

# REQUEST FOR INFORMATION

## Project Clancy

### TALENT

#### A. Big Questions and Big Ideas

##### 1. Population Changes and Key Drivers.

- a. **Population level - Specify the changes in total population in your community and state over the last five years and the major reasons for these changes. Please also identify the majority source of inbound migration.**

New York City's population grew from 8.2 million to 8.5 million over the last five years and is projected to surpass 9 million by 2030.<sup>1</sup> New York City continues to attract a dynamic and diverse population of professionals, students, and families of all backgrounds, mainly from Latin America (including the Caribbean, Central America, and South America), China, and Eastern Europe.<sup>2</sup>

#### Estimate of New York City's Population

Year	Population
2011	8,244,910
2012	8,336,697
2013	8,405,837
2014	8,491,079
2015	8,550,405
2016	8,537,673

Source: American Community Survey 1-Year Estimates

#### Cumulative Estimates of the Components of Population Change for New York City and Counties

Time period: April 1, 2010 - July 1, 2016

Geographic Area	Total Population Change	Natural Increase (Births-Deaths)	Net Migration: Total	Net Migration: Domestic	Net Migration: International
New York City Total	362,540	401,943	-24,467	-524,013	499,546
Bronx	70,612	75,607	-3,358	-103,923	100,565
Brooklyn	124,450	160,580	-32,277	-169,064	136,787
Manhattan	57,861	54,522	7,189	-91,811	99,000

<sup>1</sup> New York City Population Projections by Age/Sex & Borough, 2010-2040

<sup>2</sup> Place of Birth for the Foreign-Born Population in 2012-2016, American Community Survey

<b>Queens</b>	102,332	99,703	7,203	-148,045	155,248
<b>Staten Island</b>	7,285	11,531	-3,224	-11,170	7,946

Source: Population Division, U.S. Census Bureau

Note: Population change is calculated using the 2010 Decennial Census (as opposed to the 2010 Estimates Base) and the 2016 Population Estimate. The estimated components of population change will not equal the numerical population change also because of a small residual after reconciliation with national totals.

- b. Education level - Specify the changes in education level in your community over the last five years and the major reasons for these changes. (Please address high school graduates, technical/vocational degree graduates, four-year graduates, and masters or higher graduates.)**

New York City has over 2.26 million residents with bachelor’s degrees or higher, is home to 124 universities, and has welcomed an influx of international workers with bachelor’s and graduate degrees.<sup>3</sup> Education levels of New York City residents have increased over the past five years, with strong growth in the number of New Yorkers holding associate’s degrees, bachelor’s degrees, and graduate or professional degrees. These trends are matched, if not exceeded, in the City’s workforce of tomorrow, with improvements in educational attainment especially pronounced in the 18- to 24-year-old population. This growth is driven by strong demand for advanced degrees by employers in New York City.

**Changes in Educational Attainment, Age 25 or Older**

<b>Population Ages 25 or Older</b>	<b>2011 (% of population)</b>	<b>2016 (% of population)</b>	<b>Change (2011-2016)</b>
Less than 9th grade	10.6%	9.4%	-1.2 percentage points
9 <sup>th</sup> to 12 <sup>th</sup> grade, no diploma	9.8%	9.0%	-0.8 percentage points
High school graduate	24.9%	24.1%	-0.8 percentage points
Some college, no degree	14.6%	14.0%	-0.6 percentage points
Associate's degree	6.0%	6.4%	0.4 percentage points
Bachelor's degree	20.1%	21.5%	1.4 percentage points
Graduate or professional degree	14.0%	15.5%	1.5 percentage points

Source: 2016 American Community Survey 1 Year Estimates

**Changes in Educational Attainment, Ages 18-24**

<b>Population Ages 18-24</b>	<b>2011</b>	<b>2016</b>	<b>Change (2011-2016)</b>
Less than high school graduate	18.0%	13.2%	-4.8 percentage points
High school graduate	23.1%	24.5%	1.4 percentage points
Some college or associate's degree	43.1%	43.5%	0.4 percentage points
Bachelor's degree or higher	15.9%	18.8%	2.9 percentage points

Source: 2016 American Community Survey 1 Year Estimates

<sup>3</sup> 2016 American Community Survey 1 Year Estimates, HR&A Advisors: 2016 NYC Tech Ecosystem

**c. Tech job levels - Specify the changes in the number of tech jobs in your community over the last five years and the major reasons for these changes (including the major draw for tech companies in your community).**

Employment in tech jobs grew by more than 20% in New York City, to 326,000 jobs in 2016 from approximately 270,000 in 2011.<sup>4</sup> Over the last 10 years, New York City’s tech ecosystem has grown nearly three times as fast as the nation’s.<sup>5</sup>

The drivers of this growth are large tech corporations as well as start-ups, both expanding and seeking talent. From its City-sponsored incubators in the early 2000s, New York City now has over 120 start-up incubators and a thriving start-up ecosystem.<sup>6</sup> Major tech companies like Google, Facebook, Salesforce, and Spotify are expanding operations here, and New York City is now home to the second largest tech start-up scene in the country – an ecosystem that continues to grow. Moreover, companies in traditional sectors, like advertising, finance, and healthcare, are experiencing technology-driven disruptions and are seeking to hire tech talent to remain competitive. Of the current tech jobs in New York City, nearly half are in “traditional” industries. As technology continues to pervade and affect virtually all aspects of the business climate, the City expects the demand for tech talent to continue to climb.

**d. Diversity - Specify the changes in composition in your community as a whole and within the tech industry in (i) race and ethnicity, (ii) gender, and (iii) foreign-born individuals**

New York City is one of the most diverse cities in the world, with 3.2 million immigrants from over 150 countries. The New York City metro region has more workers with H-1B visas than anywhere else in the nation, joining a population that is one of the most diverse and best-educated in the United States. New York City’s residents speak more than 200 languages. Asian, Hispanic, and Latino groups have been among the fastest growing communities, collectively accounting for more than 90% of the City’s population growth over the past five years.

**RACE AND ETHNICITY**

**Race and Ethnicity in New York City**

Race	2011	2016	Change (2011-2016)
<b>Total</b>	<b>8,244,910</b>	<b>8,537,673</b>	<b>3.6%</b>
<b>Not Hispanic or Latino</b>	<b>5,871,606</b>	<b>6,048,583</b>	<b>3.0%</b>
White alone	2,731,173	2,715,022	-0.6%
Black or African American alone	1,882,900	1,877,084	-0.3%
American Indian and Alaska Native alone	15,558	14,579	-6.3%
Asian alone	1,045,626	1,195,842	14.4%
Native Hawaiian and Other Pacific Islander alone	1,347	3,387	151.4%

<sup>4</sup> HR&A Advisors: 2016 NYC Tech Ecosystem; EMSI data

<sup>5</sup> HR&A Advisors: 2016 NYC Tech Ecosystem

<sup>6</sup> HR&A Advisors: 2016 NYC Tech Ecosystem

Some other race alone	61,710	74,266	20.3%
Two or more races:	133,292	168,403	26.3%
Two races including Some other race	24,304	20,045	-17.5%
Two races excluding Some other race, and Three or more races	108,988	148,358	36.1%
<b>Hispanic or Latino</b>	<b>2,373,304</b>	<b>2,489,090</b>	<b>4.9%</b>
White alone	887,248	912,353	2.8%
Black or African American alone	171,201	196,018	14.5%
American Indian and Alaska Native alone	11,832	17,227	45.6%
Asian alone	6,320	10,069	59.3%
Native Hawaiian and Other Pacific Islander alone	2,974	1,553	-47.8%
Some other race alone	1,174,740	1,212,693	3.2%
Two or more races:	118,989	139,177	17.0%
Two races including Some other race	72,492	70,167	-3.2%
Two races excluding Some other race, and Three or more races	46,497	69,010	48.4%

Source: 2016 American Community Survey 1-Year Estimates

### Race and Ethnicity in the NYC Tech Industry (as of August 2015)

Category	% of New York City's tech workforce
White	62%
Asian	16%
Hispanic	11%
African American	9%
Other	2%

Source: Center for Urban Future: NYC's Tech Profile (Aug. 2015)

Note: Changes in race and ethnicity in New York City's tech workforce were unavailable.

#### Sectors with the Highest Proportion of White Employees (Aug. 2015):

- Internet publishing, web search portals (69%)
- Software publishing (67%)
- Computer systems design (63%)

#### Sectors with the Highest Proportion of Non-White Employees (Aug. 2015):

- Computer manufacturing (55%)
- Scientific R and D services (55%)

## GENDER

### Gender in New York City

Sex	2011	2016	Change (2011-2016)
Male	3,925,290	4,075,642	3.8%
Female	4,319,620	4,462,031	3.3%
Total (estimate)	8,244,910	8,537,673	3.6%

Source: 2016 American Community Survey 1-Year Estimates

**Gender in the NYC Tech Industry**  
(as of August 2015)

Category	% of New York City's tech workforce
Male	60%
Female	40%

Source: Center for Urban Future: NYC's Tech Profile (Aug. 2015)

**Sub-sectors with the Highest Proportion of Male Employees** (Aug. 2015):

- Software publishing (68% male)
- Computer systems design (68% male)
- Data processing and hosting (62% male)
- Computer manufacturing (61% male)

**Sub-sectors with the Highest Proportion of Female Employees** (Aug. 2015):

- Scientific R&D services (59% female)
- Electronic shopping (48% female)
- Internet publishing & web search portals (44% female)

**A Notable Change:** The number of technology companies founded by women entrepreneurs in New York City grew tenfold between 2003 and 2016.<sup>7</sup>

**FOREIGN-BORN INDIVIDUALS**

	2011	2016	Change (2011-2016)
Estimated number of Foreign-Born Individuals	3,066,599	3,200,219	4.4%

Source: 2016 American Community Survey 1-Year Estimates

- e. **Changes – Describe what your community is already doing to positively impact the above changes and what big ideas you propose to accelerate the positive changes and/or reverse the negative changes.**

New York City is working to attract and retain top talent across industries, with a particular focus on tech.

**International migration is a key driver of the City's growth**

<sup>7</sup> Center for Urban Future: Breaking Through (March 2016)

New York City is home to 3.3 million foreign-born immigrants, from more than 150 countries, who comprise nearly 40% of the population.<sup>8</sup> The New York City metro region has more H-1B visa holders than any other region in the nation.<sup>9</sup> The City is dedicated to promoting this diversity by welcoming and protecting immigrants who become New Yorkers.

New York City will continue to work to maintain its reputation as a place that is welcoming to all. The City has taken steps to establish itself as a sanctuary city by enacting pro-immigrant laws, policies and practices that are among the strongest in the nation. Last year, New York City's government passed regulations banning City employees from supporting anti-immigrant activities while on duty or on City property. City schools, social service facilities and the criminal justice system will not blindly support federal authorities seeking to deport New Yorkers.<sup>10</sup>

### **Education levels are increasing, particularly at the bachelor's level**

Educational attainment levels in New York City are continuing to climb as the labor market demands higher skilled employees. The City and State continue to invest in initiatives at public institutions like CUNY and SUNY to make higher education accessible to New Yorkers of all backgrounds. Under the Excelsior Scholarship program, more than 940,000 prospective students from households making under \$125,000 per year will qualify to attend college tuition-free at all CUNY and SUNY two- and four-year colleges in New York State. CUNY and SUNY also offer wrap-around services to support disadvantaged students who are striving to graduate. For example, the CUNY Accelerator Study in Associate Program (ASAP) provides academic, social, and financial support to students facing financial and other pressures.

### **The tech sector is strong, but needs greater diversity**

The City has recently announced several programs to support women in tech or seeking to enter the field. Women in Technology and Entrepreneurship (WiTNY) offers summer programs in product design and entrepreneurship to graduating high school senior girls who will be attending CUNY. The program also offers scholarships for CUNY undergraduate women, as well as internships and community support to help young women pursue computer science and related technology degrees. WiTNY awards fellowships to selected women who are considering a master's degree or Ph.D. in computer science and related technology disciplines at Cornell Tech.<sup>11</sup>

The City recently launched WE:NYC to help women entrepreneurs, in tech and other industries, to succeed in New York City. This initiative includes a suite of programs to provide women with access to funding, credit, mentorship, and business courses. The program offers free services in multiple languages across all five boroughs.<sup>12</sup> Last year, under the WE:NYC banner, the City announced a micro-lending product with Kiva to provide seed capital to women entrepreneurs,

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<sup>8</sup> [New York City Comptroller](#)

<sup>9</sup> [CNN Tech](#)

<sup>10</sup> [Daily News – New Regulations fortify New York City as immigration sanctuary](#)

<sup>11</sup> WiTNY website

<sup>12</sup> [WeNYC website](#)

and it will soon launch a credit product and a growth fund to provide later-stage women-owned companies with affordable capital.

Details on City efforts to promote racial and ethnic diversity in tech are included in the following Diversity and Inclusion section of Tech Talent Growth.

2. **Tech Talent Growth. Dive deep beyond the number of tech jobs discussed above to show us what your community is doing to address the fundamental building blocks that lead to tech jobs.**
  - a. **Current efforts - Describe what your community is currently doing to support tech talent growth.**

New York City is supporting tech talent growth across ages: in early education, K-12, higher education, and ongoing workforce development.

#### **EXAMPLE INITIATIVES IN GRADES K-12**

**Computer Science for All:** In 2015, Mayor de Blasio announced CS4All, a 10-year, \$81 million initiative that will enable all 1.1 million students in the City school system to study computer science across grades K-12 by 2025. In just a few years, nearly 1,000 teachers have been trained in CS instruction, and last year, almost 90,000 students in more than 500 schools received instruction. New York City is the largest school district in the nation with a program of this kind.<sup>13</sup>

**Algebra for All:** The goal of this program is to ensure that all students complete algebra no later than 9<sup>th</sup> grade, enabling them to reach more advanced math and science courses in high school and be better prepared for college and careers. By 2022, all students will have access to an algebra course in 8<sup>th</sup> grade, and academic supports in elementary and middle school will ensure greater algebra readiness.<sup>14</sup>

**Career and Technical Education (CTE):** New York City's growing CTE program allows students to graduate from high school with academic and industry-recognized skills that facilitate high quality college and career options. CTE supports nearly 60,000 students annually, with over 200 programs, including engineering, robotics, media tech, design, business management, and distribution and logistics, among others.<sup>15</sup>

#### **EXAMPLE INITIATIVES IN HIGHER EDUCATION**

**CUNY CS 2X:** This past summer, New York City announced a historic commitment to creating diverse STEM talent by doubling the number of CUNY graduates with bachelor's degrees in tech by 2022 through new multi-million dollar investments co-designed with industry.<sup>16</sup>

**Applied Sciences Initiative:** New York City created this initiative to help fund and support the expansion of advanced engineering programs across the City's top universities. In particular, the City supported the creation of Cornell Technion (see below), expansion of the Columbia Data

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<sup>13</sup> NYC DOE website

<sup>14</sup> NYC DOE website

<sup>15</sup> [CTE website](#)

<sup>16</sup> [TTP Website](#)

Science Institute, the establishment of the NYU Center for Urban Science and Progress, and other investments in higher education.<sup>17</sup>

**Cornell Technion:** Cornell University and the Technion – Israel Institute of Technology recently opened a \$2 billion, 2-million-square-foot campus on Roosevelt Island for graduate education and research, aiming to integrate technology, business, law and design experts for the digital age. It is open for classes and will soon to be home to more than 2,000 graduate students and faculty.

**New STEM and research campuses:** Multiple New York City-based universities have recently opened new campuses and facilities dedicated to research, engineering, and other STEM activities. For example, Columbia opened its Manhattanville Campus to provide innovative spaces for teaching, pioneering research, and artistic expression. NYU recently opened a major new tech hub in Downtown Brooklyn dedicated to advanced interdisciplinary research and the application of big data to societal issues.

#### **EXAMPLE INITIATIVES IN WORKFORCE DEVELOPMENT:**

**Tech training programs:** Over 100 New York City organizations provide accelerated tech training programs to adults and post-graduates. These include 22 coding boot camps, more than any other city in the United States, that serve over 2,000 people annually in programs like cloud administration, software engineering and data science. Some of the programs that provide New Yorkers with opportunities to train and up-skill in tech careers include:

- **App Academy:** Offers classes in Full Stack Web Development, focusing on Ruby, Rails, and JavaScript.
- **Fullstack Academy:** Provides immersive and part-time courses in full-stack JavaScript web development, with a focus on the MEAN stack
- **Grass Hopper Academy:** This immersive engineering school for women with no upfront cost offers a 13-week course preceded by a four-week part-time remote foundations course.
- **General Assembly:** One of the largest networks of coding boot camps, GA offers immersive and part-time courses in web development, data science, iOS and Android development, and UX & design.
- **The Flatiron School:** An intensive, full-time, 12-week school offering courses in Ruby and iOS.
- **TurnToTech:** 12-week programs in iOS and Android mobile development.

**Union Square Tech Training Center:** This year, New York City announced a new 258,000 square foot hub for technology jobs and workforce development. Located in Union Square, it will serve as a focal point for tech training, start-up incubation, and tech companies in the heart of “Silicon Alley.” The center will provide affordable office space for growing tech companies as well as more established companies. Civic Hall, in partnership with Develop RAL Companies, won the public bid to create an 80,000 square foot facility as part of this hub. The space will include:

- Collaborative community space

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<sup>17</sup> [NYCEDC Press Release 2016](#)



- A conference center
- A civic startup incubator and accelerator
- A 21<sup>st</sup> century learning center with scholarships to ensure that a wide range of New Yorkers have access to the center's offerings

**b. Future proposals - Describe the big ideas your community proposes in addition to the current efforts mentioned above to enhance your community's development of tech talent (both millennial and mature/senior tech talent).**

**SUMMARY**

Amazon has the opportunity to actively participate in several new and existing tech talent programs.

1. Join the **Tech Talent Pipeline Advisory Board** to shape tech training infrastructure spanning the talent pipeline in New York City.
2. Partner directly with **local workforce development groups** to:
  - (a) Create **customized training programs** for the public or Amazon employees.
  - (b) Leverage **wrap-around recruiting services** to meet Amazon's employment needs.
  - (c) **Diversify Amazon's workforce** by training and recruiting underrepresented populations.

**IDEA #1: JOIN THE TECH TALENT PIPELINE ADVISORY BOARD TO SHAPE TECH TRAINING INFRASTRUCTURE SPANNING THE TALENT PIPELINE IN NEW YORK CITY.**

Tech Talent Pipeline (TTP) collaborates with tech industry leaders from 200+ companies to align the City's tech training and education infrastructure to deliver talent to meet today's needs and for decades to come. Through this program, hundreds of New Yorkers will be equipped with 21<sup>st</sup> century skills and connected to high demand jobs.

Amazon could partner with Tech Talent Pipeline in several ways to help the program scale and achieve Amazon's goals for skilled tech talent:

- **Expand target students:** Develop coursework and job placement programs targeted at audiences beyond college students and recent grads (e.g., senior talent, managers).
- **Accelerate growth of NYC Tech-in-Residence Corps Expansion:** Commit to reaching 100 in-demand electives taught by industry employees by the end of 2019.
- **Create TTP Alumni Academy:** Equip hundreds of early-career tech workers with mentorship and programming to improve connections to employment.
- **Offer "Pay When You Earn" tech training finance:** Develop a fund that expands access to tech training to all qualified New Yorkers regardless of financial means by requiring repayment only when the trainee secures employment.
- **Provide No-Cost Tech Recruitment Services through Tech Talent Team @ Workforce1:** Build on the success of TTP's Tech Squad Pilot, which partnered with industry to connect local candidates to tech jobs using a skill verification process for high potential talent, by launching a full-service, no cost recruitment team for employers.

**IDEA #2: PARTNER DIRECTLY WITH LOCAL WORKFORCE DEVELOPMENT GROUPS.**

**(a) Create customized Amazon training programs for the public or Amazon employees.**

Partner with one or more of New York City's 20+ tech training programs to develop a training curriculum specific to Amazon content and skills (e.g., Alexa programming). These programs can either be offered to the public to provide Amazon with a robust job-ready recruiting pipeline, or internally to Amazon employees so they can continue to up-skill throughout their careers at Amazon. This effort could also be structured as an apprenticeship program, in which Amazon employs students upfront and supports their training, ensuring that incoming talent is ready to hit the ground running.

General Assembly partners with employers in several ways to create customized trainings. For example, it designed a "Digital Academy" with Capital One that provides training to hundreds of students on-site at Capital One over six months in conjunction with role-specific onboarding activities. A "Data 5k" partnership with Booz Allen has allowed over 5,000 employees to gain skills in fields like data science and advanced data analytics. General Assembly also partnered with LaGuardia Community College to launch TechIMPACT, accelerated training in web development, software development, and network administration for students.

**(b) Leverage wrap-around recruiting services to meet Amazon's employment needs.**

Partner with one or more of New York City's 20+ tech training programs to immediately tap into New York City's robust tech talent workforce and develop solutions for Amazon's recruiting needs. Many of New York City's tech-specific workforce training groups offer employment services to local employers. These services include access to recruiting pipelines, identification of candidates for specific roles and skill-sets, and onboarding programs to prepare new hires for roles within a company.

General Assembly's Talent Pipeline as a Service (TPaaS) allows companies to source employees at scale with the skills that match the companies' acquisition goals. They leverage their network across 20 campuses and 40,000 full-time and part-time alumni to connect skilled graduates with roles at target organizations. General Assembly has worked with companies to address talent shortages through a combination of re-skilling existing teams, onboarding new talent, and developing new programs to bring in diverse talent. They recently worked with Liberty Mutual to update digital skills and retain employees with valuable institutional knowledge. This reduced Liberty Mutual's talent acquisition costs while filling in-demand roles with internal resources.

**(c) Diversify Amazon's workforce by training and recruiting underrepresented populations.**

Partner with a local workforce development group dedicated to providing opportunities to underrepresented or disadvantaged populations. Many of New York City's workforce development groups focus specifically on providing training to these individuals, and rely on partnerships with local employers to inform curriculum and facilitate internship and job opportunities. By partnering with one of these programs, Amazon would have direct access to diverse candidates for its own recruiting purposes and could also leverage training

programs to provide opportunities to Amazon’s non-tech employees (e.g., warehouse workers).

Last year, Per Scholas collaborated with Cognizant to launch a state-of-the art Cognizant Bronx Training Center. Per Scholas is administering 8- to 10-week programs that include industry- and job-specific courses and networking opportunities. Students are studying quality engineering and application support management. Cognizant plans to offer positions to as many as 350 of the program's initial graduates to support its work in the five boroughs.

Per Scholas is specifically interested in partnering with Amazon to build out 32,000 square feet of its current Bronx location into a visionary facility customized to support Amazon’s growth in New York City. This “Per Scholas Tech Lab Powered by Amazon” would include 12 new state-of-the-art classrooms, and would train nearly 1,000 adults annually and place them in positions with Amazon, its vendors, or its clients.

Cornell Tech’s Women in Technology and Entrepreneurship runs an internship program called “Winterns” and seeks more corporate partners. Current partners provide summer internships for CUNY women, host mentoring and networking events for this population, engage their technical organizations to offer software developer volunteers needed to staff the summer program, and engage their Women’s Leadership organization and Women in Tech groups to participate in panel discussions and community events.

Coalition for Queens (C4Q) offers tech training programs targeted at disadvantaged populations, often in partnership with corporations. For example, C4Q collaborated with Blue Apron to offer tech training to help Blue Apron’s warehouse workers transition to engineering roles.

**c. Diversity and inclusion - Describe what your community is currently doing to support underrepresented minorities in tech and what your community proposes to do in the future to enhance these efforts.**

New York City sponsors a number initiatives and private sector organizations dedicated to supporting and training underrepresented groups in the tech industry. These programs have partnered with universities and corporations to provide training and employment opportunities for New Yorkers of every background. Examples of these efforts include City-sponsored efforts like Tech Talent Pipeline and private organizations like First Robotics. Through continued support from the City and corporations, these programs are growing and scaling to reach more New Yorkers.

High profile organizations that are focused on diversity and frequently partner with the City and corporations include:

**Women in Technology and Entrepreneurship-NY (WiTNY):** WiTNY aims to increase the number of young women pursuing careers in technology by offering summer programs in technology product design and entrepreneurship for graduating high school seniors en route to CUNY, scholarships for CUNY undergraduate women, and internships and community support to help young women pursue computer science and related technology degrees. For women

considering a master's degree or Ph.D. in computer science and related technology disciplines at Cornell Tech, WiTNY awards fellowships to selected students.

**Per Scholas:** Per Scholas is a 22-year-old national nonprofit, founded and based in the South Bronx. It provides rigorous and tuition-free technology training and professional development. This prepares adults who are unemployed or underemployed for successful careers as IT professionals, and it creates on-ramps to businesses who need them. In New York, Per Scholas provides technical career training, job placement, and comprehensive support services for more than 500 job seekers each year. Amazon has already hired 12 Per Scholas graduates, including 8 in New York City.

**Young Men's Initiative Training Partnerships (YMI):** YMI is a suite of programs and policies designed to address disparities between young Black and Latino men and their peers across outcomes related to education, health, employment and the criminal justice system. YMI connects tech training partners with low-opportunity, high-potential New Yorkers. YMI can help connect Amazon to a vast pool of youth, young adults, and adults through City partners including NYCHA, Department of Education, Department of Youth & Community Development, and Department of Probation. YMI trainings focus on advanced coding and cloud applications that are critical for Amazon's growth. YMI could, for example, develop a partnership between Amazon and the City's JobsPlus program to develop a certification for public housing residents through "self-guided" online AWS training. Other options include developing an intensive Per Scholas program for underrepresented communities that would create a dedicated certification track for AWS, or working with Tech Talent to develop custom solutions for specific communities.

**INFRONT Minority Venture Partners (MVP):** MVP connects local women and minority technologists to business training and technology resources, with the goal of helping them develop the skills to gain access to high-tech jobs and commercialize their own tech ideas. Programming includes free workshops in 3-D printing, coding, entrepreneurship training, peer and faculty support services, and networking opportunities and internships with businesses and partners. MVP won the 2015 US Small Business Administration Growth Accelerator Competition.

**Upwardly Global's Job Search Training Program:** Upwardly Global directly serves highly skilled immigrants, refugees, and asylum seekers. The program focuses on individuals who have degrees and work experience outside the United States, and who seek to continue careers in fields like engineering, accounting, law, business, and data. The organization provides participants with industry-specific resources, networking events, and opportunities for re-skilling and certification through national partnerships with Accenture, Coursera, and others. In the last year, the organization has supported 220 placements in New York.

**JobsPlus:** JobsPlus is a proven, place-based employment program of the New York City Human Resource Administration designed to increase the earning and employment potential of working-age residents in public housing developments. Where implemented well, the program has resulted in a 16% increase in average annual earnings among working-age public housing residents. New York City has recently invested over \$24 million to expand JobsPlus to 9 program sites serving 26 NYCHA developments citywide, with a goal placing more than 4,400 NYCHA residents in gainful employment.

- d. **Specialized tech talent availability and growth - Please provide specialized tech talent availability for (i) machine learning specialists, (ii) UX/UI designers, and (iii) hardware engineers, as well as year-to-year trends for all three of these specialties. Please also describe the companies in your community currently employing that talent.**

- (i) **Please also describe the companies in your community currently employing that talent and where their future growth will be.**

Most New York City universities do not offer degrees in these fields specifically, but cover relevant content in existing computer science and engineering degree programs. For example, over the last three years, New York University granted degrees in these specialty fields:

- Computer science: 710 Undergraduate / 1,760 Graduate degrees
- Electrical engineering: 165 undergraduate / 543 graduate degrees
- Integrated digital media: 64 undergraduate / 63 graduate degrees
- Tisch interactive telecommunications: 321 graduate degrees

The chart below shows degrees in engineering fields at all New York City universities as a proxy for talent availability in these fields.

Job postings also reflect tech talent demand for those targeted disciplines in New York City. See below for job postings over time as well as the top employers seeking machine learning, UX/UI and hardware engineering talent.

#### **Machine learning**

- Job postings for this skill:<sup>18</sup>
  - 2015: 3,897
  - 2016: 3,505
  - 2017: 5,194
- Top employers by job postings for this skill (past 90 days):
  - JP Morgan Chase Company
  - The Goldman Sachs Group, Inc.
  - Citi
  - KPMG
  - Amazon.com / Google Inc. (tie)

#### **UX/UI designers (user interface)**

- Job postings for this skill:<sup>19</sup>
  - 2015: 6,254
  - 2016: 3,840
  - 2017: 3,031
- Top employers by job postings for this skill (past 90 days):
  - The Goldman Sachs Group, Inc.

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<sup>18</sup> Burning Glass

<sup>19</sup> Burning Glass

- JP Morgan Chase Company
- Barclays
- Deloitte
- Comcast

### **Hardware engineers**

- Job postings for this skill:<sup>20</sup>
  - 2015: 10,651
  - 2016: 6,990
  - 2017: 5,973
- Top employers by job postings for this skill (past 90 days):
  - The Goldman Sachs Group, Inc.
  - PricewaterhouseCoopers
  - Accenture
  - Columbia University
  - CUNY

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<sup>20</sup> Burning Glass

**Number of Degrees Awarded in Engineering Fields**  
(Past 3 years)

<i>B = Bachelor's</i> <i>G = Graduate</i>	Computer Science		Chemical Engineering		Civil Engineering		Electrical Engineering		Mechanical Engineering		Other Engineering		Engineering Technologies		Industrial Engineering		Materials Engineering		Total	
	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G
Barnard College	13	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	13	-
Berkeley College, New York	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	-
CUNY, Baruch College	389	127	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	389	127
CUNY, Brooklyn College	231	84	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	231	84
CUNY, City College	83	129	106	47	162	100	286	130	203	73	80	47	-	-	-	-	-	-	920	526
CUNY, Graduate Center	-	66	-	5	-	1	-	13	-	4	-	9	-	-	-	-	-	-	-	98
CUNY, Hunter College	132	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	132	-
CUNY, John Jay College of Criminal Justice	93	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	93	-
CUNY, Lehman College	200	22	-	-	-	-	-	-	-	-	-	17	-	-	-	-	-	-	200	39
CUNY, Medgar Evers College	53	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	53	-
CUNY, New York City College of Technology	472	-	-	-	-	-	-	-	-	-	-	-	315	-	-	-	-	-	787	-
CUNY, Queens College	210	39	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	210	39
CUNY, York College	109	-	-	-	-	-	-	-	-	-	-	-	33	-	-	-	-	-	142	-
Columbia University in the City of New York	273	724	132	164	171	488	136	703	182	266	158	215	-	-	12	240	19	42	1,083	2,842
Cooper Union for the Advancement of Science and Art, The	-	-	68	18	67	18	86	14	79	11	17	-	-	-	-	-	-	-	317	61
Cornell University, Graduate School of Medical Sciences	-	-	-	11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11
Fordham University	122	104	-	-	-	-	-	-	-	-	34	-	-	-	-	-	-	-	156	104

Long Island University, Brooklyn	28	23	-	-	-	-	-	-	-	-	-	-	-	62	-	-	-	-	28	85
Manhattan College	43	-	80	30	285	92	87	22	114	60	-	-	-	-	-	-	-	-	609	204
Monroe College, Bronx	257	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	257	-
New York University	314	1,629	88	14	92	161	156	514	161	72	-	42	25	53	-	101	-	-	836	2,586
Pace University, New York	195	337	1	-	-	-	-	34	-	-	-	-	97	21	-	-	-	-	293	392
Polytechnic Institute of New York University	57	240	30	18	49	98	61	239	65	23	-	26	-	-	28	118	-	4	290	766
SUNY, Downstate Medical Center	-	-	-	-	-	-	-	-	-	-	-	4	-	-	-	-	-	-	-	4
SUNY, Maritime College	-	-	-	-	-	-	41	-	118	-	170	-	-	-	72	-	-	-	401	-
School of Visual Arts, New York	185	137	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	185	137
St. Francis College	63	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	63	-
St. John's University, New York	173	-	-	-	-	-	-	-	-	-	-	-	133	-	-	-	-	-	306	-
St. Joseph's College, Brooklyn	65	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	65	-
Touro College	67	133	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	67	133
Vaughn College of Aeronautics and Technology	-	-	-	-	-	-	-	-	12	-	-	-	103	-	-	-	-	-	115	-
Wagner College	14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	14	-
Yeshiva University	23	-	-	-	-	-	-	-	-	-	8	-	-	-	-	-	-	-	31	-
<b>Total</b>	<b>3,868</b>	<b>3,794</b>	<b>505</b>	<b>307</b>	<b>826</b>	<b>958</b>	<b>853</b>	<b>1,669</b>	<b>934</b>	<b>509</b>	<b>467</b>	<b>360</b>	<b>706</b>	<b>136</b>	<b>112</b>	<b>459</b>	<b>19</b>	<b>46</b>	<b>8,290</b>	<b>8,238</b>



### 3. Venture Capital.

- a. **Current efforts - What is your community currently doing to support venture capital investment? Please include the presences of venture capital firms in your community, 5-year trends in venture capital investment, and size of start-up community in your community.**

New York City saw a record volume for its venture capital funding in 2017. Companies in New York City raised over \$11 billion, almost quadrupling 2013 fund-raising efforts.<sup>21</sup> In Q3 of 2017, New York City surpassed San Francisco as the most highly funded metropolitan region in terms of venture capital funding received by start-ups.<sup>22</sup>

Start-ups in New York City are thriving in every sector, with B2B services, Consumer Web, Health-tech, and Fintech obtaining the most VC funding in recent years.<sup>23</sup>

#### **Venture Capital Funding Invested in New York City Start-ups:<sup>24</sup>**

Year	Total Capital Invested
2013	\$3.03 billion
2014	\$5.72 billion
2015	\$7.91 billion
2016	\$8.10 billion
2017	\$11.66 billion

Source: Pitchbook

#### **Examples of Private Sector Activity in VC Funding**

New York City is home to 955 venture capital firms, second only to the San Francisco Bay Area (with 1,137).<sup>25</sup> Some of the most active VC investors in New York City in 2017 include Lerer Hippeau Ventures, Union Square Ventures, Greycroft Partners, and Female Founders Fund – a fund dedicated to investing in women-led start-ups.<sup>26</sup>

New York City, with more Fortune 500 companies than any other city in the United States, is well positioned as corporate venture capital takes on a larger share of total venture capital funding (around 45% in both 2015 and 2016). New York City is home to many corporate venture capital arms, particularly in industries like finance and media. Some examples include AOL Ventures, Citi Ventures, Hearst Ventures, KBS+Ventures, Time Warner Investments, and R/GA Ventures.

#### **Examples of Academic Support for VC Funding**

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<sup>21</sup> PitchBook, Inc; New York Metropolitan Area, Data as of October 5, 2017

<sup>22</sup> Business Insider: New York City Has topped San Francisco when it comes to startups raising VC cash – but it may not last

<sup>23</sup> Built In NYC 2016

<sup>24</sup> Pitchbook

<sup>25</sup> Pitchbook

<sup>26</sup> PitchBook NYC Report

**Columbia University:** Columbia hosts start-up pitch days for emerging companies throughout the year, bringing together early-stage venture companies and seed investors. These events are typically conducted in collaboration with other commercially-focused institutions like CUNY, Cornell Tech, NYU, Rockefeller, and Memorial Sloan Kettering, as well as regional peers. For example, this past October, Columbia and the University of Pennsylvania collaborated to host a combined Pitch Day in New York City for 20 local start-ups in the physical and life sciences. Over 30 leading VC firms attended, including Lightspeed Venture Partners, ARCH, In-Q-Tel, NEA, Orbimed, Deerfield, Alexandria, IP Group, Osage, Kairos, and Apple Tree.

**New York University:** NYU Tandon School of Engineering Future Labs has a board made up of VC firms dedicated to fostering and mentoring start-ups. NYU is a Blackstone Launchpad site that supports aspiring entrepreneurs at every stage of the start-up journey through access to a global network of venture coaches, entrepreneurs, and industry experts that help new ventures launch and scale. NYU also offers financing opportunities and competitions that can assist entrepreneurs in developing a first prototype, or scaling up a customer acquisition.

### **City Initiatives That Attract VC Investors and Provide Access to Start-ups in a Particular Industry**

Growth in venture capital funding has accelerated, partly due to City-led initiatives to create locations and networks for venture capital funders and start-ups to come together. This includes the launch of the Urban Future Labs for smart city, smart grid, and clean energy start-ups, and the creation of the first of its kind VR/AR lab at the Brooklyn Navy Yard.<sup>27</sup> The CyberNYC initiative, announced last year, includes plans for a Cyber Center with training programs, a start-up incubator, and academic innovation exchanges. This program recently attracted a leading cybersecurity-focused venture capital firm, Jerusalem Ventures, to open an office in New York City.<sup>28</sup>

### **Examples of Start-up Funding Provided by the City and State**

The City has developed funds to complement venture capital and help entrepreneurs succeed. These funds include NYCEDC's Life Science Fund, which will provide \$50 million in matching funds from top-tier venture capital partners to support early-stage life science start-ups.<sup>29</sup>

A number of statewide programs provide funding directly to start-ups. New York Ventures was established in 2015 as a centralized organization to streamline the administration of the State's innovation investment activity. New York Ventures meets the critical capital needs of New York State's innovation economy by managing a set of investment programs that provide pre-seed, seed and early-stage venture funding to high-growth startups as they move from concept to early growth and expansion. These funds include:

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<sup>27</sup> NYU Press Release: [NEW YORK WORKS: NYCEDC AND MOME RELEASE PLAN FOR VR/AR LAB, OVER 500 NEW VR/AR JOBS](#)

<sup>28</sup> NYCEDC Press Release: [New York Works: Cybersecurity Companies Brining Jobs to NYC, Following Launch of Mayor De Blasio's Cyber NYC Initiative](#)

<sup>29</sup> NYCEDC website

- **New York State Innovation Venture Capital Fund (NYSIVCF):** A seed and early-stage venture capital fund with up to \$100 million in capital to make direct investments in promising new high-growth businesses.
- **Technology Commercialization Fund:** An \$8 million fund-of-funds focused on making pre-seed investments in companies focused on the commercialization of technologies emerging from universities and research labs across New York State.
- **Innovate NY Fund:** A seed-stage fund-of-funds with up to \$47 million to support innovation, job creation, and high-growth entrepreneurship throughout New York State.
- **Minority-and Women-Owned Business Investment Fund:** A \$2 million equity investment fund with the objective to invest in early-stage, New York State-certified Minority and Women-Owned Business Enterprises that are proven innovators.

**b. Future proposals - Describe the big ideas your community proposes in addition to the current efforts mentioned above to enhance your community’s development of venture capital investment.**

New York City's venture capital scene is growing, but relies on the private and public sectors working together to create a nurturing and dynamic environment for successful investment.

**Strengthen Advocacy and Organization:** Tech:NYC is a non-profit member organization that has brought together tech companies, start-ups, and funders dedicated to growing and supporting the technology industry in New York City.<sup>30</sup>

**Increase Corporate Venture Activity:** Corporations in New York City are contributing to the growth of venture capital by launching and growing their corporate venture capital arms in the city. Universities within the City are working closely with corporations to attract R&D funding and partner in early stage ventures. The goal is to attract more funding to New York City, and for corporations to locate more funding arms in the City.

**Connect Funding to Opportunities:** The City and State governments continue to launch new initiatives to support funding for start-ups. One example is the New York City Economic Development Corporation's Digital Health Marketplace, a platform that connects buyers and sellers of enterprise-ready health technologies through curated matchmaking, technical assistance, and competitive funding for pre-sale pilot projects.<sup>31</sup> NYCEDC is in the process of expanding the size of this program to increase the number of touchpoints between funders and start-ups.

**c. Start-ups - Describe what your community is doing to encourage start-ups.**

New York City’s start-up ecosystem is thriving, particularly in commercializing technology solutions for industries like finance and healthcare, where it has long been an industry leader. Currently, New York City has over 9,000 start-ups.<sup>32</sup> This robust ecosystem is supported by initiatives led by universities, corporations, and the public sector.

