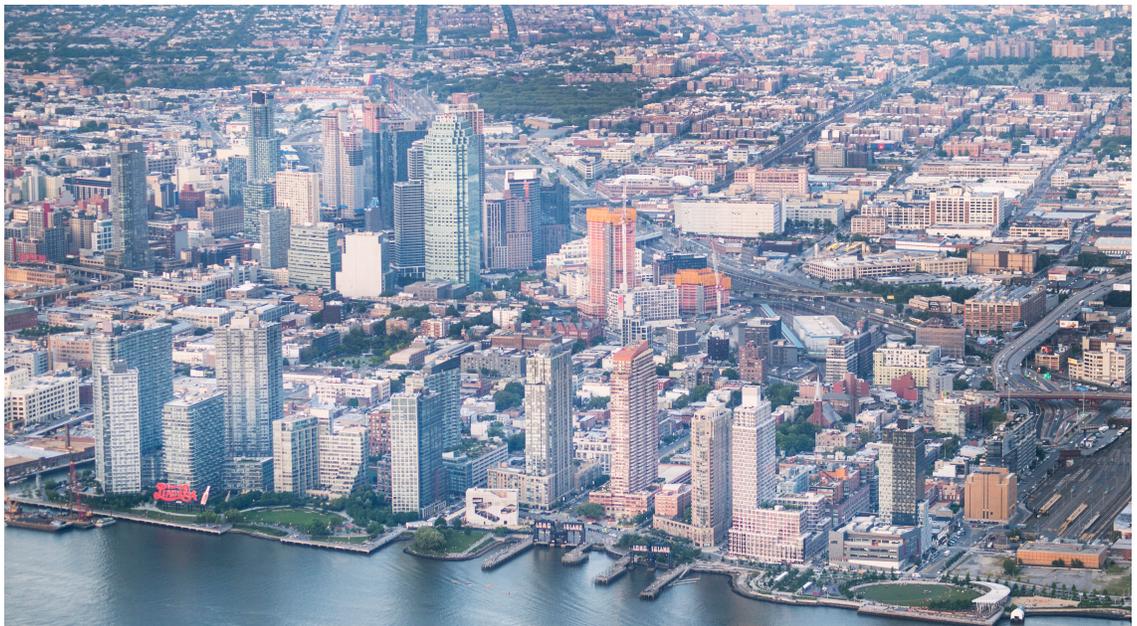


AMAZON HQ2

Amazon HQ2 in Long Island City: What are the market impacts?



Amazon plans to split its new headquarters, HQ2, between Crystal City in Arlington, Virginia and Long Island City (LIC) in Queens, New York, with another smaller location in Nashville, Tennessee. The e-commerce giant anticipates bringing at least 25,000 jobs to each of the two main sites in VA and New York City, occupying four million square feet of office space in each location, with a proposed ramp-up occurring over a period of eight to 10 years.

This ViewPoint discusses possible market impacts on the LIC and larger NYC markets, based on Amazon's stated leasing and development plans, as well as its direct employment and additional indirect employment and economic impact in New York State. A [ViewPoint](#) issued in November 2018 discussed impacts in the Arlington, VA and Greater D.C. markets.

EXECUTIVE SUMMARY

Upon execution, Amazon's lease commitment of one million sq. ft. at One Court Square will make Amazon the top leaseholder in the LIC market. This new commitment, combined with the company's leases at 5 Manhattan West, 7 West 34th Street, and a sizable presence within WeWork at 2 Herald Square, puts Amazon's NYC footprint at nearly two million sq. ft., near the top of the list of the city's largest private occupiers.

Employment and Labor Market Impacts

- Amazon's additional 25,000 to 40,000 employees represent an increase of between 16.8% and 26.8% in the number of employees working for tech companies in NYC.
- It is anticipated that about 50%, or between 12,500 and 20,000, of Amazon HQ2 workers will be employed in tech-specific occupations. This represents 4.9% to 7.9% of the NYC region's current pool of tech talent.
- Based on the assumption that Amazon reaches the high-end target of 40,000 new employees, an economic impact analysis commissioned by New York's Empire State Development estimated that the overall jobs impact for New York State could be nearly 108,000 by 2033. This includes almost 68,000 of additional new, indirect jobs resulting from Amazon's operations and investments, as well as the personal spending of Amazon's new employees.

