



A whitepaper by Barbara Byrne Denham

AMAZON HQ2:

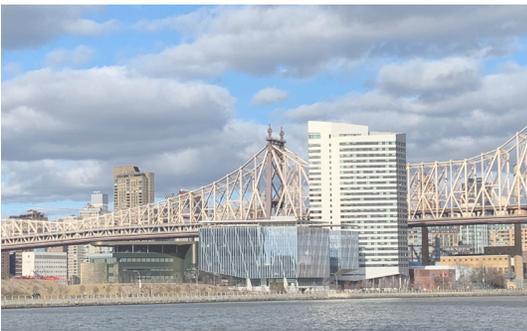
Amazon's Near-Term Impact on the Queens and New York City Real Estate Market

January 2019

By Barbara Byrne Denham

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The suspense is over, and the uproar has begun: Amazon's selection of Long Island City for one of its two new headquarters – along with Crystal City, VA – has many locals and New York City officials concerned about the impact on the neighborhood. The waterfront Queens neighborhood has not seen a corporate relocation of this size ever, even though a number of companies have moved to the neighborhood including Jet Blue and Ralph Lauren. Many worry that the new behemoth occupant will boost neighboring apartment rents and condo/co-op prices as well as office rents for the small businesses that have set up shop in Queens.

While these concerns are valid, our real estate data shows that the impact may not be as severe as so many fear. This is due to the fact that Queens, Brooklyn and Manhattan have tremendous construction underway for both multifamily and office. Reis tracks all commercial real estate construction projects including those mentioned in the media that have not had a permit filed. Aggregating this comprehensive data and incorporating the new Amazon occupancy into our baseline forecasts, we have analyzed the short-term impact of the first few years of Amazon's coming occupancy. Our forecasts go to 2022 and assume 8,200 Amazon employees will be added from 2019 to 2022: 700¹ in 2019 and approximately 2,500 per year from 2020 to 2022.

The analysis herein is based on our current forecasts of expected construction that include details from 1,650 separate residential construction projects that Reis is tracking for the apartment market as well as for condominiums/coops and affordable housing. Likewise, our office analysis includes details from 160 pending office construction projects.

We are intentionally keeping the analysis short-term and releasing it now because we want to show how both the apartment market and the office market can absorb these added employees *under the current set of circumstances*. Our construction forecast includes 21,000 apartment

¹As per <https://www.wsj.com/articles/amazon-executives-city-official-defend-hq2-deal-11544660882>



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units planned for Queens, Manhattan, Brooklyn and the Bronx over the next four years as well as 10,000 condominiums and 7,300 affordable units planned for the four boroughs – all based on permits that have been filed and Reis research.

For the office market, Hudson Yards alone is expected to add 4.5 million square feet of space through 2019 as well as another 7.6 million square feet from 2021 to 2022. More office projects are underway in Brooklyn and Queens as we discuss herein.

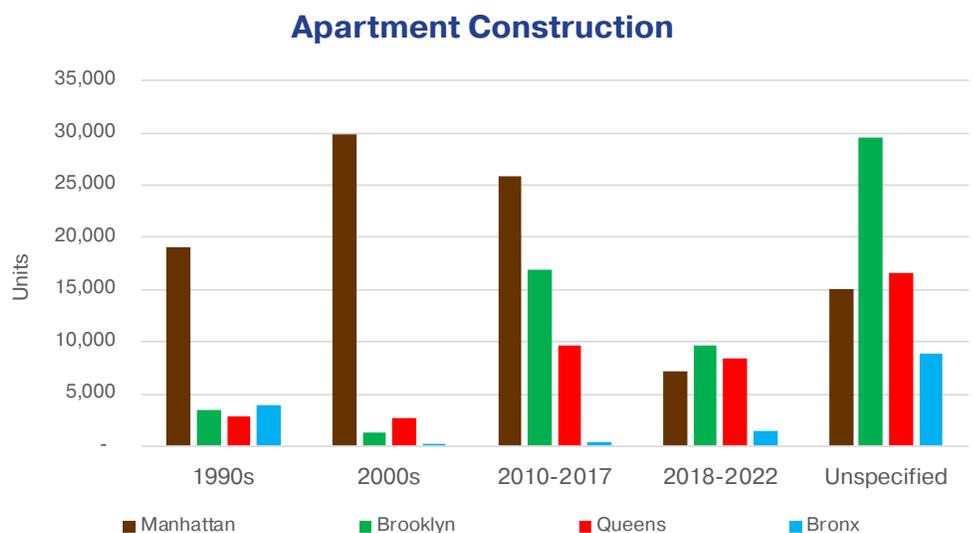
In the coming months and years, developers will file more permits to build both office and multifamily in the City, spurred by the Amazon announcement. More office and apartment supply will ease the expected rent growth for Queens and the City. Yet we wanted to show that there is already significant construction underway such that the impact from Amazon’s added jobs will only raise apartment occupancy and rents by – at most – an average of 3.1% per year in 2020 through 2022 above what they would have otherwise increased by, which was 2.1% per year on average. For the office market, office occupancy and rents in Queens will not be impacted directly by the Amazon occupancy until 2022 when the company will outgrow its space in One Court Square. Office rents in Queens could increase by 5.0% above what they would have grown by in 2022 without the added employees, which was 1.4%. Manhattan’s office rent is forecasted to grow by 1.1% in 2022.

These projections are based on Reis’s *current* forecasts of future supply and future demand for both apartment and office space as well as on a set of assumptions concerning how many Amazon employees will rent versus own and how many will remain in the City.

APARTMENT MARKET IMPACT

The immediate 8,200 Added Amazon Employees will Raise Apartment Occupancy Rates over the Next Few Years as well as Rents, but Rent Growth was Expected to Decelerate Rapidly Prior to Amazon’s Announcement as Apartment Vacancy was Expected to Increase.

New York City has seen significant new construction of apartments in recent years, particularly in Brooklyn and Queens. The chart to the right listing added apartment units shows how more units have been added over the last eight years than were added in previous decades. This data only includes market rate properties of 40 units and above. The chart also shows that another 26,700 units will be added in 2018 through 2022 based on projects for which a permit has been filed. Finally, the “unspecified” category includes proposed units of construction based on what Reis has been tracking in the media. Queens



**Includes all market rate apartments in properties of 40 units and above as well as market rate units in mixed income properties.*

Source: Reis, Inc.

alone has 16,560 units in proposed projects while Brooklyn has 29,600 units.