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<sup>30</sup> [Tech:NYC website](#)

<sup>31</sup> [NYCEDC website](#)

<sup>32</sup> Digital.NYC

**Dedicated start-up space and support at universities:** New York City is home to more than 100 higher education institutions, many of which have dedicated labs and start-up incubators to support students, faculty, and other New Yorkers. Examples include the Entrepreneurship Lab at Pace University, NYU's Future Labs in four different locations around the City, and the New York City Regional Innovate Hub, a cross-collaboration among CUNY, Columbia, and NYU. Each of these programs provides a combination of co-working space, business resources like legal and financial advice, mentorship, and networking opportunities. Many of these programs also have direct partnerships with corporations to leverage their commercialization expertise. Many universities based in New York City have offices dedicated to the commercialization of new technologies, like the CUNY Technology Commercialization Office.

**City Support for Networks and Collaborations:** The City is dedicated to providing start-ups with the resources they need to access customers, mentorship, and partners for collaboration. The Mayor's Office of the Chief Technology Officer's Marketplace.NYC initiative is an online platform that provides start-ups and mature companies with a place to showcase and provide information about their smart city technologies to City agencies, who are customers in need of these innovative solutions.<sup>33</sup> NYCEDC's International Innovators Initiatives is creating opportunities for international entrepreneurs starting new companies in New York City by providing them with eligibility for uncapped H-1B visas and co-working space at one of CUNY's schools.<sup>34</sup>

Programs like the NYC Media Lab aim to move university technologies from R&D labs to market by providing teams with commercialization expertise, mentorship, and other resources from existing companies. There are approximately 400 projects under way, for learning tools, innovative devices for human adaption and augmentation, and new modes of transportation for tomorrow's smart cities.<sup>35</sup>

**Opportunities to participate in sponsor challenges:** NYCx, an initiative of the Mayor's Office of the Chief Technology Officer, invites entrepreneurs and tech professionals to participate in open competitions to solve specific challenges of urban life. Finalists were selected in February 2018 in one of the first challenges, testing high speed Wi-Fi and 5G cellular technology on Governors Island.

**Access to testing grounds for new innovations:** The State recently invested \$35 million to design, procure, validate and manage a radar and sensor test corridor for an unmanned aircraft system connection between Griffiss International Airport in Rome, New York, and Hancock International Airport in Syracuse, New York. This will create a 50-mile testing corridor capable of Beyond Visual Line of Sight UAS testing. The first five miles of the corridor opened in November 2017, and the whole length should be completed by the end of 2018. The Drone Test corridor will be accompanied by \$5 million in State assistance that will target new and startup companies in the UAS and UTM industries.

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<sup>33</sup> [NYC Mayor's Office of the Chief Technology Officer](#)

<sup>34</sup> [NYCEDC website](#)

<sup>35</sup> Input from university partners

**Tax-Based Incentives for New and Expanding Businesses:** The START-UP NY program helps new and expanding businesses through tax-based incentives and innovative academic partnerships. START-UP NY offers these businesses the opportunity to operate tax-free for 10 years on or near eligible university or college campuses in New York State. By partnering with the college or university, the businesses gain access to advanced research laboratories, development resources, and experts in key industries. Examples of this program's progress include:

- 257 businesses accepted into the program
- 5,046 projected net new jobs (over a five-year period)
- \$235 million in investment (over a five-year period)

#### 4. Educational Partnerships.

##### a. **Current efforts - Describe what your community is currently doing to support partnerships between employers and educational institutions (especially as they relate to STEM).**

New York City's universities partner directly with employers on an individual basis and in consortiums on recruiting, research and start-up collaboration, and curriculum development. Programs like ApprenticeNYC seek to combine employment with on-the-job training and support for target industries like advanced manufacturing. In grades K-12, the City is focused on bringing employers into the development of relevant skills training early through programs like CS4All and P-Tech.

Examples of existing partnerships between higher education and employers include:

##### **COLUMBIA**

**Data Science Institute:** A \$45 million initiative with over 250 affiliated faculty members working in a wide range of disciplines, the Institute seeks to foster collaboration in advancing techniques to gather and interpret data and address urgent problems facing society. The Institute works closely with industry to bring promising ideas to market. Areas of focus include core machine learning, cybersecurity, video and speech processing, robotics, sensors, wireless communications.

*Corporate Partners:* Adobe, Bloomberg, Booz Allen Hamilton, Capital One, Cisco, Dassault, GE, Goldman Sachs, J.P. Morgan, KPMG, MediaMath, Microsoft, SAP, Synergic, Two Sigma, Unilever, Vanguard, VSP

**Artificial Intelligence Research Group:** The group conducts research on machine learning (topic modeling, graphical models, unsupervised ML, and frequent patterns mining), natural language processing (speech generation and analysis, spoken dialogue systems, mining text and speech for emotion and sentiment, machine translation, morphological and analysis), and vision/robotics (facial recognition, dexterous manipulation, and 3D modeling). This is a \$6.2M initiative.

*Corporate Partners:* Amazon, AT&T, Audible, Bloomberg, DEC, Dropbox, Ford, Google, Grammarly, IBM, Intel, Microsoft, Mitsubishi, Persado, Philips, SAP Software Solutions, The Greatest Good, Yahoo

**Supply Chain and Logistics Research Group:** The group conducts innovative research on policies for inventory control and scheduling, developing scalable algorithms for inventory and transshipment planning in very large supply chains. The group researches machine learning for consistent estimation of demand quantiles, RNN-based policies for inventory management, online platforms for transportation and logistics, smart contracts for supply chains, and reinforcement learning-based methods for managing inventories of ads. This is a \$500k initiative.

*Corporate Partners:* Amazon, Fresh Direct, Dassault, Uber, Lyft, Louis Vuitton, Mars, Google, Microsoft, and others.

## **CORNELL TECH**

**The Studio:** Every fall, leading start-ups, companies, and organizations in New York City pose Product Challenges to address the digital needs or real companies and organizations. In the spring, students embark on a start-up founding experience that includes identifying nascent markets, inventing new product ideas, engaging customers, creating and telling a compelling start-up story, and using technical and business expertise to rapidly develop new products. There are 52 challenges active in the Studio this semester. Since 2014, 38 start-ups (94% of them New York City-based) have been formed on campus by 81 founders, employing 173 people, with \$31 million in pre-seed, seed, and Series A funding raised.

*Corporate Partners:* Amazon, New York Times, Oscar Health, Two Sigma, JetBlue Technology Ventures, Bill and Melinda Gates Foundation, Weill Cornell Medical College, Memorial Sloan Kettering, Blue Ridge Labs @ Robin Hood

**Runway Startup Postdoc Program:** Part business school, part research institution, and part start-up incubator. Based at the Jacobs Technion-Cornell Institute, Runway ushers recent PhDs in digital technology fields from an academic to an entrepreneurial mindset. The program lasts from 12 to 36 months, and incorporates academic and business mentorship. Runway provides each participant a package valued at \$175,000 in the first year that includes salary, research budget, housing allowance, and work space. In addition, the Startup Postdoc receives benefits and corporate support valued at \$400,000. Since 2013, 16 companies with more than 70 employees have formed and secured more than \$19 million in investment.

*Corporate Partners:* Amazon, Google, IBM, Microsoft, Mathworks, Docsend

**Connected Experiences Lab:** The lab pursues multiple topics in connected and augmented environments, including augmented reality, recommendation systems, and content quality using methods from machine learning, human computing interaction, and social computing. For example, the initiative's work is responsible for novel ideas like Immersive Recommendation Systems, Customizable AR-based Vision Enhancement System, and Hedonic-based Computer Vision. Throughout the year, the lab hosts research discussions, collaboration between supporting entities, and a yearly daylong workshop that solicits feedback on new findings and proposed direction.

*Corporate Partners:* AOL, Verizon, Oath

**The Initiative for Cryptocurrencies & Contracts (IC3):** The initiative collaborates with domain experts in finance and banking, entrepreneurs, regulators, and open source software communities to move blockchain-based solutions from whiteboards to implementation.

*Corporate Partners:* Chain, Microsoft, Intel, Fidelity Labs, Digital Asset, IBM, Maryland Cybersecurity Center, UC Berkeley, UIUC

## **CUNY**

**The CUNY Institute for Software Design and Development (CISDD):** The institute pairs CUNY's experienced faculty members with software industry professionals and governmental institutions to sponsor and develop the research and creation of new and marketable software technologies, provides specialized professional development courses, and creates job opportunities. CISDD focuses on operating system enhancements, server-side software, Linux, security issues with software, distributed computing, logic, and visualization. Current and past projects include building HVAC systems automation, creating an MTA Express Bus red light simulation, and developing a Taxicab data and messaging system API.

*Corporate Partners:* IBM, Intel, HP, Redhat, MTA New York City Transit, NYC Fire Department, NYC Taxi & Limousine Commission, NYC Department of Education, Building Performance Lab, UNICEF

**The Engineering Technology 3-D Lab:** This lab helps local businesses gain competitive advantage through exposure to and training in the latest manufacturing technologies and techniques. Since its launch, students and faculty have developed partnerships with several companies. They worked with SAP for High Fidelity Prototyping in support of projects using the company's Design Thinking methodology. They conducted research with Memorial Sloan-Kettering Cancer Center to convert a CAT scan of a patient into a 3D model with a skull, brain, eye, skin and other soft tissue. The lab also conducted joint research with Standard Motor Products centered on the application of QCC's 3D Printing CMM Metrology facility.

*Corporate Partners:* SAP, Memorial Sloan-Kettering Cancer Center, Standard Motor

## **NEW YORK UNIVERSITY**

**NYU WIRELESS:** This lab's research covers a wide range of problems in the development of next generation wireless technology – from basic devices to networks to applications. A key focus area of NYU WIRELESS is in millimeter wave (mmWave) systems operating in the high frequency bands above 10 GHz. NYU WIRELESS has secured \$25 million of funding support.

*Corporate Partners:* AT&T, CableLabs, Huawei, Intel, L3 Communications, National Instruments, Oppo, Qualcomm, UMC, Verizon, Crown Castle, Ericsson, InterDigital, Keysight Technologies, Nextlink, Nokia, SiBeam, Sprint

**Center for Urban Science and Progress (CUSP):** CUSP integrates data and social sciences in the field of urban informatics to understand and improve cities, using New York City as its living laboratory. This understanding can remedy issues affecting the everyday lives of citizens and the long-term health and efficiency of cities — from morning commutes to emergency preparedness to air quality.

*Corporate Partners:* IBM, Microsoft, Xerox, Cisco, ConEd, Lutron, National Grid, Siemens, AECOM, Arup, IDEO, Lockheed Martin, University of Warwick, King's College London, and 16 City agencies

**The Governance Lab - GovLab:** The GovLab designs open data policies and platforms and studies the impact of open data globally. It has worked to advance public-private big-data partnerships, studied how expert networks can improve how federal agencies issue patents and examine medical devices, and pioneered the use of "smarter crowdsourcing" to tackle problems like the spread of Zika virus in Brazil and corruption in Mexico. This is an \$8 million initiative.

*Corporate Partners:* MacArthur Foundation, Omidyar Network, LJAF, MIT Media Lab

## **THE NEW SCHOOL**

**The Center for Data Arts:** Working in collaboration with scientists, humanities scholars, policy makers, and artists, CDA's research lab and creative studio works to expand the boundaries of data representation, pioneering radical new techniques for transforming complex information into meaningful narrative experiences. Using advanced real-time graphics, immersive physical environments, and virtual reality, CDA aims to integrate data with people's sensory perception of the world. CDA's practice redefines data visualization to include sound, touch, space, and motion, along with interaction and simulation, resulting in expressive multi-sensory data narratives that optimize humans' perceptual and cognitive strengths.

*Corporate Partners:* NASA Jet Propulsion Lab; BAE Systems; HP; D&B; Dow Jones; Goldman Sachs; Siemens; Venters Health Administration; Environmental Research Institute; Pacific Northwest Laboratory; Medialab of Sciences-Po, Paris; The Chair for Modern Art History at the Technische Universität Berlin; Columbia University

**XRC Labs:** XRC Labs is an innovation accelerator for the next generation of disruptors in the retail and consumer goods sectors. Sponsored by world-class retailers and brands as well as founding sponsor organizations Kurt Salmon and the Parsons School of Design at the New School, it is a design-centric innovation ecosystem for the retail and consumer goods industries. Providing workspace on the campus of Parsons, access to capital, mentoring, and operational support to emerging companies in the retail and consumer goods industries, XRC Labs runs two 14-week programs each year that bring together entrepreneurs, investors, and sponsors to foster rapid innovation and new opportunities in retail.

*Corporate Partners:* BEST BUY, Intel, Lowe's, National Retail Federation, Penguin Random House, Reebok, Shoptalk, Retail Industry Leaders Association, TJX

**Parsons Design Lab:** Competitions, hackathons, and brainstorming sessions offer a short-term, intensive engagement to source early-stage ideas. Interdisciplinary teams with students from across Parsons' five schools generate innovative and creative solutions to businesses' most compelling challenges. The Parsons Design Lab conducts in-depth design research to generate advanced prototypes and plans. Industry partnerships and support are vital, ensuring that a Parsons education fuses innovative exploration with real-world application.



*Corporate Partners:* MasterCard, Intel, Panasonic, Godiva, Cognizant, Baltimore Symphony, Hugo Boss, Share Our Strength, Ikea, Jeera Foundation, Ford, Lowes

- b. Future Proposals - Describe the big ideas your community proposes in addition to current efforts mentioned above to enhance your community's development of educational partnerships. Examples might include: a post-secondary institution partnering with the Project to establish a school or campus to support the education of tech talent; or the establishment of a K-12 magnet school on the HQ2 campus focused on STEM education.**

#### **SUMMARY OF IDEAS**

1. Develop customized curriculum for Amazon's needs through partnerships with New York City's universities.
2. Create a network of R&D centers in partnership with local universities to shape and participate in graduate level research efforts.
3. Build a "Co-Lab" for Amazon and a university partner to support applied education for students, staff, faculty, and Amazon employees.
4. Establish a faculty exchange program between Amazon and New York City's universities.
5. Partner with CUNY on programs to accelerate the number of graduates with computer science and other tech skills.
6. Partner with NYC DOE to create a "STEM Collaborative" or P-Tech program in efforts to enhance STEM education through new learning opportunities and pathways to tech jobs.

#### **IDEA #1: DEVELOP A CUSTOMIZED CURRICULUM FOR AMAZON'S NEEDS THROUGH PARTNERSHIPS WITH UNIVERSITIES**

Amazon will be able to work with New York City's educational groups to create customized curricula tailored specifically to its workforce development and recruiting needs. The curricula can vary in topic area and structure, ranging from shorter-term certificate programs to longer-term opportunities in STEM and other relevant disciplines. These partnerships will help Amazon hire and train employees at scale, while also supporting ongoing training for existing employees.

NYU's Tandon School of Engineering hosts an online degree as well as professional certificate programs in Cybersecurity through a partnership with NYC Cyber Command, Goldman Sachs, IBM, Facebook, and others. These employers provide input on curriculum and benefit from the ability to provide ongoing training and continuing education to their own employees while they remain in their current roles.

SUNY proposes an Amazon Scholars Program, where students would be automatically enrolled in the SUNY program of their choice for up to 10 courses per semester. These courses would be geared towards assisting students work towards an associate, bachelor's, or master's degree, and would provide Just-In-Time education in an area that is critical to career success. These courses would be offered at no cost to the student.

#### **IDEA #2: CREATE A NETWORK OF R&D CENTERS IN PARTNERSHIP WITH LOCAL UNIVERSITIES TO SHAPE AND PARTICIPATE IN GRADUATE-LEVEL RESEARCH EFFORTS**

Partner with universities across New York City to create cross-institutional R&D labs calibrated to satisfy Amazon's research needs. The labs could include:

- Co-located research space and equipment with potential for multiple locations around the city.
- Cross academic and corporate research teams dedicated to areas of interest to Amazon.
- Start-up accelerators to support commercialization of new technologies.
- Organized competitions for teams across universities to solve Amazon-specific technical challenges with mentorship from faculty and Amazon employees.

New York City has a strong record of success in creating similar networks in industries like media and clean-tech. An R&D network would provide Amazon with access to cutting-edge research and top talent, along with the opportunity to collaborate with New York’s top schools in defining the growth of relevant industries.

For example, the NYC Media Lab’s Combine is a technology accelerator aimed at moving university technologies from lab to market by providing teams with commercialization, education, and engagement with Media Lab member corporation resources and mentorship. In the past two years, the Combine has received over 70 applications, accepted 21 teams, and launched 15 start-ups. These start-ups have collectively raised \$2.5million in venture funding, federal grants and other investments, and employ over 60 people. Academic partners include Columbia, NYU, School of Visual Arts, The New School, CUNY, IESE, and the Pratt Institute. Industry partners include A+E Networks, Bloomberg LP, ESPN, Hearst Corporation, NBCUniversal, and Viacom. Many of these universities have expressed interest in working with Amazon on specific research areas. For example, NYU is interested in partnering with Amazon via their Augment & Virtual Reality Lab to research and deploy mixed-reality innovations for new modes of media delivery.

**IDEA #3: BUILD A “CO-LAB” FOR AMAZON AND A UNIVERSITY PARTNER, TO SUPPORT APPLIED EDUCATION FOR STUDENTS, STAFF, FACULTY, AND AMAZON EMPLOYEES**

Amazon can partner with one of New York City’s universities to build an “experiential learning lab” for students, faculty and Amazon employees. This campus could be located at Amazon or at a university, and Amazon employees would have the opportunity to work in collaboration with university faculty and students to design and execute collaborative projects that align with Amazon’s needs. Amazon employees and academic faculty could work hand-in-hand to teach and lead project teams.

**IDEA #4: ESTABLISH A FACULTY EXCHANGE PROGRAM BETWEEN AMAZON AND NEW YORK CITY’S UNIVERSITIES**

An exchange program between Amazon employees and academic faculty would facilitate research, commercialize new ideas, and provide educational opportunities to Amazon employees. These exchanges could take many forms, for example:

- **Academic research:** Collaboration on specific R&D efforts, including the commercialization of R&D through an entrepreneur-in-residence program.
- **Training and education:** Training programs in partnership with universities to teach Amazon-specific content, like Alexa programming.

New York City’s universities have set a precedent for these exchanges and look forward to the opportunity to partner with Amazon. Faculty exchanges between higher education institutions

and companies in New York City include Columbia’s research with Google on algorithms for parsing and machine translation, NYU Center for Data Science’s research with Facebook on artificial intelligence under Professor Yann LeCun, and The New School’s research with MasterCard on developing wearable tech with new methods of payment.

**IDEA #5: PARTNER WITH CUNY ON PROGRAMS TO ACCELERATE THE NUMBER OF GRADUATES WITH COMPUTER SCIENCE AND OTHER TECH SKILLS**

CUNY is the largest urban university in the country with 24 campuses across the City’s five boroughs, serving over 270,000 students. The CUNY system has propelled almost six times as many low-income students into the middle class and beyond as all eight Ivy League campuses plus Duke, M.I.T., Stanford and the University of Chicago combined.<sup>36</sup> Amazon can be a key partner in helping CUNY schools increase their graduation rates and bring diverse tech talent to scale into New York City.

Efforts in which Amazon could be a partner include:

- **Accelerate CUNY CS 2X:** The CUNY CS 2X program has a goal to doubling computer science graduates by 2022 through investments in schools, faculty, and training. Through further investments and support from partners like Amazon, this goal may be achieved even sooner.
- **Replicate CUNY CS 2X:** The CUNY CS 2X plan for investment in schools, faculty, and training can be replicated for other critical STEM disciplines like applied mathematics, data science.
- **Create High Tech Capital Investment Fund:** CUNY campuses need to be equipped with 21<sup>st</sup> century lab space to promote familiarity with state of the art tech and work environments.

Opportunities abound for Amazon to partner directly with CUNY’s schools to help develop STEM curriculum, offer tech programming mentorship programs, and more. Each neighborhood Amazon is considering for HQ2 is home to two CUNY schools. All would welcome partnerships on curriculum and programs, and most have already successfully launched relevant initiatives.

**Long Island City:**

- Two-year college: La Guardia Community College
- Four-year college: Queens College

**Midtown West:**

- Two-year college: BMCC Community College
- Four-year college: John Jay College, City College, McCaulay Honors College

**IDEA #6: PARTNER WITH NYC DOE TO CREATE A “STEM COLLABORATIVE” OR P-TECH PROGRAM IN EFFORTS TO ENHANCE STEM EDUCATION THROUGH NEW LEARNING OPPORTUNITIES AND PATHWAYS TO TECH JOBS**

**STEM Collaborative:** The City’s Department of Education is interested in partnering with Amazon and offers several initial ideas. One is the creation of a STEM Collaborative across elementary, middle, and high schools in the district that Amazon selects for HQ2. Through this collaborative, Amazon would partner with the district to offer new educational opportunities (e.g., integrated coding), tech professional programming (e.g., STEM Career Fairs), and

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<sup>36</sup> The New York Times - America’s Great Working-Class Colleges

technology infrastructure (e.g., electrical upgrades to support additional devices and hydroponic and STEM labs). There is also potential to create a learning facility in the neighborhood selected for HQ2 through a partnership of DOE, Amazon, and a university. The goal of this facility would be to provide middle and high school students with in-demand skills and broader awareness of tech careers.

**P-Tech Program:** The Pathway in Technology Early College High School (P-Tech) program combines high school and two years of an associate degree into one streamlined program to provide a clear pathway to in-demand tech jobs. Students graduate with an industry-recognized associate degree and the skills to succeed in high-growth industries. The program depends on collaboration among the school district, local universities, and employers in the area. NYC DOE, CUNY, New York City College of Technology and IBM launched the first school in September 2011 and the first cohort graduated in 2017. NYC DOE would be happy to partner with Amazon to expand and continue the success of P-TECH.

**c. Roadblocks - Describe the greatest barriers your community has faced in the deployment of STEM programs or road blocks to getting them off the ground. Describe how the Project could join your community in resolving these issues.**

In the past, barriers to deploying STEM programs have included lack of funding, space, and experienced teachers. Although there are numerous examples of successful STEM and tech programs across the City, more students and professionals are in need of new tech skills. Amazon can play a pivotal role in helping to create new programs and scale existing ones by providing expertise, job and internship opportunities, and support for the expansion of these programs.

For example, CUNY has a successful program, #CUNYCodes, that moves student teams through the software development life cycle in real time over a semester to create deployable software applications. #CUNYCodes has helped approximately 70% of its participants secure paid internships or full-time employment at Twitter, AppNexus, Healthfirst, and Goldman Sachs. In order to scale this program to more campuses, CUNY needs volunteers from the tech industry to provide software development coaching, and for more tech companies to provide internship opportunities for these students. Amazon would be a valuable partner in expanding and improving this program.

Beyond its involvement in university and post-grad tech programs, Amazon could play an important role in K-12 programs. For example, Columbia University plans to expand its K-12 STEM outreach programs now operating in the Bronx and Upper Manhattan. Columbia expanded the number of students it reaches through its STEM outreach programs from 879 in 2014 to 3,682 in 2017. Over 70% of the students in these programs live in poverty. Columbia hopes to find additional space and corporate support to reach more of New York's poorest students.

**5. Describe any places where you feel that the raw data does not tell the full story for your community. Tell us the full story. For example, if your software developer location quotient is low enough to suggest that a tech employer might struggle to recruit, but it is rapidly increasing and employers are having great success recruiting to your community right now, tell us that.**

**Perhaps your housing supply is low but your community has implemented innovative programs to address this in the future.**

### **New York City Attracts Top Talent from Around the Country and Around the Globe**

New York City benefits from its broad appeal to talented workers from across the country and around the world. For example, four out of five residents ages 23-29 who were born outside of New York State had a bachelor's degree or higher.<sup>37</sup> Every year, New York City attracts:<sup>38</sup>

- 82,500 new international, out of state New York City residents with bachelor's degrees or above
- 39,600 new international, out of state New York City residents with graduate or professional degrees

Furthermore, New York City is able to retain talent. The New York City metro area retains 71.1% of students who graduate from local four-year institutions, more than any other large metro area in the country.<sup>39</sup> About 80% of CUNY alumni remain in New York City 10 years after graduation.<sup>40</sup>

Beyond New York City's educational and employment opportunities, people want to live in New York City to have access to its vibrant cultural and entertainment scenes that are core to the City's identity. The City is home to over 800 museums and galleries, 41 Broadway theaters, and more musical performances than any other city in the world. New York City's residents live in diverse, walkable neighborhoods with great food, culture and nightlife. With New York City's strong public transit system, New Yorkers across all five boroughs can access its world-class cultural institutions, parks, and restaurants.

### **New York City's Strengths Span Every Industry**

New York City has a strong and growing technology ecosystem, but as the global commerce capital, the City also has one of the world's most diverse economies. New York City is home to more corporate headquarters than anywhere else in the country and fosters one of the largest start-up ecosystems in the world. New York City-based companies comprise the largest share of companies on Inc.'s 5000 fastest growing private companies in 2017.<sup>41</sup> The City's strengths span every sector.

This diversity of talent and industries encourages ideas to mix freely among the arts, technology, healthcare, media and advertising and finance, driving unparalleled innovation and creativity. Three examples of New York City's unparalleled sector strength are highlighted in media and creative, healthcare and life sciences and technology.

### **Media and Creative Sectors**

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<sup>37</sup> NYC Comptrollers Report on Millennials from 2016

<sup>38</sup> 2016 NYC Tech Ecosystem

<sup>39</sup> CityLab: [The U.S. Cities Winning the Battle Against Brain Drain](#)

<sup>40</sup> [CUNY website](#)

<sup>41</sup> [Office of the Mayor press release](#)

New York City’s creative industry employs almost 300,000 people,<sup>42</sup> with a bigger share of the nation’s jobs than any other industry in the city.<sup>43</sup> In the past decade, New York City overtook Los Angeles County as the largest creative business cluster in the United States.

In publishing, New York City is home to world-class book publishers.<sup>44</sup> In music, New York City is home to two of the three largest record labels in the world.<sup>45</sup> In fashion, New York City is home to more than 900 fashion company headquarters – more than double that of Paris, the closest competitor.<sup>46</sup> New York City is the only American city to host a “Big Four” fashion week, and is filled with showrooms, photo studios, industry events, and creative talent needed to grow Amazon Fashion.<sup>47</sup> In advertising, all of the top 10 advertising firms have offices in New York City.<sup>48</sup> And at U.S. award ceremonies from 2011-2014, documentaries produced by New York City companies received 96 nominations, compared with 48 for Los Angeles, nine for San Francisco, and seven for Berkeley.<sup>49</sup>

As media has evolved, New York City has responded, becoming the best place to create podcasts and produce digital content for new audiences. New York City is home to industry leaders like The New York Times and Penguin Books USA as well as newcomers like Tumblr, Vice, BuzzFeed, Big Spaceship, Spotify, and Gimlet Media. New York City has thousands of bloggers and influencers who are defining tastes and changing the way the next generation consumes content. In fact, 14%<sup>50</sup> of the money raised on Kickstarter, \$105 million<sup>51</sup> over six years, was raised by New York City-based projects, and there are currently more Etsy sellers in New York City than cab drivers.<sup>52</sup>

In the last year alone New York City announced plans for historic investments in modernizing and advancing the fashion and film industries, helping companies pioneer new manufacturing technologies and activating new spaces for design and collaboration. For example, the City is building a 460,000 square foot “Made in New York” campus in Sunset Park with space for thousands of innovators in fashion, film and TV, and other creative media fields.<sup>53</sup>

### **Healthcare and Life Sciences**

Healthcare is New York City’s largest industry, with a workforce of over 700,000<sup>54</sup> people. New York City has five major private hospital networks and the largest public health care system in the country. Furthermore, the City has nine major academic medical centers, putting the City at the forefront of healthcare education and research. Last year New York City received over \$1.6 billion in

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<sup>42</sup> [CUF Creative New York](#)

<sup>43</sup> [CUF Creative New York](#)

<sup>44</sup> Company websites

<sup>45</sup> [MOME Music Report](#)

<sup>46</sup> [Joint Economic Committee – The Economic Impact of the Fashion Industry](#) (Feb 2015)

<sup>47</sup> December 2013 EDC Advertising Report

<sup>48</sup> [Ad Brands](#)

<sup>49</sup> [BCG Report - The Media and Entertainment Industry in NYC: Trends and Recommendations for the Future](#)

<sup>50</sup> [CUF Creative New York](#)

<sup>51</sup> [CUF Creative New York](#)

<sup>52</sup> [CUF Creative New York](#)

<sup>53</sup> [Office of the Mayor press release](#)

<sup>54</sup> New York State Department of Labor; US Bureau of Labor Statistics (August 2017 Data); City Limits

NIH funding, second only to Boston.<sup>55</sup> And the City is home to exciting health startups like HealthReveal, Oscar Health, Flatiron Health, CityMD, ZocDoc and AllazoHealth.<sup>56</sup>

Pharmaceutical leaders like Pfizer and Bristol-Myers Squibb are based in New York City and others like Celgene and Regeneron Pharmaceuticals have headquarters in the metro area. Newer companies that are paving the way in the pharmaceutical ordering and delivery space, such as Capsule Pharmacy and Zipdrug, are also anchored here.<sup>57</sup>

To stay at the forefront of research and innovation in these fields, New York City is making historic investments in life sciences R&D at both the city and state level. The City and State are committed to innovation in health and life sciences, with a combined \$1.15 billion in initiatives announced in the past year. New York City's initiatives include:

- \$100 million to create a new Applied Life Sciences Campus
- \$100 million to expand the network of life sciences R&D facilities, incubators, internships, and other training programs
- \$300 million in tax incentives to attract investment in commercial lab space for life sciences businesses

## **B. Education**

- 1. Describe the educational system (from pre-K to 12 and graduate level) in high-level terms. Focus on their integration and cooperation as well as responsiveness to employer needs. If those areas are lacking, describe how your community proposes to address those deficiencies. Provide a map of each school within a 5-mile radius of each proposed real estate site.**

### **Overview of New York City's Education System**

New York City has the largest public-school system in the country, with more than 1.1 million students in over 1,800 schools<sup>58</sup>. In 2017, 74.3% of New York City's students graduated from high school, the highest graduation rate in City history<sup>59</sup>.

The NYC DOE oversees all public education in the City. As one of the key educational achievements of his first term, Mayor de Blasio expanded DOE's portfolio with the launch and subsequent expansions of Pre-K for All and 3-K for All, which has expanded citywide public education to cover two additional years in a child's life. From here, DOE's STEM education framework includes a number of innovative programs that target the youngest students in the K-12 system, exemplified by innovative programs like Explore and the Pre-K Center at the New York Science Institute. The Mayor's commitments behind citywide initiatives like Computer Science for All ensure that this momentum continues into primary secondary grade levels.

To achieve its vision to ensure that all students graduate college- and career-ready, the NYC DOE starts early in a child's life and connects into curriculum offered by CUNY and other higher education

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<sup>55</sup> [National Institutes of Health 2017 Report](#)

<sup>56</sup> Company websites

<sup>57</sup> Company websites

<sup>58</sup> NYC Department of Education (DOE) website

<sup>59</sup> 2018 State of the City

institutions. Programs like Pathways in Technology Early College High School (P-Tech) and Career & Technical Education (CTE) provide a variety of paths to college and STEM careers, accommodating students of different interests and skill levels alike.

Beyond supporting students across their educational lives, the NYC DOE has also invested in programs to train, support, and upskill teachers. With initiatives like the Software Engineering Program and STEM Institute, the City has proven that teachers of all backgrounds can be capable STEM educators and is providing them with the resources needed to train the next generation of New Yorkers.

### **Responsiveness to employer needs**

Eight industry commissions comprised of industry partners work with New York City's schools to help inform and shape the city's talent pipeline. These structures have effectively brought together Fortune 500 companies, small and medium enterprises, postsecondary institutions, and educators to offer a continuum of support, with the goal of developing a career-ready pipeline. This structure provides real-time feedback to educators on curriculum and credentialing, shapes teacher training and upskilling programs, creates access to a range of workplace learning opportunities, and leads to job placements.

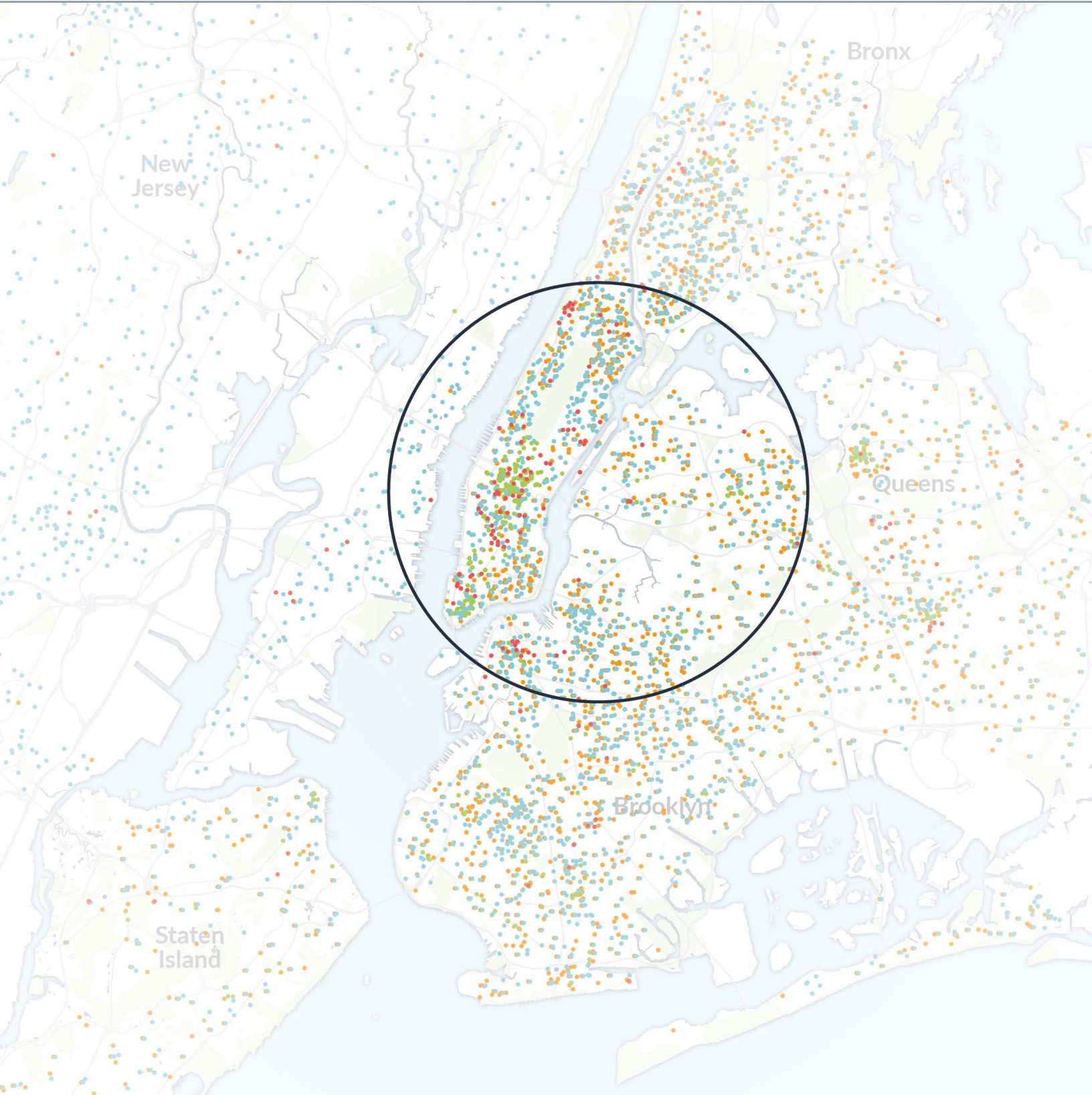
### **Map of schools within a five mile-radius of both sites**

See next page.



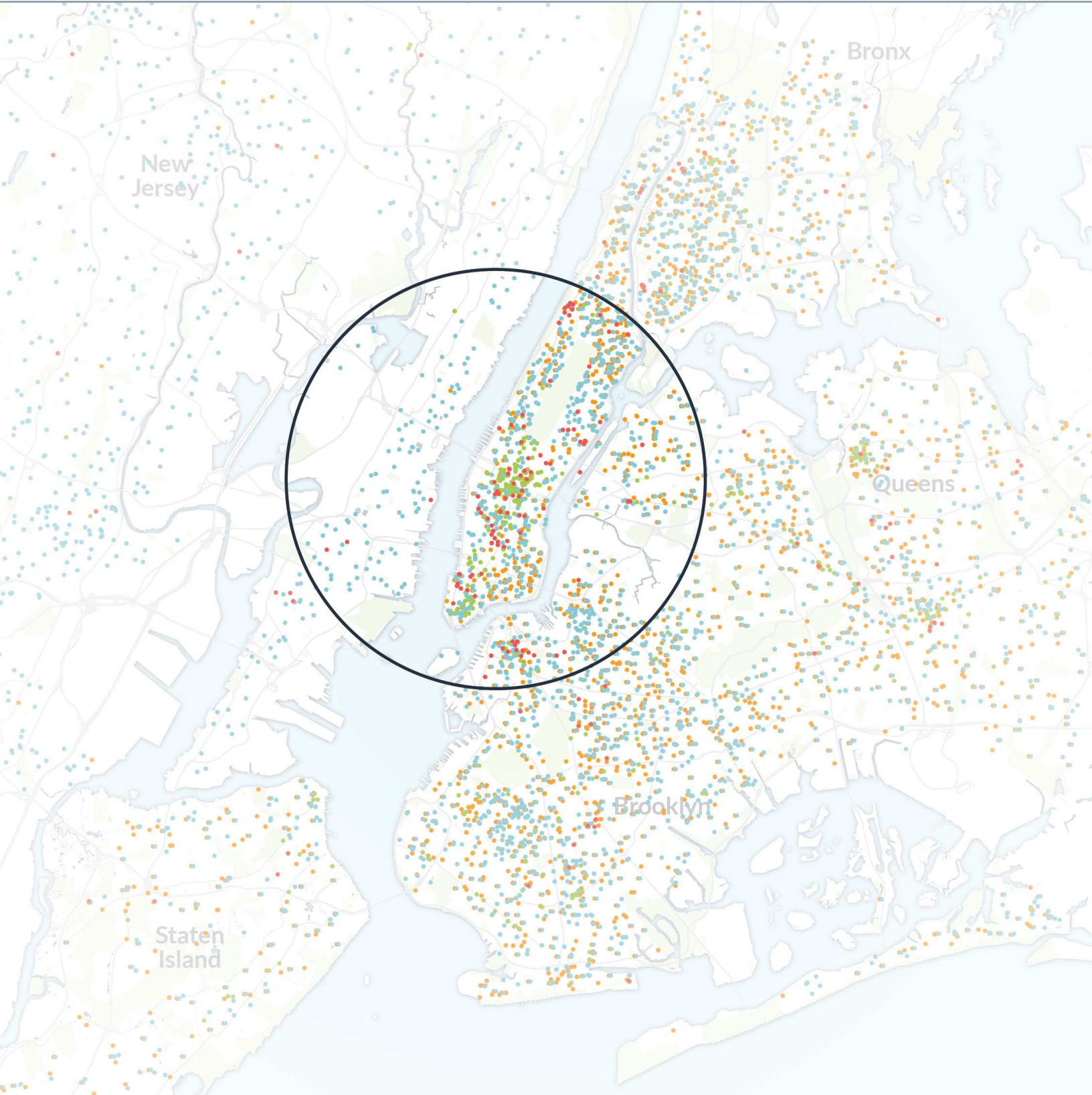
LONG ISLAND CITY APPENDIX  
**T-01** SCHOOLS WITHIN FIVE MILES

- 5 Mile Radius
- Higher Education
- Pre-Kindergarten School
- Vocational & Proprietary School
- K-12 School



MIDTOWN WEST APPENDIX  
**T-01 SCHOOLS WITHIN FIVE MILES**

- 5 Mile Radius
- Higher Education
- Pre-Kindergarten School
- Vocational & Proprietary School
- K-12 School





**2. Describe early childhood education programs in your community, especially those focusing on STEM initiatives. Be specific in your description, including name and distance to proposed real estate sites.**

Under Mayor Bill de Blasio, New York City is making an unprecedented investment in early childhood education. Learning in the City starts earlier now than ever before, with universal access to free, high-quality education for three- and four-year-olds through 3-K for All and Pre-K for All.

Since its launch in late 2014, the **Pre-K for All** initiative has expanded early childhood education to all New York City residents, increasing the number of four-year-olds enrolled in free, full-day pre-K from just over 19,000 in 2014 to 70,000 today. The expansion of Pre-K for All has more than quadrupled the number of four-year-olds enrolled in pre-K in Midtown West, and more than tripled enrollment in Long Island City.