Office Market Impacts

- The immediate impact of the Amazon announcement is to forestall a substantial increase in the LIC availability rate, as Amazon takes over approximately one million sq. ft. of space being vacated by Citigroup beginning in 2019. Had Amazon not leased this space, the market would have seen a 730-basis point increase in the availability rate on January 1, 2019, to 23.9%. Amazon's longer-term HQ2 plan calls for four million sq. ft. of new office development, which represents an expansion of more than 30% over the current LIC office inventory. At full build-out, Amazon will likely become one of the largest occupiers in NYC.
- Of the estimated 68,000 new, indirect jobs resulting from Amazon HQ2, about 37,500 are expected to be in office-using industries, which could generate between 5.5 to 7 million sq. ft. of additional office demand in New York State. The bulk of this demand would likely go to LIC, with some going elsewhere in Queens, as well as to transit-connected areas of Manhattan, Brooklyn and Long Island.

- Additionally, it is likely that Amazon HQ2 will generate additional office demand in LIC from tenants that might have otherwise leased space in Manhattan. If this “pull” factor resulted in even just 1% of Manhattan’s overall leasing activity, that would yield between 165,000 and 300,000 sq. ft. of new demand in LIC per year – a boost of 40 to 80% over the annual leasing activity seen in 2017.
- Average asking office rents in LIC, which were at \$42.76 per sq. ft. as of December 2018, are likely to increase as a result of new office demand, as well as the addition of new supply. The LIC market is also likely to see a decline in the availability rate, which was 16.6% as of December 2018.
- While LIC will see the biggest impact in terms of office demand and increased rents, areas with transit connections to LIC could also be positively impacted. In particular, areas along the 7 subway line in Manhattan, including the Far West Side and Times Square, could see an uptick in office demand and asking rents, as well as properties in proximity to stations for the E, M, N, R & W subway lines, based on the easy access to Amazon HQ2 in LIC.

Residential Market Impacts

- Estimates suggest that housing demand will increase by roughly 30,000 to 48,000 rental housing units as a result of the addition of 108,000 jobs in New York. A little more than a third of this demand will come from Amazon’s direct employees and will likely be concentrated within a 30-minute commute of the LIC office, with the core LIC market area being the epicenter of the demand. The additional rental housing demand will be diffused throughout the NYC region.
- With an average annual wage of \$150,000, a typical Amazon employee could afford rents in excess of \$3,750 per month in 2018 prices. This is 17% higher than current average monthly rent of \$3,198 for a one-bedroom unit in LIC.
- The Amazon HQ2 project should sustain, and possibly accelerate, the strong growth trajectory that has been underway in the LIC market since 2010, with increases in population, median household income, luxury rental housing supply and residential rents. Over 18,400 units have been built in LIC since 2006, much of it nearby HQ2, and another 9,900 units are expected to be delivered by 2020. This ample pipeline of housing development bodes well for the market’s ability to meet Amazon-related demand over the next eight to 10 years.

AMAZON AND THE NYC TECH LABOR MARKET

As of Q3 2018, New York City had over 149,000 workers employed by tech and telecom companies¹. Amazon's additional 25,000 to 40,000 employees represent an increase of between 16.8% and 26.8% above the current employment numbers among technology companies in NYC.

Not all Amazon HQ2 employees will be in tech occupations—many will be hired to perform traditional business services such as marketing and sales. According to *The Wall Street Journal*, it is anticipated that about 50%, or between 12,500 and 20,000, of Amazon HQ2 workers will be employed in tech-specific occupations.² This represents 4.9 to 7.9% of the NYC region's current pool of tech talent.³

Amazon's 25,000 to 40,000 new employees represent an increase of between 16.8% and 26.8% in NYC tech company employment

While Amazon's tech labor needs are significant, NYC is well-positioned to support the hiring needs of this and other tech companies in the area. According to CBRE's [2018 Scoring Tech Talent report](#), which analyzes the depth and breadth of the top 50 tech labor markets across the U.S. and Canada, NYC currently ranks as the fifth overall best tech labor market and is second only to the San Francisco Bay area in terms of the size of its tech labor pool. Furthermore, the NYC metro area produces over 12,000 college graduates with tech-related degrees annually—more than any other market—and it currently ranks eighth among markets with the biggest gap between tech grads and tech-related employment growth.⁴ The NYC region also continues to see strong population growth and is a magnet for attracting top talent. Putting this all together, NYC currently offers a deep pool of tech talent, with room to grow overall tech employment.

