019), higher demand in all five Boroughs, and no long-term abatement over the pandemic. (King, 2021), This meant that, during both administrations, maximum FAR not only determined what *could* be built, but often what *would* be built.

FIGURE 3: HEIGHT FACTOR VERSUS QUALITY HOUSING BUILDINGS²⁷

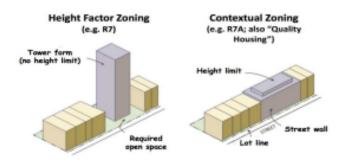


Figure 3

Traditionally, a building could achieve its maximum Floor Area Ratio (FAR) with broad discretion; A building could tower over its surroundings, provided its footprint was smaller to compensate. Contextual zoning demands a building equal the height of its neighbors, dictating its dimensions if the developer wants to achieve maximum FAR. (Source: Sinel, 2017)

Contextual zoning gained prominence under the Bloomberg administration as a response to the prevalence of "Towers in the Park," constructed in the 1970s and 1980s, that met FAR requirements, but which locals felt destroyed the character of their neighborhoods (Sinel, 2017). It also responded to Height Factor Zoning, which permits a building to exceed their maximum FAR if their neighbor is below it, allowing even taller towers.. In a contextual zoning, all this is irrelevant; Building envelope and form are most important.

Sinel calls this a euphemism for downzoning which harm's New York's ability to grow:.

"We argue that in an environment of exploding population density and severe affordability pressures, no community should be entitled to keep its neighborhood completely unchanged or underbuilt" (Sinel, 2017).

Sinel points out that the 40% of tax lots in the city were contextually zoned in 2013, of which 70% are low density. The vast majority of these contextual zonings were implemented under the Bloomberg administration; Between 2002 and 2005 alone, 42 rezonings encompassing 3600 city blocks "to preserve neighborhood character," were approved or under review, compared to only 8 in the three year-year period prior (Scott, 2005). (Sinel 2017) establishes that districts which were contextually zoned under the Bloomberg administration saw far less construction than those which were not. Additionally, maximum FAR could rarely be reached, with the main reason being that contextual zoning often applies 20th (or 19th) century limits on 21st century buildings. A typical 20th century 6-floor apartment block may have several buildings, at 8 feet a floor, or 48 feet total. However, modern prefabricated construction materials are built for 10 foot-tall ceilings, meaning that for a building to have a maximum height of 40 feet, only 4 floors can be built, and 8 feet of air is still unused. Thus, in 16/17 examples, potential space was unused.

Sinel does not delve into the concept of "trading": The idea that Bloomberg would downzone one neighborhood via contextual zoning, but upzone another area, often formerly industrial, by allowing residential development (Scott, 2005), (St. Clair, 2017). However, Sinel (2017)'s data ends with the end of the Bloomberg administration, and could only speculate on what changes the DeBlasio administration would bring. She points out DeBlasio's proposed policy of Zoning for Quality and Affordability (ZQA), designed to give more freedom to building envelopes and encourage street-level commercial activity. With a new mayor arriving on January 1st, 2022, this paper will update Sinel (2017)'s work by making an analysis of the DeBlasio administration, and comparing it with the Bloomberg Administration as reference, to determine if ZQA actually created more housing and accommodated more population growth.

Due to the different political philosophy of DeBlasio, the expectation is that rezonings, and thus the amount of housing and population resulting, will be significantly different.

Methodology

Data on new housing construction and changes in population was overlaid with areas rezoned during the Bloomberg and DeBlasio administrations. Summary statistics were calculated to demonstrate differences, if any, within these categories. Z Tests, Two Sample T-Tests, and two-way ANOVA were run to confirm the significance of these findings, and shed light on their scale.

New York City differentiates between Class A and Class B Housing. Class A housing contains its own toilet and kitchen, and is designed for permanent occupation. Class B housing includes hotel-style single room occupancies, college dormitories, and institutional housing, such as pirons. (Fontan Architecture, 2020). This paper focuses solely on Class A housing.