To reach children even earlier in their development, the City built on this investment in 2017 by creating **3-K for All** – free, full day, high-quality early education for three-year-olds. It is currently deployed in six of the highest-need school districts and will expand to reach more children each year. Simultaneously, the City is undertaking a larger effort to create a unified birth-to-five system managed by DOE that will strengthen the continuum of early education citywide.

DOE has made short and long-term investments in STEM initiatives for early childhood classrooms. Hundreds of pre-K programs, including some in Long Island City and Midtown West, participate in an instructional curriculum called **Explore**. This curriculum focuses on increasing children’s critical thinking and problem-solving skills through interdisciplinary learning experiences that incorporates age-appropriate math and science topics. DOE partners with Bank Street College of Education and the University of Denver to provide targeted trainings and support to schools that offer Explore.

DOE will also open a **Pre-K Center at the New York Hall of Science (NYSci)** in 2020, bringing world class pre-K to Flushing Meadows, Queens, in a brand new, state-of-the-art facility that focuses on science, technology, engineering, arts, and mathematics (STEAM). This Pre-K Center will create a model partnership between DOE and NYSci, a leading New York cultural institution. This partnership will build on the work NYSci is already doing in the community, with STEAM programming for families with young children, professional development for early childhood educators, collaborations to expand learning resources with the New York Public Library, and interactive exhibits inside the museum. Students will be frequent visitors to the museum, using it as a learning lab.

**3. Primary, Secondary Education - Describe childhood education programs in your community focused on STEM initiatives.**

**STEM PROGRAMS IN PRIMARY EDUCATION**

**Computer Science for All (CS4All)**

CS4All will ensure that, by 2025, every New York City public school student receives a meaningful, high-quality computer science (CS) education. Over the next ten years, DOE is work with a host of partner organizations to train nearly 5,000 teachers and bring CS education to the City’s ~1.1 million public school students at every level: elementary, middle, and high school. CS4All will make New

York City the largest school district in the country to provide computer science education to all students, in every school.

Through CS4All, students will not only learn skills around computational thinking, problem solving, creativity, and critical thinking but also practice collaborating and building relationships with peers, communicating and creating with technologies, and better using technology that we interact with daily. All these skills are integral to student success in higher education, the 21<sup>st</sup> century job market, and beyond. A key goal is to increase of diversity of workers in the tech industry.

CS4All has brought all New York City organizations focused on computer science education under one clear vision. Private funds have allowed CS4All to engage 20+ curricular partners in the core work of training teachers. In addition, CS4All informally partners with CS education thought leaders from industry, higher education, and nonprofits. CS4All has truly grown into a signature citywide effort.

### **Summer STEM**

This program created an integrated learning experience for participating students that focused on project-based learning in a core STEM area (e.g., coding, robotics), as well as arts and physical education/wellness.

Students enrolled in Summer STEM have reported significant gains in STEM interest between the beginning and ending of their programs. Nearly half of the students have been female (44%) and the majority of students reported speaking a language other than English at home.

In addition to successfully increasing student interest in STEM subjects, the pilot years of Summer STEM introduced new STEM curricular partners to DOE. Given the success of the program in its first two years, DOE has scaled the program citywide starting in 2017. Going forward, it will be sustained by public funds.

### **STEM Matters Science Expo**

Science Expo is part of the STEM Matters set of citywide programs offered by DOE's Office of Curriculum, Instruction and Professional Learning. This program supports student-generated project topics and fosters opportunities for problem-solving, analyzing data, and/or designing solutions to problems. 5,127 New Yorkers attended the last Science Expo, including 4,259 students.

## **STEM PROGRAMS IN SECONDARY EDUCATION**

### **Pathways in Technology Early College High School (P-Tech)**

Since the launch of its first P-Tech school in 2011 (as a partnership between NYC DOE, CUNY, New York City College of Technology, and IBM), DOE has taken the P-Tech model citywide with seven total schools in Manhattan, Brooklyn, and Queens, and the Bronx.

Spanning grades 9-14, these schools focus specifically on college- and career-readiness by appending a community college program directly to the high school. They offer students the ability to stay in school for two additional years after grade 12 to earn college credits and an associate's degree in a STEM-related field. The range of associate's degrees available include information technology, nursing, energy technology, and electromechanical engineering. These schools also

work directly with industry partners to expose students to work-related experiences, ranging from workplace visits to mentorships and internships.

See below for a list of current P-Tech schools in New York City. Over the next two years, the City expects to open additional schools focused on cybersecurity, film and media, and other high-demand areas and is open to other partnership ideas.

### P-Tech Schools in New York City

School	Industry Partner	College Partner	Focus/Degree
Manhattan Early College School for Advertising	4A's	Borough of Manhattan Community College	Multimedia programming and Design; Animation and Motion Graphics; Video Arts and Technology
Inwood Early College for Health and Information Technologies	NY Presbyterian, Microsoft	(under review)	Information Technology; Health Information Technology; Business Administration
Health, Education and Research Occupations High School (H.E.R.O. High)	Montefiore Medical Center	Hostos Community College	Nursing; Community Health
City Polytechnic High School of Engineering, Architecture, and Technology	CH2M, NYC Transit	New York City College of Technology	Architectural Technology; Civil Engineering; Construction Management
Pathways in Technology Early College High School (P-TECH)	IBM	New York City College of Technology	Computer Information Systems; Electromechanical Engineering Technology
Business Technology Early College High School	SAP	Queensborough Community College	Business Information Technology (Computer Information Systems; Internet Information Technology)
Energy Tech High School	Con Edison, National Grid	LaGuardia Community College	Energy Technology; Electrical/Mechanical Engineering; Civil Engineering, Electrical and Mechanical Engineering (AS)

### New York City's Career and Technical Education (CTE) Program<sup>60</sup>

The mission of the City's Career and Technical Education (CTE) programs is to provide the learning and sources to ensure that all students graduate college and career ready. In supporting 300 programs that train approximately 60,000 students per year, DOE manages the largest career and technical education portfolio of any city in the world.

As of the 2017-2018 school year, New York City has over 275 CTE programs across 123 high schools. By 2018-2019, 310 programs will be available in 138 schools. Students who enroll in a CTE program

<sup>60</sup> [NYC CTE website](#)

of study will take a minimum of seven credits in technical courses. Students who successfully complete a State-approved CTE program of study can receive a CTE-endorsed Regents diploma.

Students graduate CTE programs with the following:

- Strong academic foundation that leaves them college- and career-ready
- Hands-on authentic work experience
- Industry-validated skills
- Professional relationships and “soft skills” to succeed in the workplace

The City creates and designs CTE programs in coordination with employers. Examples include:<sup>61</sup>

- Partnering with a consortium of employers in the health care industry to develop and implement employer-validated healthcare curriculum, training 1,500 students annually in the diverse health care tracks including nursing, pharmacy, vision tech, and dental tech.
- Partnering with the Greater New York Automobile Dealers Association to provide teacher externship opportunities. To date, this model has scaled across other industry verticals, including information technology, construction and engineering and culinary arts. 20-25 educators participate each summer in the program. One participating teacher may influence 100 CTE students a year and, over a career, might train close to 5,000 future employees.
- Partnering with Bank of America to sponsor CTE Summer Scholars. Now in its seventh consecutive year, the program offers summer internships for 120 juniors and seniors in software engineering, media design and information technology. Over 90% of employers hosting interns have come back for a second year, and DOE analysis has shown that program participants had a 14% higher course pass rate than a comparable group of nonparticipants, and an 8% higher attendance rate.
- Collaborating with several **direct entry apprenticeship programs to the unionized trades**. These partnerships have placed over 1,500 of our graduates in unionized apprenticeship trades with an average entry-level salary of \$67,110 and a retention rate of over 80%.

## **SUPPORT AND TRAINING PROGRAMS FOR TEACHERS AND PARENTS**

### **Software Engineering Program**

Started as a pilot program to bring a sequence of CS education into every grade level of 18 middle and high schools, the Software Engineering Program has become the cornerstone of DOE’s citywide CS4All initiative.

Through this program, DOE has built capacity to provide regular monthly trainings for a cohort of teachers from each participating school. As a result, the district has created proven methods that enable teachers from any content area and grade level to learn how to teach CS effectively.

### **iZone Short Cycle Evaluation**

The goal of this program is to simultaneously help teachers make informed decisions about education technology (ed-tech) tools that support learning and guide ed-tech companies’ product development process. It also works with research partners, such as the Education Development

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<sup>61</sup> NYC DOE internal data and information

Center, to determine the correlation between student learning outcomes and the fidelity of ed-tech product use.

Professional development sessions facilitated by iZone and representatives from ed-tech companies support teachers in successfully incorporating ed-tech software into curriculum and the classroom.

**STEM Institute**

The STEM Institute brings STEM teachers across New York City together for professional development that helps them improve their delivery of high-quality STEM instruction in the classroom. Over a two-year-period, more than 650 public schools have developed STEM education programs and 1,750 public school teachers have participated in intensive professional learning opportunities through the STEM Institute.

STEM Institutes are offered both at introductory and advanced levels. They feature external partners that facilitate deeply immersive trainings that equip teachers with strategies to pioneer a range of supports for differentiated instruction.

**FaceLab**

The goal of this program is to train parents in developing STEAM-focused lessons and activities with teachers, and support teachers in engaging students through hands-on activities. Cohorts of trained parent mentors volunteer in middle and elementary schools, serving as skilled facilitators to assist students with learning about, building, and programming complex robots.

FaceLab staff also organize and lead the off-site training program, including two five-hour training intensives, and three two-hour clinics designed to help parents develop programming and classroom management skills.

**a. If secondary school:**

- (i) Average ACT and SAT scores (provide average math, science, verbal, and total, as possible) for each of the past ten years**

**Citywide average SAT scores**

School Year	# Tested	Old SAT Format				New SAT Format			
		Avg. Total Score	Avg. Critical Reading Score	Avg. Math Score	Avg. Writing Score	# Tested	Avg. Total Score	Avg. EBRW Score	Avg. Math Section Score
2010-11	41,966	1,363	447	472	445				
2011-12	43,692	1,364	447	473	444				
2012-13	44,977	1,370	450	475	445				
2013-14	44,813	1,380	454	475	450				
2014-15	45,533	1,386	457	477	452				
2015-16	45,849	1,384	456	476	451	1,115	871	436	434
2016-17	6,574	1,690	544	604	541	47,928	997	498	499

Source: NYC DOE Internal Data; Note: The ACT is not collected regularly in New York City. Data for the SAT is only available as far back as the 2010-2011 school year.

**(ii) Graduation rates for the past ten years**

**Citywide 4-year August Graduation Rates**

Year	# in Cohort	# of Grads	Grad %
2004	75,009	45,490	60.7%
2005	77,378	48,499	62.7%
2006	78,346	51,006	65.1%
2007	79,476	52,069	65.5%
2008	79,719	51,573	64.7%
2009	78,721	51,970	66.0%
2010	75,524	51,681	68.4%
2011	74,363	52,409	70.5%
2012	74,172	54,161	73.0%
2013	73,154	54,324	74.3%

**Citywide Postsecondary Enrollment Rates**

Graduation Year	Total Cohort	Total Immediate Enrollees in Post-Secondary Options		
		Number	% of Cohort	% of Graduates
2005	75,464	26,147	34.6%	69.8%
2006	73,524	28,096	38.2%	71.3%
2007	74,836	30,197	40.4%	72.4%
2008	75,588	32,349	42.8%	71.7%
2009	77,625	34,926	45.0%	72.0%
2010	77,960	36,955	47.4%	72.3%
2011	78,226	37,873	48.4%	72.9%
2012	78,954	38,727	49.1%	75.1%
2013	78,190	39,525	50.5%	75.8%
2014	75,188	40,199	53.5%	77.5%
2015	74,286	40,646	54.7%	77.3%

Source: NYC DOE Internal Data. Note: Given that college enrollment data uses NYC DOE methodology, graduation cohorts and rates do not match publicly reported NYSED data.

**(iii) Percentage of graduates by gender and race/ethnicity matriculating to (please include for all programs and specifically for STEM programs):**

- (1) Four-year colleges or universities**
- (2) Two-year community colleges**
- (3) Vocational and technical school and programs**



**Percentage of graduates by gender**

			<b>CUNY 2 Year</b>	<b>CUNY 4 Year</b>	<b>SUNY</b>	<b>NYS Private</b>	<b>Out of State</b>
<b>Gender</b>	<b>Grad Year</b>	<b>Total Cohort</b>	<b>% of Graduates</b>	<b>% of Graduates</b>	<b>% of Graduates</b>	<b>% of Graduates</b>	<b>% of Graduates</b>
Female	2005	36,912	17.5%	17.5%	9.7%	14.7%	11.9%
Female	2006	36,834	17.7%	17.3%	9.8%	15.1%	11.9%
Female	2007	37,475	19.6%	18.4%	10.4%	14.1%	11.0%
Female	2008	37,703	20.7%	18.1%	9.6%	14.4%	10.4%
Female	2009	38,549	22.9%	15.3%	9.2%	14.7%	11.0%
Female	2010	38,620	23.2%	15.5%	9.8%	14.1%	10.5%
Female	2011	38,601	22.5%	14.6%	10.7%	14.9%	10.7%
Female	2012	38,533	23.8%	15.0%	11.7%	14.2%	10.1%
Female	2013	38,403	23.8%	15.6%	12.7%	13.4%	9.6%
Female	2014	36,746	24.4%	16.5%	13.5%	12.8%	9.7%
Female	2015	36,215	25.5%	17.1%	13.3%	12.7%	8.3%
Male	2005	38,552	17.3%	16.0%	10.4%	12.4%	9.7%
Male	2006	36,690	17.7%	14.7%	11.1%	14.2%	10.2%
Male	2007	37,361	19.9%	15.3%	11.3%	12.5%	9.2%
Male	2008	37,885	21.4%	15.1%	10.6%	11.5%	8.6%
Male	2009	39,076	22.7%	14.2%	10.0%	12.4%	9.0%
Male	2010	39,340	22.2%	13.6%	10.3%	11.9%	8.6%
Male	2011	39,625	22.6%	13.0%	10.9%	11.1%	8.7%
Male	2012	40,421	24.5%	13.6%	11.4%	11.0%	8.0%
Male	2013	39,787	24.6%	14.5%	11.9%	10.4%	7.5%
Male	2014	38,442	24.6%	15.5%	12.6%	10.2%	7.4%
Male	2015	38,071	25.4%	16.5%	12.8%	9.4%	6.1%

Source: NYC DOE Internal Data

**Percentage of graduates by race/ethnicity**

			<b>CUNY 2 Year</b>	<b>CUNY 4 Year</b>	<b>SUNY</b>	<b>NYS Private</b>	<b>Out of State</b>
<b>Race/ Ethnicity</b>	<b>Grad Year</b>	<b>Total Cohort</b>	<b>% of Grads</b>	<b>% of Grads</b>	<b>% of Grads</b>	<b>% of Grads</b>	<b>% of Grads</b>
<b>Asian</b>	2005	9,964	13.0%	27.1%	14.4%	16.7%	9.9%
<b>Asian</b>	2006	10,403	13.7%	24.9%	15.6%	18.4%	9.7%
<b>Asian</b>	2007	10,506	15.3%	27.9%	14.3%	17.5%	9.0%
<b>Asian</b>	2008	10,916	16.9%	27.9%	13.8%	18.1%	8.1%
<b>Asian</b>	2009	11,137	19.1%	27.7%	13.1%	17.1%	7.9%
<b>Asian</b>	2010	11,390	18.9%	27.3%	13.4%	17.4%	7.6%
<b>Asian</b>	2011	11,883	18.4%	27.3%	15.1%	16.2%	8.4%
<b>Asian</b>	2012	12,448	18.8%	28.2%	14.6%	16.3%	8.4%

<b>Asian</b>	2013	13,083	18.5%	27.8%	16.0%	15.4%	7.3%
<b>Asian</b>	2014	12,878	18.0%	29.8%	15.6%	15.6%	7.9%
<b>Asian</b>	2015	12,797	19.0%	31.0%	14.7%	14.5%	6.9%
<b>Black</b>	2005	26,484	17.3%	10.3%	10.0%	12.0%	12.8%
<b>Black</b>	2006	25,267	17.5%	9.8%	9.6%	12.8%	13.7%
<b>Black</b>	2007	25,689	19.1%	10.2%	10.8%	11.6%	13.2%
<b>Black</b>	2008	25,881	20.0%	9.9%	10.4%	10.9%	12.5%
<b>Black</b>	2009	26,799	21.7%	7.8%	10.1%	12.3%	13.4%
<b>Black</b>	2010	26,455	21.4%	7.1%	11.5%	11.7%	12.7%
<b>Black</b>	2011	25,840	20.9%	6.4%	11.7%	11.9%	12.2%
<b>Black</b>	2012	25,444	22.3%	6.6%	13.3%	11.4%	11.0%
<b>Black</b>	2013	24,302	22.9%	7.8%	14.2%	10.6%	10.6%
<b>Black</b>	2014	22,323	24.9%	7.9%	15.9%	9.7%	10.0%
<b>Black</b>	2015	21,954	26.6%	8.6%	16.1%	9.6%	7.7%
<b>Hispanic</b>	2005	26,400	20.8%	16.0%	6.9%	10.2%	7.0%
<b>Hispanic</b>	2006	25,860	22.1%	14.7%	6.9%	11.9%	6.5%
<b>Hispanic</b>	2007	26,998	24.6%	15.5%	7.6%	10.7%	5.3%
<b>Hispanic</b>	2008	27,968	25.3%	14.9%	7.1%	10.7%	5.6%
<b>Hispanic</b>	2009	29,146	26.8%	12.3%	6.7%	11.8%	6.0%
<b>Hispanic</b>	2010	29,562	27.6%	12.3%	6.5%	11.0%	5.5%
<b>Hispanic</b>	2011	30,344	27.3%	11.3%	7.4%	11.4%	6.1%
<b>Hispanic</b>	2012	30,508	29.8%	11.2%	8.3%	10.4%	5.6%
<b>Hispanic</b>	2013	30,089	30.3%	11.6%	8.8%	10.1%	5.0%
<b>Hispanic</b>	2014	28,826	30.3%	12.8%	10.0%	9.1%	4.8%
<b>Hispanic</b>	2015	28,715	31.1%	13.3%	10.6%	8.6%	4.1%
<b>Missing</b>	2005	109	12.1%	8.6%	6.9%	10.3%	10.3%
<b>Missing</b>	2006	107	12.2%	18.4%	12.2%	10.2%	12.2%
<b>Missing</b>	2007	839	19.1%	15.5%	12.0%	17.4%	14.9%
<b>Missing</b>	2008	449	22.3%	19.4%	11.3%	12.4%	11.7%
<b>Missing</b>	2009	278	30.1%	11.6%	7.5%	13.0%	15.1%
<b>Missing</b>	2010	124	19.4%	11.9%	11.9%	11.9%	14.9%
<b>Missing</b>	2011	34	0.0%	0.0%	0.0%	33.3%	0.0%
<b>Missing</b>	2012	37					
<b>Missing</b>	2013	48	16.7%	16.7%	16.7%	16.7%	16.7%
<b>Missing</b>	2014	46	29.4%	0.0%	5.9%	11.8%	23.5%
<b>Missing</b>	2015	56	24.1%	20.7%	13.8%	17.2%	3.4%
<b>Multi-Racial</b>	2007	5					
<b>Multi-Racial</b>	2008	14	0.0%	10.0%	30.0%	10.0%	10.0%
<b>Multi-Racial</b>	2009	63	22.2%	11.1%	8.3%	5.6%	11.1%
<b>Multi-Racial</b>	2010	107	16.8%	16.8%	10.5%	14.7%	13.7%
<b>Multi-Racial</b>	2011	47	14.6%	9.8%	9.8%	12.2%	24.4%

<b>Multi-Racial</b>	2012	85	16.9%	6.8%	15.3%	25.4%	18.6%
<b>Multi-Racial</b>	2013	79	12.5%	16.7%	12.5%	10.4%	25.0%
<b>Multi-Racial</b>	2014	167	14.0%	12.4%	17.4%	17.4%	21.5%
<b>Multi-Racial</b>	2015	222	12.0%	17.3%	14.7%	15.3%	20.0%
<b>Native American</b>	2005	237	18.1%	17.1%	6.7%	14.3%	6.7%
<b>Native American</b>	2006	244	22.1%	17.3%	7.7%	4.8%	12.5%
<b>Native American</b>	2007	208	16.7%	18.8%	10.4%	10.4%	13.5%
<b>Native American</b>	2008	244	17.7%	18.4%	7.1%	12.1%	9.9%
<b>Native American</b>	2009	292	30.1%	10.3%	8.9%	11.6%	8.9%
<b>Native American</b>	2010	334	19.9%	13.3%	9.4%	14.4%	10.5%
<b>Native American</b>	2011	376	20.6%	13.8%	7.4%	13.8%	7.9%
<b>Native American</b>	2012	424	26.4%	9.9%	9.9%	13.7%	5.2%
<b>Native American</b>	2013	444	28.9%	13.2%	8.9%	11.5%	8.1%
<b>Native American</b>	2014	501	25.9%	16.0%	7.0%	9.5%	8.6%
<b>Native American</b>	2015	597	25.0%	18.4%	10.1%	13.3%	7.3%
<b>White</b>	2005	12,270	16.8%	18.3%	10.7%	17.9%	14.4%
<b>White</b>	2006	11,643	15.4%	19.4%	11.6%	18.5%	15.2%
<b>White</b>	2007	10,591	17.5%	20.3%	12.6%	16.5%	14.2%
<b>White</b>	2008	10,116	19.3%	20.7%	11.2%	16.4%	13.8%
<b>White</b>	2009	9,910	20.3%	19.2%	10.8%	16.5%	14.9%
<b>White</b>	2010	9,988	19.5%	20.1%	10.7%	15.5%	14.4%
<b>White</b>	2011	9,702	20.1%	17.8%	11.4%	15.6%	15.2%
<b>White</b>	2012	10,008	21.8%	18.5%	11.2%	15.4%	14.3%
<b>White</b>	2013	10,145	20.5%	19.5%	11.8%	14.4%	14.6%
<b>White</b>	2014	10,447	19.8%	19.1%	11.7%	14.6%	15.0%
<b>White</b>	2015	9,945	20.0%	20.3%	11.2%	14.7%	14.0%

Source: NYC DOE Internal Data

- b. Briefly describe capital improvement plan, timetable and plan of finance for school system and other significant program providers. Include capital investment in public schools over the last ten years. Also, include information on charter and magnet schools.**

DOE has a Five-Year (2015-2019) Capital Plan Budget that includes \$15.5 billion to cover costs associated with building new schools, renovating existing buildings, and investing in other new assets within school buildings. DOE also plans a series of investments as part of its 2018-2027 ten-year strategy.

**Funding for DOE Fiscal 2015-2019 Five-Year Capital Plan**

<b>Fund Source</b>	<b>FY15</b>	<b>FY16</b>	<b>FY17</b>	<b>FY18</b>	<b>FY19</b>	<b>Total</b>
City	\$1,424,000	\$2,229,000	\$3,677,000	\$2,492,000	\$2,708,000	\$12,530,000
State	\$1,017,000	\$257,000	\$397,000	\$672,000	\$195,000	\$2,538,000
Federal/Other	\$314,000	\$135,000	\$3,000	\$0	\$0	\$452,000
<b>Total</b>	<b>\$2,755,000</b>	<b>\$2,621,000</b>	<b>\$4,077,000</b>	<b>\$3,164,000</b>	<b>\$2,903,000</b>	<b>\$15,520,000</b>

Source: DOE Fiscal 2015-2019 Five-Year Capital Plan, February 2017 Proposed Amendment

**Investments planned as part of 2018-2027 Preliminary Ten-Year Capital Strategy**

Investment	Dollars allocated	% of overall investment
Rehabilitation of School Components	\$7,658,763,000	38%
System Expansion (New Schools)	\$4,505,466,000	22%
System Expansion (Other)	\$3,126,484,000	15%
Emergency, Inspection, and Miscellaneous	\$3,049,240,000	15%
Educational Enhancements	\$1,266,940,000	6%
Smart Schools Bond Act	\$390,000,000	2%
Safety and Security	\$331,186,000	2%
Ancillary Facilities (Administration)	\$77,196,000	<1%
<b>Total</b>	<b>\$20,405,275,000</b>	<b>100%</b>

Source: NYC DOE data source

Past capital investments in public schools are detailed in the publicly available 2010-2014 Five-Year Capital Plan. This plan, which ended June 30, 2014, significantly improved the environment at schools and made great strides in reducing overcrowding and improving the quality of existing facilities. 27,200 new school seats have been or are in the process of being constructed. Projects were also completed or are currently underway at 43 buildings that experienced damage from Hurricane Sandy. The Plan also includes details on capital improvement and educational enhancements for charter and magnet schools.

Improvement projects touched all major elements of buildings (from exterior work to improve resiliency to internet-protocol digital video surveillance systems (IPDVS) installations that improve safety) and also address internal building enhancements (such as smartboard installations) to enhance instructional technology in schools. Many of the funded projects will support quality STEM instruction in schools, including a program to build new science labs in middle schools and investments that will increase bandwidth connectivity in schools to support implementation of Computer Science for All and associated programs.

- c. **Describe how education programs are funded at the municipal, county and state levels in your community as well as how and where community and private funding can be allocated.**

**Funding**

New York City schools are funded with a combination of City, State, and Federal revenue, with additional support provided by private grants. For the 2017-18 school year, NYC DOE’s total budget is \$30.8 billion. New York City provides 56% of that total and the State provides 37%, with the Federal government and other sources rounding out the remaining 7%.

**Allocations**

Funding is provided to schools via School Allocation Memorandums (SAMs). Detailed information on each funding stream’s purpose, allocation methodology, and spending restrictions can be found on DOE’s website, in the School Allocation Memorandum section. In

addition, schools may compete for grants and receive funding from state, federal and private funders.

Fair Student Funding (FSF) is the largest funding stream that most schools receive. FSF is allocated using a weighted student funding formula; funds are allocated to each school based on the grade level, academic, English language learner, and disability needs of students enrolled at that school. Schools in Citywide Special Education and Alternative programs for high school students have their own funding formulas, separate from FSF, due to their highly differentiated instructional models.

### **Fund for Public Schools**

The Fund was founded in 1982 as a 501(c)(3) not-for-profit organization to partner directly with the NYC DOE. On behalf of DOE, The Fund supports fundraising efforts and the management of donations and grants intended for school-based or central DOE implementation. The Fund ensures that the goals of all donations, including restricted grants, are implemented with fidelity to donor intent. Over its lifetime, The Fund has raised over \$440 million.

### **Community & Private Funding for STEM Programs**

- **Computer Science for All:** \$81 million initiative over 10 years (FY16-FY25).
  - \$40 million of the total will be funded privately. To date, the City has raised \$21+ million from a mix of corporate, foundation, and individual donors that are committed to the city's vision to provide CS education to every New York City public school student.
  - The City has designed the program to ensure financial sustainability over time. Private funding will support the program over 10 years in diminishing levels. By 2025, public dollars will fully support the program.
  - Private funds support budget lines that ensure the program's agility and flexibility, especially to allow CS4All to work with the best partners and to complete work efficiently. The primary goal of private funds within the STEM initiatives is to seed pilots that can develop proof points and identify best practices to scale.
  - Public funds directly support central and field-based staff capacity to oversee, plan, execute, and manage the 10-year CS4All initiative.
- **Software Engineering Program:** \$350,000 in private funds raised to launch the program.
- **Summer STEM:** \$1.16 million raised over two years (FY16 and FY17) to seed the pilot year in July 2015 and expand the program to students in grades 2-10 in July 2016.
- **iZone Short Cycle Evaluation:** \$1.8 million initiative over five years (FY14-FY18) has been established in partnership with the Bill & Melinda Gates Foundation.
- **STEM Institute:** \$890,000 in private funds raised over two years (FY17 and FY18).
- **FaceLab:** \$100,000 in private funds raised for FY18.

**d. State assessment results by performance level (basic, proficient and advanced), including:**

**(i) Two-year trend data for each subject and grade tested**

See next page.

### Citywide Grades 3-8 Performance Level: Mathematics

Grade	Year	Number Tested	Mean Scale Score	Level 1		Level 2		Level 3		Level 4		Level 3+4	
				# of students	% of students	# of students	% of students	# of students	% of students	# of students	% of students	# of students	% of students
3	2013	72,926	299	23,616	32.4%	25,137	34.5%	14,806	20.3%	9,367	12.8%	24,173	33.1%
3	2014	72,708	302	21,811	30.0%	22,804	31.4%	17,342	23.9%	10,751	14.8%	28,093	38.6%
3	2015	71,651	302	21,732	30.3%	22,315	31.1%	15,591	21.8%	12,013	16.8%	27,604	38.5%
3	2016	72,414	304	19,689	27.2%	23,029	31.8%	15,059	20.8%	14,637	20.2%	29,696	41.0%
3	2017	70,040	307	18,401	26.3%	19,443	27.8%	16,259	23.2%	15,937	22.8%	32,196	46.0%
4	2013	71,204	300	22,134	31.1%	23,984	33.7%	15,155	21.3%	9,931	13.9%	25,086	35.2%
4	2014	70,821	303	20,866	29.5%	21,649	30.6%	15,079	21.3%	13,227	18.7%	28,306	40.0%
4	2015	71,097	302	21,410	30.1%	21,876	30.8%	14,827	20.9%	12,984	18.3%	27,811	39.1%
4	2016	70,677	303	21,680	30.7%	19,727	27.9%	14,597	20.7%	14,673	20.8%	29,270	41.4%
4	2017	71,436	303	21,135	29.6%	21,697	30.4%	13,836	19.4%	14,768	20.7%	28,604	40.0%
5	2013	69,275	299	29,235	42.2%	19,548	28.2%	13,554	19.6%	6,938	10.0%	20,492	29.6%
5	2014	68,733	307	22,793	33.2%	19,312	28.1%	15,502	22.6%	11,126	16.2%	26,628	38.7%
5	2015	67,240	308	21,523	32.0%	18,217	27.1%	16,303	24.2%	11,197	16.7%	27,500	40.9%
5	2016	68,702	306	23,372	34.0%	19,540	28.4%	14,951	21.8%	10,839	15.8%	25,790	37.5%
5	2017	68,373	307	23,693	34.7%	16,765	24.5%	16,610	24.3%	11,305	16.5%	27,915	40.8%
6	2013	68,738	298	22,968	33.4%	25,964	37.8%	10,573	15.4%	9,233	13.4%	19,806	28.8%
6	2014	67,256	300	21,899	32.6%	22,642	33.7%	11,098	16.5%	11,617	17.3%	22,715	33.8%
6	2015	65,876	301	21,263	32.3%	21,229	32.2%	11,352	17.2%	12,032	18.3%	23,384	35.5%
6	2016	65,054	303	18,885	29.0%	22,183	34.1%	10,260	15.8%	13,726	21.1%	23,986	36.9%
6	2017	66,288	300	22,731	34.3%	19,617	29.6%	10,446	15.8%	13,494	20.4%	23,940	36.1%
7	2013	70,305	296	31,370	44.6%	21,367	30.4%	11,699	16.6%	5,869	8.3%	17,568	25.0%
7	2014	68,091	301	27,166	39.9%	20,768	30.5%	13,085	19.2%	7,072	10.4%	20,157	29.6%
7	2015	66,259	303	24,247	36.6%	20,475	30.9%	13,021	19.7%	8,516	12.9%	21,537	32.5%
7	2016	65,371	304	23,903	36.6%	19,221	29.4%	12,348	18.9%	9,899	15.1%	22,247	34.0%
7	2017	64,505	305	23,081	35.8%	18,273	28.3%	13,093	20.3%	10,058	15.6%	23,151	35.9%
8	2013	69,490	297	25,764	37.1%	25,835	37.2%	11,908	17.1%	5,983	8.6%	17,891	25.7%
8	2014	59,875	293	23,718	39.6%	22,527	37.6%	95,87	16.0%	4,043	6.8%	13,630	22.8%
8	2015	56,999	293	23,356	41.0%	20,846	36.6%	82,32	14.4%	4,565	8.0%	12,797	22.5%
8	2016	54,762	293	22,213	40.6%	18,841	34.4%	81,93	15.0%	5,515	10.1%	13,708	25.0%
8	2017	53,102	292	21,736	40.9%	18,497	34.8%	82,80	15.6%	4,589	8.6%	12,869	24.2%

All Grades	2013	421,938	298	155,087	36.8%	141,835	33.6%	77,695	18.4%	47,321	11.2%	125,016	29.6%
All Grades	2014	407,484	301	138,253	33.9%	129,702	31.8%	81,693	20.0%	57,836	14.2%	139,529	34.2%
All Grades	2015	399,122	302	133,531	33.5%	124,958	31.3%	79,326	19.9%	61,307	15.4%	140,633	35.2%
All Grades	2016	396,980	303	129,742	32.7%	122,541	30.9%	75,408	19.0%	69,289	17.5%	144,697	36.4%
All Grades	2017	393,744	303	130,777	33.2%	114,292	29.0%	78,524	19.9%	70,151	17.8%	148,675	37.8%

Source: NYC DOE Internal Data

### Citywide Grades 3-8 Performance Level: English Language Arts

Grade	Year	Number Tested	Mean Scale Score	Level 1		Level 2		Level 3		Level 4		Level 3+4	
				# of students	% of students	# of students	% of students	# of students	% of students	# of students	% of students	# of students	% of students
3	2013	71,839	298	27,778	38.7%	23,871	33.2%	17,622	24.5%	2,568	3.6%	20,190	28.1%
3	2014	71,389	296	27,877	39.0%	22,154	31.0%	18,603	26.1%	2,755	3.9%	21,358	29.9%
3	2015	70,320	298	26,237	37.3%	22,826	32.5%	17,534	24.9%	3,723	5.3%	21,257	30.2%
3	2016	71,055	309	19,403	27.3%	22,599	31.8%	23,577	33.2%	5,476	7.7%	29,053	40.9%
3	2017	68,406	308	19,681	28.8%	19,602	28.7%	23,234	34.0%	5,889	8.6%	29,123	42.6%
4	2013	70,116	297	23,509	33.5%	27,536	39.3%	12,913	18.4%	6,158	8.8%	19,071	27.2%
4	2014	69,644	298	22,827	32.8%	25,140	36.1%	14,412	20.7%	7,265	10.4%	21,677	31.1%
4	2015	69,695	299	22,214	31.9%	25,677	36.8%	13,828	19.8%	7,976	11.4%	21,804	31.3%
4	2016	69,426	308	16,352	23.6%	24,309	35.0%	17,328	25.0%	11,437	16.5%	28,765	41.4%
4	2017	69,941	308	16,702	23.9%	23,868	34.1%	17,067	24.4%	12,304	17.6%	29,371	42.0%
5	2013	68,198	299	24,398	35.8%	24,253	35.6%	13,701	20.1%	5,846	8.6%	19,547	28.7%
5	2014	67,614	297	24,740	36.6%	23,676	35.0%	12,628	18.7%	6,570	9.7%	19,198	28.4%
5	2015	66,329	298	23,175	34.9%	23,453	35.4%	12,763	19.2%	6,938	10.5%	19,701	29.7%
5	2016	67,536	299	24,252	35.9%	20,222	29.9%	15,352	22.7%	7,710	11.4%	23,062	34.1%
5	2017	67,157	303	22,130	33.0%	20,781	30.9%	14,566	21.7%	9,680	14.4%	24,246	36.1%
6	2013	67,712	294	23,873	35.3%	28,054	41.4%	8,651	12.8%	7,134	10.5%	15,785	23.3%
6	2014	66,061	296	20,240	30.6%	29,121	44.1%	8,703	13.2%	7,997	12.1%	16,700	25.3%
6	2015	65,048	299	20,049	30.8%	25,457	39.1%	9,913	15.2%	9,629	14.8%	19,542	30.0%
6	2016	63,880	301	17,365	27.2%	24,330	38.1%	12,445	19.5%	9,740	15.2%	22,185	34.7%
6	2017	64,965	299	19,671	30.3%	24,285	37.4%	9,839	15.1%	11,170	17.2%	21,009	32.3%
7	2013	69,012	295	25,865	37.5%	25,562	37.0%	13,256	19.2%	4,329	6.3%	17,585	25.5%
7	2014	67,104	294	25,025	37.3%	24,119	35.9%	13,942	20.8%	4,018	6.0%	17,960	26.8%
7	2015	65,635	295	24,810	37.8%	22,347	34.0%	14,717	22.4%	3,761	5.7%	18,478	28.2%
7	2016	64,549	304	16,992	26.3%	24,326	37.7%	15,403	23.9%	7,828	12.1%	23,231	36.0%
7	2017	63,681	310	12,496	19.6%	23,601	37.1%	18,143	28.5%	9,441	14.8%	27,584	43.3%
8	2013	68,380	292	25,773	37.7%	25,210	36.9%	12,592	18.4%	4,805	7.0%	17,397	25.4%
8	2014	69,447	295	22,049	31.7%	27,337	39.4%	14,227	20.5%	5,834	8.4%	20,061	28.9%
8	2015	66,326	298	19,041	28.7%	25,467	38.4%	15,822	23.9%	5,996	9.0%	21,818	32.9%
8	2016	64,493	305	14,258	22.1%	24,106	37.4%	17,439	27.0%	8,690	13.5%	26,129	40.5%
8	2017	63,298	310	11,891	18.8%	21,338	33.7%	19,299	30.5%	10,770	17.0%	30,069	47.5%



All Grades	2013	415,257	296	151,196	36.4%	154,486	37.2%	78,735	19.0%	30,840	7.4%	109,575	26.4%
All Grades	2014	411,259	296	142,758	34.7%	151,547	36.8%	82,515	20.1%	34,439	8.4%	116,954	28.4%
All Grades	2015	403,353	298	135,526	33.6%	145,227	36.0%	84,577	21.0%	38,023	9.4%	122,600	30.4%
All Grades	2016	400,939	304	108,622	27.1%	139,892	34.9%	101,544	25.3%	50,881	12.7%	152,425	38.0%
All Grades	2017	397,448	306	102,571	25.8%	133,475	33.6%	102,148	25.7%	59,254	14.9%	161,402	40.6%

Source: NYC DOE Internal Data

**Citywide Results of New York State Standardized Examinations  
in Core High School Subjects for New York City students**

<b>Regents Exam</b>	<b>Year</b>	<b>Total Tested</b>	<b>Number Passing (scoring 65+)</b>	<b>Percent Passing (scoring 65+)</b>
Algebra2/Trigonometry	2010	25,714	14,002	54.5%
Algebra2/Trigonometry	2011	31,565	16,890	53.5%
Algebra2/Trigonometry	2012	32,773	17,165	52.4%
Algebra2/Trigonometry	2013	35,406	11,639	32.9%
Algebra2/Trigonometry	2014	35,496	10,789	30.4%
Algebra2/Trigonometry	2015	33,922	17,619	51.9%
Algebra2/Trigonometry	2016	32,324	15,492	47.9%
Algebra2/Trigonometry	2017	3,293	868	26.4%
Common Core Algebra	2015	74,840	38,879	51.9%
Common Core Algebra	2016	106,052	69,092	65.1%
Common Core Algebra	2017	112,079	76,102	67.9%
Common Core Algebra2	2016	25,553	15,737	61.6%
Common Core Algebra2	2017	30,330	20,955	69.1%
Common Core English	2015	35,236	26,009	73.8%
Common Core English	2016	78,925	63,295	80.2%
Common Core English	2017	87,230	68,528	78.6%
Common Core Geometry	2015	37,510	18,664	49.8%
Common Core Geometry	2016	44,723	22,298	49.9%
Common Core Geometry	2017	54,119	27,948	51.6%
Comprehensive English	2009	83,002	58,715	70.7%
Comprehensive English	2010	89,178	66,756	74.9%
Comprehensive English	2011	97,141	75,574	77.8%
Comprehensive English	2012	92,977	69,537	74.8%
Comprehensive English	2013	126,241	45,489	36.0%
Comprehensive English	2014	135,812	56,258	41.4%
English	2015	73,247	55,997	76.4%
English	2016	11,741	5,085	43.3%
Geometry	2009	36,750	21,902	59.6%
Geometry	2010	50,739	30,571	60.3%
Geometry	2011	49,041	31,854	65.0%
Geometry	2012	53,968	34,273	63.5%
Geometry	2013	57,572	24,606	42.7%
Geometry	2014	56,105	20,163	35.9%
Geometry	2015	50,412	31,515	62.5%
Geometry	2016	6,813	1,789	26.3%
Geometry	2017	3	2	66.7%
Global History and Geography	2009	90,291	52,919	58.6%
Global History and Geography	2010	93,548	56,324	60.2%
Global History and Geography	2011	96,294	57,557	59.8%
Global History and Geography	2012	92,476	58,304	63.0%
Global History and Geography	2013	112,053	28,732	25.6%
Global History and Geography	2014	124,114	29,682	23.9%
Global History and Geography	2015	93,044	55,764	59.9%

Global History and Geography	2016	92,326	54,701	59.2%
Global History and Geography	2017	86,526	51,362	59.4%
Integrated Algebra	2009	94,903	57,855	61.0%
Integrated Algebra	2010	111,699	71,201	63.7%
Integrated Algebra	2011	113,165	72,896	64.4%
Integrated Algebra	2012	115,859	75,008	64.7%
Integrated Algebra	2013	151,756	60,002	39.5%
Integrated Algebra	2014	212,288	90,848	42.8%
Integrated Algebra	2015	57,999	34,711	59.8%
Integrated Algebra	2016	11,789	7,022	59.6%
Integrated Algebra	2017	6	4	66.7%
Living Environment	2009	88,626	59,579	67.2%
Living Environment	2010	91,925	61,696	67.1%
Living Environment	2011	90,399	64,125	70.9%
Living Environment	2012	86,365	60,690	70.3%
Living Environment	2013	106,944	36,733	34.3%
Living Environment	2014	117,038	48,260	41.2%
Living Environment	2015	88,921	61,258	68.9%
Living Environment	2016	87,822	61,486	70.0%
Living Environment	2017	88,230	58,522	66.3%
Math A	2009	27,228	13,690	50.3%
Math A	2010	213	126	59.2%
Math A	2011	22	19	86.4%
Math A	2012	4	4	100.0%
Math B	2009	26,246	15,209	57.9%
Math B	2010	7,859	3,643	46.4%
Math B	2011	34	12	35.3%
Math Other	2009	135	135	100.0%
Math Other	2010	3	2	66.7%
Physical Settings/Chemistry	2009	26,965	15,700	58.2%
Physical Settings/Chemistry	2010	26,922	15,889	59.0%
Physical Settings/Chemistry	2011	25,265	17,220	68.2%
Physical Settings/Chemistry	2012	26,685	17,181	64.4%
Physical Settings/Chemistry	2013	27,847	13,339	47.9%
Physical Settings/Chemistry	2014	28,987	11,976	41.3%
Physical Settings/Chemistry	2015	28,933	18,292	63.2%
Physical Settings/Chemistry	2016	27,959	18,158	64.9%
Physical Settings/Chemistry	2017	28,544	18,060	63.3%
Physical Settings/Earth Science	2009	42,692	23,049	54.0%
Physical Settings/Earth Science	2010	42,313	23,934	56.6%
Physical Settings/Earth Science	2011	43,164	23,129	53.6%
Physical Settings/Earth Science	2012	41,883	24,149	57.7%
Physical Settings/Earth Science	2013	42,754	13,976	32.7%
Physical Settings/Earth Science	2014	44,776	17,465	39.0%
Physical Settings/Earth Science	2015	37,621	21,310	56.6%
Physical Settings/Earth Science	2016	40,475	22,172	54.8%
Physical Settings/Earth Science	2017	40,162	21,007	52.3%

Physical Settings/Physics	2009	11,713	8,016	68.4%
Physical Settings/Physics	2010	12,443	9,166	73.7%
Physical Settings/Physics	2011	12,274	8,975	73.1%
Physical Settings/Physics	2012	13,187	9,589	72.7%
Physical Settings/Physics	2013	13,701	8,107	59.2%
Physical Settings/Physics	2014	13,526	8,087	59.8%
Physical Settings/Physics	2015	13,371	9,956	74.5%
Physical Settings/Physics	2016	13,625	9,911	72.7%
Physical Settings/Physics	2017	14,288	10,934	76.5%
Science Other	2009	105	100	95.2%
Science Other	2010	33	27	81.8%
U.S. History and Government	2009	76,590	51,948	67.8%
U.S. History and Government	2010	80,371	59,310	73.8%
U.S. History and Government	2011	82,414	59,232	71.9%
U.S. History and Government	2012	86,862	63,091	72.6%
U.S. History and Government	2013	98,185	40,391	41.1%
U.S. History and Government	2014	101,817	42,378	41.6%
U.S. History and Government	2015	76,766	58,954	76.8%
U.S. History and Government	2016	75,206	56,559	75.2%
U.S. History and Government	2017	75,746	56,197	74.2%

Source: NYC DOE Internal Data

**(ii) A comparison between annual objectives and actual performance for each student group.**

NYC DOE does not set annual objectives for student groups based on test performance. Instead, each school is evaluated on multiple measures, with the *Framework for Great Schools*, and receives annual student achievement targets. The NYCDOE would be able to provide comparison between a school’s target and the actual performance of their students. This data is also made publicly available [here](#)<sup>62</sup>.