It is important to note that Queens and Brooklyn have seen disproportionately more construction over the last eight years than Manhattan and will continue to see disproportionately more.

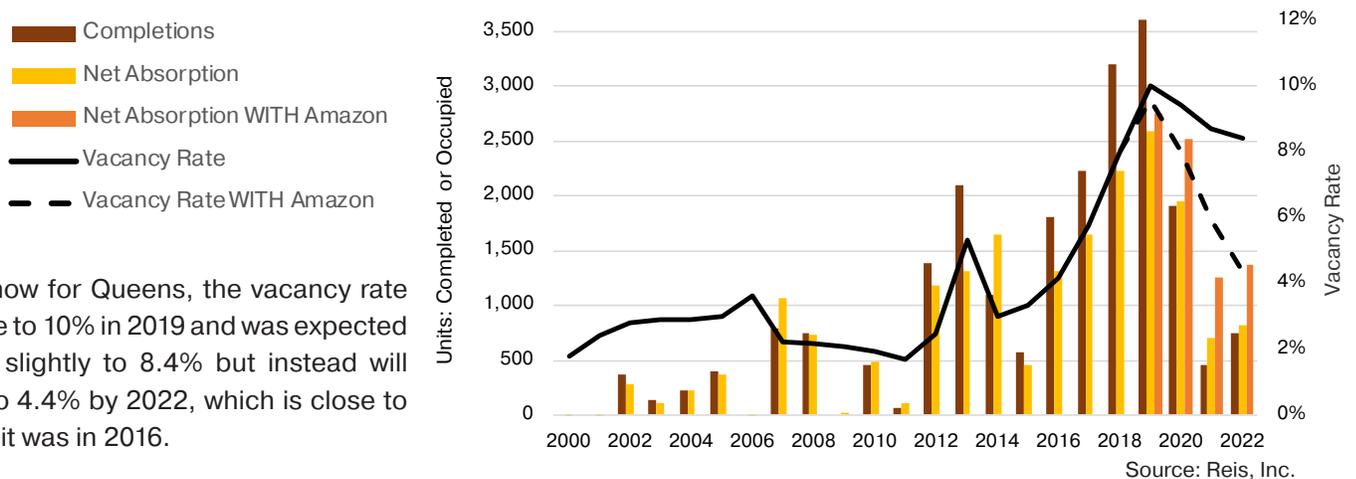
Prior to the Amazon announcement, Reis had released its forecast for expected apartment supply as well as expected apartment occupancy and rent growth for 2019 through 2022². Our occupancy and rent growth forecasts incorporate a number of variables including expected population growth, expected employment growth, expected household formation growth and expected household income growth³. *Note that our baseline forecast had projected a steady deceleration in occupancy growth (apartment demand) against a "hard" forecast for strong construction growth (supply).* The deceleration in demand was due to the expectation of slower yet still positive job growth in New York City and across the U.S. Combining lower demand with higher supply yielded our *baseline forecast* of rising vacancy rates along with slowing rent growth.

Using these baseline forecasts and adding 700 employees in 2019 as well as 2,500 employees⁴ per year from 2020 to 2022 on top of the current projections, we forecast the impact of the added Amazon employees on 2019 to 2022 vacancy rates and rent growth holding all other variables constant⁵.

Note that our forecasts for the charts below are arguably aggressive in that they assume that the newly employed Amazon workers will lease a market rate apartment in a property of 40 units or above at a rate of 2 units for every three jobs⁴. This is aggressive because 68% of the Queens housing stock is in properties with fewer than 20 units. In Brooklyn, Manhattan and the Bronx, half of the total housing stock is in properties with fewer than 20 units. [See Appendix A: New York Housing Stock by Units in Property].

Adding the extra units of occupancy growth to our baseline absorption statistics along with our current construction forecasts yields lower vacancy rates in the four boroughs as per the charts below.

Queens Apartment Market Supply, Demand and Vacancy



Note how for Queens, the vacancy rate will rise to 10% in 2019 and was expected to fall slightly to 8.4% but instead will drop to 4.4% by 2022, which is close to where it was in 2016.

Source: Reis, Inc.

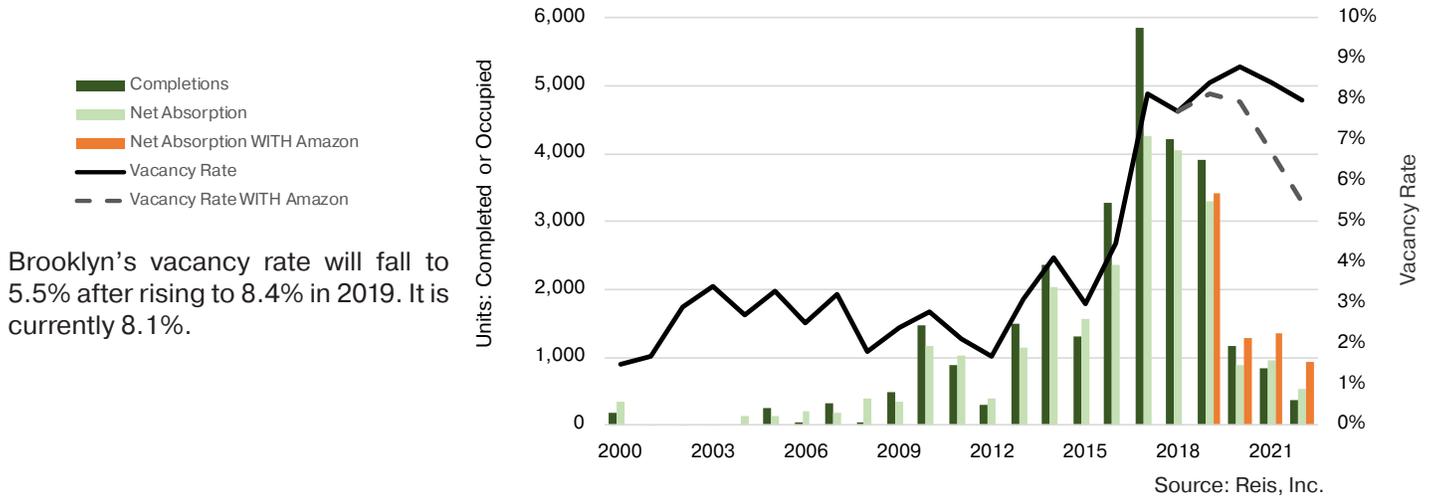
² Founded in 1980, Reis's data for apartment and office trends and forecasts dates to the 1980s.