Date, status, shapefile location, and net effect on Class A housing for every construction permit in the 21st Century is available from the New York City Department of Planning. For comparison with Census data, all projects were selected whose application for a construction permit was filed between January 1st, 2010, and December 31st, 2020. This dataset included projects classified as "Filed," "Approved," "Permitted for Construction," and "Completed,". "Partially-Completed" projects were also included, but made up just 9 projects out of over 4000.

Permits themselves are interesting, but only in relation to Class A Net. A permit may correspond to 1 Class A Unit, such as a new suburban single family home, or 1000, such as a new residential tower. To exclude internal renovations but include commercial-residential conversions, any permit which altered Class A Net - positively or negatively- was included in analysis.

Projects with zero net change in Class A Units were almost exclusively commercial renovations within mixed-use buildings, or the construction of non Class A housing. Measuring total net-Class A units allowed for equal comparison without a bias to class A net housing

A layer was changed to the net sum created for all projects which changed Class A Units, including a decrease. As will be shown in the results, many blockgroups, even entire rezonings, saw a decrease in Class A housing.

The United States conducts a census every 10 years, documenting population and a wide array of geographical information. Data was collected from (Redistricting Data Hub, 2021), which makes such data more accessible for social and political research. 2020 Census results were published in Summer 2021, published at the level of, from smallest to largest: block, blockgroup, and census tract.

The level of analysis chosen was the blockgroup. Blockgroups combine populated and unpopulated areas into groups between 800 and 1800 people. Although block data is the most specific, they are drawn to be geographically accurate, not statistically useful. Blocks contain anywhere from 0 to 1000s of people, varying in size from vast parks to traffic islands. Meanwhile, census tracts, regardless of a neighborhood's density, can contain many blocks, and thus vary wildly in population, and are out of scale when dealing with rezonings which can be as small as a building plot.





Figure 4 Figure 5

At left: Two census blocks highlighted. One is a city block with 965 people. The other is a piece of road in which nobody lives. Not a useful unit of analysis.

At right: Blockgroups are not perfectly equal in population, but they generally group areas without people with those that do. Preferred unit of analysis.

Blockgroups which were irrelevant and potentially distortive were eliminated before analysis. Blockgroups with either 0 Land Area, less than 10 housing units, or less than 10 people with zero Net Class A housing, were eliminated. Such editing eliminated rivers and piers, imperfectly clipped slivers, clear census errors, and non-residential areas such as parks and airports.

A challenge when working with American data is geographic segregation, specifically of those who do not typically live in Class A housing. In New York, this includes university students, military and coast guard bases, prisoners, and the mentally ill. New York's most populous blockgroup in 2010, with over 11,000 people, was Rikers Island, home to New York's largest jail. Rikers Island's population declined 70% by 2020: A reflection of changing social policy, not housing policy. Such blockgroups are irrelevant and potentially distortive. Censusblocks whose Class A Housing was 0 in both 2010 and 2020 were eliminated from analysis, regardless of population. Censusblocks where housing was created where once there was none were created into their own layer, to prevent distortion of ratio results.

Zoning Data was collected from the New York City Department of Planning through their *Bytes of the Big Apple* data program (Department of Planning, 2021). Such data included a list of rezonings by their date of going into effect. Rezonings implemented between January 1st, 2002, and December 31st, 2013 were classified as "Bloomberg," while rezonings implemented from January 1st, 2014 to December 20th, 2021 were classified as "DeBlasio". Rezonings implemented in DeBlasio's first term were differentiated from that of his second. Zonings were analyzed in three categories: "Small" rezonings (under 30,000 square meters) which affect individual plots, "Medium" rezonings (Between 30,000 and 350,000 square meters) which affect areas smaller than a neighborhood, and "Large" rezonings (Over 350,000 square meters) which could be considered neighborhood-level. 350,000 square meters is approximately the size of Binnenstad Noord.