**e. Primary and secondary school rankings at the state/national level as well as a “scatter map.**

**Top public secondary schools in New York State**

High School	Location	New York Ranking	National Ranking
High School of American Studies at Lehman College	Bronx, NY	1	17
Manhattan Bridges High School	New York, NY	2	25
High School Math Science and Engineering at CCNY	New York, NY	3	26
N/a due to reporting issue to U.S. News		4	
Staten Island Technical High School	Staten Island, NY	5	35 (tie)
High School for Dual Language and Asian Studies		6	38
Townsend Harris High School	Flushing, NY	7	44
Queens High School for the Sciences at York College	Jamaica, NY	8	45
Bronx High School of Science	Bronx, NY	9	46
New Explorations Into Science, Tech and Math High School	New York, NY	10	61
Jericho Senior High School	Jericho, NY	11	67
Brooklyn Technical High School	Brooklyn, NY	12	68
Stuyvesant High School	New York, NY	13	71
Pittsford-Mendon High School	Pittsford, NY	14	86
Rye High School	Rye, NY	15	90
Bronxville High School	Bronxville, NY	16	107
Blind Brook High School	Rye Brook, NY	17	119
Eleanor Roosevelt High School	New York, NY	18	120
Columbia Secondary School	New York, NY	19	136
Garden City High School	Garden City, NY	20	157

Source: U.S. News – 2017 Best High School Rankings

Note: Rankings for primary schools are not available.

**Top Private K-12 Schools**

Schools	Location	National Ranking
Horace Mann School	Bronx, NY	1
Trinity School	New York, NY	3
Collegiate School	New York, NY	9
Riverdale Country School	Bronx, NY	10

<sup>62</sup> <http://schools.nyc.gov/Accountability/tools/report/default.htm>

Dalton School	New York, NY	13
The Chapin School	New York, NY	21
Poly Preparatory Country Day School	Brooklyn, NY	33
Friends Seminary	New York, NY	53
Saint Ann's School	Brooklyn, NY	60
Brearley School	New York, NY	61

*Source: Niche.com, Best Private K-12 Schools in America*

**Scatter map of primary and secondary schools**

See next page.

# LONG ISLAND CITY APPENDIX

## T-02 SCHOOLS WITHIN THE NEIGHBORHOOD

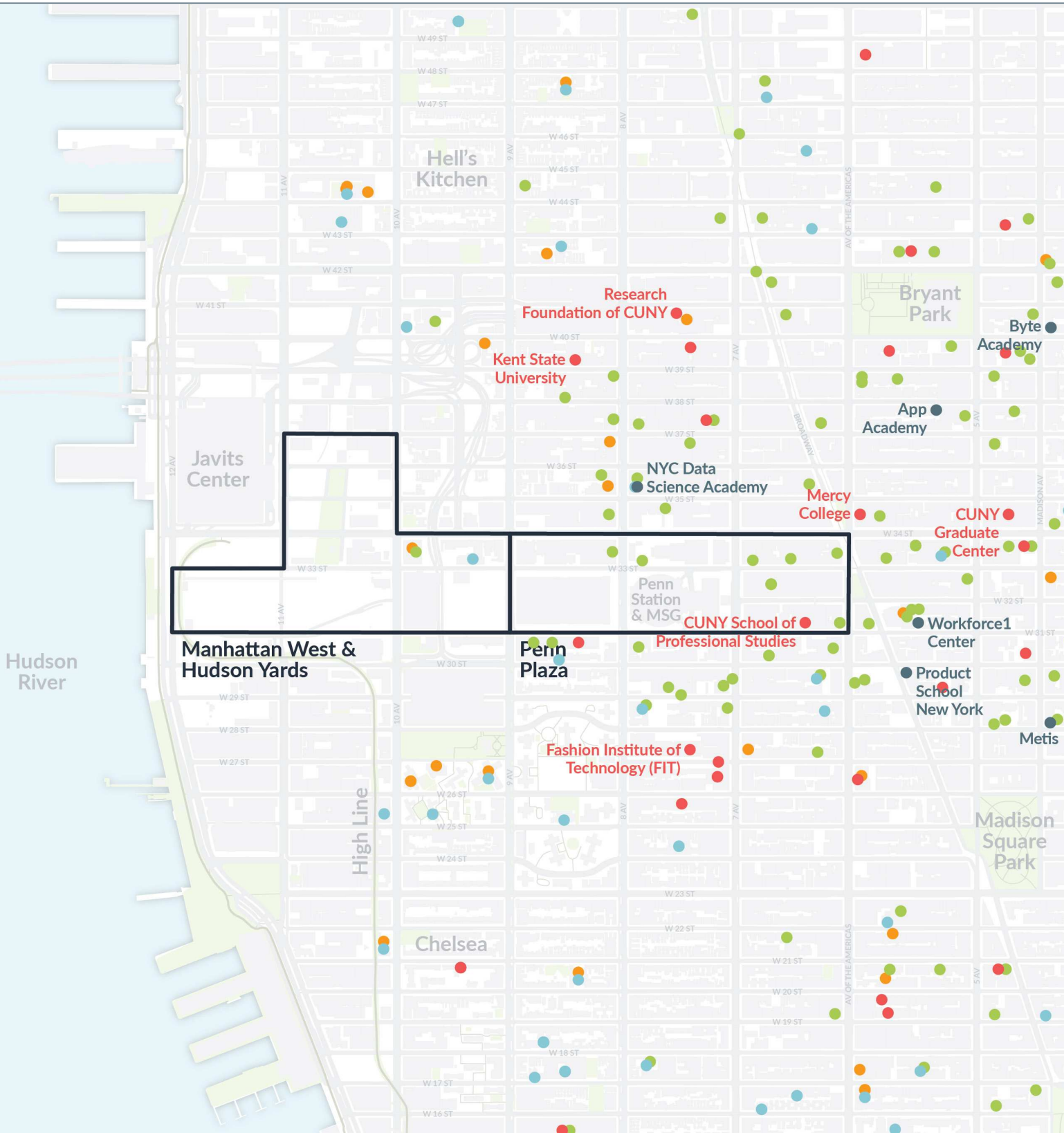
- Long Island City Site
- Higher Education
- Pre-Kindergarten School
- Vocational & Proprietary School
- K-12 School



# MIDTOWN WEST APPENDIX

## T-02 SCHOOLS WITHIN THE NEIGHBORHOOD

- 5 Mile Radius
- Higher Education
- Pre-Kindergarten School
- Vocational & Proprietary School
- K-12 School





**f. Special needs and alternative education programs (including programs currently in place, student/teacher ratios in those programs, and success measures for those programs).**

With 221,198 students, almost 20% of New York City's students in the 2016-17 school year had a disability<sup>63</sup>. For every student with a disability that requires special education services, the NYC DOE works with the students' parents to create an Individualized Education Programs (IEP) that contains information about a student's strengths and needs, and the corresponding educational program that is appropriate.

Through NYC DOE's special education initiative, *A Shared Path to Success*, the majority of students with IEPs receive their educational program in the same schools that they would attend if they did not have a disability. Through this initiative, thousands of teachers, school leaders, and other professionals have received training on and support on creating high quality IEPs, educating students with different needs, and creating inclusive classrooms and school environment. Now, students with IEPs participate in the same admissions processes as their non-disabled peers and all schools serve students with disabilities. As a result, students with IEPs are outperforming their peers across the state on standardized tests, and graduation rates have increased significantly with a significant decrease in the dropout rate. More time with peers without disabilities has also resulted in fewer absences from school, fewer referrals for disruptive behavior, and stronger college and career readiness outcomes.

Given the level and depth of services stated in a student's IEP, a student may receive support from a Special Education Teacher Support Service (SETSS), Integrated Co-Teaching (ICT) services, or Special Class (SC) services. For SETSS, a student could be working directly with a special education teacher for a certain number of periods or in an individual or small group setting. Students receiving ICT services are educated in general education classrooms with students who do not have disabilities, and two teachers (one a general educator, one a special educator) work together throughout the day to adapt instruction, so the entire class can access the general education curriculum.

DOE continues to improve the quality and grow the number of specialized programs in district schools to ensure that all students have the appropriate level of support. While their zoned or district schools serve most students with disabilities best, some require a more specialized program. DOE administers three types of specialized programs:

- **ACES (Academics, Career, and Essential Skills) programs** provide students with an opportunity to learn academic, work, and independent living skills in a special class in a district 1-32 school. To be eligible, students must be classified with an intellectual disability (ID) or multiple disabilities (MD), and participate in alternate assessment beginning in the third grade.
- **Autism Spectrum Disorder (ASD) programs** have a smaller class size that is designed to support the needs of students with Autism. There are two types of ASD programs available in district 1-32 schools:
  - **ASD Nest programs** are designed for students with Autism that need language and social skill development, but are performing on grade-level academically. Students

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<sup>63</sup> NYC DOE internal data

with Autism and students without disabilities are educated in a smaller Integrated Co-Teaching (ICT) class in a district school. The general and special education teachers are trained to design instruction for students with Autism. DOE and NYU's ASD Nest Support Project support these programs.

- **ASD Horizon programs** are designed for students with Autism whose academic abilities are approaching or below grade level. Students with Autism are educated in a Special Class (SC) with a total of eight students, one teacher and one paraprofessional (8:1+1) in a district school. The principles of Applied Behavior Analysis (ABA) are used in everyday instruction.
- **Bilingual Special Education (BSE)** is a specialized program for students whose IEPs recommend an Integrated Co-Teaching (ICT) or Special Class (SC) with a language of instruction other than English. The student's IEP team recommend BSE on a case-by-case basis.

#### **Additional options for students who are not succeeding in the standard educational environment**

Students who are 16-21 years old and have fallen behind or have dropped out of high school still have options for education. DOE offers 52 diploma-granting Transfer High Schools, serving 16,000 students, and 23 diploma-granting Young Adult Borough Centers (YABCs) that offer evening education to 5,000 students. Lastly, ~8,000 students throughout the school year participate in Pathways to Graduation, classes offered at over 90 locations to support students in achieving a High School Equivalency (HSE) diploma.

#### **g. Accelerated learning/honors and AP track programs.**

DOE is committed to ensuring that all high school graduates are ready to pursue college-level work in a variety of disciplines including math, science, and humanities courses. In fact, DOE, College Board, and National Math & Science Initiative collaborated in 2013 to launch an AP expansion initiative - providing the resources to start more than 120 new AP STEM-related courses in 55 New York City high schools and increasing the number of students studying science, technology, engineering and math.<sup>64</sup>

As part of the Mayor's Equity and Excellence agenda, AP for All will ensure that students at all high schools will have access to a slate of at least five AP classes by the fall 2021. This will prepare students to pursue. The goal of the initiative is to increase access, participation, and performance in AP courses and related examinations. In addition to working with schools to implement new AP courses, AP for All will also expand access to college-level courses in high schools with established AP programs. Additionally, the program will collaborate with Lead Higher - a program operated by Equal Opportunity Schools that is committed to increasing AP participation among students of color and low-income students - to assist schools in cultivating equitable AP course enrollment practices. More New York City schools currently participate in Lead Higher than any other school district.

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<sup>64</sup> NYC DOE press release

AP for All has already demonstrated results. This school year, the DOE Chancellor announced the highest-ever number of New York City students taking and passing AP exams. AP for All schools accounted for 32.1% of the citywide increase in students taking at least one exam and 9.8% of the increase in students passing at least one exam. These schools also account for 50.8% of the citywide increase in Black and Hispanic students taking at least one exam and 29.2% of the citywide increase in Black and Hispanic students passing at least one exam. Additionally, with support from Computer Science for All, the number of students taking an AP exam related to computer science rose more than threefold and the number of students passing an AP exam related to CS rose more than fourfold (from 1,137 students to 3,966 students). The AP Computer Science Principles exam was offered alongside the AP Computer Science exam for the first time in 2017.

#### **h. Foreign language schools in your community**

##### **(i) Languages offered**

Students in New York State must earn at least two credits of **Languages other than English (LOTE)** to graduate with a local or Regents diploma or at least six credits of LOTE to graduate with an advanced Regents diploma. Students typically complete course credits in one language but can take multiple language if appropriate given their academic needs. Languages taught across the city include but are not limited to Chinese, French, German, Italian, and Spanish.

Students may study Languages other than English (LOTE) at any point in grades K–12. For the 2018-19 academic year, DOE is planning a Foreign Language in Elementary Schools (FLES) expansion pilot program. By strengthening and increasing rigor in grade 6-12 language instruction and expanding language instruction at the elementary level, DOE will increase the number of pathways for all students and families towards multilingualism, multi-literacy, and multiculturalism. DOE is also pursuing targeted efforts to support English Language Learners in pursuing advanced study in their home language, through Advanced Placement, so that they can receive the Seal of Bi-literacy and increase their post-secondary success.

##### **(ii) Language immersion programs in regular K-12 schools (include languages offered and success measures).**

Families of the nearly 14% of New York City students that are English Language Learners can request placement in either a Dual Language (DL) or Transitional Bilingual Education (TBE) program, in addition to receiving English as a New Language (ENL) services. The goal of both programs is to educate ELL and English-proficient students to become bilingual, bi-literate, and bicultural. DOE offers bilingual programs in Chinese, Russian, Arabic, French, Bengali, Urdu, and Spanish.

In DL classes, about 50% of students are ELLs and 50% are English-proficient students – both groups of students receive instruction together in English and a target language. In TBE programs, ELLs who speak a common home language receive instruction in that language with intensive support in English. Gradually, students receive more instruction in

English and less in their home language, until they reach proficiency in English. DOE offers families guidance and support when deciding on a bilingual program for their child and will continue to increase the availability of DL and TBE programs. DL and TBE programs offer services for ELLs that help them acquire a new language while strengthening their native language.

**(iii) Cultural assimilation programs for immigrating students and their families (include success measures).**

The Expanded Success initiative focuses on introducing Culturally Responsive Educational (CRE) techniques to build institutional capacity among adults that support Black and Latino young men. The goal of the program is to change mindsets among school professionals and ensure that all key staff recognize cultural beliefs that may impact students at their school.<sup>65</sup>

#### **4. STEM Education**

**a. Describe, to the extent not already discussed above, the STEM programs currently in place in your community.**

New York City offers hundreds of STEM programs throughout the community. A few select examples are:

##### **Brooklyn STEAM Center**

DOE is developing innovative models of high quality CTE with the Brooklyn STEAM Center (BSC). BSC has three different CTE programs available for eight participating schools, serving as a “CTE hub” that emphasizes the strategic use of resources to best meet the needs of multiple schools within a campus. The shared instruction model provides all students within the campus access to the program of study. BSC will closely connect students to the work environment, to expose students to potential industry pathways and to allow students to develop the set of professional skills that will help them be successful in the workplace. Upon graduation, students will have an industry credential, a portfolio of work experience, and a network of professional contacts.

##### **STEM Summer in the City**

This program provides students with the opportunity to continue learning during the summer months by participating in STEM-oriented programs, new curriculum, and educational visits to museums and libraries. It is a five-week program offering students in grades 2-10 fun, creative, hand-on learning opportunities. Topics include coding, game design, investing with robotics and solving real-world problems with the engineering design process.

##### **NYU Center for K-12 STEM Education**

NYU’s K-12 STEM Center offers summer and afterschool programs in a variety of STEM fields. These programs work with local elementary and high school students and focus on students from demographic groups generally underrepresented in STEM disciplines, including women,

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<sup>65</sup> NYC DOE website

students of color and those from low-income backgrounds. The Applied Research Innovations in Science and Engineering program is targeted at 10<sup>th</sup> and 11<sup>th</sup> grade NYC students to offer research experience in School of Engineering faculty labs. The Central Brooklyn STEM Initiative pairs teachers from Brooklyn public schools with graduate student fellows from NYU's School of Engineering to design and co-teach classroom lessons across STEM disciplines.

- b. Describe whether your current STEM programs are selective (i.e., criteria to gain enrollment and they are not in regular K-12 schools), inclusive (anyone can enroll but separate from regular K-12 schools), or comprehensive (included in regular K-12 schools).**

NYC DOE runs a centralized admissions process for all grades – 3-K through High School. The Office of Student Enrollment makes offers to all schools through this process. All students seeking admissions into New York City public schools can participate in this admissions process. Students can list schools and programs citywide on their applications.

Application options include school-wide STEM programs and STEM programs that are part of a school's curriculum. In addition, there are eight Specialized High Schools, where students must take a separate exam to gain admissions. Six of the Specialized High Schools have a STEM focus.

- c. Describe the curriculum offered, how it is determined, how often it is reviewed and how long it takes to change the curriculum.**

New York City principals determine the instructional materials and programs that best fit in their schools to meet their students' needs. DOE supports school leaders and educators with rigorous, high-quality curricula and instructional materials, and recommends resources to schools. Some examples of the resources that DOE provides are:

**The STEM framework** is a tool offered to all schools that provides a structured approach for schools seeking to organize, develop, and implement a STEM initiative with repeatable results. It includes a readiness checklist of structures, criteria, and systems. It is not intended to be judgmental or evaluative.

**STEM Institutes** provide professional learning opportunities to support teachers and schools in identifying and developing new STEM-focused approaches to learning. 622 educators attended the 2016 Summer Institute, growing to 800 educators in the winter 2017 edition. Many nonprofit and private educational providers attend and help run interactive sessions in everything from robotics to design thinking to build teacher and school leader capacity around STEM education.

**Industry Commissions:** Schools incorporate feedback and support from DOE-assembled industry commissions to prepare New York City students for 21<sup>st</sup> century careers. These industry commissions bring together large and small companies with postsecondary institutions to articulate expectations for students who want to enter the field, support curriculum development, and organize an array of student facing engagement activities, including mentoring, hosting interns, guest speakers, supporting student competitions, and student scholarships. The commissions also convene postsecondary institutions with CTE programs to connect high school education with college-readiness and career skills.

DOE has assembled industry commissions around eight industry verticals: Automotive/Transportation; Construction and Sustainability; Culinary, Hospitality and Tourism; Healthcare; Information Technology; Media, Technology, and Design; Engineering, Architecture, and Robotics; and Business/Finance.

- d. Other student achievement indicators for STEM programs/participants to which you would like to call our attention.**

**Pathways in Technology Early College High School (P-Tech) achievement indicators**

- P-Tech schools had a 4-year graduation rate of 82% (compared to 74.3% citywide)
- 2 of the 4 schools with graduating cohorts had rates over 85%
- 3 of the 4 with graduating cohorts had rates above the citywide average

**Career and Technical Education (CTE) achievement indicators**

- CTE schools had a 4-year grad rate of 83% (compared to 74.3% citywide)
- 8 schools had graduation rates over 90%
- 28 (61% of all CTE schools) had rates above the citywide average

- e. Plans for next five to ten years for STEM programs (to the extent not discussed in subsection A above).**

DOE is always developing innovative and bold programs to prepare New York City students for modern and evolving careers. As an example of the future-looking programs that DOE is working to implement, Algebra for All will ensure that every student can complete Algebra by 9th grade, enabling enrollment in more advanced math courses in high school and better preparation for college and STEM careers. By 2022, all students will have access to Algebra in 8th grade and the associated academic support needed to build Algebra readiness before that.

**5. Colleges and Universities**

**Describe four-year colleges and universities in your community/region. Description for each college and university should include:**

- a. Name of college or university (and distance from Site)**
- b. Any research specialties that are relevant to HQ2**
- c. Number of students (by degree/program (and total of all students))**
- d. Percentage of international student enrollment**
- e. Specify degree(s) granted in STEM-related fields**
- f. Number of students graduating each year and companies at which they are working**
- g. Percentage of graduates matriculating to graduate or professional schools**
- h. Percentage of graduates employed within one year of graduation**
- i. Percentage of graduates migrating out of your community. Percentage of graduates staying in the region.**
- j. Programs and services provided to business in your community (including companies with existing partnerships with colleges/universities)**

New York City has over 100 different higher education institutions. Below are responses to questions for four of the top universities in New York City: **Columbia University, New York University, the City University of New York, and Cornell Tech**. For information on number of graduates in engineering and other academic disciplines for a broader list of New York City universities, please refer to the tables at the end of this section.

Additionally, the State University of New York (SUNY) system has 64 campuses located throughout New York – including numerous institutions in or commuting distance from New York City. SUNY schools located in New York City include the Fashion Institute of Technology, Maritime College, SUNY Downstate Medical Center, and the College of Optometry. Schools just north of New York City include Westchester Community College and Purchase College. Schools on Long Island include Nassau Community College, SUNY Old Westbury, Farmingdale State College, Suffolk County Community College, and Stony Brook University. Talent from SUNY schools in these neighboring regions, and elsewhere in New York State, provide additional recruiting pipelines for Amazon in New York City.

The school system offers over 4,345 undergraduate majors and 500+ online majors and grants 96,000 degrees every year. By moving to New York City, Amazon would have the opportunity to partner and collaborate with this entire system. Many of SUNY's schools are leaders in research areas relevant to Amazon. For example:

- **Stony Brook University** has been a pioneer in AI research exemplified by their breakthrough research in Symbolic Reasoning, computing technology for Knowledge Representation in AI, and the ubiquitous 2-D barcode reader.
- **University at Buffalo** faculty delivered one of the first commercial successes of AI in developing the system for handwritten address recognition for the United States Postal Service (USPS), led by pioneers Venu Govindaraju and Sargur Srihari.
- **SUNY Polytechnic Institute** is committed to researching and delivering the needed increases in computing performance to accelerate research in cognitive computing, a critical step in advancing AI capacity. In particular, as the size of the transistors on chip decreases, the higher the bandwidth required to get information off the chip. This can only be accomplished with high-speed photonic technology.

## **COLUMBIA UNIVERSITY**

### **Distance from HQ2 sites**

- Long Island City: ~6.4 miles (by car)
- Midtown West: ~6.0 miles (by car)

### **Research specialties relevant to HQ2**

Columbia University is a hub for innovation and data-driven approaches that are transforming almost every field of research. From artificial intelligence, natural language processing, operations research, and more, collaborations in science and engineering are helping researchers get closer to unlocking new solutions and new ways of thinking about societal and business challenges. Eugene Wu, Assistant Professor in the Department of Computer Science, just received the Amazon Research Award for his work on using machine learning and advanced visualization techniques to help

companies locate duplicate data records. This award is evidence of the relevance of Columbia's research to Amazon's business. Columbia University received \$737M in extramural research sponsorship in 2017, and developed over 3,300 inventions since 2007.

### **R&D areas of direct relevance to Amazon**

Artificial Intelligence, Supply Chain Management and Logistics, Pricing and Revenue Management, Engineering Systems, Natural Language Processing, Cognitive Computing, Machine Learning, Deep Learning and Neural Networks, Reinforcement Learning, Game Theory, Optimization, Simulation, Computer Vision, Multimedia, LIDAR, Cameras, Sensors, Imaging, AR/VR, Human Computer Interaction, Robotics, Internet of Things, Cybersecurity, Privacy, Next Generation Wireless and Mobile Networks, Optical Networks and Optical Computing, Computational Fluid Dynamics, Grid Resilience and Optimization, Unmanned Aerial Vehicles, Photonics, Transportation Engineering, Decentralized Grids, Electrochemical Energy Center, Smart Infrastructure, Business Analytics, Financial Engineering, Risk Management, Financial Economics, Marketing Science, Public Policy, International Affairs, Pricing and Revenue Management, Behavioral Economics, Global Brand Leadership, Corporate Law.

### **Degrees granted in STEM-related fields**

See list of undergraduate degrees and programs: [www.college.columbia.edu/academics/programs](http://www.college.columbia.edu/academics/programs)

### **Number of students graduating each year by degree/program**

*See tables at end of section*

### **Percentage of international students**

- Undergraduate: 17% of student population (1,522 out of 8,868 students) was international in the Fall of 2017
- Graduate: 41.4% of student population (9,770 out of 23,561 students) was international in the Fall of 2017

### **Percentage of graduates matriculating to graduate or professional schools**

- Approximately 33% of graduates matriculated directly into a graduate program
- Approximately 75% of graduates matriculate into a graduate program within ten years of graduation
- Approximately 17-19% of undergraduates at Columbia University's School of Engineering and Applied Science matriculate to a graduate or professional school within one year (Note: Based on a 65-70% response rate to an annual survey)

### **Percentage of graduates employed within one year of graduation**

- Approximately 88.4% of graduates from Columbia College and undergraduates from Columbia University's School of Engineering and Applied Science are employed or enrolled in a graduate program one year after graduation.
- At the Columbia Business School, 93% of graduates who do not matriculate directly into a full-time graduate program are employed within one year of graduation.



### **Companies at which graduates are working**

Top 50 employers include: Accenture, Amazon, American Express, American International Group Inc., AppNexus, Bank of America Merrill Lynch, Barclays Capital Blackrock Incorporated, Bloomberg LP The Boston Consulting Group, CitiGroup, Columbia University, Credit Suisse Securities (USA) LLC, Deloitte Consulting LLC, Epic Systems, Facebook, GEP, Goldman Sachs & Co., Google Inc., Harvard University, IBM Corp., Icahn Institute at Mount Sinai School of Medicine, IMS Consulting Group, Intel Corporation, JP Morgan Chase, KPMG, Marvell Semiconductor Inc., McKinsey & Company, Memorial Sloan Kettering Cancer Center, Microsoft Corp., Morgan Stanley, National Institutes of Health, New York University, Nomura Securities, Oliver Wyman, Own Venture, Port Authority of New York and New Jersey, PricewaterhouseCoopers (PwC), RBC Capital Markets, Silicon Laboratories, Societe Generale, Square, Success Academy Charter Schools, TD Securities, Teach For America, The Blackstone Group, The Boeing Company, Unilever, VMware Inc., Wells Fargo Securities, Yahoo Inc.

### **Percentage of graduates migrating out of the community + Percentage of graduates staying in the region.**

- Approximately 50% of graduates migrate out of the community. This data is consistent for both recent graduates and those who have graduated in the past 10 years.
- Approximately 78% of international graduate students from Columbia University's School of Engineering and Applied Science (SEAS) and 90% of Computer Science graduates gain employment in the United States.
- Approximately 50% of graduates stay within the region of New York, New Jersey, and Connecticut.

### **Programs and services provided to business in the community**

- **Columbia-Harlem Small Business Development Center (SBDC)**

The Columbia-Harlem SBDC is a member of a network of 24 regional small business development centers, organized through the New York State Small Business Development Center. These SBDCs deliver high quality business counseling and resources to New Yorkers who want to start a business or improve the performance of an existing business. Since its inception in 2009, the expert advisors of the Columbia-Harlem SBDC have worked directly with 2,113 businesses, helping them to invest \$28M in the area's economy, and either create or save 2,046 jobs.

Among the services provided by the Columbia-Harlem SBDC are small business workshops, intensive business education programs, credit counseling, benchmarking, financial projections, cash flow and budgeting, funding sources, marketing plans, and licensing and regulatory compliance.

In addition, the Columbia-Harlem Small Business Development Center offers specialized programs including Minority and Women Owned Business (MWBE) support and certification, anchor institution & corporate procurement, NYC Pitch Workshop series and competition, the Columbia Community Business Program (CCBP), and the Harlem Local Vendor Program (HLVP).

Through support from the University and its partners, all of the Columbia-Harlem SBDC's programs and services are offered free of charge.

- **Other local workforce development initiatives**

- Columbia University Workforce Training Program: Through its long-term expansion plan in West Harlem, Columbia has committed to provide \$750,000 to fund and support the design, development and implementation of industry response (skills-based) education and workforce development training. Currently in its early stages, the program will engage local, community-based partners to provide competency based curricula, assessment strategies, recommendations for textbooks, instructional aides and delivery strategies and include implementation training for service providers.
- Columbia Community Impact's Jobs and Education Empowerment Project (JEEP): The Jobs and Education Empowerment Project (JEEP) provides a full range of comprehensive services to the adult participants seeking to improve their professional and educational prospects. All classes are free of charge and open to adult residents of Upper Manhattan and New York City at large. Among JEEP's programmatic offerings are ESL and high school equivalency courses, test preparation services, and college readiness and career counseling.

## **NEW YORK UNIVERSITY**

### **Distance from HQ2 site**

- Long Island City: ~3.7 miles (by car)
- Midtown West: ~2.9 miles (by car)

### **Research specialties relevant to HQ2**

NYU has numerous Centers and Institutes in areas relevant to Amazon, including the following:

- CILVR Lab (Computational Intelligence, Learning, Vision, and Robotics)
- AI.Now Institute
- AI NexusLab
- Center for Urban Science and Progress
- Center for Data Science

### **Degrees granted in STEM-related fields**

See list of undergraduate degrees and programs:

[www.nyu.edu/admissions/undergraduate-admissions/majors-and-programs.html](http://www.nyu.edu/admissions/undergraduate-admissions/majors-and-programs.html)

### **Number of students graduating each year by degree/program**

*See tables at end of section*

### **Percentage of international students**

22% of the student population was international in Fall 2017

### **Percentage of graduates matriculating to graduate or professional schools**

10.5% of graduates matriculate to graduate or professional school

### **Percentage of graduates employed within one year of graduation**

86.6% of graduates are employed within one year of graduation

### **Companies at which graduates are working**

Top 50 employers include: New York University, NYU Langone Health, J.P. Morgan, New York Presbyterian, IBM, PwC, Amazon, EY, Deloitte Goldman Sachs, Citi, Memorial Sloan Kettering Cancer Center, Morgan Stanley, Mount Sinai Health System, New York City Department of Education, Bank of America, Google, Barclays, Northwell Health, Accenture, Columbia University, BlackRock, Credit Suisse, NBC Universal Media, Macy's, AIG, United Nations, BNY Mellon, Viacom, Deutsche Bank, Facebook, KPMG, Teach for America, CBS, Nielsen, Hospital for Special Surgery, Bloomberg, UBS, New York Methodist Hospital, HSBC, Conde Nast, City University of New York, RBC Capital Markets, Creative Artists Agency, American Express, SoulCycle, Con Edison, Walt Disney Company, Wells Fargo, FactSet

### **Percentage of graduates migrating out of the community + Percentage of graduates staying in the region**

- 14% of graduates migrate out of the tristate area
- 86% of graduates stay within the tristate area

### **Programs and services provided to business in the community**

NYU Tandon School of Engineering has four start-up incubators and is a member of several civic institutions, including the Brooklyn Chamber of Commerce – which is a partner on our Veterans Future Lab. Some faculty members consult with various companies and have been prime movers of new start-up companies. Each of these incubators is a New York State (NYS) Certified Business Incubator and part of the NYS Start UP NY program.

NYU Tandon School of Engineering is also home to a NYS Center for Advanced Technology in Telecommunication, designed to bring the outcomes of basic research to the NYS commercial world. The NYC Media Lab and our NYU WIRELESS research center have extensive industrial affiliates programs.

NYU Tisch School of the Arts is home to one of three NYS Digital Gaming Hubs that works to bring the gaming industry and academic together to develop the talent needed for this growing industry as well as supporting independent game developers through an incubator program.

### **CITY UNIVERSITY OF NEW YORK**

#### **Distance from HQ2 site**

The CUNY system has campuses located throughout all five boroughs of the City. Below are some of the campuses located near the two potential HQ2 campuses:

- Long Island City

- Two-year colleges: La Guardia Community College
- Four-year colleges: Queens College
- Midtown West
  - Two-year college: Borough of Manhattan Community College
  - Four-year college: John Jay College, City College, McCaulay Honors College

**Research specialties relevant to HQ2**

Software design and development, advanced manufacturing, nanoscience, and others

**Degrees granted in STEM-related fields**

See list of undergraduate degrees and programs:

[www2.cuny.edu/admissions/undergraduate/explore/programs/](http://www2.cuny.edu/admissions/undergraduate/explore/programs/)

**Number of students graduating each year by degree/program**

*See tables at end of section*

**Percentage of international students**

40% of students are foreign born

**Percentage of graduates matriculating to graduate or professional schools**

10-15% of graduates

**Percentage of graduates employed within one year of graduation**

85% of graduates

**Companies at which graduates are working**

Top 50 employers include: NYC Department of Education, J.P. Morgan Chase, NY Presbyterian Hospital, NYU Langone, Northwell Health, Citi, Mt. Sinai, NYC Health & Hospitals, Ernst & Young, Memorial Sloan Kettering, PwC, New York Police Department, Morgan Stanley, Macy's, Apple, Deloitte, U.S. Army, Starbucks, Goldman Sachs, Bank of America, ConEd, NY Life, New York Public Library, AIG, FDNY, NYC Transit, Maimonides Medical, Columbia University, Public Legal Aid (Various), Montefiore Health, NYC Department of Health, Visiting Nurse Service, Homeland Security, Legal Aid Society, NYC Department of Corrections, NYC Children's Services, TD Bank, Verizon, Richmond University Medical, IBM, Jamaica Hospital, Sephora, Research Foundation of CUNY, Coney Island Hospital, CVS, Methodist Hospital, Kingsbrook Jewish Medical, Brookdale University Hospital, NY Human Resource Admin, GAP Inc., H&M, US Postal Service, Peer Health Exchange, CAMBA, MFY Legal Services, NBC

**Percentage of graduates migrating out of the community + Percentage of graduates staying in the region.**

- 85% of students stay in the NYC region upon graduation in the 10 years post-graduation
- Over a 10-year period post-graduation, approximately 15% of graduates leave the community
  - 78% of incoming students graduated from NYC public schools

## Programs and services provided to business in the community

CUNY runs several small business development centers that help to incubate start-up organizations, create customized trainings for businesses, and provide direct hiring referrals.

## CORNELL TECH

### Distance from HQ2 site

- Long Island City: ~2.7 miles (by car)
- Midtown West: ~6.8 miles (by car)

### Research specialties relevant to HQ2

- **Human-Computer Interaction (HCI):** The HCI group at Cornell Tech studies the design, implementation, impact, and broader implications of computing technologies in everyday human activities. Examples include Shiri Azenkot's research in assistive technologies (augmented reality glasses), Nicola Dell and Tapan Parikh's work in international development, and Mor Naaman's work through the Social Technologies Lab.
- **Security & Privacy:** Cornell Tech has one of the world's leading academic research groups specializing in security, privacy, and cryptography. Known for their influence on industry, non-profit and government practice, as well as for their highly cited and award-winning research results, the group aims to have a clear, positive impact on the security status quo and to educate a new generation of students capable of innovating in the face of tomorrow's security challenges. Examples include Ari Juels and Thomas Ristenpart's blockchain research with their Initiative for CryptoCurrencies and Contracts, Rafael Pass' research in cryptography and Vitaly Shmatikov's research in AI pixilation face recognition and URL shorteners security work.
- **Artificial Intelligence:** Cornell Tech's artificial intelligence group is at the forefront of AI research, and includes world experts in computer vision, natural language processing, and machine learning. Examples include Serge Belongie's computer vision research, Visipedia, a visual encyclopedia.
- **Data & Modeling:** The data & modeling group at Cornell Tech includes quantitative researchers from a variety of backgrounds who conduct operations research and develop models for decision-making problems in a variety of areas including logistics, retail, marketing, biotech, finance, and healthcare. Examples include Huseyin Topaloglu's work on assortment planning problems in online retail operations and Vikram Krishnamurthy's statistical signal processing and controlled sensing problems work.
- **Business, Law, and Policy:** The Business, Law, and Policy group studies the interactions between technology and society, with a special focus on creating institutions to steer technologies along healthier paths. From drones to derivatives contracts, from search engines to startups, the group studies the consequences of the use and misuse of technology. Examples include James Grimmelman's work in how laws regulating software affect freedom, wealth and power, Roni Michaely's research in corporate finance, capital markets and fin-tech and Chuck Whitehead's work in venture-related transactions, financial regulation and financial technology.