According to CBRE's [2018 Scoring Tech Talent report](#), the typical tech employee in the NYC metro region earns wages of approximately \$112,646 annually.⁵ Amazon's published statements indicate that the company expects its HQ2 employees to earn an average of \$150,000 per year, which exceeds the current local market average. This will likely have two implications. First, it will drive up overall wages for tech workers in the region, as employers compete to hire and retain talent. Second, as both tech employment opportunities and wages rise, there should be an influx of tech talent into the NYC metro area.

The Multiplier Effect

In addition to Amazon's direct hiring, New York State is expected to see additional employment increases as a result of the company's business activity and capital investments. When Amazon spends money in the economy to support its business – everything from hiring lawyers, paying utilities, bringing in caterers and contracting for software – it creates additional jobs in the economy. Amazon employees will support job growth by spending in the local economy when they buy groceries, get haircuts and go to restaurants. These kinds of economic ripples are often referred to as the “multiplier effect,” and the additional jobs created are “indirect employment.”

The multiplier effect associated with Amazon's HQ2 in LIC will be substantial. An economic impact analysis commissioned by Empire State Development estimated that New York State could see nearly 68,000 new indirect jobs by 2033 as a result of Amazon's operations and investments as well as the consumer spending of Amazon employees. We estimate that approximately 37,500 of these jobs would likely be in office-using industry sectors, such as professional, scientific and technical services, real estate, data processing and information services, and banking and credit activities.

OFFICE MARKET EFFECTS

Amazon's four-million-sq.-ft. requirement is the largest single requirement ever seen in the NYC office market and represents a substantial increase in office demand in LIC. The short-term need of one million sq. ft. is also among the biggest single requirements ever seen in LIC, but the area offers ample space to accommodate Amazon's need, as well as other tenants' current requirements, and additional near-term demand generated in the wake of the Amazon announcement.

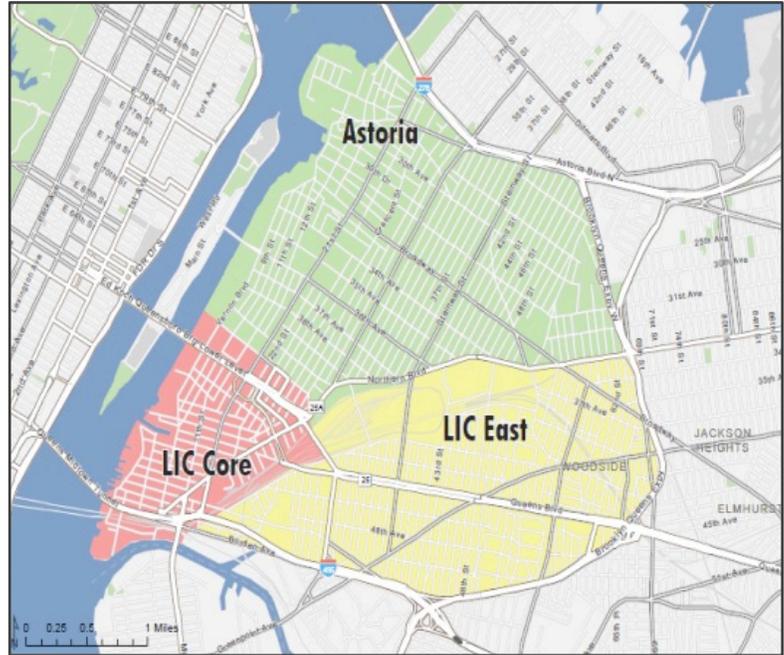
LONG ISLAND CITY OFFICE MARKET OVERVIEW

45
BUILDINGS
13 MILLION
SQ. FT.
TOTAL INVENTORY

\$42.76
AVERAGE ASKING
LEASE RATE

16.6%
AVAILABILITY RATE

3.4 MILLION
SQ. FT.
OFFICE
DEVELOPMENT PIPELINE



Source: CBRE, December 2018.