³ Reis has historically obtained the projections for these four variables from Moody's/Economy.com.

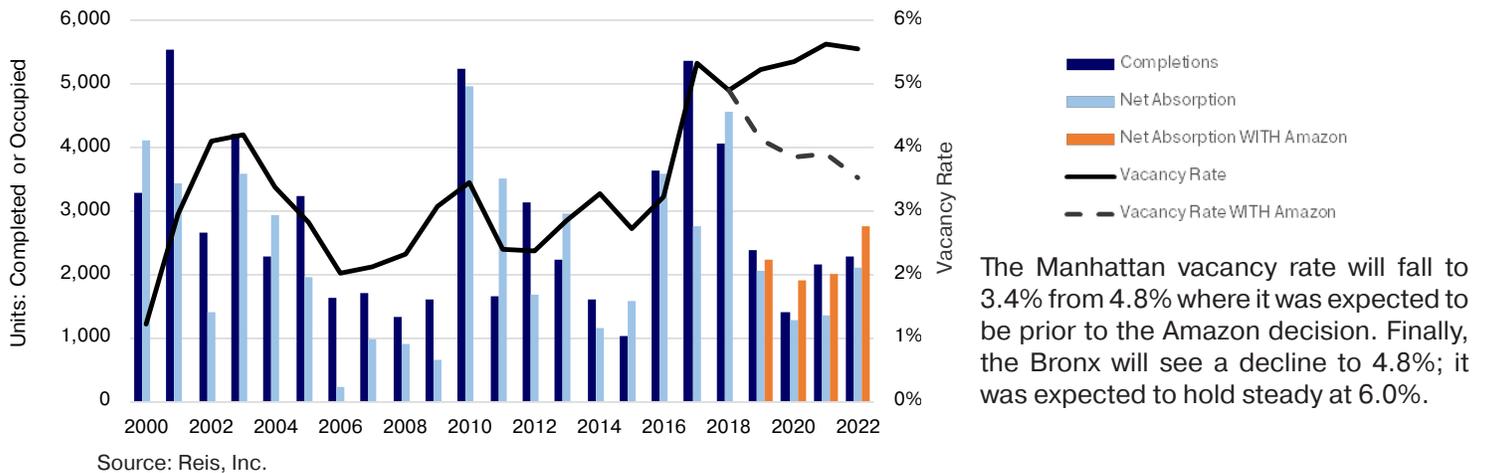
⁴ For the 700 employees added in 2019 and 2,500 employees added annually in 2020 through 2022, we assumed that 75% would rent over buying. Of these, 85% will rent within the four boroughs included herein such that 35% will choose to live in Manhattan, 35% in Queens, 25% in Brooklyn and 5% in the Bronx. We assume a one-to-one occupancy in that every added employee will yield one unit of occupancy growth. These assumptions yield an added annual occupancy growth of 558 units for Manhattan and Queens, 398 units for Brooklyn and 80 units for the Bronx in 2020 through 2022.

⁵ This analysis does not include any indirect or induced impact. In other words, we did not incorporate other new employment growth that Amazon will generate for ancillary businesses such as restaurants, real estate firms, dry cleaners, etc.

Brooklyn Apartment Market Supply, Demand and Vacancy



Manhattan and Bronx Apartment Market Supply, Demand and Vacancy



What the charts above show is that the significant construction underway can accommodate the added Amazon employees in the near term. Although the trend lines above suggest that vacancy will drop considerably beyond 2022, developers will likely act on the already “unspecified” construction projects shown in the “Apartment Construction” chart on page two. That is, developers will start to file permits in the coming years which will boost the supply of apartments, keep vacancy steady and ease rent growth.

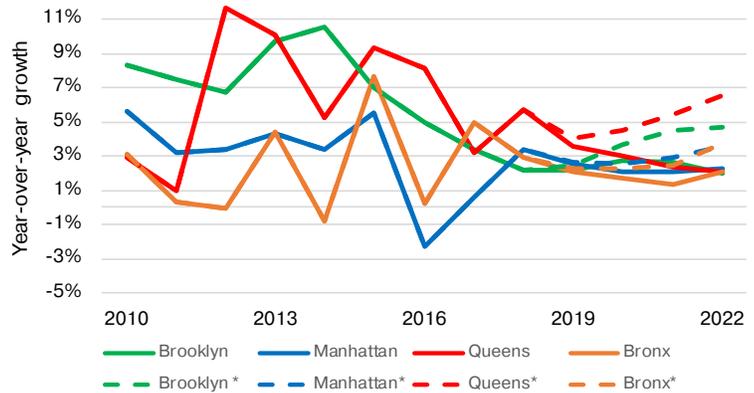
Note that these projections do not take the added condominium or affordable units into account. [See Appendix B for Expected Condominium/Co-op and Subsidized Housing Under Construction]. In other words, we made aggressive assumptions and erred on the side of assuming that most of the employees will demand market-rate rentals in the larger properties even though more condos will be built in the area and other rental properties with fewer than 40 units will be added along with subsidized housing. Nevertheless, we aggressively assume that more will choose to rent in the City, and those who do so will rent in the large properties that Reis tracks.

The added demand from Amazon employees will likely push rents up, but rent growth was expected to decelerate over the next few years because the new construction was expected to exceed apartment demand. Adding the occupancy growth rate from the Amazon employees to the baseline rent growth forecasts, we anticipate rents to grow as per the chart on the right.