### Degrees granted in STEM-related fields

See list of programs: <https://tech.cornell.edu/programs>

### **Number of students graduating each year by degree/program**

*See tables at end of section*

### **Percentage of international students**

~50% of students are international

### **Percentage of graduates matriculating to graduate or professional schools**

*N/A – Cornell Tech is a graduate school*

### **Percentage of graduates employed within one year of graduation**

100% of graduates

### **Companies at which graduates are working**

*This data is currently unavailable*

### **Percentage of graduates migrating out of the community + Percentage of graduates staying in the region**

*This data is currently unavailable*

### **Programs and services provided to business in the community**

Cornell Tech provides services to businesses in the community in a variety of ways, including the below examples of student teams working to support and solve problems for local businesses.

- **Product Studio:** Through Product Studio, students respond to real challenges from companies across industries by developing, testing, building and presenting a new product, prototype or business idea. Previous challenges have been posed by organizations as diverse as the Robin Hood Foundation, Uber, Weight Watchers and Bloomberg.
- **Remaking the City Course:** Over the course of the Fall 2017 semester, student teams were paired with Roosevelt Island organizations like the Senior Center and the Roosevelt Island Operating Corporation (RIOC) to complete two projects: (1) a service learning project; (2) a design thinking challenge. Groups worked with the organizations to understand their needs and challenges and develop technological and design solutions for them. The goal of this course was to explore technological challenges relevant to small voluntary and civic organizations, as well as to help students build relationships with Roosevelt Island's diverse people, places and organizations.

**Number of New York City university graduates – Engineering disciplines**  
(Past 3 years)

<i>B = Bachelor's</i> <i>G = Graduate</i>	Computer Science		Chemical Engineering		Civil Engineering		Electrical Engineering		Mechanical Engineering		Other Engineering		Engineering Technologies		Industrial Engineering		Materials Engineering		Total	
	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G
Barnard College	13	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	13	-
Berkeley College, New York	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	-
CUNY, Baruch College	389	127	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	389	127
CUNY, Brooklyn College	231	84	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	231	84
CUNY, City College	83	129	106	47	162	100	286	130	203	73	80	47	-	-	-	-	-	-	920	526
CUNY, Graduate Center	-	66	-	5	-	1	-	13	-	4	-	9	-	-	-	-	-	-	-	98
CUNY, Hunter College	132	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	132	-
CUNY, John Jay College of Criminal Justice	93	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	93	-
CUNY, Lehman College	200	22	-	-	-	-	-	-	-	-	-	17	-	-	-	-	-	-	200	39
CUNY, Medgar Evers College	53	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	53	-
CUNY, New York City College of Technology	472	-	-	-	-	-	-	-	-	-	-	-	315	-	-	-	-	-	787	-
CUNY, Queens College	210	39	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	210	39
CUNY, York College	109	-	-	-	-	-	-	-	-	-	-	-	33	-	-	-	-	-	142	-
Columbia University in the City of New York	273	724	132	164	171	488	136	703	182	266	158	215	-	-	12	240	19	42	1,083	2,842
Cooper Union for the Advancement of Science and Art, The	-	-	68	18	67	18	86	14	79	11	17	-	-	-	-	-	-	-	317	61
Cornell University, Graduate School of Medical Sciences	-	-	-	11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11
Fordham University	122	104	-	-	-	-	-	-	-	-	34	-	-	-	-	-	-	-	156	104

Long Island University, Brooklyn	28	23	-	-	-	-	-	-	-	-	-	-	-	62	-	-	-	-	28	85
Manhattan College	43	-	80	30	285	92	87	22	114	60	-	-	-	-	-	-	-	-	609	204
Monroe College, Bronx	257	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	257	-
New York University	314	1,629	88	14	92	161	156	514	161	72	-	42	25	53	-	101	-	-	836	2,586
Pace University, New York	195	337	1	-	-	-	-	34	-	-	-	-	97	21	-	-	-	-	293	392
Polytechnic Institute of New York University	57	240	30	18	49	98	61	239	65	23	-	26	-	-	28	118	-	4	290	766
SUNY, Downstate Medical Center	-	-	-	-	-	-	-	-	-	-	-	4	-	-	-	-	-	-	-	4
SUNY, Maritime College	-	-	-	-	-	-	41	-	118	-	170	-	-	-	72	-	-	-	401	-
School of Visual Arts, New York	185	137	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	185	137
St. Francis College	63	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	63	-
St. John's University, New York	173	-	-	-	-	-	-	-	-	-	-	-	133	-	-	-	-	-	306	-
St. Joseph's College, Brooklyn	65	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	65	-
Touro College	67	133	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	67	133
Vaughn College of Aeronautics and Technology	-	-	-	-	-	-	-	-	12	-	-	-	103	-	-	-	-	-	115	-
Wagner College	14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	14	-
Yeshiva University	23	-	-	-	-	-	-	-	-	-	8	-	-	-	-	-	-	-	31	-
<b>Total</b>	<b>3,868</b>	<b>3,794</b>	<b>505</b>	<b>307</b>	<b>826</b>	<b>958</b>	<b>853</b>	<b>1,669</b>	<b>934</b>	<b>509</b>	<b>467</b>	<b>360</b>	<b>706</b>	<b>136</b>	<b>112</b>	<b>459</b>	<b>19</b>	<b>46</b>	<b>8,290</b>	<b>8,238</b>

Source: Internal data from universities



**Number of New York City university graduates – Non-Engineering disciplines**  
(Past 3 years)

<i>B = Bachelor's G = Graduate</i>	Business / Management		Economics		Law		Accounting		Administrative		Design		Total	
	B	G	B	G	B	G	B	G	B	G	B	G	B	G
Academic Institution														
Barnard College	-	-	182	-	-	-	-	-	569	-	-	-	751	-
Berkeley College, New York	1,891	-	-	-	-	-	244	-	-	-	-	-	2,135	-
Boricua College	53	-	-	-	-	-	-	-	-	-	-	-	53	-
Brooklyn Law School	-	-	-	-	-	1,191	-	-	-	-	-	-	-	1,191
CUNY, Baruch College	6,975	2,523	191	-	-	-	1,732	660	659	253	-	-	9,557	3,436
CUNY, Brooklyn College	2,167	317	41	82	-	-	788	65	1,888	188	21	-	4,905	652
CUNY, City College	197	-	211	72	-	-	-	-	1,633	178	-	-	2,041	250
CUNY, Graduate Center	233	255	-	70	-	-	-	-	290	1,006	-	-	523	1,331
CUNY, Hunter College	386	96	253	39	-	-	386	96	3,435	399	-	-	4,460	630
CUNY, John Jay College of Criminal Justice	-	-	265	-	-	-	-	-	2,019	253	-	-	2,284	253
CUNY, Lehman College	1,067	186	125	-	-	-	424	67	1,285	-	22	-	2,923	253
CUNY, Medgar Evers College	545	-	-	-	-	-	104	-	200	-	-	-	849	-
CUNY, New York City College of Technology	461	-	-	-	-	-	-	-	-	-	6	-	467	-
CUNY, Queens College	1,604	401	668	-	-	402	1,288	362	3,102	648	215	-	6,877	1,813
CUNY, York College	569	-	43	-	-	-	203	-	873	-	-	-	1,688	-
College of Mount Saint Vincent	128	21	2	-	-	-	9	-	279	-	-	-	418	21
Columbia University in the City of New York	245	4,793	784	181	-	1,328	-	-	974	2,013	-	-	2,003	8,315
Columbia University, Teachers College	-	-	-	123	-	-	-	-	-	1,600	-	-	-	1,723
Fordham University	1,727	2,496	340	75	-	1,347	396	371	1,590	335	-	-	4,053	4,624
Jewish Theological Seminary of America	22	30	-	-	-	-	-	-	18	-	-	-	40	30
LIM College	863	195	-	-	-	-	-	-	-	-	-	-	863	195
Long Island University, Brooklyn	144	274	6	-	-	-	42	82	194	156	-	-	386	512
Manhattan College	453	79	30	-	-	-	82	39	336	-	-	-	901	118
Marymount Manhattan College	99	-	-	-	-	-	10	-	345	-	15	-	469	-
Metropolitan College of New York	189	629	-	-	-	-	-	-	38	-	-	-	227	629

Monroe College, Bronx	1,326	441	-	-	-	-	381	-	-	-	-	-	1,707	441
New School, The	-	206	19	118	-	-	-	-	344	1,041	1,375	191	1,738	1,556
New York Law School	-	-	-	-	-	1,329	-	-	-	-	-	-	-	1,329
New York School of Interior Design	-	-	-	-	-	-	-	-	-	-	140	167	140	167
New York University	2,224	6,628	1,303	254	-	1,513	35	180	2,814	2,234	-	379	6,376	11,188
Pace University, New York	1,653	1,365	64	4	-	659	422	463	1,104	315	-	-	3,243	2,806
Plaza Business Institute	97	-	-	-	-	-	-	-	-	-	-	-	97	-
Polytechnic Institute of New York University	-	19	-	-	-	-	-	-	10	-	-	-	10	19
Pratt Institute	39	24	-	-	-	-	-	-	-	324	554	232	593	580
SUNY, Fashion Institute of Technology	1,681	97	-	-	-	-	-	-	704	10	1,187	5	3,572	112
SUNY, Maritime College	426	188	-	-	-	-	-	-	-	-	-	-	426	188
School of Visual Arts, New York	-	-	-	-	-	-	-	-	120	75	577	127	697	202
St. Francis College	248	80	53	-	-	-	66	80	400	11	-	-	767	171
St. John's University, New York	1,243	1,046	81	-	-	814	350	438	1,361	371	27	-	3,062	2,669
St. Joseph's College, Brooklyn	626	284	-	-	-	-	190	83	418	-	-	-	1,234	367
Touro College	662	103	5	-	-	611	202	14	1,145	28	41	37	2,055	793
Vaughn College of Aeronautics and Technology	18	7	-	-	-	-	-	-	-	-	-	-	18	7
Wagner College	220	184	9	-	-	-	-	52	191	-	-	-	420	236
Yeshiva University	437	99	87	13	-	1,152	195	84	310	250	-	-	1,029	1,598
<b>Total</b>	<b>30,918</b>	<b>23,066</b>	<b>4,762</b>	<b>1,031</b>	-	<b>10,346</b>	<b>7,549</b>	<b>3,136</b>	<b>28,648</b>	<b>11,688</b>	<b>4,180</b>	<b>1,138</b>	<b>76,057</b>	<b>50,405</b>

Source: Internal data from universities

# REQUEST FOR INFORMATION

## Project Clancy

### GROWTH

#### A. Community

##### 1. Quality of Life

**As a proposed headquarters facility, the quality of life of the community is an important factor in our decision-making process. Quality of life impacts both our ability to recruit to the community and the satisfaction of employees working at the headquarters. Describe the quality of life in your community. Make sure to address each of the following:**

**a. Health and Fitness Opportunities (indoor and outdoor, both man-made and naturally occurring)**

New York City residents have access to many resources to help them maintain a healthy lifestyle. Those resources are making a difference: 78% of New Yorkers rate their health as excellent, very good, or good; that number is 81% in Long Island City and 84% in Midtown<sup>1</sup>.

New York City offers many **fitness opportunities**, both indoors and outdoors.

- New York City has 30,000 acres of parks that provide fitness opportunities for residents across all five boroughs. New York City has more than 1,100 miles of biking pathways and more bike commuters than any other American city.<sup>2</sup> The City is continuing to add dedicated bike lanes on an ongoing basis.
- The City is actively expanding fitness opportunities by investing in the Manhattan Greenway, with the goal of creating a contiguous, 32-mile waterfront bike path and pedestrian promenade encircling Manhattan. The City took a huge step forward toward this goal when it announced a \$100 million investment to close one of the largest gaps in Midtown East.
- New York City is home to the world's most popular marathon, with over 50,000 finishers and over 2.5 million spectators annually.<sup>3</sup> The 40-mile Five Boro Bike Tour is the largest charitable bike ride in the United States<sup>4</sup>, with 32,000 riders expected to take to the streets in May. The New York City Triathlon is one of the nation's premier urban triathlons, with a course that starts in the Hudson River and winds through Manhattan streets.
- New York City's many indoor recreational facilities include hundreds of gyms and thousands of boutique fitness classes, like SoulCycle and yoga studios. Chelsea Piers, the largest recreational facility on the City's waterfront, boasts 28 acres of bowling, a golf club, and an ice rink.<sup>5</sup>

The City has prioritized **access to fresh foods**.

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<sup>1</sup> [City Neighborhood Health Profiles](#)

<sup>2</sup> [New York Times, "More New Yorkers Opting for Life in the Bike Lane"](#)

<sup>3</sup> <https://www.forbes.com/sites/kurtbadenhausen/2017/11/04/nyc-marathon-2017-by-the-numbers/#6d8f989f41a2>

<sup>4</sup> [Bike New York website](#)

<sup>5</sup> [Chelsea Piers](#)

- The City's robust network of farmers markets, GrowNYC, has over 51 locations in the five boroughs and serves over 250,000 people per week.<sup>6</sup> New York State continues to support GrowNYC through a recent \$15 million investment and is working with the City to construct a 70,000 square foot regional food hub in the Hunts Point neighborhood of the Bronx that will greatly expand New Yorkers' access to local and regional fresh foods.<sup>7</sup>

Within **Long Island City**, Gantry Plaza State Park offers space to bike, play, and run with an incredible view of Manhattan. The parks on Roosevelt Island are a ferry or train ride away. Long Island City is also home to a YMCA gym; pilates, yoga, and cycling studios; and indoor climbing walls at Brooklyn Boulders Queensbridge and The Cliffs at LIC.

**Midtown West** offers access to the Hudson River portion of the Manhattan Waterfront Greenway, with stunning river views. The Chelsea Piers sports and entertainment complex just to the south, offers amenities that include a driving range, a year-round ice rink, a climbing wall, and an indoor pool.<sup>8</sup> The neighborhood is home to gyms, swim clubs, and cycling studios.

#### b. Cultural Activities, including Performing Arts, Fine Arts, Cultural Venues, and Festivals

New York has a rich history as the world's leading creative and cultural hub. The City invests far more in arts and culture than any other city in the country: \$330 million in fiscal year 2017, almost twice as much as Chicago, Los Angeles, and Houston combined. This is why New York consistently hosts twice as many international visitors as any other city in the US.<sup>9</sup>

Last summer, New York City released a comprehensive creative and culture plan, CreateNYC. The goal of the plan is to strengthen the city's cultural ecosystem and ensure it remains accessible to all New Yorkers. These investments, and the combined talent of New York's artists, performers, and creative professionals, mean that world-class cultural activities and resources are within reach of everyone who lives in New York.

- New York City is home to over 800 **museums and galleries**. Just in the last two years, New York City opened the new Whitney Museum of American Art in Chelsea, and the Met Breuer on the Upper East Side. These new spaces greatly expanded the City's existing galleries, which include the Metropolitan Museum of Art, the Guggenheim, the Brooklyn Museum, the American Museum of Natural History, and the New Museum.<sup>10</sup>
- Broadway's 41 **theaters** and hundreds of off-Broadway venues are home to theatrical productions, from blockbusters like "Hamilton" to innovative performances at FringeNYC.<sup>11</sup> The Theatre Development Fund operates TKTS booths offering same-day, discounted tickets.
- New York has more **musical performances** than any other city in the world, with 5 million tickets sold every year at major venues, including Madison Square Garden and the Barclays

<sup>6</sup> [Greenmarket website](#)

<sup>7</sup> [GrowNYC](#)

<sup>8</sup> [Chelsea Piers](#)

<sup>9</sup> National Travel and Tourism Office, [Statista](#)

<sup>10</sup> NYC & Co

<sup>11</sup> [NY Times](#)

Center.<sup>12</sup> The City recently announced the creation of a Nightlife Ambassador position within government. The Ambassador will lead a team that will work to ensure that small venues in the city continue to thrive and maintain good relationships with community residents and law enforcement officers.<sup>13</sup>

New York is the city of choice for some of the biggest **festivals** – over 70 official ones, along with hundreds of unofficial block parties, parades, and gatherings. Well-attended festivals include the Jazz Age Lawn Party on Governors Island, the Tribeca Film Festival, and Sakura Matsuri, the annual cherry blossom festival at Brooklyn Botanic Garden.<sup>14</sup>

**Long Island City's** many arts and culture opportunities include:

- MOMA PS1 and the Noguchi Museum, both of which draw thousands each week. The MOMA outpost is an especially popular destination in summer for its long-running “Warm Up” series of live music events.
- Local organizations that create experimental and community art, including organizations like Thalia Spanish Theater and the Chocolate Factory.

**Midtown West** is situated between two cultural hubs: Lincoln Center for the Performing Arts to the north, and Chelsea and the Meatpacking District to the south.

- Lincoln Center is the home of the internationally renowned New York Philharmonic, the Metropolitan Opera, the New York City Ballet, and the New York City Opera. The 16-acre complex offers special programming for families and children, and free outdoor performances during the summer.<sup>15</sup>
- There are 94 art galleries in Chelsea, including the Gagosian, David Zwirner and Barbara Gladstone. The Meatpacking district is home to the Whitney Museum of American Art and many top fashion designers.<sup>16</sup>

### c. **Crime**

New York City is the safest big city in the country, and its safety record continues to improve. Last year was the safest since the end of World War II, with a murder rate of about 3.4 per 100,000.<sup>17</sup>

- New York City had the lowest overall crime rate of the nation's 30 largest cities at the end of 2017, according to a report from the Brennan Center for Justice<sup>18</sup>
- This drop in crime coincides with a drop in arrests – there were 100,000 fewer arrests in 2017 than just 4 years prior in 2013.<sup>19</sup> This is in part due to NYC's Compstat program and precision policing against the worst offenders and gangs.

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<sup>12</sup> [MOME Music Report](#),

<sup>13</sup> New York Works Plan

<sup>14</sup> [Time Out New York](#)

<sup>15</sup> Lincoln Center website

<sup>16</sup> [Art Net](#)

<sup>17</sup> <https://www.amny.com/news/nyc-homicides-record-low-1.15725051>

<sup>18</sup> <https://www.brennancenter.org/publication/crime-2017-preliminary-analysis>

The City has implemented a neighborhood policing strategy, built on improved communication and trust between local police officers and community residents. Since the policy went into effect in 2015, crime has decreased, and this trend is expected to continue. For example, the number of major felony crimes fell by 5% from 2015 to 2016.<sup>20</sup>

In neighborhoods under consideration for HQ2, there has been an even steeper decline in crime over the last 15 years compared with the rest of the city (which saw a 40% drop since 2001):

- In Long Island City, crime has fallen 55% since 2001.<sup>21</sup>
- In Midtown West, crime has fallen 46% since 2001.<sup>22</sup>

**d. Housing Availability, Affordability and Quality – the availability of convenient, affordable, quality housing, both now and in the future, is an especially important component of our decision-making process. Our employees must be able to find ample housing opportunities. We are well aware of the community housing challenges that often come with economic prosperity. We are willing to partner with your community in addressing the challenges.**

New York is a city of diverse neighborhoods that support a wide variety of lifestyles. From 2000-2017, permits for more than 447,000 residential units were filed, accounting for one of the largest building booms in the city’s history and dwarfing the housing growth in other cities.<sup>23</sup> The City is committed to ensuring neighborhoods remain affordable. In *Housing New York*, the City’s affordable-housing plan, the City outlines its continued commitment to adding tens of thousands of new housing units each year.

**New York-Newark-Jersey City (MSA) Housing Stock<sup>24</sup>**

Housing units	
Number of owner-occupied housing units	3,629,453
Number of renter-occupied housing units	3,498,424
Building type	
Share of rental units that are single-family homes	10.7%
Share of rental units that are in multi-family buildings	89.3%
Bedroom type	
Share of rental units that are studios or 1 bedrooms	43.8%
Share of rental units that are 2 bedroom units	35.4%
Share of rental units that are 3+ bedroom units	20.8%

<sup>19</sup> 2018 Police Commissioner’s Report, NYPD.

<sup>20</sup> [Progress Report OneNYC 2017](#)

<sup>21</sup> NYPD Compstat reports for 108<sup>th</sup> and 114<sup>th</sup> precincts

<sup>22</sup> NYPD Compstat reports for 10<sup>th</sup> and Midtown North precincts

<sup>23</sup> [Furman Center National Rental Housing Landscape](#) 2017 (Sources: American Community Survey, IPUMS-USA, University of Minnesota, NYU Furman Center)

<sup>24</sup> [Furman Center National Rental Housing Landscape](#) 2017 (Sources: American Community Survey, IPUMS-USA, University of Minnesota, NYU Furman Center)

In a comparison of median rents across major metropolitan areas, New York City was more affordable than San Jose, San Francisco, Washington D.C., San Diego and Los Angeles. New Yorkers spend \$550 less per month on rent than residents of San Jose and \$210 less per month than residents of Washington D.C. Compared with Seattle, New Yorkers spend only \$40 more per month on rent.<sup>25</sup>

**2017 Median Residential Rent and Total Residential Stock by Metro Area<sup>26</sup>**

Metro	Median rent	Total # of rental units
San Francisco	\$1,580	801,484
Washington, D.C.	\$1,500	859,950
Los Angeles	\$1,340	2,315,974
<b>New York</b>	<b>\$1,290</b>	<b>3,653,023</b>
Boston	\$1,290	714,996
Seattle	\$1,250	590,325
Philadelphia	\$1,040	776,996
Chicago	\$990	1,345,735
Atlanta	\$970	825,782

- (i) **Current Housing Stock (availability, mix of rental versus owned, granular details on a few example neighborhoods if available, focus on [i] 3 bedroom, 2 bath, single-family homes and [ii] 1 and 2 bedroom apartments)**

**Project Area Housing Data**

	Multifamily 1-bedroom rentals <sup>27</sup>	Multifamily 2-bedroom rentals <sup>28</sup>	5-year Average Vacancy Rate <sup>29</sup>	Total Units	% Owned
Greater Long Island City and Astoria	8,936	4,269	3.8%	88,000	20%
Midtown West	16,050	8,235	3.0%	34,617	~23%

**Citywide Area Housing Data<sup>30</sup>**

Borough	Total Housing Units	1-Bedroom Units	2-Bedroom Units	3-Bedroom Units	Vacancy Rate
Manhattan	866,644	355,454	252,016	100,340	13.1%

<sup>25</sup> [Furman Center National Rental Housing Landscape](#) 2017 (Sources: American Community Survey, IPUMS-USA, University of Minnesota, NYU Furman Center)

<sup>26</sup> Furman Center MSA Data; Custom Data Pull

<sup>27</sup> Costar

<sup>28</sup> Costar

<sup>29</sup> Costar

<sup>30</sup> 2016 ACS Five Year Estimates

Brooklyn	1,021,747	288,351	353,358	228,434	8.1%
Queens	846,689	218,668	276,242	232,655	8.0%
Bronx	522,401	172,415	177,102	111,414	6.1%
Staten Island	178,603	26,595	36,566	81,201	7.0%
<b>Total</b>	<b>3,436,084</b>	<b>1,061,483</b>	<b>1,095,284</b>	<b>754,044</b>	<b>9.0%</b>

### Regional Housing Data<sup>31</sup>

<b>Geography</b>	<b>Total Housing Units</b>	<b>One Bedroom Units</b>	<b>Two Bedroom Units</b>	<b>Three Bedroom Units</b>	<b>Vacancy Rate</b>
New York City, New York	3,436,084	1,061,483	1,095,284	754,044	9.0%
Dutchess County, New York	119,023	14,655	25,764	44,201	10.1%
Nassau County, New York	467,127	41,324	68,490	174,481	5.8%
Orange County, New York	139,757	15,515	29,567	54,299	10.5%
Putnam County, New York	38,321	3,659	9,105	15,206	11.0%
Rockland County, New York	104,651	14,674	19,288	27,128	5.4%
Suffolk County, New York	570,464	49,983	95,672	214,241	14.1%
Sullivan County, New York	49,645	6,462	13,200	19,554	43.6%
Ulster County, New York	83,762	10,885	22,401	32,676	17.2%
Westchester County, New York	369,925	72,718	90,481	102,057	7.6%
Fairfield County, Connecticut	364,737	43,936	89,216	116,901	8.1%
Litchfield County, Connecticut	87,450	7,833	21,694	37,271	15.0%
New Haven County, Connecticut	362,497	52,507	107,198	129,802	9.9%
Bergen County, New Jersey	354,772	57,241	85,662	113,055	5.0%
Essex County, New Jersey	314,384	65,733	87,334	92,601	11.1%
Hudson County, New Jersey	276,087	74,796	101,617	67,712	8.8%
Hunterdon County, New Jersey	49,875	4,150	9,247	16,727	5.9%
Mercer County, New Jersey	144,171	19,955	33,528	48,462	9.7%
Middlesex County, New Jersey	298,832	47,551	83,128	90,896	5.2%
Monmouth County, New Jersey	260,222	34,706	56,191	76,094	10.5%
Morris County, New Jersey	191,081	25,736	36,903	56,661	5.9%
Ocean County, New Jersey	280,508	17,441	95,366	91,241	20.6%
Passaic County, New Jersey	176,639	21,171	56,656	57,725	8.6%
Somerset County, New Jersey	125,232	13,244	32,598	36,090	7.0%
Sussex County, New Jersey	62,236	5,235	15,026	25,021	13.8%
Union County, New Jersey	201,107	27,581	48,908	71,371	7.1%
Warren County, New Jersey	45,321	5,354	10,675	16,618	8.5%
<b>Total</b>	<b>8,973,910</b>	<b>1,815,528</b>	<b>2,440,199</b>	<b>2,582,135</b>	<b>9.5%</b>

<sup>31</sup> 2016 ACS Five Year Estimates



(ii) Options (apartment occupancy rate, condominiums, multi-family, single-family, etc.)

**Citywide Housing Stock**

	Condominium <sup>32</sup>	Multi-family units <sup>33</sup>	Single-family units <sup>34</sup>	Housing Unit Occupancy Rate <sup>35</sup>
New York City	116,134	2,612,085	516,161	91%

**Regional Housing Stock**

	Multi-family units <sup>36</sup>	Single-family units <sup>37</sup>	Housing Unit Occupancy Rate <sup>38</sup>
New York Metro Area	4,353,793	3,837,775	88.7%

(iii) Cost (apartments, condominiums, multi-family, single-family, etc. – please specifically include data on [i] 3 bedroom, 2 bath, single-family homes and [ii] 1 and 2 bedroom apartments)

**Long Island City**

Neighborhood	Average Asking Rent (1 BR)	Average Asking Rent (2 BR)
Long Island City	\$2,900	\$3,700
Neighborhood within 20 minute commute (i.e., Astoria)	\$2,000	\$2,500
NYC	\$2,700	\$3,600

**Midtown West<sup>39</sup>**

Midtown West benefits from the proximity of housing near Hudson Yards and Penn Station, and the significant amount of housing available within a short subway, commuter rail, or bus ride.

Neighborhood	Average Asking Rent (1 BR)	Average Asking Rent (2 BR)
Hudson Yards, Chelsea, and Garment District	\$3,800	\$5,400

<sup>32</sup> [2017 New York City Rent Guidelines Board Housing Report](#)

<sup>33</sup> 2016 ACS Five Year Estimates

<sup>34</sup> 2016 ACS Five Year Estimates, Total 1-unit Detached and Attached Housing Units

<sup>35</sup> 2016 ACS Five Year Estimates, Occupied Housing Units Percent

<sup>36</sup> 2016 ACS Five Year Estimates

<sup>37</sup> 2016 ACS Five Year Estimates, Total 1-unit Detached and Attached Housing Units

<sup>38</sup> 2016 ACS Five Year Estimates, Occupied Housing Units

<sup>39</sup> CoStar

Neighborhood within 20 minute commute (Harlem)	\$1,600	\$2,200
NYC	\$2,700	\$3,600

**(iv) Planned Housing Developments (that is, those publicly announced)**

New York City is consistently adding new units to its housing stock. As of February 2018, 519 new multi-family buildings are under construction, which are expected to add over 60,000 units to New York City’s available housing. The City and its real estate community continue to look for opportunities to increase the housing supply, and have recently proposed numerous developments in the Project area.

**Long Island City:**

There is significant new construction activity in Long Island City. The area is expected to add 8,000 housing units by the end of 2018 and another 11,000 units in 2019. Major projects underway include:

- Hunters Point South: A City-sponsored project that will create 5,000 units, of which 60% will be affordable to low- and moderate-income families.
- Anable Basin: Plaxall Realty has announced a waterfront project expected to bring a mixed-use development adjacent to the proposed Waterfront District. Along with creative production and light manufacturing space, 3.1 acres of public waterfront esplanade, and up to 30,000 square feet of community space, it could also accommodate up to 5,000 condos and rental units in space not utilized for Amazon’s commercial office needs.<sup>40</sup>
- TF Cornerstone’s adjacent Waterfront District development could provide 1,000 units of housing if Amazon opts to utilize other Long Island City parcels to meet its office space needs.

**Midtown West:**

Midtown West and adjacent neighborhoods have significant development underway:

- Hudson Yards and subsequent developments are expected to add over 10,000 new units to the area by 2025. Neighboring submarkets are also experiencing substantial growth.
- Hell’s Kitchen will add over 2,000 new units by the end of 2018, in developments including 606 West 57th Street and the Riverside Center project at 400 West 61st Street.

**(v) Future Housing Development (Zoning and Use Restrictions, Permitting Requirements and Timeline)**

The *Housing New York* plan encompasses a number of zoning and permitting changes that are expected to help create or preserve 300,000 affordable units throughout the City. In

<sup>40</sup> [Anable Basin Special District, Curbed NY](#)

addition, both proposed sites benefit from unique zoning rules and land use rules. In Midtown West, current zoning allows for high-density, transit-oriented, mixed-use development that permits additional residential growth. Long Island City benefits from a Special District status that establishes uniform rules on building bulk, use, and design requirements that give the neighborhood a unique sense of place.<sup>41</sup> The zoning and land use framework in Long Island City and surrounding areas allows for high-density, transit-oriented, mixed-use development with residential and commercial programming.

**(vi) Plans to improve access to affordable housing through accelerating permitting, innovative zoning, etc.**

Since Mayor de Blasio launched the *Housing New York* Plan in 2014, New York City has accelerated the construction and preservation of affordable housing to levels not seen in 30 years. This plan is the most ambitious in the nation today, and in the history of New York City, with a goal of creating or preserving 300,000 affordable homes by 2026. As a result of the Plan, the City has tripled the share of affordable housing for households earning less than \$25,000. Funding for housing construction and preservation has doubled, as has the number of homes in the City’s affordable housing lotteries each year<sup>42</sup>. Initiatives under the Plan include:

- **Mandatory Inclusionary Housing:** Developers are required to provide a percentage of affordable units within new developments or conversions of a particular size.
- **Zoning for Quality and Affordability:** Zoning regulations have been relaxed to enable construction of more affordable, varied residential buildings.
- **Open Door:** This program finances construction of co-ops and condos for households earning between approximately \$69,000 to \$112,000 (80% to 130% AMI for a family of three). Homes will be marketed to first-time homebuyers.
- **Incentive reform:** In partnership with the State, New York City is working to reform existing tax incentive programs to increase subsidies available for affordable housing.
- **Housing Development Corporation Initiatives:** The Housing Development Corporation is looking to leverage more funds through tax-exempt bond financing programs.
- **Pension Fund Investment:** The City plans to invest \$1 billion of its pension funds in affordable, moderate- and middle-income housing projects.

**(vii) Mix of rentals versus owned dwellings in your community (include three year trend data, if available)**

32% of New York homes were owner-occupied in 2016, marginally lower than the 32.2% rate in 2013.<sup>43</sup> The metropolitan region as a whole has a more even split, with 53.6% of homes reported as owner-occupied in 2016, slightly lower than the 54.2% rate in 2013. The level of home ownership varies considerably by borough:

Borough	% of homes owner-occupied in 2013	% of homes owner-occupied in 2016
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<sup>41</sup> [New York Department of City Planning](#)

<sup>42</sup> [Mayor’s Preliminary Management Report 2018](#), pg. 9

<sup>43</sup> [American Community Survey, 2016 and 2013 5 year estimates](#)

Manhattan	22.8%	23.1%
Brooklyn	29.8%	29.4%
Queens	44.2%	43.8%
Staten Island	68.6%	69%
Bronx	19.1%	19.4%

**(viii) Areas comprising the majority of available housing opportunities for Project employees**

Both Project sites will provide employees with a large number of housing options within walking distance, with more in easy cycling or public transit commutes.

**LONG ISLAND CITY**

Long Island City is one of the most walkable neighborhoods in Queens. For those employees looking to walk, or be in close proximity to the Project, Long Island City offers 88,000 housing units. Long Island City is accessible by several lines in the City’s subway system, as well as the Long Island Railroad, bringing most of the metropolitan region, and its many affordable housing options, into easy reach. Some of the closest sub-regions of the New York metro to Long Island City are:

- Midtown and Upper Manhattan. Representative neighborhoods include:
  - Upper West Side (25 minutes by subway from Court Square to 86<sup>th</sup> Street Station)
  - Chelsea (24 minutes by subway from Court Square to 23<sup>rd</sup> Street Station)
- Northern and Central Brooklyn. Representative neighborhoods include:
  - Williamsburg (9 minutes by subway from Court Square Station to Broadway Station)
  - Fort Greene (21 minutes by subway from Court Square to Fulton Street Station)
- North, Central and Eastern Queens. Representative neighborhoods include:
  - Astoria (15-20 minutes by subway from Court Square to Astoria Boulevard)
  - Forest Hills (8 minutes by subway from Court Square Station to Forest Hills Station)
- Nassau County. Representative neighborhoods include:
  - Garden City, New York (45-50 minutes by Long Island Railroad from Hunterspoint Avenue Station.)
  - Lynbrook, New York (32 minutes by Long Island Railroad from Hunterspoint Avenue Station)

**MIDTOWN WEST**

Several new residential developments are underway in Hudson Yards, bringing 10,000 new units by 2025. Midtown West provides access to multiple areas in the metropolitan region including:

- Lower Manhattan
  - Greenwich Village (13 minutes by subway from Penn Station)
  - Financial District (17 minutes by subway from Penn Station)

- Upper Manhattan
  - Upper West Side (14 minutes by subway from Penn Station)
  - Upper East Side (10 minutes by subway from Herald Square Station)
- Queens
  - Long Island City (21 minutes by subway from Penn Station)
  - Forest Hills (15 minutes by Long Island Railroad from Penn Station)
- Brooklyn
  - Brooklyn Heights (22 minutes by subway from Penn Station)
  - Williamsburg (17 minutes by subway from Penn Station)
- Westchester, New York
  - New Rochelle (30 minutes by Amtrak rail line from Penn Station)
- Bergen County, New Jersey
  - Radburn (45 minutes by NJ Transit rail line from Penn Station)
- Nassau County, New York
  - Great Neck (35 minutes by Long Island Railroad from Penn Station)
  - Garden City (45 minutes by Long Island Railroad from Penn Station)
  - Lynbrook (35 minutes by Long Island Railroad from Penn Station)

**(ix) Existing housing partnerships between the community and local companies**

While there are no formal housing partnerships with employers in New York City, the **Long Island City Partnership**, an alliance of local business and community stakeholders, would work alongside the City to help Amazon connect with housing partners and local organizations and institutions. In Midtown West, the City has previously facilitated conversations between Cornell Tech, NYU and private developers to support the creation of housing and is happy to facilitate similar conversations between Amazon and private developers.

- e. Inclusion: An inclusive workplace and community are key to Amazon. Provide data on the median earnings, unemployment, home ownership, educational attainment, and undergrad enrollment gaps for underrepresented minorities in your community. Please further provide data on hate crimes committed in your community.**

**Median Earnings**

Households	Percent of Population	Median income
One race		
White	48.8%	\$71,681
Black or African American	23.7%	\$42,602
American Indian and Alaska Native	0.4%	\$38,532
Asian	12.0%	\$59,413
Native Hawaiian and Other Pacific Islander	0.0%	\$47,072
Some other race	12.5%	N/A
Two or more races	2.6%	N/A

Source: ACS 2016

## Unemployment

	Labor Force Participation	Employment/ Population	Unemployment rate
<b>RACE</b>			
White alone	64.9%	61.9%	4.6%
Black or African American alone	61.7%	55.2%	10.4%
American Indian and Alaska Native alone	61.1%	53.3%	11.1%
Asian alone	63.1%	59.9%	5.1%
Native Hawaiian and Other Pacific Islander alone	n/a	n/a	n/a
Some other race alone	64.2%	58.6%	8.8%
Two or more races	66.1%	60.1%	9.0%
<b>HISPANIC OR LATINO ORIGIN</b>			
Hispanic or Latino origin (of any race)	62.6%	57.3%	8.3%
White alone, not Hispanic or Latino	66.3%	63.6%	4.1%
<b>SEX</b>			
Male	81.7%	76.4%	6.3%
Female	71.8%	67.0%	6.6%
<b>POVERTY STATUS (PAST 12 MONTHS)</b>			
Below poverty level	45.8%	34.7%	24.2%
At or above the poverty level	83.2%	79.3%	4.6%
<b>DISABILITY STATUS</b>			
With any disability	38.0%	32.4%	14.6%

Source: ACS 2016

## Home Ownership

	Owned with mortgage or loan	Owned free and clear	Rented	Occupied without payment of rent
White	26.2%	14.4%	57.7%	1.8%
Black or African American	24.1%	6.9%	67.4%	1.6%
American Indian	17.7%	9.9%	68.6%	3.8%
Alaska Native	15.0%	70.6%	14.4%	0.0%
American Indian and Alaska Native tribes	20.4%	10.8%	67.6%	1.2%
Asian	29.5%	14.8%	54.1%	1.6%
Native Hawaiian and Other Pacific Islander	22.4%	6.9%	68.8%	1.9%
Some Other Race	10.7%	3.0%	84.2%	2.0%
Two or More Races	22.7%	8.2%	67.4%	1.7%

Source: ACS 2011-2015

Note: Mortgage or loans includes home equity loans

## Educational Attainment

	Total Grads	Total Cohort	% Graduated
Asian	12,797	10,964	86%
Black	21,954	14,469	66%
Hispanic	28,715	18,496	64%
Missing	56	29	52%
Multi-Racial	222	150	68%
Native American	597	316	53%
White	9,945	8,151	82%

Source: NYC DOE, Class of 2015

## Undergraduate Enrollment

	Total Fall Undergrad Enrollment	Share
American Indian or Alaska Native	1,154	0.29%
Asian	57,651	14.46%
Black or African American	73,860	18.53%
Hispanic or Latino	110,237	27.65%
Native Hawaiian or Other Pacific Islander	1,207	0.30%
Other or unknown race or ethnicity	10,119	2.54%
Temporary resident	28,955	7.26%
Two or more races	7,435	1.86%
White	108,080	27.11%

Source: NCES Population of Institutions

**Hate Crimes<sup>44</sup>:** Hate crimes decreased slightly in New York City, to 369 in 2016 from 376 in 2012.<sup>45</sup> The State and the City remain committed to further reducing hate crimes despite a slight uptick in 2017. Recent steps taken include:

- The formation by the New York Police Department of a Hate Crimes Task Force, committed to “vigorously investigating” hate crimes in the five boroughs.<sup>46</sup>
- An increase made jointly by the State and the City in rewards for information related to arrests in hate crimes, to \$20,000.<sup>47</sup>
- The creation of new training programs by the State Education Department focused on providing students with the skills to address discriminatory behavior.