Because housing permits are shapefile points, they can be calculated using 2010 Blockgroup boundaries, a consistent variable. In this way, blockgroups' housing supply in 2020 can be compared to housing supply in 2010, allowing for statistics that are proportional, such as "New Housing as % of Existing Housing". However, population data is not point data, and allowing for comparison at the blockgroup level between points in time would require cross-referencing beyond the scope of this paper. As a result, the 2010 and 2020 populations of all blockgroups within a level of zoning were found, and percentage change in population calculated. This allows for less accurate measurement, but still may indicate important differences at large.

Results

Bloomberg Rezonings

DeBlasio Rezonings

12 Year Tenure	8 Year Tenure
401 Rezonings	208 Rezonings
33/Year	26/Year
121 Large	5 Large
88 Medium	21 Medium
192 Small	182 Small

Figure 6

Clear distinctions between the zoning policies of the two mayors already emerge. DeBlasio's zonings were not substantially less frequent, but they were much more likely to regard individual building plots or blocks, while Bloomberg's rezonings affected entire neighborhoods. The most striking difference between Bloomberg and DeBlasio's rezonings is that 20X the amount of large rezonings were implemented under the Bloomberg administration. Yet the average number of rezonings implemented per year was not substantially different. This is because, despite 4 less years in office, DeBlasio implemented almost as many small rezonings as Bloomberg.

6,218 blockgroups were analyzed from the 2010 census, representing 8.1 Million people, of which Bloomberg rezonings affected 3,242 blockgroups and 4.1 Million people, representing over half the city's blockgroups and population. In stark contrast, DeBlasio rezonings only affected 584 Blockgroups and 801,000 New Yorkers, or around 10% of the city's blockgroups and population. DeBlasio had 50% less time in office, but only rezoned 20% as many blockgroups and people.

After erasing irrelevant census blocks, the average blockgroup analyzed had 1311 people, with 68% of blockgroups between 800 and 1800 people. Distribution was normal. Bloomberg and DeBlasio blockgroups did not show any strong trend towards being over or under populated, or more or less residentially dense, from each other or the City at large that would prohibit a fair analysis.

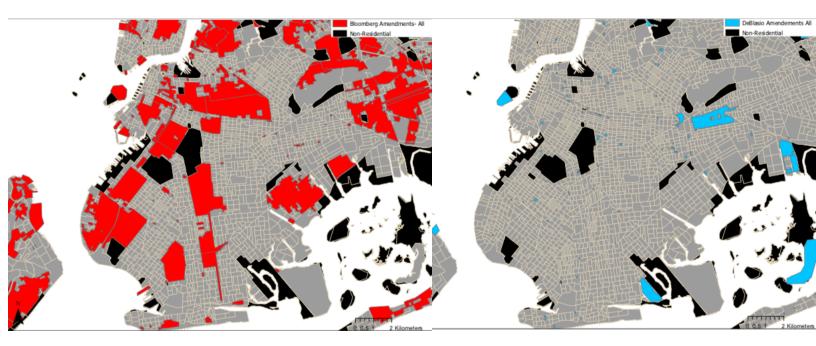


Figure 7 Figure 8



Figure 9

Looks can be deceiving: While a glance at rezonings implemented under DeBlasio (Fig. 8) suggest a less proactive rezoning record than Bloomberg Fig 7), the numbers demonstrate that DeBlasio did not pursue significantly less rezoning. Instead, rezonings were smaller and more targeted. Zooming in to the Prospect Lefferts Garden neighborhood of Brooklyn, demonstrates this policy (Fig. 9)

Blockgroups Rezoned by Bloomberg & DeBlasio, v.s Citywide

Population (2010	City-at-Large	Bloomberg	DeBlasio
Mean (Z Score)	1311	1288 (-3.2)	1371 (8.4)
Median	1217	1187	1294
Housing Units (2010) Mean (Z Score) Median	542 485	522 (-5.9) 468	542 (28) 489

Figure 10

Figure 10: Although Z Scores greater than 1.96/less than -1.96 show that the 2010 populations and housing supplies are significantly different, the means and median show they are comparable units of analysis.