Average rents in Queens would increase by 6.9% by 2022 instead of decelerating to a rate of 2.1% as estimated before Amazon's announcement. In Brooklyn, rent growth would rise to 5.0% in 2022; our previous estimate for Brooklyn was 2.0% in 2022. In Manhattan, rent growth would be 3.7% versus 2.3% in 2022. Finally, in the Bronx, rent growth would rise to 3.9% vs. 2.1% as previously forecasted. Again, these estimated rent growth rates represent a maximum.

They are based on aggressive assumptions of occupancy demand from the Amazon employees along with current new construction forecasts. We fully expect developers to build more apartments than we currently have forecasted, which would ease rent growth.

Apartment Effective Rent Growth Rate Trend and Forecast (current vs with Amazon)



Source: Reis, Inc.

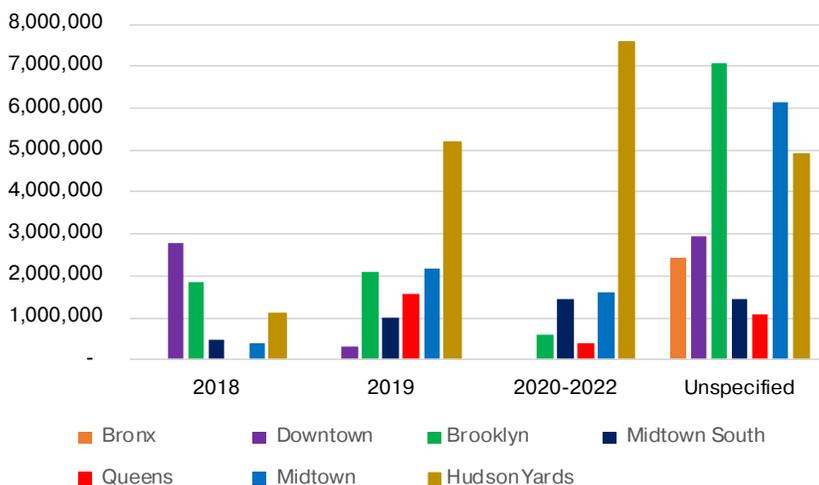
OFFICE MARKET IMPACT

Amazon's added Jobs will Not Have a Substantial Impact on the New York Office Market in the Near Term due to Significant Office Construction Underway. It Will Boost Occupancy and Office Rents in Queens in 2022 but Not in Manhattan or Brooklyn.

In one of the largest office markets in the world, New York City has close to 400 million square feet of for-lease office inventory. Adding owner-occupied space puts the total inventory close to 500 million square feet.

Included in that number, Queens has over 11 million square feet of for-lease office inventory while Brooklyn has another 17 million square feet. The current office vacancy rate in Queens is 8.7%, slightly higher than Manhattan's office vacancy rate of 8.1% and lower than that in Brooklyn – 10.7%⁶.

New Office Construction



Source: Reis, Inc.

Office Supply is Expected to Soar

Prior to Amazon's entry to Queens, the office vacancy rates were expected to increase given all of the construction underways (left chart). In 2019 alone, the three boroughs are expected to add 12.3 million square feet of inventory – enough to support an addition of 84,000 to 123,000 office jobs⁷ or even more given the trend of leasing fewer square feet per employee⁸.

⁶ It should be noted that these vacancy rates are close to half of the national vacancy rate, which is 16.6%.

⁷ Based on an average of 100 to 150 square feet per employee.

⁸ See Reis's paper on the *Shrinking Office Footprint* <https://www.reis.com/the-shrinking-office-footprint/>

Demand was Expected to Decelerate

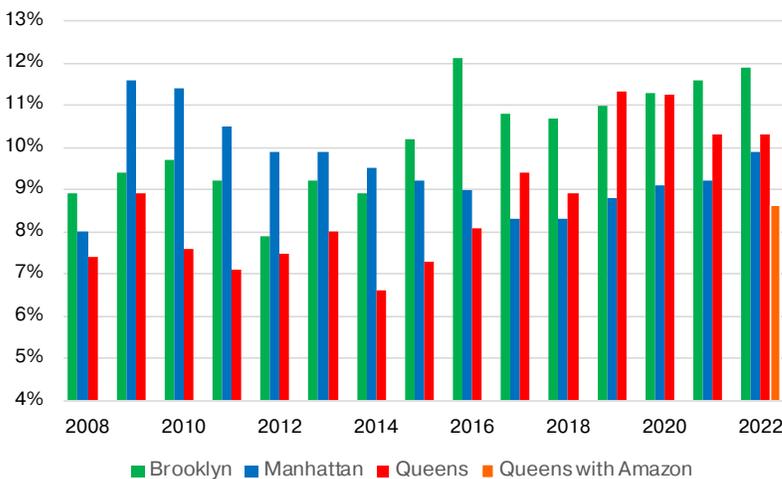
At the same time, office employment was expected to decelerate considerably in the next few years. In 2018, New York City's office employment growth slowed to 17,100 jobs from an average of 33,700 office jobs added per year in the prior five years. In Queens, office employment had averaged 1,800 per year from 2013 through 2017, but it fell to 300 in 2018 based on data through June. [For more details, See Appendix C: Employment Growth by Borough].

One could argue that Amazon's new HQ in New York is timed perfectly to bolster the economy just as it is losing steam.

OFFICE IMPACT ON QUEENS

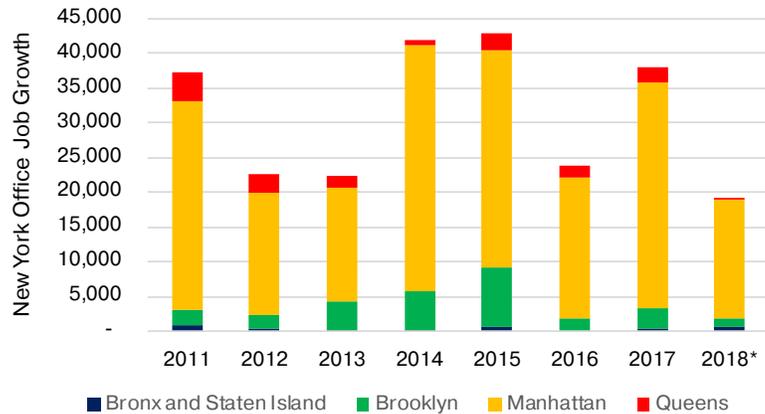
At least three office projects are under construction in Queens including The JACX at 28-07 Jackson Avenue⁹, 25-11 49th Avenue¹⁰, and 9-03 44th Road. These projects are expected to add more than 1.5 million square feet of office space, enough to accommodate approximately 10,000 to 15,000 employees¹¹. WeWork has preleased 238,000 square feet of this space and Bloomingdales has leased 550,000 square feet, moving employees from various offices in Manhattan¹². Separately, Amazon's first employees are expected to move into One Court Square where Amazon has signed a letter of intent to lease 1 million square feet before redeveloping the Plaxall site on the Anable Basin.