## f. Recreational Activities

**Describe:**

<sup>44</sup> NYPD

<sup>45</sup> [New York State Division of Criminal Justice Services, 2016 Criminal Justice Report](#)

<sup>46</sup> [New York State Hate Crimes Task Force Report](#)

<sup>47</sup> [New York State Hate Crimes Task Force Report](#)

**(i) Athletic programs for adults and children**

New York City offers recreational leagues across a wide range of sports, targeted to every fitness level. NYC Parks maintains more than 800 athletic fields, and the department’s BeFitNYC programs offer free and low-cost fitness and recreation classes at parks and recreation centers across the five boroughs.<sup>48</sup>

Zog Sports and NYC Social organize adult sports leagues in many neighborhoods, including Long Island City and Midtown West. These leagues organize competition in several sports, from soccer, basketball, and flag football, to more unique sports like bocce, shuffleboard, and kan jam.<sup>49</sup> For children, the New York Sports Connection website connects our youngest residents with thousands of youth sports, leagues, organizations, and teams in more than 70 sports.<sup>50</sup>

Other recreational opportunities include surfing lessons at the New York Surf School in Queens, boxing at the Atlas Corps & Kids Boxing Program in Staten Island, cricket leagues at the Aviator Sports and Events Center in Brooklyn, and springboard diving at the New York Dive Club in the Bronx.<sup>51</sup>

**(ii) Availability of public parks and recreational areas**

NYC Parks manages over 30,000 acres across 5,000 individual properties, comprising 14% of the City’s land.<sup>52</sup> This includes more than 1,700 parks, playgrounds, and recreation facilities and 14 miles of public beaches<sup>53</sup>. Over 80% of New Yorkers currently live within walking distance of a park.<sup>54</sup> The City’s PlaNYC 2030, its vision for the future, has set a goal of more open spaces, to ensure that all New Yorkers live within a 10-minute walk of a park.<sup>55</sup>

New York City is dedicated to caring for and upgrading its parks. Through the Community Parks Initiative, the City is transforming 67 small parks and playgrounds citywide. With input from the community, NYC Parks selected eight showcase projects to receive a combined \$40 million in funding to realize the Parks Without Borders vision, making parks more welcoming and accessible by extending them into communities.<sup>56</sup>

Long Island City is home to several parks, including the popular Hunter’s Point South Park and Gantry Plaza State Park along the East River. Hunter’s Point South was an abandoned post-industrial area that was recently transformed into greenspace with a playground, dog run, bike paths, waterside promenade, basketball court, and 13,000 square foot pavilion.<sup>57</sup> Gantry Plaza State Park is a 12-acre riverside park that provides views of the midtown

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<sup>48</sup> NYC Parks Department

<sup>49</sup> NYC Social; Zog Sports

<sup>50</sup> [New York Sports Connection](#)

<sup>51</sup> [New York Surf School](#), [Atlas Foundation](#), [Aviator Sports Center](#), [NY Dive Club](#)

<sup>52</sup> [NYC Parks](#)

<sup>53</sup> [NYC Parks](#)

<sup>54</sup> OneNYC Progress Report, 2017

<sup>55</sup> [City Council Department of Parks and Recreation](#)

<sup>56</sup> OneNYC Progress Report, 2017

<sup>57</sup> NYC Parks



Manhattan skyline, including the Empire State Building and the United Nations.<sup>58</sup> Both parks feature NYC Ferry landings, connecting Long Island City to points in Brooklyn, Manhattan, and the Bronx.

Midtown West is walking distance from Central Park, with its 843 acres of park land and recreational areas. The Hudson River Greenway, also nearby, connects the West Side by a contiguous bike path from Battery Park to the George Washington Bridge. Other parks in nearby neighborhoods include Chelsea Park, Bryant Park, and Hudson Yards Park.<sup>59</sup>

### **(iii) Types of organized activities in parks and recreational areas**

NYC Parks offers organized activities and recreation programs at more than 50 facilities, 60 public pools, 550 tennis courts, and 1,800 basketball courts.<sup>60</sup> Beyond providing recreational leagues a place to play, these facilities offer volunteer, fitness, and learning opportunities. For example, the Urban Park Rangers program connects New Yorkers to the natural world through environmental education, outdoor recreation, wildlife management and active conservation. The GreenThumb program, the largest community gardening program in the country, has organized almost 21,000 New Yorkers to spend more than 2 million hours volunteering in community gardens. The Shape Up NYC program offers free drop-in fitness classes in Zumba, Pilates and aerobics all over the five boroughs.<sup>61</sup>

NYC Parks offers year-round events, programs and activities for kids. The Parks Department offers free and low-cost summer camps, sports programs, and after-school programs throughout the City for kids of all ages. For teens, Parks offerings include computer workshops, cooking classes, and fitness and dance lessons.<sup>62</sup>

### **g. Leisure-Time / Weekend Activities and Travel Destinations**

New York City has museums, galleries, shows, shopping, restaurants, and sporting events for every taste and interest.<sup>63</sup> New York City offers many activities to do every night of the week and on weekends. The top of the Empire State Building, One World Trade Center, and 30 Rockefeller Plaza provide great views of the City skyline. For sports fans, New York City has more professional sports franchises than other city in the country.<sup>64</sup> These include the Yankees, Mets, Giants, Jets, Rangers, Nets and Knicks.<sup>65</sup>

New York City is located within reach of many weekend destinations for those interested in arts and culture, outdoor activities, beaches, entertainment, and history:

- **Arts and culture**
  - Storm King Art Center in Mountainville, N.Y.

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<sup>58</sup> [New York State Parks, Recreation, and Historic Preservation](#)

<sup>59</sup> NYC Parks

<sup>60</sup> NYC Parks

<sup>61</sup> [NYC Parks](#)

<sup>62</sup> [NYC Parks](#)

<sup>63</sup> [NYC Official Guide](#)

<sup>64</sup> [Business Insider](#)

<sup>65</sup> [NYC Official Guide](#)

- Dia: Beacon in Beacon, N.Y.
- Yale University Art Gallery and other Yale museums in New Haven, Conn.
- **Outdoor activities:**
  - Hiking in Harriman State Park, N.Y.
  - Hiking and river rafting in the Delaware Water Gap, Pa.
  - Visits to North Fork wineries in Long Island
  - Skiing in the Catskills
- **Beaches:**
  - Jones Beach, Long Island
  - Fire Island, Long Island
  - Montauk and the Hamptons, Long Island
  - The New Jersey shore
- **Entertainment:**
  - Gambling and shows in Atlantic City, N.J.
  - Foxwoods Casino and Mohegan Sun, Conn.
  - Six Flags Great Adventure in Jackson, N.J.
- **History:**
  - Boston
  - Philadelphia
  - Princeton, N.J.
  - The Franklin D. Roosevelt Presidential Library and Museum in Hyde Park, N.Y.

Three international airports in the metro area provide inexpensive options for long weekend getaways outside the country. Jet Blue offers a \$99 non-stop flight from JFK to Bermuda in just over two hours. Air Canada's \$78 non-stop flight from La Guardia Airport to Montreal takes 90 minutes. From Newark Liberty International Airport, Norwegian Air flies non-stop to Paris in seven hours for \$266.<sup>66</sup>

#### **h. Sustainability and Environment**

**Describe your Community's existing and planned sustainability initiatives (such as, but not exclusive to: recycling, green business parks, incentive programs for LEED standard building, energy efficiency programs):**

New York City is dedicated to addressing climate change by investing in sustainability, resiliency, and smart city technologies. Last June, the Mayor signed an executive order committing New York City to upholding the principles of the Paris Agreement which seeks to limit global temperature rise to 1.5 degrees Celsius. As part of this announcement, the Mayor's office released a roadmap outlining actions across the energy, building, transportation, and waste sectors to achieve this goal.<sup>67</sup>

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<sup>66</sup> Google Flights

<sup>67</sup> [OneNYC](#)

This executive order builds on the OneNYC Plan, a roadmap for making New York City the most sustainable big city in the world, a global leader in the fight against climate change, and equitable in addressing environmental challenges for all New Yorkers. The City has set an ambitious goal of achieving an 80% reduction in greenhouse gases by 2050 (as outlined in the 80 x 50 Report), with a broad set of investments, incentives, and policies to support it.

Since the release of this plan in 2015, New York City has:<sup>68</sup>

- reduced annual greenhouse gas emissions by 14%
- installed 100 megawatts of renewable solar generation capacity
- added nearly 1,000 electric vehicles to its fleet
- expanded organic waste collection to over a million residents

To promote green infrastructure projects, New York City and New York State are upgrading building codes and offering incentives for green buildings and energy efficiency. The State provides ~\$250 million in incentives for energy efficiency per year. New York City offers tax abatement programs for green roofs and solar panels.<sup>69</sup> New developments at Hudson Yards are being built using sustainability best practices. Highlights include storm proofed infrastructure, rainwater harvesting, cogeneration plants, and advanced lighting control.<sup>70</sup>

The Mayor’s Office of the Chief Technology Officer has launched a suite of initiatives to provide government with the insights needed to be responsive to community resource needs. These include automated lighting and wireless water meters that capture and analyze real-time data.

**i. Cost of Living**

**(i) Specify cost of living composite for each of 2013, 2014, 2015, 2016 and 2017, if available (ACCRA/COLI).**

Year	Manhattan	Queens
2013	221.3	151.4
2014	214.5	N/A
2015	236.1	N/A
2016	232	N/A
2017	242.9	146.4

*Source: Council for Community and Economic Research, Cost of Living Index.*

*Note: Average for all participating places = 100; ACCRA data only available at county level for Queens County until 2013 and then again starting in 2017*

**(ii) Specify the cost of a basket of goods in your community. The basket is from Whole Foods: gallon of 2% milk, loaf of whole wheat bread, and an avocado. Also, the cost of Starbucks tall coffee, movie ticket, monthly gym membership (individual) at a YMCA (if U.S.), dry cleaning of a shirt, and a gallon of gas.**

<sup>68</sup> [OneNYC](#)

<sup>69</sup> [NYC MOS](#)

<sup>70</sup> [Hudson Yards](#)

**Midtown West**

<b>Whole Foods<sup>71</sup></b>	<b>Location</b>	<b>Price</b>
Gallon of 2% milk	1095 6th Avenue, NY, NY 10036	\$4.09
Loaf of whole wheat bread	1095 6th Avenue, NY, NY 10036	\$2.99
Avocado	1095 6th Avenue, NY, NY 10036	\$1.25
<b>Other</b>	<b>Location</b>	<b>Price</b>
Starbucks tall coffee <sup>72</sup>	325 W 49th Street, NY, NY 10036	\$2.34
Movie ticket <sup>73</sup>	AMC Empire 25, 234 W 42nd St., NY, NY 10036	\$16.29
YMCA monthly individual gym membership	West Side YMCA, 5 W 63rd St, NY, NY 10036	\$102/month
Dry cleaning of a shirt	Next Dry Cleaning, 605 W 42nd St. NY, NY 10036	\$7.85
Gallon of gasoline (regular)	BP, 466 10th Ave., NY, NY 10018	\$3.39

**Long Island City**

<b>Whole Foods</b>	<b>Location</b>	<b>Price</b>
Gallon of 2% milk	238 Bedford Ave, Brooklyn, NY 11249	\$4.09
Loaf of whole wheat bread	238 Bedford Ave, Brooklyn, NY 11249	\$2.99
Avocado	238 Bedford Ave, Brooklyn, NY 11249	\$1.25
<b>Other</b>	<b>Location</b>	<b>Price</b>
Starbucks tall coffee	26-14 Jackson Ave., Long Island City, NY 11101	\$2.34
Movie ticket	UA Kaufman 35-30 38th Street, Astoria, NY 11101	\$16.40
YMCA monthly individual gym membership	32-23 Queens Boulevard, Long Island City, NY 11101	\$64/month
Dry cleaning of a shirt	Absolute Cleaners, 7-75 48th Ave, Long Island City, NY	\$6.50
Gallon of gasoline (regular)	BP, 2117 Jackson Ave, Long Island City, NY 11101	\$2.70

Given the limited use of personal vehicles in Midtown West and Long Island City, the subway fare per ride – currently \$2.75 – is a more representative metric of the true cost of transportation in these neighborhoods.<sup>74</sup>

**j. Commuting**

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<sup>71</sup> Instacart  
<sup>72</sup> Starbucks Mobile App  
<sup>73</sup> Fandango  
<sup>74</sup> [MTA fares at a glance, March 2017](#)

**Describe the commuting patterns in your community as well as the commuting region, focusing on average travel times and costs (including tolls). Please address areas of frequent traffic accidents.**

New York City’s mass transit system provides residents with a reliable commute at an affordable price point. At a cost of \$121 per month – under \$1,500 a year – an unlimited subway and local bus pass is significantly more economical than car ownership and maintenance, and can lead to a savings of over \$10,000 compared with the median transportation expenditure of Seattle households. The average household’s transportation costs are \$5,300 less than the average Seattle household’s.<sup>75</sup> For this reason, New York is less dependent on the automobile than other cities. The average number of cars per household is 0.6, compared with 1.4 cars per household in Seattle.

New York City workers have an average commute of 29 minutes -- faster than major cities like Washington, D.C., and San Francisco -- and benefit from a variety of modes of travel, including:

- **Mass Transit:** Six mass transit systems provide affordable rail, bus, and ferry service to tri state area residents.

System	Service Description	Areas Served	Average Weekday Ridership	Monthly Pass Cost
MTA NYC Transit	24/7/365 operation of 472 subway stations and 233 bus routes <sup>76</sup>	Manhattan, Brooklyn, Queens, the Bronx, Staten Island	7,693,874	\$121
MTA Long Island Railroad	24/7/365 operation of 124 commuter rail stations <sup>77</sup>	Manhattan, Brooklyn, Queens; Nassau and Suffolk Counties	304,848 <sup>78</sup>	\$190-\$500, based on distance <sup>79</sup>
MTA Metro-North Railroad	24/7/365 operation of 123 commuter rail stations <sup>80</sup>	Manhattan, the Bronx; Westchester, Putnam, Dutchess, Rockland, Orange, Fairfield, and New Haven Counties	289,596 <sup>81</sup>	\$180-\$536, based on distance <sup>82</sup>
NJ Transit	Operation of commuter bus, rail, and light rail <sup>83</sup>	Manhattan, New Jersey	902,342 <sup>84</sup>	\$107-\$496, based on distance and mode
PATH	24/7/365, 13 station	Manhattan, New Jersey	266,846	\$90

<sup>75</sup> [H+T Affordability Index](#)

<sup>76</sup> [MTA New York City Transit at a Glance](#), February 2016

<sup>77</sup> [MTA Long Island Railroad at a Glance](#), February 2016

<sup>78</sup> [MTA Long Island Railroad at a Glance](#), February 2016

<sup>79</sup> [LIRR Fare Chart, March 2017](#)

<sup>80</sup> [MTA Metro-North at a glance](#), February 2016

<sup>81</sup> [MTA Metro-North at a glance](#), February 2016

<sup>82</sup> [MTA Metro-North Fare Chart, March 2017](#)

<sup>83</sup> [NJ Transit FY16 Facts at-a-glance](#)

<sup>84</sup> [NJ Transit FY16 Facts at-a-glance](#)

	commuter rail system <sup>85</sup>			
NYC Ferry	6 ferry routes connecting waterfront communities in the City	Manhattan, Queens, Brooklyn; planned expansion to Bronx in 2018	10,241	\$122

- **Bicycling:** Over 46,000 New Yorkers commute to work by bike<sup>86</sup>, leveraging New York's investments in biking infrastructure, including
  - Dedicated bike lanes: There are 24.9 miles of dedicated bike lanes throughout the city, with plans for another 22.1 miles.<sup>87</sup>
  - Bike share program: Motivate launched a bicycle sharing system that served 16 million bike riders in 2017.<sup>88</sup>

**Midtown West** is served by some of the best local and regional transit connections in New York City. 80% of commuters to Midtown West take public transit, 10% use vehicles, and 10% take other modes.<sup>89</sup> The variety means commuters in Midtown West can get to work in 29 minutes.<sup>90</sup> The neighborhood's strong commuter infrastructure includes:

- Penn Station: This major rail station is served by six New York City Transit subway lines, the Long Island Railroad, and New Jersey Transit, providing access to neighborhoods in Manhattan, Brooklyn, Queens and the Bronx, as well as suburbs in New Jersey, Long Island and Westchester County. Substantial investments are underway to expand capacity and improve service at Penn Station, including \$1.6 billion for the adjacent Moynihan Station project. The Gateway Project and Penn Station Access plans are under evaluation for longer-term improvements. (For more on investments, see Challenge 2: Transportation.)
- Hudson Yards Station: This new station on the 7 subway line provides access to communities in Midtown and Queens. Passengers can take the 7 to Grand Central Terminal in 6 minutes, for access to Metro-North rail lines and destinations in Westchester County.
- 33rd Street Station: This station provides Midtown West commuters access to subways and the PATH rail system, providing commuter access to Newark and Hoboken in New Jersey.
- Bike Share: There are 17 Citi Bike stations in the area, with valet service at Penn Station.

**Long Island City** is well situated for New York commuters, with:

- Eight subway lines serving several stations, with direct access to neighborhoods in Queens, Brooklyn, and the Bronx
- Hunterspoint Avenue Long Island Railroad Station, providing access to suburbs in Nassau and Suffolk Counties
- Hunterspoint South and Long Island City Ferry Stops, connecting Long Island City to neighborhoods in Queens, Brooklyn, and Manhattan

<sup>85</sup> [PATH train map](#)

<sup>86</sup> [NY Times](#)

<sup>87</sup> [NYCDOT Projected Bike Lanes](#), pg. 3

<sup>88</sup> [Motivate](#)

<sup>89</sup> DCP/Internal analysis

<sup>90</sup> DCP/Internal analysis

For those wishing to drive to work, there are no toll roads within New York City. Here are tolls on the region’s bridges:<sup>91</sup>

Bridge/Tunnel	Operating Agency	One or two-way Collection	Tolls By Mail/ Cash Rate	E-Z Pass Rate	Neighborhood Resident Rate
Whitestone Bridge, Throgs Neck and RFK Bridges; Hugh Carey and Midtown Tunnels	MTA	Two-Way	\$8.50	\$5.76	N/A
Cross Bay and Marine Parkway Bridges	MTA	Two-Way	\$4.25	\$2.16	\$1.41-\$1.92
Verrazano-Narrows Bridge	MTA	One-Way	\$17.00	\$11.52	\$3.20-\$9.22
Henry Hudson Bridge	MTA	Two-Way	\$6.00	\$2.64	N/A
George Washington, Bayonne and Goethals Bridges; Outerbridge Crossing, Lincoln and Holland Tunnels	Port Authority of New York and New Jersey	One-Way	\$15.00	\$10.50-\$12.50, depending on time of day	\$6.25 on Staten Island bridges

New York City is one of the safest cities for pedestrians, drivers, passengers, and cyclists.<sup>92</sup> Injuries and fatalities caused by motor vehicles have rapidly declined over recent years while such incidents have increased nationwide. The City’s implementation of “Vision Zero,” a comprehensive program of safety interventions, has led to a 28% decline in traffic deaths since 2013, with fewer than 215 traffic fatalities making 2017 the safest year on record.<sup>93</sup>

**k. Number of nationally ranked hospitals and treatment facilities in your community.**

Three of the top 20 nationally ranked hospitals are in New York City, including NewYork-Presbyterian Hospital, Mount Sinai Health System, and NYU Langone Medical Center. New York City hospitals rank in the top 20 nationally in many medical specialties<sup>94</sup>:

- **NewYork-Presbyterian Hospital:** #3 in cardiology and heart surgery, #3 in rheumatology, #4 in psychiatry, #4 in neurology and neurosurgery, #4 in nephrology, #5 in diabetes and endocrinology, #6 in geriatrics, #8 in urology, #10 in children specialty (general), #14 in adult specialty (general), #14 in gastroenterology and GI surgery. Affiliated with the #6 (Columbia) and #18 (Cornell) best medical schools for research

<sup>91</sup> [MTA Bridges and Tunnels, Port Authority of New York and New Jersey Bridges & Tunnels](#)

<sup>92</sup> [World Resources Institute: Cities Safer by Design](#)

<sup>93</sup> [NYC Vision Zero](#)

<sup>94</sup> [U.S. News and World Report](#)

- **Memorial Sloan Kettering Cancer Center:** #1 in children specialty (general), #2 in cancer, #2 in gynecology, #4 in adult specialties (general), #5 in urology, #20 in ear, nose, and throat
- **Mount Sinai Health System:** #3 in geriatrics, #6 in children specialty (general), #8 in gastroenterology & GI surgery, #9 in cardiology, #10 in adult specialty (general), #10 in nephrology, #19 in diabetes and endocrinology
- **Hospital for Special Surgery:** #1 in orthopedics, #1 in children specialty (general), #2 in adult specialty (general), #3 in rheumatology
- **NYU Langone Medical Center:** #12 in adult specialty (general), #19 on the Best Hospitals Honor Roll

## 2. Community Challenges

- Describe the largest social challenges your community is facing. Describe the programs in place to address these challenges. Describe any proposed programs to address these challenges. Describe success measures for current and proposed programs.**

New York City is working to solve its three largest societal challenges:

- **Inequity:** New York City has experienced significant economic growth in the past decade, but the benefits have not been equally shared by the region’s residents. The City and State are working to ensure that New York City become America’s fairest big city.
- **Transportation:** New York City has experienced significant population growth over the past decade, and its transportation network is nearing capacity. While most subway service still operates as scheduled – 93.8% of December 2017 peak-hour rides operated as scheduled – the City and State are making significant investments to maintain the system’s reliability.<sup>95</sup>
- **Sustainability:** Superstorm Sandy, a deadly hurricane in 2012, demonstrated that New York City needs to address its vulnerability to climate change. The State and City have launched many initiatives focused on enhancing energy efficiency and environmental resiliency throughout the region.

### CHALLENGE 1: INEQUITY

New York City is making progress in promoting economic growth and reducing inequity. Crime rates are at historic lows, graduation rates are at record highs, and the city has more jobs available than ever before. The City is investing to ensure that this growth reaches all residents. New York City's goal is to be America's fairest big city for all its residents. To do so, New York City is focused on the following:

- **Educational Opportunity for all**
  - Under the City’s **Pre-K for All** initiative, 69,510 children were enrolled in free Pre-K in the 2016-2017 school year, up from just 20,000 before the start of this initiative.
  - Students eligible for financial aid can participate in CUNY’s **Accelerated Study in Associate Programs** to receive financial resources, including textbook assistance and free subway passes, as well as career and academic support services. This program has

<sup>95</sup> MTA Subway Performance Metrics [Dashboard](#)



helped double graduation rates. As a result, the City is investing \$42 million to expand the program from 4,000 students to more than 25,000 in 2018<sup>96</sup>

- **Healthcare for all**
  - The City is ensuring that all New Yorkers have access to the physical and mental health services they need by:
    - Opening eight new **community health centers** serving over 75,000 New Yorkers who previously did not have access to care.
    - Launching **ThriveNYC**, a package of 54 initiatives, including confidential, high-quality, round-the-clock mental health support by phone or computer.<sup>97</sup>
- **Benefits and Fair Pay**
  - In 2016, New York enacted the nation's strongest **paid family leave** policy, which includes paid time off for 8 weeks (increasing to 12 in 2021), job protection upon return, and continuation of health insurance.<sup>98</sup>
- **Reform to the Criminal Justice System**
  - New York City is taking steps to close **Rikers Island**, the city's main jail complex, by creating a roadmap and dedicating \$30 million in new investments to drive progress toward closure.<sup>99</sup>
  - Earlier this year, Governor Cuomo put forward a proposal to **end cash bail** for low-level offenses, a practice that disproportionately punishes those with limited resources. The Governor's proposal comes on the heels of the City's expansion in 2016 of supervised release, which keeps more people out of jails for the lowest-level offenses.<sup>100</sup>
  - The Mayor, with the support of City Council, has pledged to defend New York City residents from increasingly aggressive immigration authorities. In October 2017, the City Council passed a law that establishes that no City resources can be used for federal immigration enforcement purposes.<sup>101</sup>
- **Fair Access to Government Services**
  - Over 1 million New Yorkers have signed up for **IDNYC**, a municipal photo identification card that was created to give vulnerable communities like seniors, immigrants, transgender New Yorkers and others who might have a difficult time obtaining a government ID a way to access City government, financial services, and cultural institutions.<sup>102</sup>
  - The City is reducing red tape and offering **services to small businesses**, like free legal services, business education workshops, and a multi-agency center in Jamaica,

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<sup>96</sup> [CUNY ASAP Evaluation](#)

<sup>97</sup> [ThriveNYC website](#)

<sup>98</sup> [New York State website](#)

<sup>99</sup> [Press release](#)

<sup>100</sup> [Politico](#)

<sup>101</sup> [NY Daily News](#)

<sup>102</sup> [IDNYC](#)

Queens, that has provided help to small businesses over 12,000 times since it opened in 2016.<sup>103</sup>

## CHALLENGE 2: TRANSPORTATION

New York City's robust public transportation system is challenged by the City's population growth and natural emergencies like Superstorm Sandy. To combat this strain and ensure a transit system that works for generations to come, New York is working to strengthen and repair existing modes of transit and invest new solutions. The City and State are contemplating several mechanisms to pay for some of these costs, including adding congestion pricing, designating assessment districts near subway stations, and increasing taxes on the highest earners.

New York City is strengthening existing modes of transportation:

- **MTA Upgrades:** The Metropolitan Transit Authority, which oversees local subways and buses, is working to improve local transit system performance.
  - **Subway Action Plan:** An MTA task force has proposed an \$850 million short-term Capital plan focused on overhauling rolling stock and stations, refurbishing signals and tracks, and adjusting organizational structures.<sup>104</sup>
  - **Expansion Projects:** The MTA remains committed to expanding the system to promote transit accessibility in the region. The MTA opened three new stations serving approximately 200,000 riders on the Upper East Side, reducing crowding on the 4/5/6 lines by 13%.<sup>105</sup>
- **Airport upgrades:** New York City's three international airports provide unparalleled access to major centers of commerce and tourism around the globe. Major ongoing investments by the Port Authority will ensure that these airports offer unparalleled reliability.
  - **LaGuardia Airport Redevelopment:** LaGuardia Gateway Partners, a public-private partnership, is investing \$8 billion to ensure that LaGuardia remains a world-class domestic airport. These investments include a new roadway system that will allow for an expansion of taxiing space, alleviating congestion and reducing delays.<sup>106</sup>
  - **John F. Kennedy Airport:** The State has committed \$11.5 billion to promote better access between terminals, reduce runway congestion, and improve road access via the Van Wyck Expressway.<sup>107</sup>
  - **Newark Liberty International Airport:** The Port Authority's 10-year capital plan commits \$2.3 billion to redevelop Terminal A with expanded and upgraded facilities, and an additional \$1.7 billion to extend the PATH light rail system to the airport. These investments will support considerable growth in passenger volume, accommodate larger planes, and enhance travelers' experience.<sup>108</sup>
- **NJ Transit and Amtrak upgrades:**

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<sup>103</sup> [SBS](#)

<sup>104</sup> [MTA Action Plan](#)

<sup>105</sup> [MTA](#)

<sup>106</sup> [LaGuardia airport](#)

<sup>107</sup> [NY State](#)

<sup>108</sup> [Port Authority of New York & New Jersey, Capital Plan 2017-2026](#)

- **The Gateway Project:** Amtrak and New Jersey transit are currently looking to expand train capacity at Penn Station in Midtown West through a \$30 billion rehabilitation and expansion of existing trans-Hudson tunnels.<sup>109</sup>
- **Moynihan Station:** A public-private partnership is currently building a \$1.6 billion facility next to Penn Station that will promote better access to commuter and regional rail lines.<sup>110</sup>

New York City is implementing innovative new solutions:

- **Ferry Service:** In 2017, the City launched the first four routes of NYC Ferry, connecting previously underserved waterfront neighborhoods including Long Island City, Williamsburg, Bay Ridge, and the Rockaways to Pier 11 in lower Manhattan and East 34th Street in Midtown, for the price of a subway ride. In 2017 alone, NYC Ferry served almost 3 million riders, exceeding its projections by 34%. Two new routes will be added in the summer of 2018.<sup>111</sup>
- **Biking:** The City is investing in a contiguous bike and pedestrian Greenway that will encircle Manhattan. This expansion is part of the City's commitment to improving bike safety. NYC DOT installed over 60 miles of dedicated cycling space in 2016, the most of any year. This comes as cycling to work has grown 80% over the last five years – and by 98% in Manhattan<sup>112</sup>
- **BQX:** In 2016, Mayor de Blasio announced a feasibility study for the Brooklyn-Queens Connector (BQX), which would run along the waterfront from Sunset Park in Brooklyn to Astoria in Queens. The BQX could serve as many as 50,000 daily riders and would connect innovation hubs and working waterfront areas from the Brooklyn Army Terminal and Brooklyn Navy Yard to Williamsburg, Greenpoint, and Long Island City<sup>113</sup>

### CHALLENGE 3: RESILIENCY

As Hurricane Sandy in October 2012 demonstrated, New York City is susceptible to the risks posed by coastal storms. As storms increase in severity and number, the City is dedicated to protecting its neighborhoods, buildings, and infrastructure from these and other threats posed by climate change. These efforts are outlined in the OneNYC plan and using the following "resiliency indicators" to monitor success:

- Eliminate disaster-related long-term displacement (more than one year) of New Yorkers from homes by 2050
- Reduce the Social Vulnerability Index for neighborhoods across the city
- Reduce average annual economic losses resulting from climate-related events

<sup>109</sup> [Engineering News Record, NY-NJ Gateway Project Overview](#)

<sup>110</sup> [WSJ](#)

<sup>111</sup> [Workboat](#)

<sup>112</sup> [Cycling in the city](#)

<sup>113</sup> [NYCEDC website](#)

Since Hurricane Sandy and the implementation of the OneNYC plan, New York City has made considerable investments in and progress toward protecting the City from future natural disasters.<sup>114</sup>

- \$20 billion of investments have been committed to protect New York City, including \$10 billion from FEMA for recovery and resiliency upgrades for critical facilities<sup>115</sup>
  - FEMA funded improvements for NYCHA campuses, including the construction of flood barriers and the installation of reliable renewable generation
  - Working with regional energy providers to invest over \$1 billion to improve the resiliency of electric and natural gas distribution systems
  - Hardening shorelines and waterfront facilities, like recent upgrades to the Rockaway Boardwalk, East Shore of Staten Island, and piers
  - Upgrading 7.7 million square feet of buildings against flood risk
  - Elevating almost 1,000 homes as part of the Build-It-Back program
- Developed a more sophisticated approach to risk assessment, including a groundbreaking commitment to redraw the City's flood maps to better account for current and future flood risk, saving New Yorkers millions of dollars and preparing our coastal communities for the future.

**b. Describe ways businesses are partnering with your community to solve these social challenges (including those that encourage volunteerism).**

**CHALLENGE 1: INEQUITY**

New York City's Partnership Fund, a coalition of businesses leaders formed to mobilize investor resources to expand opportunity on New York City, has made significant investments on the private sector's behalf to fight inequity. Since inception, this fund has invested over \$150 million in promising programs and entrepreneurs, including:<sup>116</sup>

- **Grameen America:** Supports the growth of micro-lending operations in New York, lifting 48,000 women out of poverty
- **Doe Fund:** Provides transitional housing, counseling and education to homeless adults

Many of New York City's employers are dedicated to addressing inequity issues with their own programs and resources:

- **Google and Black Girls Code:** Google's New York City headquarters has partnered with Black Girls Code, whose mission is to "empower girls of color ages 7 to 17 to become innovators in the STEM fields, leaders in their communities, and builders of their own future through exposure to computer science and technology." Black Girls Code is located in Google's office building and has access to Google's resources and community.<sup>117</sup>

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<sup>114</sup> OneNYC

<sup>115</sup> [Office of the Mayor](#)

<sup>116</sup> [Partnership Fund](#)

<sup>117</sup> [Fast Company](#)

- **Per Scholas:** Local corporations, including Barclays, Cognizant, and JPMorgan Chase, are major contributors to Per Scholas, which provides free technical skills training to unemployed and underemployed workers.<sup>118</sup>
- **Year Up:** The New York chapter, which is sponsored by dozens of companies including Goldman Sachs, American Express, and Google, provides low-income New Yorkers ages 18-24 with intensive skills training for one year to connect them to local employment opportunities.<sup>119</sup>

## CHALLENGE 2: TRANSPORTATION

Local businesses are helping New York City's government to improve the transportation experience in the city through innovative technologies and public-private partnerships. For example, rezoning in Midtown East requires property developers to make transportation infrastructure and access improvements as part of new development. The Hudson Yards subway station is financed using property tax increases in the surrounding neighborhood.

New York City is looking for innovative ways to engage the private sector as it continues to maintain large scale infrastructure. The Port Authority formed a \$1.5 billion partnership called NYNJ Link, a consortium of private companies, to relieve congestion on the Goethals Bridge, a critical link between Staten Island and New Jersey.<sup>120</sup>

Marketplace.city is a global platform for connecting city governments to new sensor-based devices and data capture systems. This platform was developed by a Brooklyn-based engineering and design firm, Fictive Kin, in partnership with the Mayor's Office of the Chief Technology Officer. It has connected New York City's government with companies that provide smart city solutions that can help track and optimize traffic patterns.<sup>121</sup>

New York City has also created a number of public-private partnerships to provide new ways of transporting New York City's commuters. Motivate's bicycle sharing system, Citibike, has revolutionized the way New Yorkers travel around the city. In 2017 alone, there were over 16 million bike rides in New York City with Citibike.<sup>122</sup> Residents also benefit from privately-owned ferry operations that are open for public use, like the Seastreak system and the NYU Langone ferry.<sup>123</sup>

## CHALLENGE 3: RESILIENCY

New York City's local utilities, Con Edison and National Grid, are taking a leading role in using private sector funds to improve the resiliency of basic energy infrastructure across New York City and in the region. New York Public Service Commission has partnered with both utilities as part of the Reforming the Energy Vision effort, a nationally recognized effort to rethink the ways energy is consumed and delivered. In the four years since the program began, these utilities

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<sup>118</sup> [Per Scholas](#)

<sup>119</sup> [Year Up](#)

<sup>120</sup> [NYNJ](#)

<sup>121</sup> [CTO Office](#)

<sup>122</sup> [Motivate](#)

<sup>123</sup> [Seastreak Commute](#)

have invested in their infrastructure to reduce energy consumption throughout the five boroughs.<sup>124</sup>

Private companies are also working with New York's Energy Research and Development Authority to build technologies that reduce emissions and improve energy efficiency in the City. The State has partnered with solar companies including Solar City and Vivint Solar to build thousands of rooftop solar panels across the region.<sup>125</sup>

The corporate community has also been heavily involved in efforts to encourage resident participation in local cleanup efforts focused on improving environmental health. ExxonMobil, NRG, and RBC teamed up to support New York's Billion Oyster Project, aimed at restoring the Hudson River Estuary's oyster population to clean the water and reduce volatility in wave activity.<sup>126</sup> Businesses large and small have joined the Gowanus Canal Conservancy to transform an industrial waterway into a thriving ecosystem for native plants and wildlife.

- c. **Describe what your community has done to support veterans and disabled in healthcare, housing, and employment. Describe success metrics for such efforts.**

#### **SUPPORT FOR THE DISABLED**

The Mayor's Office of People with Disabilities, through the AccessibleNYC program, is committed to increasing access to healthcare, housing, employment opportunities throughout the City for the 1 million New Yorkers who live with a disability. Initiatives include<sup>127</sup>:

- **NYC: ATWORK:** This public-private partnership assists unemployed and underemployed individuals seeking jobs with a living wage. Over 60 companies – including Marriott, JP Morgan Chase, UPS, CVS Health and KPMG – have joined forces with the Department of Small Business Services with the goal of connecting at least 700 disabled individuals to living-wage jobs over the next three years.<sup>128</sup>
- **Empowered Cities Initiative:** New York City has teamed with Citi and the National Disability Institute to launch this initiative, which will expand financial empowerment and economic inclusion for individuals with disabilities while encouraging other cities to do the same. Half of Citi's initial \$2 million contribution will be used to support the launch of EmpoweredNYC, which will provide tools and counseling services to people with disabilities to promote financial security.
- **Disability Rent Freeze:** The City helps eligible residents stay in affordable housing by freezing their rent. More than 10,000 disabled households making less than \$50,000 participate.
- **Disabled Homeowners Property Tax Exemption:** The City provides property tax exemptions to low-income people with disabilities who own homes. The average exemption is \$1,750.

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<sup>124</sup> [Reforming the Energy Vision Website](#)

<sup>125</sup> [Green Bank Portfolio](#)

<sup>126</sup> [Blue Oyster Project](#)

<sup>127</sup> [AccessibleNYC](#)

<sup>128</sup> [AccessibleNYC](#)

- **Project Open House:** The City provides funds for small architectural changes (converting steps to ramps, widening doors, replacing plumbing fixtures) to applicants with permanent disabilities.

In addition to AccessibleNYC, the **Mayor's Fund for NYC**, under the direction of the City's First Lady, Chirlane McCray, has made providing accessible opportunities for individuals with mental health issues a priority. Notable programs launched under this effort include:

- **ThriveNYC:** This program will support a free 24/7 counseling hotline accessible to all New Yorkers and will train up to 200 individuals who have mental disabilities to take on workforce positions as peer healthcare providers.
- **Sisters Thrive:** This recently announced program will train up to 10,000 African Americans as local mental health workers, to expand access to mental health treatment in underserved communities.

## **SUPPORT FOR VETERANS**

New York City is home to 210,000 veterans and approximately 500,000 military family members.<sup>129</sup> New York City's Department of Veterans' Services marshals the city's resources for those veterans and family members. Together with NYSeves, a coordinated network of public, private, and nonprofit groups, New York City is working to end veteran homelessness, provide world-class health services to vets, and ensure that veterans have the support they need to succeed financially.

### **Housing and Support Services**

New York City has reduced veteran homelessness by nearly 90% in the last five years. In December 2015, New York City became the largest city in the country to be certified by the federal government for ending chronic veteran homelessness. The City's goal is to reach functional zero, so that any newly homeless veterans will be rehoused within 90 days of entering the homeless system. To reach that goal, the Department of Veterans Services has started three innovative programs:

- **Veteran Peer Coordinator Program:** Veterans and military spouses acting as one-on-one advocates for each homeless veteran navigating a housing search.
- **Aftercare:** Support for recently housed veterans and their landlords, to ensure a successful transition.
- **Housing Coordination Center:** A one-stop housing placement service for affordable housing owners and property managers. The Center will manage referrals, inspections and subsidy documentation needed to promptly fill vacant units with eligible tenants.

### **Healthcare**

VetsThriveNYC is New York City's signature program to connect veterans to whole health services. It takes the Core4 approach to health – starting with education, engagement and arts

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<sup>129</sup> NYC Department of Veterans Services

for all, peer social support, holistic healthcare services, and finally treatment when needed. Programming is also informed by a network of physical and mental health professionals.

### **Jobs and Employment**

- **Mentorship:** Department of Veterans Services brought together over 20 New York City-based mentoring organizations to form Mentor A Vet- New York City in 2017. The initiative will mentor at least 2,000 New York City vets and family members by July 1, 2018.
- **Workforce1 Veterans Career Center:** Veterans are afforded an enhanced suite of service with include connection to training and support services, and access to dedicated Veteran workforce services. As of May 2016, over 2,500 veterans and their spouses had been placed in jobs through the City's Workforce 1 centers.

### **Other Support**

- Veterans who attend the City University of New York pay virtually no tuition under New York State's Veterans Tuition Awards Program.
- IDNYC offers veteran designation, which provides access to discounted goods, insurance, travel, and financial planning.
- The City Bar Justice Center offers low-income veterans pro bono legal assistance with disability benefits claims through its Veterans Assistance Project. Since its inception in 2007, VAP has provided legal assistance to more than 1,300 veterans<sup>130</sup>

## **B. Diversity and Inclusion**

### **1. Describe the diversity and inclusion programs that are in place with your leading employers and school systems. Describe any legislation at the local or state level on diversity and inclusion.**

New York's diversity has always been one of its greatest strengths. The City and State are committed to building on this strength at every level of education and for all of the workforce – particularly in fields with job growth, like tech. The programs highlighted below represent a sample of the diversity and inclusion efforts put in place by employers and academic institutions, as well as recently passed legislation to reinforce the City and State's commitment.

#### **DIVERSITY PROGRAMS WITH LEADING EMPLOYERS**

The City's Tech Talent Pipeline works with public and private partners to deliver tech skills training to a diverse population that is in line with the needs of top employers. TTP's advisory board consists of executive-level representatives of companies like LinkedIn, Verizon, Google, ZocDoc, and AppNexus. These partners dedicate their time to advising the program, and many of their companies go on to hire its graduates. After a 2016 expansion, the program's goal is to serve an additional 1,700 New Yorkers, along with the program's 750 current participants.