Figure 11: When comparing 2010 population and housing units in Bloomberg and DeBlasio blockgroups with each other, there is no significant difference.

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
							Mean	Std. Error Difference	95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Difference		Lower	Upper
Population 2010	Equal variances assumed	11,246	,001	-3,279	3824	,001	-83,561	25,487	-133,531	-33,591
	Equal variances not assumed			-3,117	775,310	,002	-83,561	26,810	-136,190	-30,933
HU	Equal variances assumed	4,712	,030	-1,659	3824	,097	-19,824	11,947	-43,247	3,598
	Equal variances not assumed			-1,641	799,582	,101	-19,824	12,084	-43,544	3,896

Figure 11

Housing Construction

Class A Net, 2010-2020.	Citywide	Bloomberg	DeBlasio	Bloomberg v.s DeBlasio
Mean (Z Score) (Probability) Median Independent Sample T Test	46.85 4	61.66 (5.03) (0) 5	158.36 18	.009
Mean/1000 People (Z Score) (Probability) Median/1000 People Independent Sample T Test % Existing Housing, Overall: % Existing Housing, Mean (Z Score) % Existing Housing, Median Independent Sample T Test	60.09 3 8.64% 15.14% 1%	91.47 (2.46) (.01) 4 11.81% 23.36% (1.74) (.08) 1%	282.98 (37.9) (0) 15 29.23% 81.75% (35.29) (0) 4%	.679

Figure 12

In all data, especially DeBlasio blockgroups, means were frequently higher than medians. Most blockgroups saw little to no housing constructed between 2010 and 2020, largely because New York is a dense city with large amounts of quality and profitable housing stock. There was little to no empty land upon which to build, and not enough economic incentive to destroy existing buildings. However, in the city at large, but especially in rezoned blockgroups, a minority of high-growth blockgroups can skew averages much higher.

On average, blockgroups rezoned under DeBlasio were more likely to see larger amounts of new housing units. The mean change in Class A units in a DeBlasio blockgroup in the last 10 years (158.36) outperform Bloomberg blockgroups (61.66) by a whopping 256%. This is demonstrated in overall housing output: Bloomberg blockgroups created an overall net of 200,000 units of Class A Housing, compared to 92,000 units in DeBlasio Blockgroups. While net output in DeBlasio Blockgroups was smaller, the construction of 46% as many housing units among 20% of the blockgroups and population shows a higher level of construction in those blockgroups that were rezoned.

The most noticeable output among DeBlasio blockgroups is the high median of Class A Units constructed per 1000 people. The median DeBlasio blockgroup saw 15 units of housing

constructed, compared to 3 in the median citywide district and 4 in a Bloomberg district. These medians may display the difference and outcome between Bloomberg's conservative policy of rezoning to protect existing neighborhood character and buildings, compared to DeBlasio's policy of rezoning to allow new units. While the typical Bloomberg blockgroup was essentially preserved as-is, the typical DeBlasio blockgroup saw new housing units, even if in levels much lower than the mean would suggest.

An Independent Sample T Test was run comparing Bloomberg and DeBlasio Blockgroups. The result demonstrates the effect high-growth blockgroups had on skewing means. While Z Scores, a mean-based assessment, showed almost no probability of equal outcomes between each category and the city at large, the Independent Sample T Test was under 0.05 regarding Class A net, and borderline involving Class A Net/1000 People. Only regarding Class A Net as a percentage of existing housing is the likelihood of differing results significant enough to reject the null hypothesis of equality. Such an outcome demonstrates the susceptibility of means to change drastically with high outliers.