Office Vacancy Rates



Source: Reis, Inc.

Office Employment Growth by Borough



*For NYC five boroughs, 2018 growth equals the average office employment for January through June of 2018 less the January-through-June average in 2017.

Source: Bureau of Labor Statistics

As Amazon moves into its 1-million-square-foot occupancy at One Court Square, Citigroup who currently occupies the space is expected to move 1,100¹³ of its 3,000 employees to Manhattan. In July 2018, before Amazon announced its plans, media reports of Citigroup's "methodical consolidation of space" included the 1 million square feet of vacancy at One Court Square¹⁴. Thus, Citigroup's moving of employees to its Manhattan properties is not expected to have any impact on Manhattan's office statistics.

With an added 700 office jobs in 2019 and 2,500 office jobs per year from 2020 to 2022 in Queens, Amazon's total occupancy will likely fill the leased One Court Square space by 2021¹⁵ with its first 6,667 employees. It will need to lease 230,000 square feet of space in 2022 for the remaining 1,533 employees. This added

⁹ <https://thejacx.com/> and <http://liccourtsquare.com/2018/03/28/south-tower-begins-to-rise-at-28-07-jackson-avenue/>

¹⁰ <https://www.normandyrealty.com/project/gantry-point-25-11-49th-avenue/>

¹¹ Assumes 100 to 150 square feet per employee.

¹² <https://nypost.com/2017/11/07/bloomingdales-is-moving-1k-workers-to-queens/>

¹³ <https://www.marketwatch.com/story/citi-to-move-1100-workers-out-of-long-island-city-tower-to-free-up-space-for-amazon-2018-11-13>; <https://commercialobserver.com/2018/11/amazon-finalizes-plans-for-1m-square-feet-at-one-court-square-in-long-island-city/>

¹⁴ <https://nypost.com/2018/07/23/citi-consolidation-opens-a-million-square-feet/>

¹⁵ Assuming 150 square feet per employee.

occupancy will lower the Queens office vacancy rate to 8.6% from 10.3% in 2022.

In short, the additional Amazon employees will have a negligible impact on the office market statistics in the first few years. This is based on the fact that the expected supply in Queens, Brooklyn and Hudson Yards will flood the market with added space. [See Appendix D for details on office construction by borough]. Moreover, Amazon is eventually expected to build a new campus in the converted Plaxall building and parcel that surrounds Anable Basin on the Long Island City waterfront as well as the current NYC Department of Education building at 44-36 Vernon Boulevard¹⁶.

Amazon’s need for added space in 2022 will likely push the Queens office rent growth up to 6.4% that year. This is proportionate to the occupancy growth from Amazon in 2022 outside of One Court Square. Because of the expected heavy supply growth in Brooklyn and Hudson Yards that will yield higher vacancy rates, office rent growth in these two boroughs should remain subdued.

Although Amazon’s new occupancy will generate significant business activity for companies that may need more office space, we did not estimate the indirect or ancillary impact from Amazon’s growth in this paper. Nor did we make any assumptions about the numerous other construction projects that have been spoken for but have not had a permit filed. In other words, while office demand in future years will increase from the ancillary business impact of Amazon’s new headquarters, office supply will likely be higher as well.

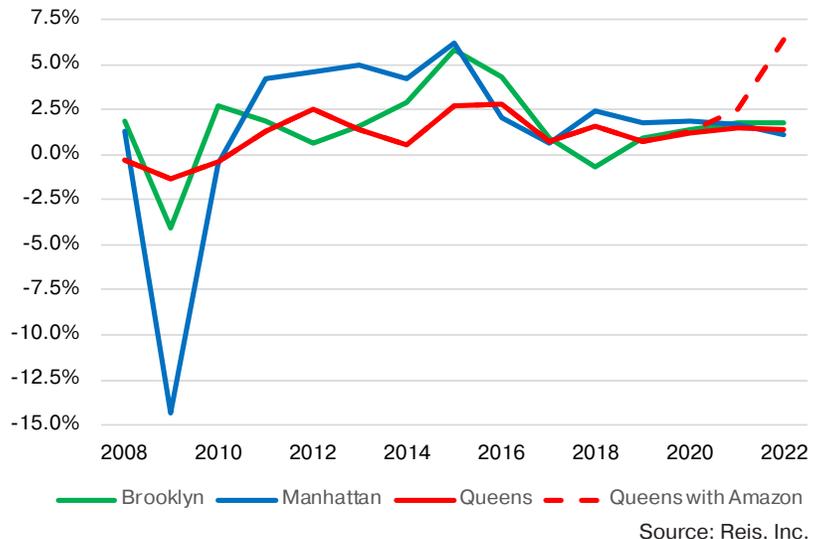
CONCLUSION

As recently as 20 years ago, the Brooklyn and Queens waterfront was occupied by old, mostly abandoned industrial properties. The transformation of much of this waterfront to apartments, condominiums, restaurants, parks and other uses is nothing short of spectacular. The Anable Basin site that Amazon selected was one of the few remaining undeveloped waterfront sites.¹⁷ A recent study¹⁸ reported that since 2010, Long Island City with 12,533 new units has added the most new apartments of any neighborhood in the U.S. beating Downtown Los Angeles that added 7,551 units.

Those of a certain age may remember when New York City not only led many recessions – seeing job declines before the rest of the U.S. – but also suffered disproportionately more job losses than most places. Take 1991, for example, when the City lost 191,000 jobs which accounted for 17% of the total U.S. job loss that year (New York employed only 3% of the U.S. total in 1990). In the 1970s, New York City’s job losses were even worse.