In addition, several employers have dedicated resources and time to providing mentoring and training to their diverse employees. Some examples include:

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<sup>130</sup> [City Bar Justice](#)



- JP Morgan (27,000 local employees) has formed 70 business resource groups for veterans, women, LGBT employees, African-Americans, Asian-Americans, people with disabilities and Latinos to enhance networking and leadership opportunities for 20,000 workers
- Citigroup (24,000 local employees) has formed 140 diversity networks and implemented Diversity training and hiring programs at its headquarters in New York City and at offices around the globe.
- Verizon hosts nine employee resource groups to celebrate the diversity of its workforce, 59% of which -- and 6 of the 12 members of its board -- identify as women or people of color<sup>131</sup>.
- Google (6,000 local employees) trains 72% of employees to reduce unconscious biases<sup>132</sup>.

## **DIVERSITY PROGRAMS WITHIN SCHOOL SYSTEMS**

### **High Schools:**

- The New York City Department of Education launched Diversity in Admissions pilots to create socioeconomic diversity among incoming classes in participating schools. This pilot has allowed schools and districts to prioritize a percentage of their seats through admissions processes for targeted groups of students. Admissions criteria selected are dependent on school, district, and citywide data points. The Office of Student Enrollment has supported superintendents and schools through this process, as both a thought partner and a data-sharing resource. In its third year, there are now nearly 50 schools implementing Diversity in Admissions pilots, pre-K through high school. These schools include 02M003, an elementary school in the West Village, 02M260, a middle school in Union Square, and 30Q301, a high school in Long Island City.
- 11 City school districts were recently selected to participate in New York State's Integration Project. Over the next three school years, these 11 districts, which include District 2 in Manhattan and District 30 in Queens, will be a part of a Professional Learning Community with other districts in the state. The goal is for each district to develop, pilot and implement district-level integration strategies by September 2020.

### **Public Higher Education:**

- CUNY Programs (see Appendix from Round 1)
  - Career Pathways Initiatives focuses on career development programs in 10 key economic sectors. The program serves as CUNY's central hub between potential employers and CUNY's 24 colleges. The goal is to increase the number of students participating in career development, career exploration, career-focused experiential learning, and internships.
  - CUNY Tech Consortium links tech-related programs and initiatives across CUNY, launches new initiatives that address system-wide opportunities and challenges, and partners with employers, intermediary organizations such as the Tech Talent Pipeline (TTP), and industry partners regarding workforce needs.
  - TechHire promotes diversity in the technology workforce by training 425 young adults with barriers to employment and incumbent workers for positions averaging \$60,000 a year in web development, software development, and computer network support.

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<sup>131</sup> [Verizon website](#)

<sup>132</sup> [Google Diversity](#)

- CUNY Tech Prep is a yearlong program aimed at exceptional computer science majors from CUNY schools. The program provides industry-informed web development training and professional development coaching.
- CUNY Techworks provides no-cost applied skills education in tech fields to underrepresented and low-income New Yorkers to connect them with opportunities in New York's growing tech center.
- La Guardia's Center for Contract Training works with students at every point along a comprehensive career pathway and facilitates transitions between each step along that path.
- Revature @ CUNY, a public-private partnership, provides tuition-free, online coding programs, with a particular focus on providing services to women.
- SUNY Programs
  - Empire State Diversity Honors Scholarship: Broad scholarship for students with diverse backgrounds who have demonstrated high achievement. In the 2015-2016 academic year, 917 students were awarded an average scholarship of \$1,662<sup>133</sup>.
  - Faculty Diversity Program: New York State provides additional financial assistance for schools that hire faculty from diverse backgrounds.
  - Excelsior Free Tuition Program: The Excelsior Scholarship is the first program in the nation to provide free tuition at New York's public colleges and universities for middle class students. Along with other sources of tuition assistance, including the New York State Tuition Assistance Program, the Excelsior scholarship allows approximately 53% of full-time SUNY and CUNY in-state students, or more than 210,000 New York residents, to attend school tuition-free. This year Governor Cuomo proposed to expand the program by raising the eligibility threshold to a household income of \$110,000.
  - Educational Opportunity Program: In operation for five decades, SUNY's Educational Opportunity Program has served as the primary access vehicle for economically and academically disadvantaged New York State residents to enter a SUNY college. In the State University and nationally, the Educational Opportunity Program is one of the first and most successful access programs of its kind. EOP is among the highest performing college access programs in the country, boasting more than 70,000 alumni, many of whom continue to live and invest in New York State.
  - Educational Opportunity Centers: SUNY increases the educational pipeline and workplace readiness of disadvantaged adults in New York State through a statewide network of ten Educational Opportunity Centers and two Outreach and Counseling Centers. For over 50 years, EOCs have been pioneers in providing urban communities with innovative academic programs leading to higher education, and vocational training programs leading to gainful employment and economic self-sufficiency.
  - SUNY-wide Minority and Women Owned Business (MWBE) Enterprise Program: SUNY has an MWBE Program which applies to all its campuses. More information is here: <https://www.suny.edu/meansbusiness/mwbe/>

**Example Private Programs:**

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<sup>133</sup> [SUNY](#)

- Columbia University
  - Several of Columbia's professional schools offer scholarships and tailored programs to promote student diversity, including:
    - Mailman School of Health's Initiative to Maximize Student Diversity Scholarship fund
    - Teacher's College LGBTQ Scholarship and Diversity in Education Scholarship programs
  - Columbia has a number of policies designed to support diverse students, including a preferred name policy, gender-neutral bathrooms, and support for DACA students, students with disabilities, LBGTQIA, and military and veterans
- New York University
  - ASPIRE program: Provides supplementary financial aid to undergraduates from underrepresented populations to assist with pursuit of unpaid research activities or internships
  - Tisch Mentorship program for diverse faculty
  - NYU also offers many programs for undergraduate and graduate students that provide space and resources for different populations, including:
    - Center for Multicultural Education and Diverse Programs
    - LGBTQ Student Center
    - Moses Center for Students with Disabilities
    - Global Spiritual Life

## LEGISLATION

In the last four years, New York City has enacted numerous laws to promote diversity and inclusion, including:

- **Paid family leave**
  - New York has one of the nation's strongest Paid Family Leave programs, providing its workers with job-protected, paid leave to bond with a new child, care for a loved one with a serious health condition or to help relieve family pressures when someone is called to active military service abroad. Workers can continue their health insurance while on leave and are guaranteed the same or a comparable job after the leave ends.
- **Access to public spaces**
  - An Executive Order requires City agencies to ensure that employees and members of the public are given access to single-sex facilities consistent with their gender identity, without being required to show identification, medical documentation, or any other form of proof or verification of gender.
  - Diaper changing stations are being added to all restrooms in all new buildings, regardless of gender.
- **Language access**
  - Local Law 30 passed in 2017, requires the designation of 10 languages for which agencies will be required to provide language access services.
  - Local Law 25, passed in 2016, requires that every website maintained by the City include translation features for the seven most commonly spoken languages.

- **Other legislation of note**

- The formation of a Commission on Gender Equity to leverage the power of City government to expand and increase opportunity for all New Yorkers regardless of sex, gender, or sexual orientation.
- Local Law 63, passed in 2015, prohibiting discrimination based on arrest record or criminal conviction.
- Dream Act S471A enacts the NYS Dream Act by creating the New York Dream fund commission, eliminating financial obstacles to obtaining State financial aid for undocumented students.

**2. Describe the percentages of foreign-born residents in your community, broken down by place of birth.**

As of January 2017, New York City has over 3.2 million foreign-born residents – more than the entire population of Chicago. Foreign-born people make up nearly 40% of the City population and around 45% of the City's workforce – a higher share than any major city except Miami. These residents are from over 150 different countries.<sup>134</sup> There are 17 countries with immigrant populations in the City greater than 50,000:

Country/Region of Origin	Number of NYC Residents
Dominican Republic	453,176
China	332,255
Jamaica	185,681
Mexico	179,613
Guyana	140,340
Ecuador	138,295
Haiti	91,595
India	91,048
Trinidad & Tobago	89,302
Bangladesh	83,949
Colombia	69,777
Ukraine	66,339
Philippines	65,657
Korea	64,747
Russia	62,475
Pakistan	54,214
Poland	52,648

**3. Describe programs that you have in place that build community for immigrants and assist with family integration (e.g., programs around language, culture, legislation, housing, finances).**

Immigrants can take advantage of all city services regardless of their legal status, and the City and State have a number of programs that specifically cater to their needs. In 2013 the State launched

<sup>134</sup> [New York City Comptroller](#)

the Office for New Americans. The cornerstone of this office is a network of 27 neighborhood-based Opportunity Centers, hosted within existing community-based organizations, throughout the State. The centers help new Americans learn English, prepare them for the citizenship exam, and help them start and grow businesses so they can fully participate in New York State’s civic and economic life. There are 13 such centers in New York City across all five boroughs. The office maintains a hotline that immigrants can call for help with housing-related issues, as detailed in the New York State Attorney General’s “Immigrant Tenant Rights” guide.

The City further provides supplemental resources to help immigrants build their lives in New York. These include:

**Reference Guide:** The New York City Mayor's Office of Immigrant Affairs offers a Resource and Referral guide in 11 languages which provides a comprehensive list of resources and services that recently immigrated families can take advantage of. Additionally, the New York Immigrants Coalition offers a college guide for parents to help them navigate financial aid and admissions in 6 different languages<sup>135</sup>.

**Literacy:** “We are New York” is an Emmy Award-winning TV show that helps immigrants learn and practice English, while informing them of the City's resources. The City also has a number of programs to help adults and young adults with English literacy through the Department of Youth and Community Development<sup>136</sup>.

**Culture:** The City Council funds the Cultural Immigrant Initiative, which funds community arts programs focusing on the stories of immigrants and is administered by the Department of Cultural Affairs<sup>137</sup>.

**Legislation:** New York City and New York State have passed several laws and executive orders to ensure that immigrants and their families are protected. These include:

- Executive Order 41: requires that City employees keep immigration status confidential and ensures that immigrants are encouraged to seek access to the full suite of city services and benefits.
- Local Law 73: ensures agencies providing certain health and human services provide information about their services in multiple languages.

**Financial Empowerment:** The City's Office of Financial Empowerment offers several services for immigrants, including free tax preparation, financial education and literacy classes, and starter bank accounts.

**Legal resources:**

- ActionNYC offers free, safe legal services for immigrants in partnership with the City University of New York, as does New York State's Liberty Defense Project<sup>138</sup>.

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<sup>135</sup> MOIA

<sup>136</sup> MOIA

<sup>137</sup> [DCLA](#)

<sup>138</sup> [ActionNYC](#)

- IDNYC, the City’s municipal photo ID program, allows immigrants to have a form of identification that gives access to many city services as well as bank accounts and cultural resources.

**4. Describe what your community has done to encourage STEM professional development in your immigrating and minority populations.**

New York City is dedicated to providing professional development and job pathways for all of its citizens, including immigrant and minority populations. There are numerous programs in place dedicated to tech training for these groups. For example, the INFRONT Minority Venture Partners program connects minority technologists to business training and technology resources to help them develop technical skills and gain access to tech jobs and develop business ideas. The Upwardly Global's Job Search program provides immigrants, refugees, and asylum seekers with opportunities for certification courses and industry-specific resources to help them continue careers in engineering, business, data after work experience in a different country. Last year, this program placed 220 people in new jobs across these industries.<sup>139</sup>

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<sup>139</sup> Surveys from Amazon HQ2 Response – Round 1

**REAL ESTATE**

Complete this section for each of the following site/campus options identified by the company. For example, if four Sites are under consideration, complete this section four times. If your community feels that a compelling Site was not included in this request, please feel free to contact us to explain.

**A. Site**

1. Site Name/Site Designation: Long Island City
2. Street Address(es), including City, State/Commonwealth/Province and Zip/Postal Code, if available

Phase	Site ID	Street Address	Building Name
Phase 1: Core	C1	1 Court Square W. Long Island City, NY 11101	One Court Square
Phase 1: All Subtotal		1	
Expansion: Core	C2	31-00 47th Ave. Long Island City, NY 11101	The Falchi Building
Expansion: Core	C3	37-18 Northern Blvd. Long Island City, NY 11101	Standard Motor Products Building
Expansion: Core	C4	4555 Pearson St Long Island City, NY 11101	-
Expansion: Core	C5	24-02 49th Ave. Long Island City, NY 11101	NYCHA Building
Expansion: Core	C6	42-50 24th St. Long Island City, NY 11101	-
Expansion: Core	C7	31-08 and 31-16 Northern Blvd. Long Island City, NY 11101	-
Expansion: Core	C8	11-24 Jackson Ave. Long Island City, NY 11101	-

Expansion: Core	C9	42-22 22nd St, 42-25 21st St. Long Island City, NY 11101	-
Expansion: Core	C10	21-21 43rd Ave. Long Island City, NY 11101	-
Expansion: Core	C11	47-40 21st St. Long Island City, NY 11101	Hunters Point Plaza
Expansion: Core	C12	21-16 Jackson Ave. Long Island City, NY 11101	-
Expansion: Core	C13	22-09 Queens Plaza N and 22-09 41st Ave. Long Island City, NY 11101	-
Expansion: Core	C14	28-11 47th Ave. Long Island City, NY 11101	-
Expansion: Core Subtotal		13	
Expansion: Waterfront	W1	42-30 Vernon Blvd. Long Island City, NY 11101	-
Expansion: Waterfront	W2	41-98 to 42-16 Vernon Blvd. Long Island City, NY 11101	-
Expansion: Waterfront	W3	44-36 44 Dr. Long Island City, NY 11104	-
Expansion: Waterfront	W4	4-99 44th Dr. Long Island City, NY 11101	-
Expansion: Waterfront	W5	4-40 44th Dr. Long Island City, NY 11101	Block A
Expansion: Waterfront	W6	5-40 44th Dr. Long Island City, NY 11101	-
Expansion: Waterfront	W7	44-00 and 44-02 Vernon Blvd. Long Island City, NY 11101	-



Expansion: Waterfront	W8	5-25/39 46th Ave. Long Island City, NY 11101	Block B
Expansion: Waterfront	W9	5-02/46 46th Ave. Long Island City, NY 11101	Block C
Expansion: Waterfront	W10	43-82 Vernon Blvd. Long Island City, NY 11101	-
Expansion: Waterfront Subtotal		10	
Expansion: All Subtotal		23	
All Phases		24	

3. Location

- a. If Site is currently unincorporated, detail any plan(s) to annex Site to an incorporated municipality, as well as the benefits and burdens of any annexation. Name the intended municipality/municipalities to which Site would be annexed.

Not applicable

- b. County (Name), if applicable: Queens County

4. Description, Characterization

- a. Description – Briefly describe Site (shape, topo, etc.):

Long Island City contains numerous sites ready for development or creative repositioning in two districts. The City has pitched two specific districts – the Commercial Core and the Waterfront – that are a 10-minute walk apart.

Commercial Core District: The Queens Plaza and Court Square areas, Long Island City's commercial core, have capacity to accommodate Amazon's full office space needs. Starting with immediate occupancy at One Court Square, Amazon can expand to over 8 million square feet within a few short blocks. Potential expansion opportunities include full occupancy of One Court Square, creative repositioning of existing buildings, and ground-up construction in a campus setting. These options are all within a five-minute walk, and are adjacent to three subway stops with access to four lines (7, G, E, M) as well as a Long Island Railroad commuter rail station that can be integrated into a new development.

The Commercial Core District can be anchored by a 20-acre, publicly controlled site, offering a rare opportunity to develop a large mixed-use campus in New York City that can accommodate flexible building configurations for offices, housing, open space, small retail, and other uses. This site's ownership structure allows for flexibility, and the City and State are prepared to work closely with Amazon to realize this opportunity.

Waterfront District: Long Island City's waterfront provides a nearly blank canvas. The Waterfront District contains a mix of publicly and privately-owned parcels that can support a range of high-density, mixed-use development. These properties provide an unparalleled opportunity for ground-up development on parcels of various sizes with stunning views of the Manhattan skyline. Gantry Plaza State Park is situated directly to the south and ample opportunities for development stretch to the north, giving Amazon the opportunity to develop the growing mixed-use waterfront. Offices could be integrated with living spaces and recreational amenities, linked by a waterfront esplanade.

The district has two NYC Ferry landings, with direct service to the Cornell Tech campus on Roosevelt Island. These waterfront sites have the potential for more than 3 million square feet of commercial development. Through land use changes, these properties could deliver over 6 million square feet of new commercial or mixed-use development.

b. Characterization – Indicate all that may apply

- Brownfield
- Commercial, including Commercial Park
- Greenfield
- Industrial, including Industrial Park
- Suburban
- Technology, including Technology Park
- Urban

c. Description – Briefly describe any geographic features that may limit or enhance the growth of Site (e.g., water or mountains):

There are no geographic features that significantly limit the ability to deliver 8 million square feet of office space or more at the Site. In fact, the City has leveraged the major structural impediment - the East River - as a catalyst for growth in Long Island City. Gantry Plaza State Park, once the site of a Pepsi bottling plant, is now a 12-acre waterfront green space with an unimpeded view of the Manhattan skyline and a direct connection to the recently opened 10-acre Hunters Point South Park. NYC Ferry landings, boathouses, and kayak launch sites dot the waterfront. The City has invested in enhancing the neighborhood for pedestrians and cyclists with recent projects that have improved streetscapes and public spaces. As the neighborhood evolves, the City is pursuing additional public improvements and new recreation options, including upgrades to neighborhood corridors, the addition of new parks, and the expansion of the waterfront esplanade.

## 5. Size

- a. Immediate: Number of acres (either contiguous or within close enough proximity to foster a sense of place and pedestrian-friendliness) currently available for the Project's immediate operations:

One Court Square offers up to 1.5 million square feet for initial occupancy at the center of Long Island City's Commercial Core, with a dedicated lobby for Amazon's sole use. Its lot size is 82,000 square feet (1.9 acres) with floorplates of over 30,000 square feet.

- b. Expansion: Number of acres (either contiguous or within close enough proximity to foster a sense of place and pedestrian-friendliness) available for the Project's future or expansion operations:

The properties available for Amazon's expansion in Long Island City total 90.3 acres in lot size with potential for 16.2 million square feet in total office space for occupancy.

- Properties available in Long Island City's Commercial Core District total 47.9 acres in lot size with potential for 9.3 million square feet of office space.
- Properties available in Long Island City's Waterfront District total 42.4 acres in lot size with potential for 6.9 million square feet of office space.

Phase	Site ID	Street Address	Building Name	Lot Size (Acres)	Lot Size (Square Feet)	Office Space Available to Amazon (GSF)
Phase 1: Core	C1	1 Court Square W. Long Island City, NY 11101	One Court Square	1.9	82,000	up to 1,500,000
Phase 1: All Subtotal		1		1.9	82,000	1,500,000
Expansion: Core	C2	31-00 47th Ave. Long Island City, NY 11101	The Falchi Building	2.8	120,000	140,000
Expansion: Core	C3	37-18 Northern Blvd. Long Island City, NY 11101	Standard Motor Products Building	1.0	43,000	200,000 (+ post 2020)
Expansion: Core	C4	4555 Pearson St Long Island City, NY 11101	-	1.4	61,000	213,000
Expansion: Core	C5	24-02 49th Ave. Long Island City, NY 11101	NYCHA Building	2.8	120,000	173,000

Expansion: Core	C6	42-50 24th St. Long Island City, NY 11101	-	0.8	34,000	272,000
Expansion: Core	C7	31-08 and 31-16 Northern Blvd. Long Island City, NY 11101	-	1.2	51,000	257,000
Expansion: Core	C8	11-24 Jackson Ave. Long Island City, NY 11101	-	2.8	58,000	up to 290,000
Expansion: Core	C9	42-22 22nd St, 42-25 21st St. Long Island City, NY 11101	-	2.8	121,000	605,000
Expansion: Core	C10	21-21 43rd Ave. Long Island City, NY 11101	-	0.4	17,000	84,000
Expansion: Core	C11	47-40 21st St. Long Island City, NY 11101	Hunters Point Plaza	1.8	80,000	402,000
Expansion: Core	C12	21-16 Jackson Ave. Long Island City, NY 11101	-	25.3	1,100,000	up to 6,000,000
Expansion: Core	C13	22-09 Queens Plaza N and 22- 09 41st Ave. Long Island City, NY 11101	-	2.5	111,000	557,000
Expansion: Core	C14	28-11 47th Ave. Long Island City, NY 11101	-	2.4	106,000	at least 106,000
Expansion: Core Subtotal		13		47.9	2,022,000	9,299,000
Expansion: Waterfront	W1	42-30 Vernon Blvd. Long Island City, NY 11101	-	3.3	142,000	712,000
Expansion: Waterfront	W2	41-98 to 42-16 Vernon Blvd. Long Island City, NY 11101	-	2.7	119,000	594,000

Expansion: Waterfront	W3	44-36 44 Dr. Long Island City, NY 11104	-	3.0	130,000	510,000
Expansion: Waterfront	W4	4-99 44th Dr. Long Island City, NY 11101	-	3.7	163,000	up to 1,150,000
Expansion: Waterfront	W5	4-40 44th Dr. Long Island City, NY 11101	Block A	7.4	324,000	648,000
Expansion: Waterfront	W6	5-40 44th Dr. Long Island City, NY 11101	-	1.1	49,000	up to 470,000
Expansion: Waterfront	W7	44-00 and 44-02 Vernon Blvd. Long Island City, NY 11101	-	4.9	214,000	1,375,000
Expansion: Waterfront	W8	5-25/39 46th Ave. Long Island City, NY 11101	Block B	2.9	124,000	248,000
Expansion: Waterfront	W9	5-02/46 46th Ave. Long Island City, NY 11101	Block C	2.3	100,000	220,000
Expansion: Waterfront	W10	43-82 Vernon Blvd. Long Island City, NY 11101	-	11.1	482,000	at least 964,000
Expansion: Waterfront Subtotal		10		42.4	1,847,000	6,891,000
Expansion: All Subtotal		23		90.3	3,869,000	16,190,000
All Phases		24		92.2	3,951,000	17,690,000

c. Schematic: Attach schematic drawing of Site.

Please refer to Map #RE-01, RE-02, and RE-03 in the appendix.

d. If less than 100 acres, is Site expandable to 100 acres?

Yes       No

(i) Detail the plan and timetable for doing so?

The zoning and neighborhood context of Long Island City enable Amazon to build and/or occupy its desired square footage in fewer than 100 acres. The list of properties provided in both districts provides well over Amazon’s required 8 million square feet, with potential for additional growth.

6. Improvements

a. Are there any buildings or structures or other improvements on Site (or portion of Site)?

Yes       No

b. Description

If Yes, describe all buildings, structures and other improvements on Site (or portion of Site), including available square footages and sustainability efforts?

Phase	Site ID	Street Address	Building Name	Description of Building (Existing / Rehabilitation / New Construction)	Sustainability Features
Phase 1: Core	C1	1 Court Square W. Long Island City, NY 11101	One Court Square	Existing building	Target LEED certification, base building and systems will be upgraded, designs and plans currently being assembled
Phase 1: All Subtotal		1			
Expansion: Core	C2	31-00 47th Ave. Long Island City, NY 11101	The Falchi Building	Existing building	Currently under study with ongoing capital improvement plan

Expansion: Core	C3	37-18 Northern Blvd. Long Island City, NY 11101	Standard Motor Products Building	Existing building	Tracking of waste removal and energy consumption, upgraded steam traps, new energy efficient windows, rooftop farm (sustainability credit expires pre-2020)
Expansion: Core	C4	4555 Pearson St Long Island City, NY 11101	-	Existing building (rehab proposed)	Ability to meet Amazon's sustainability goals
Expansion: Core	C5	24-02 49th Ave. Long Island City, NY 11101	NYCHA Building	Existing building (rehab proposed)	Ability to meet Amazon's sustainability goals
Expansion: Core	C6	42-50 24th St. Long Island City, NY 11101	-	New construction	Ability to meet Amazon's sustainability goals
Expansion: Core	C7	31-08 and 31-16 Northern Blvd. Long Island City, NY 11101	-	New construction	Ability to meet Amazon's sustainability goals
Expansion: Core	C8	11-24 Jackson Ave. Long Island City, NY 11101	-	New construction	Ability to meet Amazon's sustainability goals
Expansion: Core	C9	42-22 22nd St, 42-25 21st St. Long Island City, NY 11101	-	New construction	Ability to meet Amazon's sustainability goals

Expansion: Core	C10	21-21 43rd Ave. Long Island City, NY 11101	-	New construction	Ability to meet Amazon's sustainability goals
Expansion: Core	C11	47-40 21st St. Long Island City, NY 11101	Hunters Point Plaza	New construction	Ability to meet Amazon's sustainability goals
Expansion: Core	C12	21-16 Jackson Ave. Long Island City, NY 11101	-	New construction	Ability to meet Amazon's sustainability goals
Expansion: Core	C13	22-09 Queens Plaza N and 22-09 41st Ave. Long Island City, NY 11101	-	New construction	Ability to meet Amazon's sustainability goals
Expansion: Core	C14	28-11 47th Ave. Long Island City, NY 11101	-	New construction	Ability to meet Amazon's sustainability goals
Expansion: Core Subtotal		13			
Expansion: Waterfront	W1	42-30 Vernon Blvd. Long Island City, NY 11101	-	New construction	Ability to meet Amazon's sustainability goals
Expansion: Waterfront	W2	41-98 to 42-16 Vernon Blvd. Long Island City, NY 11101	-	New construction	Ability to meet Amazon's sustainability goals
Expansion: Waterfront	W3	44-36 44 Dr. Long Island City, NY 11104	-	Existing building (rehab proposed)	Ability to meet Amazon's sustainability goals



Expansion: Waterfront	W4	4-99 44th Dr. Long Island City, NY 11101	-	New construction	Target LEED Silver
Expansion: Waterfront	W5	4-40 44th Dr. Long Island City, NY 11101	Block A	New construction	Ability to meet Amazon's sustainability goals
Expansion: Waterfront	W6	5-40 44th Dr. Long Island City, NY 11101	-	New construction	Target LEED Silver
Expansion: Waterfront	W7	44-00 and 44-02 Vernon Blvd. Long Island City, NY 11101	-	New construction	Ability to meet Amazon's sustainability goals
Expansion: Waterfront	W8	5-25/39 46th Ave. Long Island City, NY 11101	Block B	New construction	Ability to meet Amazon's sustainability goals
Expansion: Waterfront	W9	5-02/46 46th Ave. Long Island City, NY 11101	Block C	New construction	Ability to meet Amazon's sustainability goals
Expansion: Waterfront	W10	43-82 Vernon Blvd. Long Island City, NY 11101	-	New construction	Ability to meet Amazon's sustainability goals
Expansion: Waterfront Subtotal		10			
Expansion: All Subtotal		23			
All Phases		24			

7. Easements, Licenses, Rights of Way: describe each of the easements, licenses and rights of way affecting Site, and identify the beneficiaries, holders or owners of the same. If easier to show on a map, please attach to submittal and label.

The below table provides easement, license, and right of way information for each property which could materially affect development potential. Where there is any easement, license, or right of way noted, additional information is available upon request.

Phase	Site ID	Street Address	Building Name	Description of Easements, Licenses, and Rights of Way
Phase 1: Core	C1	1 Court Square W. Long Island City, NY 11101	One Court Square	There is an MTA easement. Court Square subway station is located directly under building with direct entrance.
Phase 1: All Subtotal		1		
Expansion: Core	C2	31-00 47th Ave. Long Island City, NY 11101	The Falchi Building	N/A
Expansion: Core	C3	37-18 Northern Blvd. Long Island City, NY 11101	Standard Motor Products Building	N/A
Expansion: Core	C4	4555 Pearson St Long Island City, NY 11101	-	N/A
Expansion: Core	C5	24-02 49th Ave. Long Island City, NY 11101	NYCHA Building	Property is currently fully built. There is potential to develop above parking lot which is adjacent to existing structure.

Expansion: Core	C6	42-50 24th St. Long Island City, NY 11101	-	N/A
Expansion: Core	C7	31-08 and 31-16 Northern Blvd. Long Island City, NY 11101	-	There is a 10 foot MTA easement for driveway at eastern edge.
Expansion: Core	C8	11-24 Jackson Ave. Long Island City, NY 11101	-	Rail-right-of-way requires platform and special permit
Expansion: Core	C9	42-22 22nd St, 42-25 21st St. Long Island City, NY 11101	-	N/A
Expansion: Core	C10	21-21 43rd Ave. Long Island City, NY 11101	-	N/A
Expansion: Core	C11	47-40 21st St. Long Island City, NY 11101	Hunters Point Plaza	There is a zoning special permit and a restrictive covenant affecting use and development specific to existing building on property.
Expansion: Core	C12	21-16 Jackson Ave. Long Island City, NY 11101	-	Rail-right-of-way requires platform and special permit
Expansion: Core	C13	22-09 Queens Plaza N and 22-09 41st Ave. Long Island City, NY 11101	-	N/A
Expansion: Core	C14	28-11 47th Ave. Long Island City, NY 11101	-	There is public road access on entire lot perimeter.
Expansion: Core Subtotal		13		
Expansion: Waterfront	W1	42-30 Vernon Blvd. Long Island City, NY 11101	-	N/A

Expansion: Waterfront	W2	41-98 to 42-16 Vernon Blvd. Long Island City, NY 11101	-	N/A
Expansion: Waterfront	W3	44-36 44 Dr. Long Island City, NY 11104	-	N/A
Expansion: Waterfront	W4	4-99 44th Dr. Long Island City, NY 11101	-	N/A
Expansion: Waterfront	W5	4-40 44th Dr. Long Island City, NY 11101	Block A	N/A
Expansion: Waterfront	W6	5-40 44th Dr. Long Island City, NY 11101	-	N/A
Expansion: Waterfront	W7	44-00 and 44-02 Vernon Blvd. Long Island City, NY 11101	-	Property is governed by restrictive declaration established in 1991, which requires extension of 44th Ave as a mapped street, which is approximately 47,000 sf in size (excluded from lot size).
Expansion: Waterfront	W8	5-25/39 46th Ave. Long Island City, NY 11101	Block B	N/A
Expansion: Waterfront	W9	5-02/46 46th Ave. Long Island City, NY 11101	Block C	N/A
Expansion: Waterfront	W10	43-82 Vernon Blvd. Long Island City, NY 11101	-	TBD
Expansion: Waterfront Subtotal		10		

Expansion: All Subtotal		23		
All Phases		24		

8. Ownership: describe the ownership of Site, including the ownership structure and any entitlements.

Phase	Site ID	Street Address	Building Name	Parcel Control (Fee Ownership Unless Otherwise Noted)
Phase 1: Core	C1	1 Court Square W. Long Island City, NY 11101	One Court Square	Savanna
Phase 1: All Subtotal		1		
Expansion: Core	C2	31-00 47th Ave. Long Island City, NY 11101	The Falchi Building	Savanna
Expansion: Core	C3	37-18 Northern Blvd. Long Island City, NY 11101	Standard Motor Products Building	RXR
Expansion: Core	C4	4555 Pearson St Long Island City, NY 11101	-	TF Cornerstone (ground leased from private entity)
Expansion: Core	C5	24-02 49th Ave. Long Island City, NY 11101	NYCHA Building	Joint venture of Innovo Property Group and Westbrook Partners

Expansion: Core	C6	42-50 24th St. Long Island City, NY 11101	-	Joint venture of Fisher Brothers and Hakim Org
Expansion: Core	C7	31-08 and 31-16 Northern Blvd. Long Island City, NY 11101	-	Criterion Group
Expansion: Core	C8	11-24 Jackson Ave. Long Island City, NY 11101	-	City of New York (owns any FAR generated after construction of railway platform over land; State owns 100% of land via MTA)
Expansion: Core	C9	42-22 22nd St, 42-25 21st St. Long Island City, NY 11101	-	Silvercup (RXR as co- developer)
Expansion: Core	C10	21-21 43rd Ave. Long Island City, NY 11101	-	Silvercup (RXR as co- developer)
Expansion: Core	C11	47-40 21st St. Long Island City, NY 11101	Hunters Point Plaza	Plaxall, Inc.
Expansion: Core	C12	21-16 Jackson Ave. Long Island City, NY 11101	-	City of New York (owns any FAR generated after construction of railway platform over land; more than 80% of land owned by State via MTA; remainder of land owned

				by Amtrak)
Expansion: Core	C13	22-09 Queens Plaza N and 22-09 41st Ave. Long Island City, NY 11101	-	Criterion Group (under contract to acquire parcel)
Expansion: Core	C14	28-11 47th Ave. Long Island City, NY 11101	-	LaGuardia Community College
Expansion: Core Subtotal		13		
Expansion: Waterfront	W1	42-30 Vernon Blvd. Long Island City, NY 11101	-	Silvercup (option to purchase from New York Power Authority)
Expansion: Waterfront	W2	41-98 to 42-16 Vernon Blvd. Long Island City, NY 11101	-	Silvercup (RXR as co- developer)
Expansion: Waterfront	W3	44-36 44 Dr. Long Island City, NY 11104	-	City of New York
Expansion: Waterfront	W4	4-99 44th Dr. Long Island City, NY 11101	-	TF Cornerstone (ground lease from City of New York for 99 years)
Expansion: Waterfront	W5	4-40 44th Dr. Long Island City, NY 11101	Block A	Plaxall, Inc.
Expansion: Waterfront	W6	5-40 44th Dr. Long Island City, NY 11101	-	TF Cornerstone (ground lease from City of New York for 99 years)

Expansion: Waterfront	W7	44-00 and 44-02 Vernon Blvd. Long Island City, NY 11101	-	Sussman (leads joint venture)
Expansion: Waterfront	W8	5-25/39 46th Ave. Long Island City, NY 11101	Block B	Plaxall, Inc.
Expansion: Waterfront	W9	5-02/46 46th Ave. Long Island City, NY 11101	Block C	Plaxall, Inc.
Expansion: Waterfront	W10	43-82 Vernon Blvd. Long Island City, NY 11101	-	Consolidated Edison
Expansion: Waterfront Subtotal		10		
Expansion: All Subtotal		23		
All Phases		24		

#### 9. Acquisition Cost (if any)

Please describe if all or a portion of Site will be made available at no or a reduced cost to the Project.

Parcels may be available via various deal structures (e.g., ground lease or potential acquisition). The cost of any given site will depend on deal structure and Amazon's requirements for build-out and lease and/or purchase. Below are illustrative annual rents per square foot after as-of-right incentives (amortized over 15 years) for Long Island City:

Site	Gross Illustrative Rent Per Square Foot	Less As-of-Right Incentives Per Square Foot	Net Illustrative Rent Per Square Foot After As-of-Right Incentives
Long Island City	\$40-65	\$16	\$24-49



Assuming Amazon's full buildout schedule over sixteen years, the value of as of right incentives on a present value basis is \$8 per square foot when amortized over 31 years (representing fifteen year illustrative lease term at conclusion of sixteen year buildout).

a. Public

(i) Will a government agency make Site available to the Project at no cost?

Yes  No

(ii) If No, specify the per acre (and total) cost of Site to the Project?

See above. The lease or sale of public sites is determined by an appraisal, which takes into account the specific use terms set forth in the ground lease or other transaction documents. The City and State look forward to working with Amazon to arrive at mutually agreeable business terms for any publicly-controlled and/or publicly-owned sites.

b. Nonprofit

(i) Will a nonprofit entity make Site available to the Project at no cost?

Yes  No  Not Applicable

(ii) If No, specify the per acre (and total) cost of Site to the Project.

[Click here to enter text.](#)

c. Private

(i) Will individuals or corporations or other entities make Site available to the Project at no cost?

Yes  No

(ii) If No, specify the per acre (and total) cost of Site to the Project.

A number of properties presented in this submission are owned by private parties. While indicative rents have been included in the response, the specific terms for any particular parcel will be determined in cooperation with respective private owners and the City and State, as applicable. In addition, private real estate firms that proposed buildings for Amazon's Phase 1 occupancy have executed agreements with NYCEDC that commit them to refrain from leasing their space until 2018. The City and State look forward to working with Amazon to structure mutually agreeable terms for any and all parcels included within the response.

10. Parking: identify all current and future parking options for Site

Public parking garages within a quarter mile, identified on the attached Map #RE-04, have a capacity of 2,530 vehicles. Rates for reserved monthly parking spots in those garages range from \$300 to \$400 per month. Up to 100 additional accessory parking spaces would be permitted at new construction as-of-right; which could be dedicated for Amazon use. Most daily commuters to Long Island City use public transit options. Local business trips

and airport transfers are typically made by taxi or local black car services. Office buildings typically designate curbside drop-off points, allowing for door-to-door service.

a. Existing and Planned Retail Development near Site

Long Island City, one of the fastest-growing and most creative and productive neighborhoods in the nation, is experiencing a retail renaissance. Vernon Boulevard, the Waterfront and Jackson Avenue are the three central retail spines in the neighborhood; they link the proposed development sites in the Commercial Core with the Waterfront district and parks. The neighborhood sits at the intersection of arts, industry and community, and is home to a diverse creative scene represented by dozens of small studios and galleries and the world-renowned MoMA PS1. Award-winning food and beverage establishments run the gamut, from Michelin-starred Mexican restaurant to classic diners to craft breweries to ethnic cuisine, at all price points and reflecting the cultural diversity of Queens. Performing arts theaters, comedy clubs, rock-climbing centers, and summer concerts attract fans and visitors from around the city. Film buffs enjoy international festivals, outdoor screenings of family films and classics, and multiplexes showing the latest blockbusters. There are many new retail spaces under development as well, so an Amazon campus integrated into the neighborhood will both benefit from and shape the neighborhood's offerings.

(i) Restaurants

Dining choices in Long Island City include everything from artisanal coffee shops serving thoughtfully-sourced, house-roasted brews, to white-tablecloth restaurants. One can find Thai, Hungarian, Italian, Greek, Ecuadorian, Dominican, and many more options, that reflect the tremendous diversity (and appetite) of New York City, and of Queens in particular, as well as health-focused cafeteria-style lunch spots and hot new restaurants and trendy cocktail lounges.

(ii) Cinemas

UA Astoria shows box office hits and mainstream movies.

The Kaufman Arts District (31st Street to the west, 34th Avenue to the north, Steinway Street to the east, and 37th Avenue to the south) is home to one of the oldest continuously used movie studios in the world, as well as distinctive cultural institutions that support emerging artists.

Within this arts district, the Museum of the Moving Image advances visitors' understanding, enjoyment, and appreciation of the art, history, technique, and technology of film, television, and digital media. The museum is a showcase for exhibitions, education programs, significant moving-image works, and interpretive programs, and it collects and preserves moving-image related artifacts. Each year the museum screens more than 400 films.

(iii) Shopping

Independent bookstores, pharmacies, gift shops, clothing boutiques and vintage costume shops, quirky thrift stores and ‘flea & food’ markets are all part of the growing shopping scene in Long Island City. The neighborhood holds over 352,000 square feet of retail space, with an additional 150,000 square feet expected near the Sites by 2020. A range of high-end department stores and big-box retailers are nearby.

(iv) Other Public Gathering Spaces (such as coffee shops and local breweries)

MOMA PS1 hosts community dance parties throughout the summer. At the LIC Flea, a market and food hall, shoppers can select wares from local vendors throughout the year. Popular coffee shops include COFFEED, Birch Coffee, and The Mill. Bierocracy, a bar modeled on Central European beer halls, offers patrons a unique place to drink, eat and meet in an “old world” communal beer hall atmosphere.

11. Affordable Housing: identify available affordable housing options within close proximity to Site

Long Island City offers diverse housing options with reasonable commutes at a variety of price points. Choices include dense local neighborhoods where employees could walk or bike to work; diverse outer-borough and New Jersey neighborhoods accessible by subway and commuter rail; and towns and small cities in Long Island, Westchester, and beyond along commuter rail lines. The immediate neighborhood is home to 170,000 people residing in historic single-family houses, affordable apartments, mixed-income developments, and high-rise luxury condos. As one of the nation’s fastest-growing neighborhoods, Long Island City is well suited to meet Amazon’s housing needs. Eight thousand units will be completed by the end of 2018 and another 11,000 units are expected by 2019 and beyond.

Long Island City rents are roughly in line with NYC average rents. Average asking rents are \$2,900 per month for a 1-bedroom apartment and \$3,700 for a 2-bedroom apartment. However, nearby neighborhoods such as Astoria offer rents at around roughly two-thirds of LIC asking rents.