Class A Units Per Permit	Citywide	Bloomberg	DeBlasio
Mean	6.72	6.79	19.27
Median		1	2

Figure 13

Blockgroups rezoned under DeBlasio were more likely to see multi-unit buildings constructed. When counting permits which changed the number of Class A units (positively or negatively) the averages between DeBlasio and Bloomberg blockgroup were almost identical: 9.95 in Bloomberg blockgroups, and 9.33 in DeBlasio blockgroups. At first glance, this would suggest similar amounts of housing constructed. However, permits reflect property plots, not units of housing. A new single family home at the edge of the city and a new residential skyscraper in Midtown both apply for one permit. DeBlasio blockgroups saw 46% the amount of new housing construction despite generating only 16.8% of the housing permits (5,400) compared to Bloomberg blockgroups (32,000), because DeBlasio blockgroups had a higher number of units constructed per permit application. The mean number of Class A Units proposed per permit is 19.27 in DeBlasio blockgroups, 3 times higher than the mean of 6.79 units proposed per permit in Bloomberg blockgroups.

Relative to the size of the existing housing stock, DeBlasio Blockgroups still generate larger amounts of new housing. Higher levels of construction in DeBlasio blockgroups could have possibly reflected rezoning of higher density blockgroups. However, even when measuring new housing units as a percentage of existing Class A Units, as measured by the 2010 Census, DeBlasio Blockgroups still saw higher levels of construction. Looking at DeBlasio blockgroups

as a whole, new Class A units increased housing stock by 29.2%, almost triple the increase of 11.8% in Bloomberg blockgroups and 8.6% in an average block overall. However, the Medians demonstrate that the typical city blockgroup experiences little development, and most blockgroups see only nominal increases in housing, with the mean skewed by a minority of blockgroups with very high increases, sometimes in the 1000s%

Statistics Which Decreased in DeBlasio's Second Term	First Term	Second Term
Mean Class A Net/Blockgroup Median Class A Net/Blockgroup Median Class A Net/1000 People Median Class A Net as % of Existing Housing	208.75 30 24 6%	139.98 11 8 2%
Statistics Which Increased in DeBlasio's Second Term		
Mean Class A Net/1000 People Mean Class A Net as % of Existing Housing	198.23 40.73%	371.57 117.99%

Figure 14

Blockgroups rezoned during DeBlasio's term generated less new housing units on average, with proportional means skewed heavily by a few extreme examples. As shown above, by most indicators, the typical blockgroup rezoned during DeBlasio's second term produced less housing growth than in those in his first term, with significant drops in both mean and median housing units per blockgroup. In certain measurements), new housing is actually equal to or lower than that achieved in Bloomberg blockgroups.

The mean number of Class A housing per 1000 people and as a percentage of existing units actually grew significantly, despite large decreases in the median values. Such divergence suggests a minority of blockgroups, in which there were very few people or housing units in 2010 but where many new developments, skewing the mean to to a large number while the typical blockgroup sees little to no development.

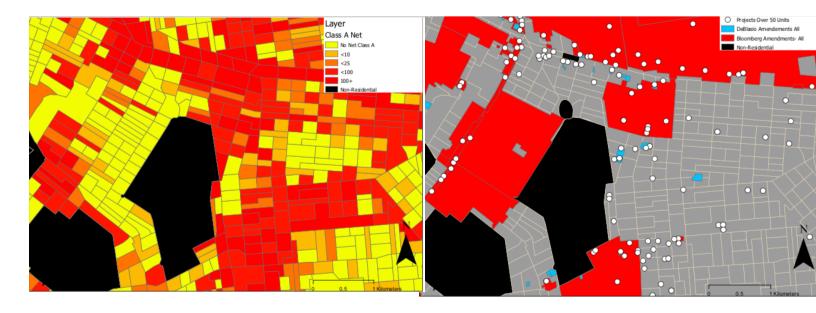
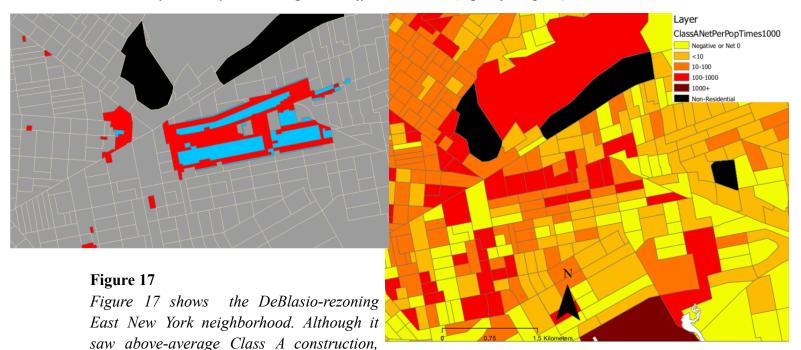