Inventory of Available Space and the Development Pipeline

The LIC market currently has an inventory of over 13 million sq. ft. of office space, and as of December 2018, the availability rate in LIC was 16.6%. This availability does not include the one million sq. ft. at One Court Square, which Citigroup will begin vacating in 2019 to allow for Amazon to move in.

In the near-term, the office market appears to have an ample supply of available space, as well as a healthy pipeline of new development, including three million sq. ft. currently under construction and another 600,000 sq. ft. in various stages of planning. The Amazon announcement is likely to generate new interest among office tenants that had not seriously considered the location before, which will lead to the absorption of existing space and will drive down the availability rate.

Amazon has made a near-term commitment to lease one million sq. ft. at One Court Square to allow the company to ramp up hiring and operations beginning in 2019. However, the longer-term plan is for Amazon to build four million square feet or more of new office space on the Plaxall site around the Anable Basin to accommodate the 25,000 to 40,000 workers associated with the HQ2 operation. This additional development represents a 30% increase in overall office inventory in LIC.



Demand for Office Space

Even though Amazon plans to build its own campus, the rental office market will see substantial new office demand for current and future space. We estimate that approximately 37,500 of the new, indirect office jobs that result from Amazon’s investments, business activity and employment will be in office-using industries. This could generate between 5.5 and 7 million sq. ft. of additional office demand by 2033.⁶

LIC is likely to be the epicenter of additional office demand, though some will likely fall within Manhattan, where many of the companies that will do business with Amazon are likely to be located. Areas along the 7 subway line in Manhattan, including the Far West Side and Times Square, would likely see an uptick in office demand. Additionally, properties in Manhattan with proximity to stations for the E, M, N, R & W subway lines would also be well-positioned to capture demand from companies doing business with Amazon. This would also be true of Roosevelt Island’s Cornell Tech campus and related real estate. Some of this demand could also fall elsewhere within NYC and New York State, although for the latter, the demand would likely be small relative to the overall impact.

Beyond new office demand from direct and indirect employment growth, the NYC office market is likely to see some migration from Manhattan and surrounding areas into the LIC market, as tenants opt to be near Amazon. Like Google’s substantial presence at 111 Eighth Avenue which was an important catalyst for the transformation of the Chelsea area and the larger Midtown South market, so too will Amazon attract new tenants to the LIC market. It is not possible to estimate the magnitude of the Amazon “pull” factor, but even a modest 1% shift in annual Manhattan leasing activity could have a noticeable impact on LIC, ranging from 165,000 to 300,000 sq. ft. of leasing annually—a boost of 40 to 80% over the annual leasing activity recorded in 2017.

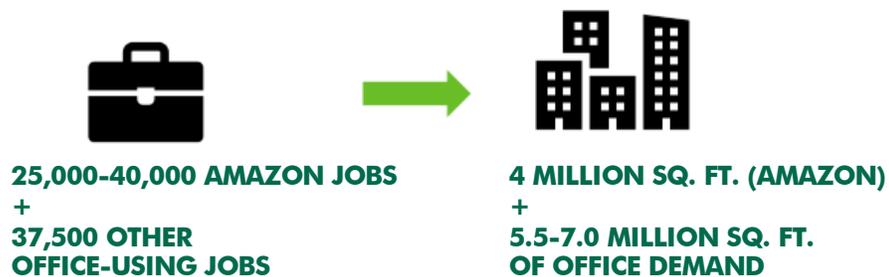
Rents

Amazon HQ2 will have an upward effect on office rents in LIC. As of December 2018, average asking rents in LIC overall were \$42.76 per sq. ft. and the LIC core submarket, where both One Court Square and the Plaxall site are located, had an average asking rent of \$48.94 per sq. ft. Asking rents in LIC overall and in the core submarket have been trending up over the past 18 months, and even without Amazon, that trend would likely have continued over the long term, as more new and redeveloped office product is added to the market; pricing on such space is currently in the upper \$50s to mid \$60s per sq. ft.