Although in the current expansion, New York City has added disproportionately more jobs – 22% vs. 15%¹⁹ in the U.S. – momentum in New York City started to slow in 2018²⁰ just when job growth in the U.S. started to accelerate. *In short, Amazon’s announcement that they will be adding jobs in the City has come at a time when job growth in New York has decelerated and was expected to slow even further in 2019 and 2020²¹.*

Office Rent Growth Rates



¹⁶ <https://www.crainsnewyork.com/real-estate/12-things-we-know-about-amazon-deal-so-far>

¹⁷ A developer had sought to build 1,000 units on the site as recently as 2017.

¹⁸ https://www.rentcafe.com/blog/rental-market/real-estate-news/top-20-neighborhoods-with-most-apartments-post-recession/?_ct=z2bgn16q3tq

¹⁹ From the third quarter of 2009 through the third quarter of 2018.

²⁰ Year-over-year job growth from August through October was 70,000 jobs, down from 81,000 jobs added, on average, in 2017.

²¹ Prior to the Amazon announcement, Moody’s/Economy.com forecasts for the city called for job growth of only 30,000 in 2019 and no net growth in 2020 through 2021.

Both Reis and Moody's will likely revise forecasts to take into account the added job growth in the next few years from Amazon and ancillary employment including extra construction jobs. The Reis forecast for new construction had called for decelerated Apartment completions in 2020 through 2022 due to the fact that fewer projects are in the pipeline and/or have not filed a permit. *Now that Amazon has announced its intentions, more developers will hasten their construction process, and more lenders will be willing to finance construction loans under the new circumstances when they may not have done so under the prior circumstances.*

Reis will release our revised New York City apartment and office forecasts for 2019 through 2023 on February 1, 2019, to incorporate the Amazon impact. These forecasts will look different from the numbers herein due to the fact that we expect more developers will build and more jobs will be added. To reiterate, we wanted to do this preliminary analysis of the impact of the Amazon HQ2 on New York City's real estate to show how the City and Queens can accommodate the new company under the current set of circumstances that include significant construction underway along with subdued demand growth.

Contact us for more information...

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APPENDIX A: NEW YORK CITY HOUSING STOCK BY UNITS IN PROPERTY- 2017

	One Unit	Two-Unit to Four-Unit	Five-Unit to 19-Unit	20-Unit to 49-Unit	50 or More Units	Other	Total	Total Housing in Properties with Fewer than 20 Units
Bronx	58,486	86,457	49,878	137,924	194,427	1,679	528,851	37%
Brooklyn	144,933	347,507	174,850	140,114	235,622	1,261	1,044,287	64%
Manhattan	18,741	25,968	144,851	198,552	497,309	963	886,384	21%
Queens	229,735	268,377	80,599	84,767	192,924	848	857,250	68%
Staten Isl.	110,059	44,646	6,537	3,834	15,103	393	180,572	89%
NYC	561,954	772,955	456,715	565,191	1,135,385	5,144	3,497,344	51%
NYC w/o S.I.	451,895	728,309	450,178	561,357	1,120,282	4,751	3,316,772	49%

Source: Census Bureau

APPENDIX B: EXPECTED MULTIFAMILY CONSTRUCTION

The 1,650 construction projects Reiss is tracking for the New York metro include numbers on other new residential construction²¹. The tables below show that the construction abundance has been spread across every category.

Added Apartment Units ⁽¹⁾					
	Queens	Brooklyn	Manhattan	Bronx	Total
2017	2,233	5,858	5,192	189	13,472
2018	4,895	4,397	2,585	713	12,590
2019-2022	6,778	6,300	6,575	1,650	21,303
Unspecified	16,561	29,617	15,033	8,918	70,129

Source: Reiss, Inc.

(1) Includes all market rate apartments in properties of 40 units and above; includes market rate units in mixed income properties.

Added Condominium and Cooperative Units					
	Queens	Brooklyn	Manhattan	Bronx	Total
2017	740	670	1,429	-	2,839
2018	558	613	2,799	47	4,017
2019-2022	1,679	1,481	6,871	-	10,031
Unspecified	2,346	4,006	5,693	346	12,391

Source: Reiss, Inc.

Added Subsidized and Mixed Income Units ⁽²⁾					
	Queens	Brooklyn	Manhattan	Bronx	Total
2017	687	2,660	1,324	2,773	7,444
2018	1,048	1,141	970	2,655	5,814
2019-2022	2,109	2,128	1,359	1,693	7,289
Unspecified	6,372	9,212	6,894	9,516	31,994

Source: Reiss, Inc.

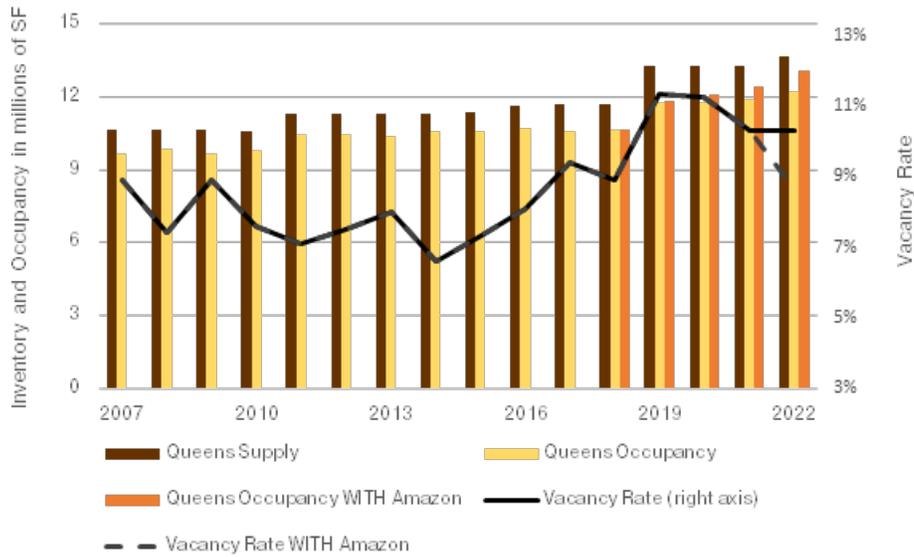
(2) Includes LIHTC, Section 8, 421-a and other subsidized properties; includes the affordable units in mixed income properties.