Figure 15 Figure 16

Above: Areas rezoned by DeBlasio and the blockgroups which contain them are not particularly distinguishable. However, when building sites with over 50 housing units proposed are selected, each rezone corresponds clearly to a specific development, in total equaling 1053 units over 4 projects. In both images, notice the difference in development between Park Slope (left of park), contextually zoned by Bloomberg, and Lefferts Gardens (right of the park), which was not.



many of the surrounding blockgroups, not rezoned by

either mayor, saw similar changes. (Fig. 18)

Figure 18

Population Change

Area	Population Change, 2010-2020
Citywide	8%
Bloomberg	14%
DeBlasio	10%
Bloomberg Small	20%
DeBlasio Small, First Term	43%
DeBlasio Small, Second Term	34%
Bloomberg Medium	27%
DeBlasio Medium, First Term	43%
DeBlasio Medium, Second Term	89%
Bloomberg Large	12%
DeBlasio Large, First Term	11%
DeBlasio Large, Second Term	5%
East New York	33%
East Harlem	10%
Far Rockaway	0%

Figure 17

The majority of rezoned areas saw population growth higher than the city average of 8%. Small and medium rezonings, even in DeBlasio's second term, during which there was less time for approved developments to be built and accommodate new residents, were far above average. Such large percentages reflect the efficacy of targeted rezonings, by both mayors, but particularly DeBlasio, which seek to turn specified lots into new housing developments.

In contrast, large rezonings were only slightly higher-growth than the city at large, with DeBlasio's large second term rezonings seeing below-average growth. While such a result could be expected from the Bloomberg Administration, DeBlasio's large rezonings were supposed to be different, with the intention of allowing new population growth.

The three large-scale DeBlasio rezonings examples at the bottom demonstrate three very different outcomes: East New York, East Harlem, and Far Rockaway were all rezoned in the early years of DeBlasio's First Term, and yet had widely different population outcomes. East New York is accommodating a disproportionate share of New York's growing population, East Harlem is reflecting the city at large, and Far Rockaway is not accommodating any new growth.

In contrast to what Sinel (2017) might have predicted, Bloomberg rezoned areas as a whole managed to slightly exceed citywide population growth, despite a supposed inability to do so.

Conclusions

Ultimately, blockgroups rezoned under DeBlasio's tenure are more likely to see larger amounts of population growth and new housing construction, especially relative to the existing amount of housing units. The DeBlasio administration's rezonings achieve their promised goals of population growth and more housing development. However, further statistical analysis shows that means can be deceptively high, as small amounts of extremely high-growth blockgroups, stemming from small and medium rezonings, distort the less unique results of larger rezonings. DeBlasio's drastic shift to small-scale rezonings creates a selective bias, where analyzing DeBlasio rezonings yield a small number of high-volume blockgroups, but whose overall impact on the city may be quite small. Bloomberg's large-scale rezonings did not negatively impact population to the degree expected.

The passage of time will shed light on the impact of DeBlasio's tenure, though not everyone can agree how soon and what was "best". The Inwood rezoning, officially implemented several years ago, is only now seeing permits approved and new buildings constructed, and the community is being surprised by their affordability (Huges, C.J, 2021). Social research on community relationships with such rezonings will always be important, in order to look beyond the numbers.

The blockgroups which produced the most housing experience construction of tall residential towers, often with thousands of units. Although such projects do create housing, New Yorkers will have to decide if such projects are actually what they want for their neighborhoods.

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