In addition to the supply side effect on rent, it is likely that the increase in demand will push up asking rents in the LIC market, which could have two implications. First, there could be an acceleration of supply growth via conversion of warehouse space to office use. Also, there could be an influx of investment to upgrade class B and C office space to capture higher rents.

Furthermore, as rents rise in LIC, current tenants could get priced out of the market, spurring new demand in other Queens locations such as Flushing and Jamaica, as well as lower-priced parts of Brooklyn, like the Brooklyn Navy Yard and South Brooklyn.

AMAZON OFFICE IMPACT



MULTIFAMILY AND INVESTMENT PROPERTIES MARKET EFFECTS

Current State of the LIC Residential Market

The population of LIC is approximately 164,000 with about 90,000 housing units.⁷ The vast majority of this housing is for-rent apartments in multi-family buildings. Approximately 84% of the housing stock was built before 1980. Of this, over 23,000 housing units, roughly 28% of the total LIC housing stock, is found in the “Central District,” which includes zip codes 11101, 11109, and 11120 and covers most of the LIC core office submarket where the Amazon HQ2 will be located. The Central District has seen much new housing development in recent years in the form of high-rise luxury towers. Over 18,400 units have been built in LIC since 2006, much of it within the Central District area.⁸

According to a comprehensive planning report published by the LIC Partnership in 2016, the housing market in LIC is “dynamic, with consistent growth in sales price and rents, signaling strong demand. With active residential development in the last several years, a large and growing pipeline will substantially increase the new supply delivered to the market.”

The LIC Partnership estimates that 9,900 housing units in the pipeline will be delivered to the LIC market by 2020,⁹ with thousands more in various stages of planning. The majority of these will be in and around the core area, nearby HQ2.

As of October 2018, rents in the luxury rental market ranged from \$2,551 for a studio to \$3,198 for a one-bedroom and \$4,164 for a two-bedroom unit.¹⁰

Amazon HQ2 Employees and Housing Demand in LIC

The introduction of 25,000 to 40,000 Amazon employees between now and 2033 will intensify demand for housing. Assuming that workers allocate 30% of their income to housing, employees at HQ2 could spend more than \$3,750 monthly in rent, based on the stated average wage of \$150,000 per year.

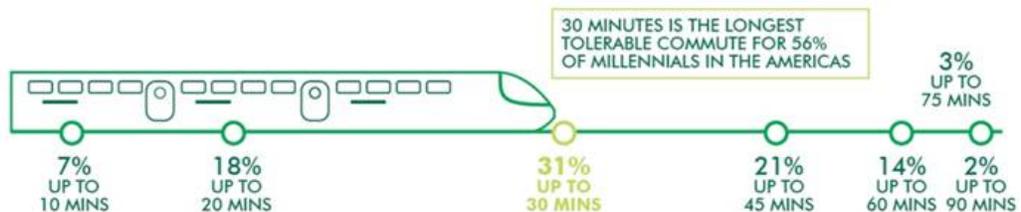
Housing demand generated by the new Amazon HQ2 employees would be less than 25,000 units, as some of these workers would likely be existing NYC residents, or become roommates or form households with other residents. With a workforce that is likely to be young and single, with many recent college graduates and a seasonal influx of college interns, we foresee the housing demand generated by Amazon’s expansion to be largely oriented toward multi-family rental housing. We can estimate a range of outcomes for multi-family rental housing demand based on the current ratios of total employment to multi-family rental housing units, looking specifically in Queens, which has a ratio of 2.3 jobs to every one rental housing unit, and more broadly at the NYC metro region, where the ratio of jobs to multifamily housing units is 3.6 to one.¹¹

Based on this, we estimate that the direct employment of 40,000 workers at Amazon HQ2 in LIC will result in demand for approximately 11,000 to 18,000 additional rental housing units by 2033.

The Central District of LIC, which is the area most immediate to the HQ2, will likely become the epicenter of rental housing demand for Amazon’s workers. Assuming the \$3,750 in monthly rent, these workers are well within the range of the current rents for studio (\$2,551) and one-bedroom units (\$3,198) in the LIC luxury rental market.¹² This influx of demand in this market will help absorb the pipeline of luxury units already under construction and catalyze the development of many other projects currently in the planning stage.