²² Reiss tracks all residential construction projects including coop and condominium projects as well as subsidized and affordable housing projects and mixed income projects.

APPENDIX C: EXPECTED OFFICE CONSTRUCTION

With all of the construction underway in Queens, Manhattan and Brooklyn, vacancy rates are expected to increase starting in 2019.

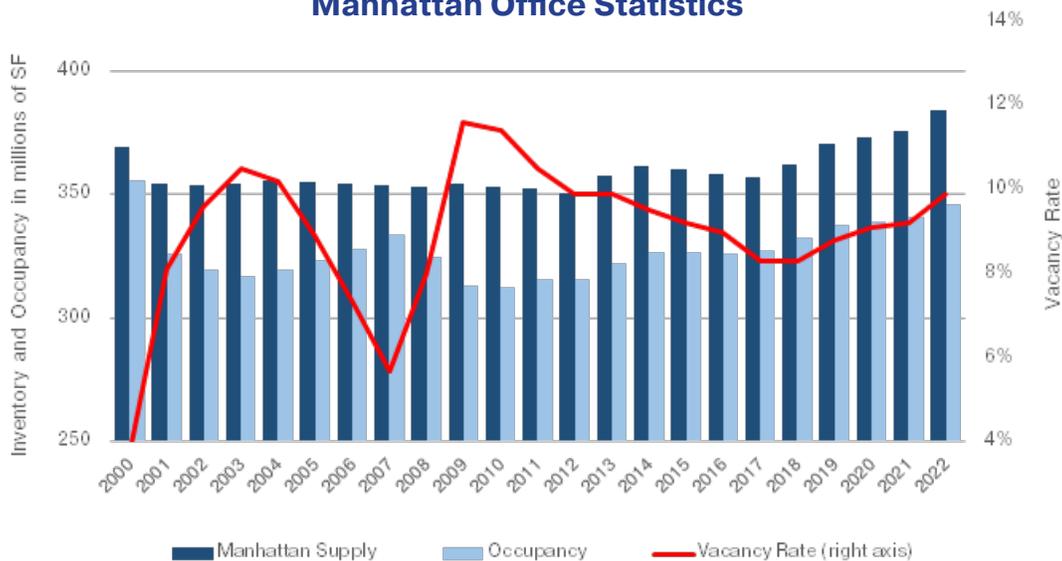
Queens Office Statistics



Source: Reis, Inc.

At the same time, office supply is expected to soar in Manhattan with added inventory at Hudson Yards.

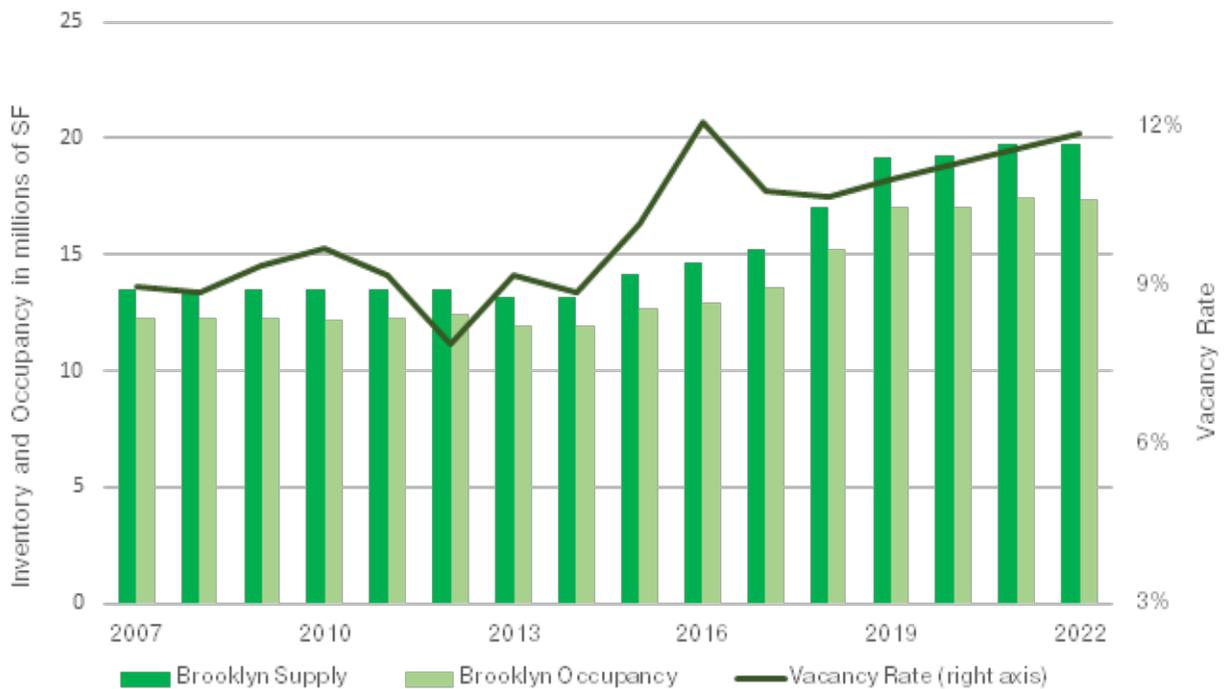
Manhattan Office Statistics



Source: Reis, Inc.

Brooklyn has added proportionately more office space than Queens with more than 2 million square feet of office space in 2015 through 2017 including Empire Stores on Water Street, 41 Flatbush Avenue and Whale Square at 14 53rd Street in Sunset Park. Brooklyn is expected to add considerably more office space in 2019 through 2022 including 422 Fulton Street and 47 Hall Street.

Brooklyn Office Statistics

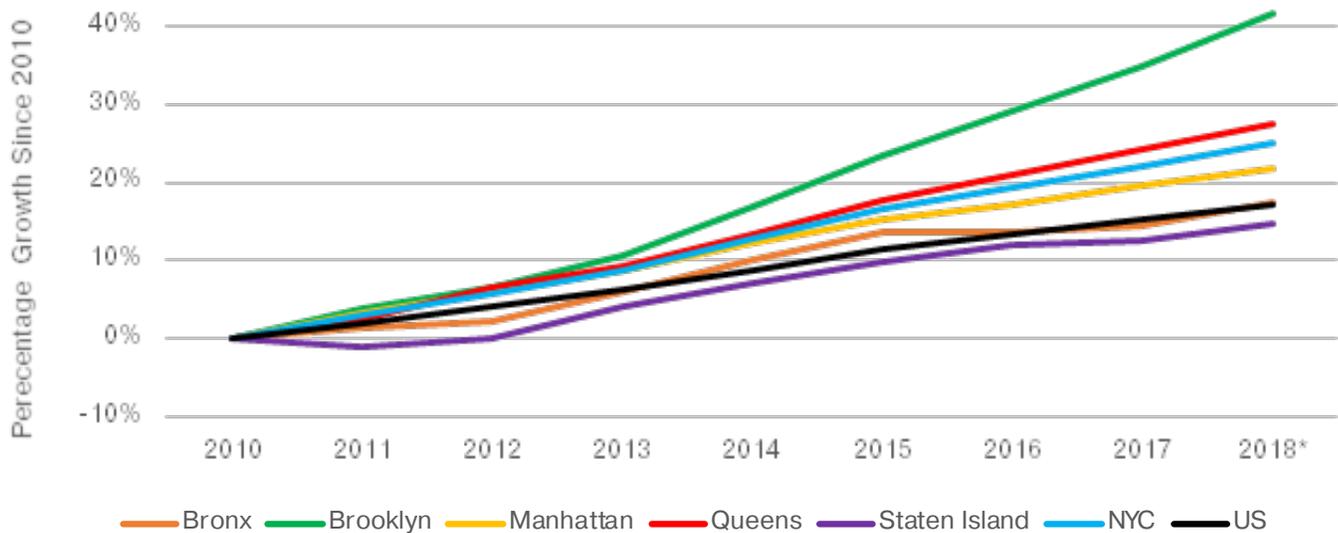


Source: Reis, Inc.

APPENDIX D: EMPLOYMENT GROWTH

The outer boroughs have been a job juggernaut for New York City over the last ten years. The chart below shows that Manhattan, Queens and especially Brooklyn have seen significantly higher growth than the U.S. while growth in the Bronx is in line with the U.S.

Private Sector Employment Growth



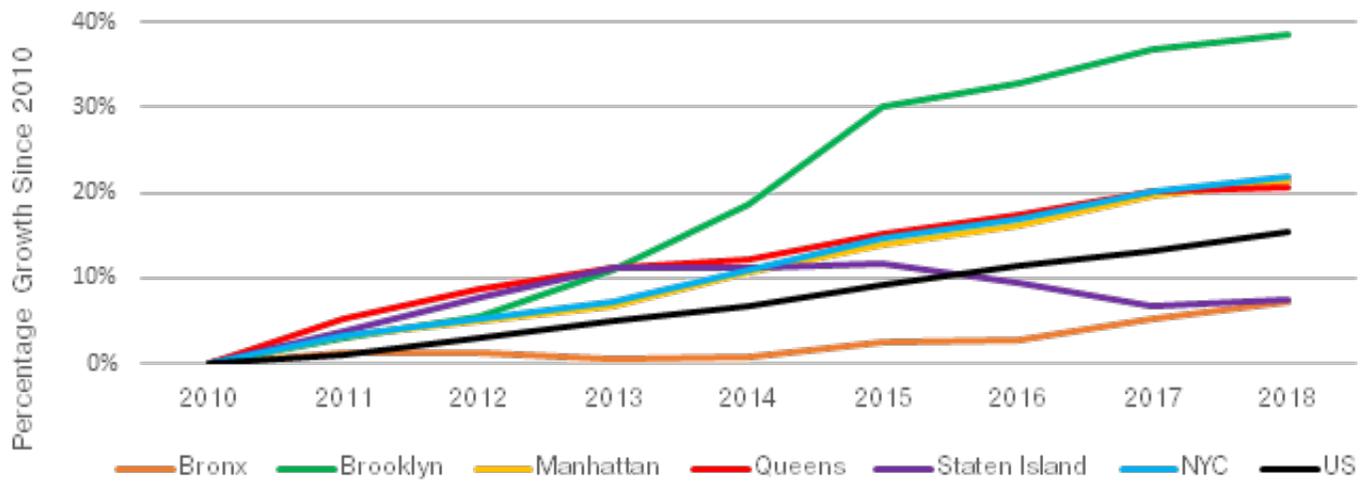
Source: Bureau of Labor Statistics

*For NYC five boroughs, 2018 growth equals the average office employment for January through June of 2018 less average office total for January through June 2017. For the U.S., 2018 growth equals the average growth from January through October of both years.

Appendix D continued on next page

Queens office employment has been in line with that of Manhattan while in Brooklyn it was much higher. Brooklyn added 20,240 office jobs over the last five years, a growth rate of 25%. Queens added 7,270 office jobs since 2013, or 8.0% growth. In Manhattan, office employment expanded by 136,080 jobs or 14%.

Office Employment Growth



Source: Bureau of Labor Statistics

*For NYC five boroughs, 2018 growth equals the average office employment for January through June of 2018 less average office total for January through June 2017. For the U.S., 2018 growth equals the average growth from January through October of both years.

The chart above also shows how New York City's office base grew at a much higher rate than the U.S. metro average. The average annual rate of growth was 2.7% in New York City, higher than the U.S. metro average of 2.3%. New York's tech industries have also added disproportionately more jobs than the U.S. The city's computer system design industry has grown by 28,500 jobs or 63% since 2009, higher than the U.S. equivalent rate of 48%. The nonstore retail sector in which Amazon is classified has grown by 89% in the five boroughs, higher than the 38% growth rate for the U.S. At the same time, the finance sector in New York City and the U.S. have grown by 10.8% and 10.3%, respectively, since 2009.