The influx of these high-income workers might also lead to demand for owner-occupied housing in this area. Most of the existing stock and the recent residential development has been rental, but this influx of workers would support an expansion of the condominium market. The median sale price in the central district was \$862,000; overall in the greater LIC area, the median price was \$685,000.¹³ Since the average Amazon employee is expected to make \$150,000 per year, many of those employees may seek for-sale housing.

MILLENNIALS’ COMMUTE TOLERANCE - AMERICAS



Source: CBRE Autonomous Vehicles: Driving Change for Real Estate, November 2018

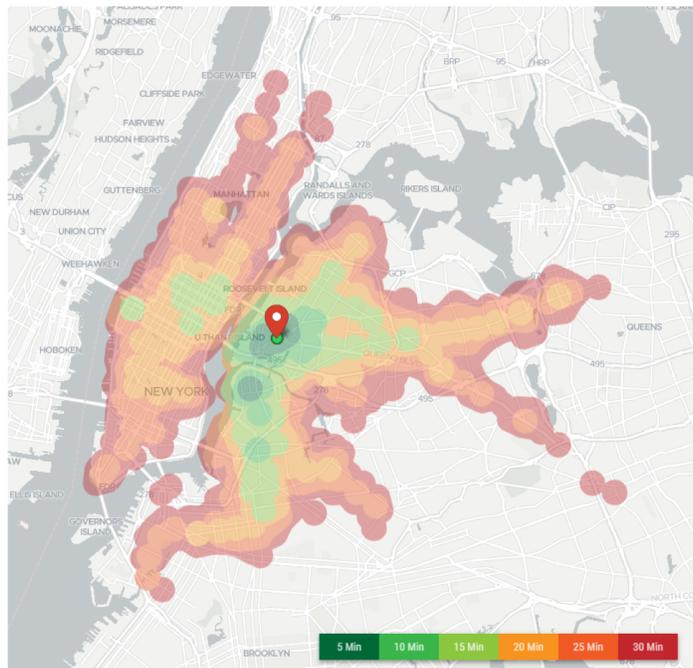
Housing Demand Elsewhere in the Market

While LIC will see the greatest demand, the extensive transit connectivity via subway, bus, ferry and commuter rail to the HQ2 location will put many other parts of New York City within a short commute, which could lead to demand for housing in other parts of the New York City and state. Previous CBRE research shows that 56% of millennial employees, which will make up a large percentage of the Amazon HQ2 workforce, have a commute tolerance of 30 minutes.¹⁴

Within a 30-minute transit commute to LIC, a person can live in much of eastern Queens, the north waterfront and adjacent areas of Brooklyn as well as nearly all of Manhattan. The portion of the new Amazon workforce with higher commute tolerance, especially older workers with children, might look to the interior parts of Queens and perhaps also Long Island along the LIRR routes that provide direct access to LIC.

Should NYC’s proposed Brooklyn Queens Connector (BQX) project—providing a new North-South light rail connection from Red Hook in Brooklyn to LIC and Astoria in Queens—come to fruition, residential areas along the line would likely see increased housing demand and price escalation as well.

LONG ISLAND CITY 30-MINUTE TRANSIT COMMUTE AREA



Source: Targomo

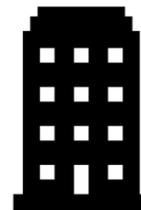
Multiplier Employment Effects and the Housing Market

With the Amazon HQ2 project supporting upwards of 68,000 new, indirect jobs in New York, the market is likely to see significant additional housing demand. First, we are likely to see upward wage pressure for college-educated employees which should translate into broad-based increases in multifamily rents. Secondly, the 68,000 indirect employees would generate a demand for between 19,000 and 30,000 units throughout the region, based on the ratios outlined above.

The total impact could result in new demand for 30,000 to 48,000 rental housing units, which represents between 9.6% and 15.3% of the 313,080 rental units in Queens and about 1.5% to 2.5% of the 1.95 million+ rental units in the New York City metro area.¹⁵

While it is likely that the housing market in and around LIC will see some rental rate increases as a result of the influx of HQ2 employees, the impact will be diffused over a very large market. For perspective, the ratio of Amazon employees to the Seattle population is one employee for every 14.5 Seattle residents.¹⁶ In Queens, which has more than triple the population of Seattle, the ratio of Amazon workers to residents is one to between 59 and 94.¹⁷ In NYC overall, where the population is more than 8.6 million, the ratio is even lower at one employee for every 213 to 342 New York residents.¹⁸ Based on these ratios, the amount of demand will likely not overwhelm the local market.

AMAZON MULTIFAMILY HOUSING IMPACT



**40,000
AMAZON EMPLOYEES +
68,000 INDIRECT EMPLOYEES**

**30,000-48,000 ADDITIONAL
MULTIFAMILY RENTAL UNITS**

Source: CBRE Research

CONCLUSION

Amazon’s decision to locate its HQ2 in Long Island City speaks to the New York City’s appeal to major companies and technology firms. Overall, the effects are positive for the commercial real estate market, especially in office and multifamily, though local concerns do exist regarding housing affordability and congestion impacts. The market demand for more multifamily units is generally being met with significant construction in Long Island City, as well as elsewhere in Queens, Brooklyn and Manhattan. This, combined with investments to upgrade and expand community and transportation infrastructure, would see Amazon HQ as a net positive to transforming the region to meet the 21st century economy.

LONG ISLAND CITY’S LOCATION WITHIN NYC



Source: ESRI.

NOTES

1. New York State Department of Labor, Current Employment by Industry, October 2018
2. Estimated tech employment as reported by the Wall Street Journal, “Half of Jobs at Amazon’s Two New Headquarters Won’t Be Tech Positions”, Nov 21, 2018.
3. 2018 CBRE Scoring Tech Talent Report. The region is defined as the New York-Jersey City-Newark metropolitan area. Tech talent refers to all workers in tech-related occupations across all industries.
4. See 3. Based on a comparison of the number of tech degrees awarded between 2011-2016, and the growth in the number of tech occupations over that period.
5. See 3.
6. This range assumes roughly 150-185 sq. ft. of office demand per new, indirect office employee.
7. Long Island City Comprehensive Plan Phase I Summary Report, Long Island City Partnership (2016). The study area includes zip codes 11101, 11102, 11103, 11104, 11104 and 11120. The report can be accessed here: <https://longislandcityqueens.com/licplan/>
8. Long Island City Partnership, LIC Neighborhood Snapshot, Nov 2018. The report can be accessed here: https://longislandcityqueens.com/media/filer_public/7e/b7/7eb771fc-f302-4042-95b8-9fa56544dbd7/4q2018_neighborhood_snapshot_pages_.pdf
9. See 8.
10. MNS Queens Rental Market Report, October 2018
11. Based on Q3 2018 data. Queens county multifamily housing inventory refers to the total number of for-rent housing units in buildings with 5 or more dwelling units, data as per CBRE-Economic Advisors. Queens County employment data as per NYS Bureau of Labor Statistics, total employment as of Q2 2018.
12. See 10.
13. See 7. Appendix A: Existing Conditions.
14. CBRE Autonomous Vehicles: Driving Change for Real Estate, November 2018. The report can be found here: <https://www.cbre.us/research-and-reports/US-Autonomous-Vehicles-2018>
15. Inventory of rental housing is estimated by CBRE-Economic Advisors, based off of U.S. Census data. The estimates reflect inventory in buildings with five or more dwelling units.
16. Amazon’s Seattle-based employment is estimated as 50,000, while the population of Seattle in 2018 is estimated at approximately 725,000.
17. Assuming that Amazon’s HQ2 workforce is between 25,000 – 40,000, while the population of Queens in 2017 is estimated at 2,359,000 residents. Queens population for 2017 was estimated by NYC Department of City Planning based on analysis of US Census data. See <https://www1.nyc.gov/site/planning/data-maps/nyc-population/current-future-populations.page>
18. NYC population in 2017 was estimated at 8,622,698 million, according to a NYC Department of City Planning analysis of U.S. Census data. See <https://www1.nyc.gov/site/planning/data-maps/nyc-population/current-future-populations.page>

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