Area	Average Asking Rent (1 BR)	Average Asking Rent (2 BR)
Long Island City	\$2,900	\$3,700
Alternative Queens Neighborhood: Astoria	\$2,000	\$2,500
NYC	\$2,700	\$3,600

Single family homes are a small portion of the market in Long Island City. The metropolitan region, which includes New York City and neighboring counties in Long Island, New Jersey and upstate New York, has a median listing price of \$399,000 for a three-bedroom home. In Queens County, the median listing price for a three-bedroom house is \$555,000. Prices vary significantly by neighborhood, and there is a wide range of housing types, price points and neighborhood feel, from densely urban to quietly suburban options.

The City and State both have a robust affordable housing program, Housing New York. The City’s ambitious “Housing New York” plan intends to build or preserve 300,000 affordable homes by 2026 and has already contributed to the creation of over 20,000 new housing units and the preservation of thousands of additional units since 2014.

12. Greenspace Features: are there greenspace features that enhance Site (e.g., parks, jogging trails, etc.)

There are more than 45 acres of open space in Long Island City. Gantry Plaza State Park and Hunters Point South Park offer stunning views of the Manhattan skyline and encourage leisurely strolls and relaxation on their open lawns, as well as active exercise on basketball courts, playgrounds, and handball and volleyball courts. There is also a fishing pier.

In addition, smaller, neighborhood pocket parks contain playgrounds, dog runs, and community gardens, encouraging intergenerational mingling. The Queens West Sports Fields host soccer matches for players of all ages on new turf fields. The park and its running track are open to the public at 7 am.

Name	Location	Amenities	Size
Gantry Plaza State Park	Waterfront	Basketball courts, playgrounds, jogging/biking trails; open lawns; outdoor concerts	12 acres
Hunter’s Point South Park	Waterfront	Central green, playground, dog run, bikeway, waterside promenade, basketball court, 13,000 square foot pavilion that contains comfort stations, concessions, and an elevated cafe plaza.	10 acres
Queens West Sports Fields	Waterfront	Sports field	~1 acre
Andrews Grove	Core	Playground	One-half acre
John F Murray Playground	Core	Playground; Dog Park, hand ball courts, spray showers	2.52 acres

13. Plat(s): attach plat(s) of Site and label according to section.

New York City property ownership is defined by Tax Maps rather than plats. The Department of Finance administers the apportionment process and has digitized and made public all tax lot boundaries. The attached land use maps show tax lots within the Site and surrounding neighborhoods. The specific tax lot dimensions of any parcel can be found at NYC Department of Finance's Digital Tax Maps, <http://gis.nyc.gov/taxmap/>. Please refer to Maps #RE-05 and RE-06 for additional information.

## B. Planning/Zoning

1. Designation(s): identify Site's current planning/zoning designations(s)

Phase	Site ID	Street Address	Building Name	Current Planning/Zoning Designations
Phase 1: Core	C1	1 Court Square W. Long Island City, NY 11101	One Court Square	C5-3
Phase 1: All Subtotal		1		
Expansion: Core	C2	31-00 47th Ave. Long Island City, NY 11101	The Falchi Building	M1-4
Expansion: Core	C3	37-18 Northern Blvd. Long Island City, NY 11101	Standard Motor Products Building	M1-5
Expansion: Core	C4	4555 Pearson St Long Island City, NY 11101	-	M1-5/R7-3
Expansion: Core	C5	24-02 49th Ave. Long Island City, NY 11101	NYCHA Building	M1-4
Expansion: Core	C6	42-50 24th St. Long Island City, NY 11101	-	M1-5/R9
Expansion: Core	C7	31-08 and 31-16 Northern Blvd. Long Island City, NY 11101	-	M1-5

Expansion: Core	C8	11-24 Jackson Ave. Long Island City, NY 11101	-	M1-5/R7X
Expansion: Core	C9	42-22 22nd St, 42-25 21st St. Long Island City, NY 11101	-	M1-5
Expansion: Core	C10	21-21 43rd Ave. Long Island City, NY 11101	-	M1-5
Expansion: Core	C11	47-40 21st St. Long Island City, NY 11101	Hunters Point Plaza	M1-5/R7X
Expansion: Core	C12	21-16 Jackson Ave. Long Island City, NY 11101	-	M1-5/R7X
Expansion: Core	C13	22-09 Queens Plaza N and 22-09 41st Ave. Long Island City, NY 11101	-	M1-5
Expansion: Core	C14	28-11 47th Ave. Long Island City, NY 11101	-	M1-4
Expansion: Core Subtotal		13		
Expansion: Waterfront	W1	42-30 Vernon Blvd. Long Island City, NY 11101	-	MX9 (M1- 5/R10)
Expansion: Waterfront	W2	41-98 to 42-16 Vernon Blvd. Long Island City, NY 11101	-	MX9 (M1- 5/R10)
Expansion: Waterfront	W3	44-36 44 Dr. Long Island City, NY 11104	-	M1-4
Expansion: Waterfront	W4	4-99 44th Dr. Long Island City, NY 11101	-	M1-4
Expansion: Waterfront	W5	4-40 44th Dr. Long Island City, NY 11101	Block A	M1-4
Expansion: Waterfront	W6	5-40 44th Dr. Long Island City, NY 11101	-	M1-4

Expansion: Waterfront	W7	44-00 and 44-02 Vernon Blvd. Long Island City, NY 11101	-	R9, C2-5/R7A & R7A
Expansion: Waterfront	W8	5-25/39 46th Ave. Long Island City, NY 11101	Block B	M1-4
Expansion: Waterfront	W9	5-02/46 46th Ave. Long Island City, NY 11101	Block C	Mostly M1-4 and a small portion zoned as M1-4/R6A
Expansion: Waterfront	W10	43-82 Vernon Blvd. Long Island City, NY 11101	-	M1-4
Expansion: Waterfront Subtotal			10	
Expansion: All Subtotal			23	
All Phases			24	

2. Floor Area Ratio (FAR): identify Site's current FAR

Phase	Site ID	Street Address	Building Name	Current Built or Planned FAR (Total ; Commer. ; Resi. )	Current Max Allowable FAR (Total ; Commer. ; Resi. )	Proposed FAR if Rezoning Required (Total ; Commer. ; Resi. )	Notes on Zoning
Phase 1: Core	C1	1 Court Square W. Long Island City, NY 11101	One Court Square	15.0 ; 15.0 ; 0.0	15.0 ; 15.0 ; 10.0	N/A ; N/A ; N/A	-
Phase 1: All Subtotal		1					
Expansion: Core	C2	31-00 47th Ave. Long Island City, NY	The Falchi Building	4.7 ; 4.7 ; 0.0	6.5 ; 2.0 ; 0.0	N/A ; N/A ; N/A	Currently overbuilt at 4.7 FAR. Max

		11101					allowable FAR of 6.5 is for community facility use.
Expansion: Core	C3	37-18 Northern Blvd. Long Island City, NY 11101	Standard Motor Products Building	7.5 ; 7.5 ; 0.0	5.0 ; 5.0 ; N/A	N/A ; N/A ; N/A	-
Expansion: Core	C4	4555 Pearson St Long Island City, NY 11101	-	3.5 ; 3.5 ; 0.0	5.0 ; 5.0 ; 5.0	N/A ; N/A ; N/A	-
Expansion: Core	C5	24-02 49th Ave. Long Island City, NY 11101	NYCHA Building	5.5 ; 5.5 ; 0.0	2.0 ; 2.0 ; 0.0	N/A ; N/A ; N/A	-
Expansion: Core	C6	42-50 24th St. Long Island City, NY 11101	-	0.0 ; 0.0 ; 0.0	8.0 ; 8.0 ; 8.0	18.0 ; 18.0 ; 12.0	-
Expansion: Core	C7	31-08 and 31-16 Northern Blvd. Long Island City, NY 11101	-	Minimal and would be demolished ; Minimal and would be demolished ; 0.0	5.0 ; 5.0 ; 0.0	N/A ; N/A ; N/A	-
Expansion: Core	C8	11-24 Jackson Ave. Long Island City, NY 11101	-	0.0 ; 0.0 ; 0.0	5.0 ; 5.0 ; 5.0	12.0 ; 12.0 ; 12.0	-
Expansion: Core	C9	42-22 22nd St, 42-25 21st St. Long Island City, NY	-	Minimal and would be demolished ; Minimal	5.0 ; 5.0 ; 0.0	N/A ; N/A ; N/A	-



		11101		and would be demolished ; 0.0			
Expansion: Core	C10	21-21 43rd Ave. Long Island City, NY 11101	-	Minimal and would be demolished ; Minimal and would be demolished ; 0.0	5.0 ; 5.0 ; 0.0	N/A ; N/A ; N/A	-
Expansion: Core	C11	47-40 21st St. Long Island City, NY 11101	Hunters Point Plaza	Minimal and would be demolished ; Minimal and would be demolished ; 0.0	5.0 ; 5.0 ; 5.0	N/A ; N/A ; N/A	-
Expansion: Core	C12	21-16 Jackson Ave. Long Island City, NY 11101	-	Minimal and would be demolished or decked over ; Minimal and would be demolished or decked over ; 0.0	0.0 ; 0.0 ; 0.0	up to 12.0 ; up to 12.0 ; up to 12.0	Rezoning could be from 8.0 FAR (yielding 3.0 million office gsf available to Amazon) to 12.0 FAR (yielding 6.0 million office gsf available to Amazon). Max allowable FAR of 6.5 is for community facility use.

Expansion: Core	C13	22-09 Queens Plaza N and 22-09 41st Ave. Long Island City, NY 11101	-	Minimal and would be demolished ; Minimal and would be demolished ; 0.0	5.0 ; 5.0 ; 0.0	N/A ; N/A ; N/A	-
Expansion: Core	C14	28-11 47th Ave. Long Island City, NY 11101	-	0.0 ; 0.0 ; 0.0	6.5 ; 2.0 ; 0.0	TBD ; TBD ; TBD	GSF reflects parking lot square footage. Max allowable FAR of 6.5 is for community facility use. Rezoning would be necessary to achieve additional square footage but hasn't been proposed.
Expansion: Core Subtotal		13					
Expansion: Waterfront	W1	42-30 Vernon Blvd. Long Island City, NY 11101	-	0.0 ; 0.0 ; 0.0	7.9 ; 5.0 ; 7.9	N/A ; N/A ; N/A	-
Expansion: Waterfront	W2	41-98 to 42- 16 Vernon Blvd. Long Island City, NY 11101	-	Minimal ; Minimal ; 0.0	7.9 ; 5.0 ; 7.9	N/A ; N/A ; N/A	Existing FAR represents less than 2,500SF landmarked building.

Expansion: Waterfront	W3	44-36 44 Dr. Long Island City, NY 11104	-	3.9 ; 3.9 ; 0.0	6.5 ; 2.0 ; 0.0	TBD	Rezoning would be necessary to achieve additional square footage.
Expansion: Waterfront	W4	4-99 44th Dr. Long Island City, NY 11101	-	0.0 ; 0.0 ; 0.0	2.0 ; 2.0 ; 0.0	8.5 ; 8.5 ; 8.5	-
Expansion: Waterfront	W5	4-40 44th Dr. Long Island City, NY 11101	Block A	Minimal and would be demolished ; Minimal and would be demolished ; 0.0	2.0 ; 2.0 ; 0.0	N/A ; N/A ; N/A	-
Expansion: Waterfront	W6	5-40 44th Dr. Long Island City, NY 11101	-	Minimal and would be demolished ; Minimal and would be demolished ; 0.0	2.0 ; 2.0 ; 0.0	6.7 ; 6.7 ; 6.7	-
Expansion: Waterfront	W7	44-00 and 44-02 Vernon Blvd. Long Island City, NY 11101	-	0.0 ; 0.0 ; 0.0	TBD ; Minimal ; 5.5	12.0+ ; 6.4 ; 5.6	Via rezoning, extension of 44th Ave. could be shifted on site to allow for larger footprint for commercial building. Rezoning also required for 12+

							FAR (minimum required for 1M GSF+ of commercial uses while preserving existing amount of residential permitted).
Expansion: Waterfront	W8	5-25/39 46th Ave. Long Island City, NY 11101	Block B	Minimal and would be demolished ; Minimal and would be demolished ; 0.0	2.0 ; 2.0 ; 0.0	N/A ; N/A ; N/A	-
Expansion: Waterfront	W9	5-02/46 46th Ave. Long Island City, NY 11101	Block C	Minimal and would be demolished ; Minimal and would be demolished ; 0.0	2.0 ; 2.0 ; Minimal	N/A ; N/A ; N/A	-
Expansion: Waterfront	W10	43-82 Vernon Blvd. Long Island City, NY 11101	-	Minimal and would be demolished ; Minimal and would be demolished ; TBD	6.5 ; 2.0 ; 0.0	TBD	Max allowable FAR of 6.5 is for community facility use. Rezoning would be necessary to achieve additional square footage.

Expansion: Waterfront Subtotal		10					
Expansion: All Subtotal		23					
All Phases		24					

3. Permitted Use(s): briefly describe Site’s current permitted use(s)

The Sites currently permit a wide range of uses, including high-density residential, commercial, light and heavy manufacturing, and community facility uses.

The Waterfront District is composed of opportunity sites that can complete an emerging waterfront while supporting the commercial uses, light industry and arts for which the area is known. It is expected that Waterfront District parcels will adhere to the specifications of a waterfront access plan, which supports the City’s goal of ensuring that the waterfront accommodates continuous public access along the East River.

The Commercial Core is a true mixed-use area that allows residential, commercial, light manufacturing, and retail uses. It is located partially within the Special Long Island City Mixed Use district, one of New York City’s special zoning districts that are used to achieve specific planning and urban design objectives in defined areas with unique characteristics. The Special Long Island City District encourages density and flexibility of uses that would support Amazon’s needs. The highest densities are allowed near subway stations at Queens Plaza, where special bulk provisions encourage tower development and facilitate one of the highest allowable as-of-right densities in Queens. More information about the Special Long Island City Mixed Use district is here:

<http://www1.nyc.gov/assets/planning/download/pdf/zoning/zoning-text/art11c07.pdf?r=0830>

4. Rezoning: must Site be rezoned for the Project’s expected use?

Some proposed parcels are entitled, including those identified for Amazon’s initial 500,000 square feet, while others require rezoning or other land use actions (as shown in the attached tables) to achieve the proposed development program. The City and State are open to discussing zoning changes depending on the specific parcels Amazon would like to further review. Depending on the specific site ownership characteristics of a specific parcel, the City and/or private owners would join Amazon as a co-applicant(s) on any rezoning applications necessary, or the City and State would work together to override zoning, as appropriate, to achieve HQ2.

- a. If Yes, outline rezoning process, including all government approvals, public hearings, and schedule. Please describe any opportunity to fast track.

There are two potential entitlement methods that the City and State may employ to deliver HQ2: the City-led ULURP process, and the State-led General Project Plan process.

Typically, to rezone property in New York City, an application for rezoning must be made to the New York City Department of City Planning. An accompanying City Environmental Quality Review (CEQR), would also be submitted. A rezoning action requires a public review process pursuant to the Uniform Land Use Review Procedure (ULURP), which includes a mandated timeline for public and agency review. ULURP requires review from the local community board (60-day review period), the Borough President (30-day review period) the City Planning Commission (60-day review period), and the City Council (50 days). The local community board and Borough President recommendations are advisory; the City Planning Commission and City Council votes are binding. The ULURP process may take from seven to nine months and is subject to mandatory maximum review periods. The ULURP timeline may be reduced by several months if any of the above parties choose not to use their full allotted review period.

More information about the Uniform Land Use Review Procedure is here:  
<http://www1.nyc.gov/site/planning/applicants/applicant-portal/step5-ulurp-process.page>

Alternatively, State-owned land may be granted a zoning override, thus removing the need to pursue a rezoning application. Specifically, Empire State Development (ESD) has authority to override local laws (including zoning requirements) and craft Payment In Lieu of Taxes (PILOT) agreements through a General Project Plan (GPP), a process that takes 15 to 18 months. The process begins with ESD developing a draft General Project Plan (GPP) and draft Environmental Impact Statement (EIS), which requires a public scoping meeting early in the process and adoption by the ESD Board of Directors. ESD then holds a public hearing for comment on the draft GPP and draft EIS, followed by a 30-day public comment period. The ESD Board of Directors then certifies the final EIS, typically 3 months after close of public comment, and approves the final GPP, typically one month after EIS certification. Finally, the Public Authorities Control Board (PACB) approves the ESD Board action, typically one month after ESD Board approval (PACB board members are appointed by the Governor's Director of the Budget, the Speaker of the State Assembly, and the Temporary President of the State Senate).

The City and State will work with Amazon to determine the optimal way to streamline land use approvals.

- b. If Yes, will governments commit to rezoning prior to Site selection?

The City and State will consider requests for specific site rezoning and welcome a discussion with Amazon as to appropriate changes to underlying zoning.

## 5. Neighboring Properties

- a. Designation(s): identify current planning/zoning designation(s) for Neighboring Properties.

In both the Waterfront and Commercial Core, the neighboring properties reflect similar diverse zoning designations as the broader Long Island City neighborhood, including the Special Long Island City Mixed Use District. These include zoning for high density residential, commercial, light and heavy manufacturing, and community facility uses.

More information on the zoning in the Special Long Island City Mixed Use district may be found here: <http://www1.nyc.gov/assets/planning/download/pdf/zoning/zoning-text/art11c07.pdf?r=0830> A In addition, a zoning map of the area may be found here: <http://www1.nyc.gov/assets/planning/download/pdf/zoning/zoning-maps/map9b.pdf>

- b. Permitted Use(s): briefly describe Neighboring Properties' permitted use(s).

Permitted uses for neighboring properties of the Waterfront and Commercial Core are mixed low- and high-density manufacturing; mixed light manufacturing and high-density residential; and mixed high-density residential and commercial.

### **C. Environment –**

#### **1. Site and Improvements (if any)**

- a. Prior Use(s): detail prior use(s) of Site (or portion of Site) in reverse chronological order.

Please refer to the attached Commercial Core and Waterfront documents (please refer to Exhibits #RE-13 and RE-14). The documents are historic aerial views of the project areas showing site uses, arranged in reverse chronological order from 2012 back to 1924. Each photo group also has a street map for orientation purposes. In addition, some Sanborn maps for the area are provided from the timeframe of each photo.

Waterfront District: The 2012 photo of the waterfront area shows mainly commercial, warehouse and light industrial uses. Sanborn maps show a mix of City-owned properties as well as utility- and privately-owned parcels. The 1951 photo shows that the area became much more industrial, and the 1950 Sanborn shows that there were a number of industries present in addition to an oil company with multiple tanks and various warehouses. The 1924 photo shows numerous above-ground storage tanks, and the Sanborn for 1922 indicates that these were associated with Standard Oil Corp. In addition, a number of warehouses and industrial buildings were present at that time.

As uses shifted, many of these areas have been successfully redeveloped under City and State oversight as residential and/or commercial uses. For areas that have not yet been redeveloped, the City and State have comprehensive programs in place to address and support brownfield remediation and redevelopment.

Commercial Core District:

The aerial photographs of the Commercial Core indicate that the Site was a railyard surrounded by industrial and commercial buildings from 1924 through the present. The

Sanborn maps reveal that the railyards were in place as early as 1915, and since then the area primarily has been occupied by industrial and commercial uses. In 1990, the Citibank building, a 50-story office tower, was built, spurring infrastructure investment and additional development.

b. Environmental Event(s)

- (i) Detail each environmental event occurring on Site (or portion of Site) in reverse chronological order. (Environmental events include – but are not limited to – any contamination, dumping, explosion, fire, landfill or spill of any kind or description)

Most properties in New York City have been subject to environmental events of some sort. In this case, a review of the NYSDEC Environmental Site Database at <http://www.dec.ny.gov/cfm/xtapps/derexternal/index.cfm?pageid=2> indicates that the area has had approximately 20 reported spills since 1978, most of which were small quantities that do not present material impediments to development and are routinely dealt with in the course of development in NYC. The database also indicates five properties in the area that have been accepted into the New York State Brownfield Cleanup Program (see below). It should be noted that substantial amounts of historic fill are located at almost all properties in New York, and this type of fill often contains non-hazardous levels of metals, SVOCs, small amounts of petroleum contamination and other contaminants.

- (ii) Describe any environmental cleanup or remediation occurring on Site (or portion of Site) as a result of an environmental event or otherwise in reverse chronological order. Please also include any environmental studies as supplemental information.

New York City remediation follows a typical pattern: investigation, remediation of any active source areas (hot spots), capping, installation of a soil vapor barrier, and preparation of an environmental easement/site management plan with ongoing annual requirements to certify that the cap is still in place and any other engineering controls are still operational. These remedial efforts are overseen by either the city Office of Environmental Remediation on less contaminated sites, or the New York State Department of Environmental Conservation on more contaminated sites. Both the City and State have Brownfield Cleanup Programs that offer clear and consistent cleanup procedures and policies, as well as incentives for developers and innocent purchasers to perform cleanup. In the case of the State program, these incentives are in the form of tax credits that can represent a maximum of \$30 million per project (see references section for links to these programs). Remediation is typically performed by qualified site developers as part of site build-out to maximize efficiency during soil movement onsite.

c. Environmental Study

- (i) Detail each environmental study undertaken on Site (or portion of Site) in reverse chronological order.

In the Waterfront District, the NYCDEC database contains four sites that have applied to NYSDEC's Brownfields Cleanup Program. Of these, two have not yet performed sufficient investigation to indicate the ultimate remediation. Two



(Silvercup West-Parcel A/Site ID W2, and Parcel C/Site ID W1 have completed remediation (see maps and property table in appendix to locate via site ID).

The remediation for the contaminants found in the Waterfront and Commercial Core Districts involved removal of petroleum-contaminated and metals-contaminated soil, removal of historic fill that was not suitable for reuse, removal of tanks, and recovery of free product and capping. Commercial and multifamily residential development is now permitted on the Sites. It is expected that upon completion of remediation of the other parcels, similar uses will be permitted.

In addition, in the Commercial Core District, the area between Arch Street, 49<sup>th</sup> Avenue and Jackson Avenue is subject to a cleanup agreement with NYCDEC. After investigation, it was determined that there was a VOC spill in a single limited area, likely within the vicinity of parcels C8 and C11. The spill did not migrate due to the fine grain and high organic content of the soil. Other organics are present in the area, but all are at levels below applicable NYCDEC standards. Soil vapor levels were high in the area of the spill but below ambient levels elsewhere. Remediation at this site will most likely focus on mitigation of the identified VOC spill.

- (ii) Provide copies of environmental studies performed on the site within the prior three years.

Environmental reports are typically performed by private parties and have not been performed on all of the parcels in the Site. However, if a particular parcel is of interest, the City and State will determine the status and seek to obtain the study if one has been performed.

## 2. Neighboring Properties –

- a. Prior Use(s): detail prior use(s) of Neighboring Properties in reverse chronological order. Please include any environmental events. Please also include any environmental studies as supplemental information

Neighboring properties are generally commercial, light industrial, or residential in nature. The aerial photographs do not show any significant differences in land use between the Site and neighboring properties, so the neighboring properties likely have a similar history with manufacturing prior uses and historic fill.

## 3. Topography –

- a. Elevation: identify Site's minimum and maximum topographic elevation. Please provide a topographic survey of Site, if available.

The Waterfront and Commercial Core Districts are generally flat in elevation (refer to Map #RE-07). The parcels located above the rail yards in the Commercial Core will be

elevated on truss structures, but will be integrated into the surrounding neighborhood in a walkable fashion.

b. Terrain: describe Site's terrain and Neighboring Properties' terrain:

The Waterfront District parcels are generally on terra firma, with bulkhead conditions at the water's edge. Parcels W1, W2 and W7 have rip rap conditions at the water's edge.

Many of the Commercial Core parcels are on terra firma; however part of the Arch Street yard site would be built over an MTA railyard on truss structures. Access to these towers would be at grade, with seamless integration into the surrounding neighborhoods.

c. Wetlands: describe bodies of water, creeks, ditches, lakes, ponds, rivers and wetlands, and identify governing body or regulatory agency for each for Site and Neighboring Properties.

The Waterfront District is bounded by the East River on the western side, the Queensboro Bridge to the north, Vernon Boulevard to the East and 46<sup>th</sup> and N. Basin Roads to the south. The waterfront parcels are adjacent to the East River as well as Anable Basin, both of which are classified as Estuarine and Marine Deepwater wetlands. These are regulated by the New York State Department of Environmental Conservation.

As long as the new development is built within the bulkheads, there would be no wetland mitigation required. The Commercial Core parcels are not located near any wetlands. Additional information is available at: <https://www.fws.gov/wetlands/data/mapper.html>

Following Superstorm Sandy in 2012, the NYC Building Code and Zoning Resolution were updated to consider flood risk in coastal flood areas. Recent development on waterfront properties has been designed to mitigate flood risk, and the City and State would work with Amazon and site owners to share best practices.

#### 4. Soils Types for Site and Neighboring Properties

The Waterfront District is topped with five to 20 feet of historic fill. Below the fill is a layer of natural sand or alluvial till. The bedrock is weathered gneiss, underlain by competent gneiss bedrock at 10-60 feet below ground surface. Groundwater is found 5-16 feet below grade. This geologic condition is typical along the waterfront, where significant development already exists.

The Commercial Core is also topped with historic fill, below which is generally a peat/clay discontinuous confining layer. Groundwater is typically 4-6 feet below ground surface.

- a. Testing: describe any geotechnical or other testing that has been or will be completed on Site (or portion of Site)

Geotechnical studies are typically performed by private parties and have not been performed on all of the Long Island City parcels. However, if a particular parcel is of interest, the City and State will determine the status and seek to obtain the study if one has been performed.

#### 5. Studies Permit(s)

- a. Specify all required environmental impact assessments and other environmental studies, and name relevant regulatory agency or agencies.

Unless a discretionary action (such as a rezoning) is needed, privately owned sites can be developed as-of-right without environmental review. However, in cases where there is a zoning action or other public entitlement, the State Environmental Quality Review Act (SEQRA) requires that a SEQR or City Environmental Quality Review (CEQR) be undertaken. These are processes by which New York State and/or City agencies determine what effect, if any, a discretionary action they approve may have upon the environment. SEQR/CEQR is a disclosure process and not an approval process. Completion of an environmental review supports other decisions made by agencies such as approvals of rezoning or variance applications, funding, or issuance of discretionary permits. Ministerial actions, such as the issuance of a building permit, are not subject to environmental review.

The Mayor's Office of Environmental Coordination (MOEC) assists many City agencies in carrying out their environmental review responsibilities, serves as the City's liaison to State and Federal agencies on environmental matters, and advises the Mayor on matters of environmental policy. MOEC's mission is to be a resource for City agencies and private applicants by providing information and assistance in completing the environmental review process and to help the City to lead by example in applying state-of-the-art green building requirements. For any State-owned properties, ESD would perform the SEQR in coordination with Amazon.

More information on CEQR may be found here:

<http://www1.nyc.gov/site/oec/environmental-quality-review/environmental-quality-review.page>

More information about the State Environmental Quality Review Act is here:

<https://www.dec.ny.gov/permits/357.html>

- b. Specify all required environmental permits, and name each government issuer of same. Can the environmental and building permits be integrated? Include a timetable for approvals.

Environmental permits are not expected to be required for the vast majority of properties located within the Site. Depending on the nature of a parcel, a permit may be required by the New York State Department of Environmental Coordination (DEC). For example,

most waterfront sites and former brownfield parcels would require a permit or approval of a brownfield clean-up plan from DEC; the permitting process can take up to one year if the parcel is more contaminated, but permitting can occur concurrently with the environmental review and building permitting processes. More information about permits from DEC may be found here: <http://www.dec.ny.gov/permits/89000.html>.

6. Process: briefly describe the environmental study and permit processes, from preliminary discussions to final action, including any appeal periods. Also include the total costs for a building permit.

As noted in 5a, environmental review is required if certain discretionary actions are proposed, such as a rezoning or zoning override. If a building is proposed according to the zoning already in place, no additional environmental review is required. More information on the specific analysis recommended for the City Environmental Quality Review may be found here, in the CEQR Technical Manual: <http://www1.nyc.gov/site/oec/environmental-quality-review/technical-manual.page>

New York City Department of Buildings has standard fee structures that are published on its website:

[http://www1.nyc.gov/assets/buildings/pdf/pw3\\_fee\\_schedule\\_factsheet.pdf](http://www1.nyc.gov/assets/buildings/pdf/pw3_fee_schedule_factsheet.pdf)

7. Code(s), Regulations –

- a. Include with your response a copy of the relevant state and local environmental code(s) and regulations. (Federal statutes and regulations need not be included with your response.)

NYS Solid Waste Regulations:

<https://govt.westlaw.com/nycrr/Browse/Home/NewYork/NewYorkCodesRulesandRegulations?guid=Ic884bcc0b5a011dda0a4e17826ebc834&originationContext=documenttoc&transitionType=Default&contextData=%28sc.Default%29>

NYS Superfund and Brownfield Cleanup Programs:

[https://govt.westlaw.com/nycrr/Browse/Home/NewYork/NewYorkCodesRulesandRegulations?guid=Idd484a00b5a011dda0a4e17826ebc834&originationContext=documenttoc&transitionType=Default&contextData=\(sc.Default\)](https://govt.westlaw.com/nycrr/Browse/Home/NewYork/NewYorkCodesRulesandRegulations?guid=Idd484a00b5a011dda0a4e17826ebc834&originationContext=documenttoc&transitionType=Default&contextData=(sc.Default))

Brownfield Tax Credits: <https://www.tax.ny.gov/pit/credits/brownfield-redevelopment-credit.htm>

Title 15 NYC Department of Environmental Protection including asbestos, e-designation, and stormwater drainage:

[http://library.amlegal.com/nxt/gateway.dll/New%20York/rules/therulesofthecityofnewyork?f=templates\\$fn=default.htm\\$3.0\\$vid=amlegal:newyork\\_ny](http://library.amlegal.com/nxt/gateway.dll/New%20York/rules/therulesofthecityofnewyork?f=templates$fn=default.htm$3.0$vid=amlegal:newyork_ny)

Title 1 NYC Department of Buildings:

[http://library.amlegal.com/nxt/gateway.dll/New%20York/rules/therulesofthecityofnewyork?f=templates\\$fn=default.htm\\$3.0\\$vid=amlegal:newyork\\_ny](http://library.amlegal.com/nxt/gateway.dll/New%20York/rules/therulesofthecityofnewyork?f=templates$fn=default.htm$3.0$vid=amlegal:newyork_ny)

NYC Environmental Quality Review for conducting Environmental analysis required when rezoning or other discretionary actions are taken by city agencies:

<http://www1.nyc.gov/site/oec/environmental-quality-review/technical-manual.page>

Zoning Rules: <https://www1.nyc.gov/site/planning/zoning/access-text.page>

b. Are amendments to the relevant environmental code(s) and regulations pending or proposed?

Yes

No

If Yes, please provide detail: No changes that the City reasonably believes would impact Amazon's ability to locate HQ2 in New York City

8. Noise Restrictions: detail all noise restrictions or limitations affecting Site and any exceptions to or exemptions from same. Attach the appropriate statutory and other authorities.

NYC has noise restrictions set forth in its Noise Code. The Code is enforced by the NYC Department of Environmental Protection and can be viewed here:

[http://www.nyc.gov/html/dep/pdf/noise\\_code\\_guide.pdf](http://www.nyc.gov/html/dep/pdf/noise_code_guide.pdf)

#### **D. Building –**

1. Permits: specify all required building permits, and name government issuer of same.

Environmental permit requirements will vary with building size, use, and location.

NYCEDC will work with Amazon to facilitate all required building permits with the NYC Department of Buildings.

2. Process

a. Briefly describe the building permit process, from pre-application discussions to final action, including any appeal periods.

NYCEDC and the New York City Department of Buildings (DOB) stand ready to assist Amazon with all aspects of the permitting process. The majority of construction in New York City, including both new construction and major alterations to buildings, requires a permit from DOB. Typically, a New York State licensed Professional Engineer or Registered Architect must file plans and secure permits before work begins. This involves review by a DOB plan examiner for code and zoning compliance. Alternately,

the PE or RA may opt to certify that the building plans comply with all applicable laws, obviating the need for DOB staff level review.

In the event that the PE or RA chooses to have a plan examiner review plans, DOB is prepared to offer Amazon a suite of pre-submission services. This would include specialized collaboration with its technical staff to walk through plan-related issues. DOB leaders would be available to meet with Amazon's applicants before submission to provide high-level guidance about filing approach. Specialized technical staff could be made available throughout the review, inspection and certificate of occupancy process to ensure a seamless experience.

Following the pre-submission process, Amazon's PE or RA could file the prepared design and construction plans electronically with DOB and track progress online through a transparent process that is among the first of its kind in the country. The HUB system is a state-of-the-art review center in Lower Manhattan that is equipped with large television screens, smart boards, and webcams and is designed to accelerate the approval process for construction projects. DOB's plan examiners and applicants review plans virtually using online meeting software. The plan examiners would raise any legal or zoning issues at this time, and through an iterative process, would work with Amazon's PE or RA to resolve them. Barriers to approval would be escalated and addressed by technical leadership expeditiously.

Upon resolution of any issues raised in plan review, DOB would approve the permit application, and work could commence.

- b. Briefly describe the estimated cost to obtain a building permit for the project. Please attach a copy of the building permit ordinance.

Although costs for permits will vary, total costs for all permitting including environmental permitting are estimated at 2%-5% of construction costs.

3. Timetable: outline the timetable for a building permit process for a project such as that proposed by the Project and include whether the community can commit to a timetable for approval.

With respect to the discrete steps in the permitting and inspection processes, the average timeframe for initial plan review is five days. The average time from initial submission through plan approval is five days. On average, four appointments are needed to correct any outstanding issues with plans for complex projects like new buildings. Scheduling an appointment takes less than one day on average in both Manhattan and Queens. Upon approval of plans, a building permit generally can be pulled the same day.

Inspections are the last step before DOB can issue a Certificate of Occupancy. Most DOB inspections occur within three days of a request from an RA or PE. The typical timeframe from successful completion of DOB inspections to issuance of a Certificate of Occupancy is two days.

4. Restrictions: outline any height restrictions relevant to Site.

The Commercial Core and Waterfront Districts both permit buildings up to 88 stories. If a taller building is desired, modifications can be sought, and the City and State will work with Amazon as appropriate.

**E. Utilities –**

For each of the following utilities/services, list the name of the utility/service provider, the person assigned to work with the Project and the relevant contact information for that person.

NYCEDC would provide assistance in determining the points of contact for utility/service providers.

- Water
- Wastewater
- Electricity
- Natural Gas
- Solid Waste
- Drainage/Storm Water
- Telecommunications
- Broadband

1. Water: Please provide name of service provider, distance to Site, line size, capacity of line and system, and any capital improvements planned.

New York City obtains its water supply from the Delaware, Catskill, and Croton reservoir systems, operated by NYC Department of Environmental Protection. The watersheds of the three reservoir systems extend as far as 125 miles north and west of the City, encompassing several reservoirs and lakes, with a storage capacity of 580 billion gallons. Water is delivered from these watersheds to New York City through a network of reservoirs, aqueducts, and tunnels. Within the city, networks of underground pipes distribute water to consumers. New York City water systems provide approximately 1.3 billion gallons per day to the five boroughs as well as Westchester, Putnam, Ulster, and Orange Counties. Water service is available in any of the streets adjacent to the Site.

a. Costs - For water service to project on Site, estimate the cost of each of the following:

The current NYCDEP water service rates can be found here:

[http://www.nyc.gov/html/nycwaterboard/pdf/rates/fy2018\\_rates.pdf](http://www.nyc.gov/html/nycwaterboard/pdf/rates/fy2018_rates.pdf)

- (i) Impact Fee
- (ii) Extension of water line(s)
- (iii) Installation of water line(s)
- (iv) Tap Fee(s)
- (v) Other relevant fees and assessments

To be determined by consult with DEP.

2. Wastewater: Please provide name of service provider, distance to Site, line size, capacity of line and system, and any capital improvements planned.

The Waterfront and Commercial Core rely on a combined sewer system (CSS) that conveys both sanitary sewage and storm water runoff to the Bowery Bay Water Pollution Control Plant (WPCP). As in most of New York City, the sewer system comprises combined sewers (for sanitary sewage and storm water), interceptor sewers, regulators, weirs, and diversion chambers. There are both combined and interceptor sewers beneath the streets adjacent to the Sites.

- a. Costs - For wastewater service to project on Site, estimate the cost of each of the following:

In NYC, sewer fees are currently calculated as 159% of a parcel's water bill.

- (i) Impact Fee
- (ii) Extension of sewage line(s)
- (iii) Installation of wastewater line(s)
- (iv) Tap Fee(s)
- (v) Other relevant fees and assessments

3. Electricity: Please provide name of service provider, distance to Site, if dual feed available, capacity of line and system (including peak usage), and any capital improvements planned.

Electricity is delivered to the Sites by a public utility, Consolidated Edison (Con Ed), and is available at any public street adjacent to the Sites.

- a. What is the expected proportion of renewable energy in the utility's generation mix over the next 20 years?

New York State has set an ambitious goal to generate 50 percent of the state's electricity using renewables by 2030. Renewable energy currently accounts for approximately 2% of electricity consumption in New York City, and there is currently 140 MW of installed solar capacity citywide. New York City is on track to meet its own 1000 MW solar target by 2030, which would also contribute toward achieving the State's broader goal. Also, New York State has announced a target to develop 2400 MW of offshore wind by 2030,



starting with two 400 MW solicitations—one in 2018 and another in 2019. These plans will require robust corporate participation as offtakers to ensure they can be financed at lowest cost. The first set of projects is expected to be built and operational by the mid-2020s.

- b. What options are or will be available for the project to use up to 100% renewable energy to serve their load?

New York State has enabled remote net metering and community distributed generation, two approaches that offer opportunities for businesses to support local renewable energy development. Remote net metering allows a business to generate bill credits from renewable energy installed off-site but within the same utility service territory and load zone. Community DG (e.g., community shared solar) was approved in New York State in mid-2015, and the first such projects are going live now in New York City. Businesses have an opportunity to participate in this burgeoning local clean energy marketplace by purchasing as much as 40% of the output from shared solar farms, which leverages their creditworthiness to make subscriptions for the remaining 60% of project output more accessible for other New York City residents who cannot install solar panels on their own rooftops. Businesses can participate in a variety of projects to meet 100% of their electricity needs with local renewable energy.

Furthermore, New York State has a competitive retail electricity market that allows businesses and residents to shop for their electric supply based on preferences including supporting clean energy generation. One of the benefits of New York's competitive market is access to information that enables the user to take into account the environmental impacts of each energy purchase. A twice-yearly Environmental Disclosure Label shows the mix of fuels used to generate electricity, and the related air emissions.

- c. What options are currently available to purchase power at Site on the open market?

Businesses in New York State can purchase renewable energy directly through remote net metering or community shared solar (see above).

Energy service companies supply electricity and natural gas to homes and businesses throughout New York. Some of these companies may offer a lower price for energy, or they may offer a green energy option that includes renewable energy certificates (RECs) from out-of-city utility-scale renewable sources like wind, solar, and hydroelectric power.

- d. What is the cost per kWh?

The New York Power Authority (NYPA) provides competitive hydro and market energy rates through its landmark RechargeNY program. Through this program, energy commodity discounts are available based on projected power usage, energy load, job creation and capital expenditures. Through ReCharge NY, one of the State's signature economic development initiatives, qualified businesses and nonprofits statewide can lower their energy costs by as much as 25% by using specially allocated NYPA power that is set aside by the State and the NYPA board for economic support. Standard

electrical rates from Con Edison are based on service classification. The Con Ed rate schedule is here:

[https://www.coned.com/\\_external/cerates/documents/elecPSC10/SCs.pdf](https://www.coned.com/_external/cerates/documents/elecPSC10/SCs.pdf) ..

4. Natural Gas: Please provide name of service provider, distance to Site, line size, capacity of line and system, and any capital improvements planned. Include any costs to the Project.

Natural Gas is delivered to the Site by a public utility, Consolidated Edison (Con Ed), and is available at any public street adjacent to the proposed parcels. Gas rates can be found here:

<https://www.coned.com/en/rates-tariffs/rates>

5. Telecommunication & Broadband

- a. Provider(s) - Name and describe providers of telecommunications (including cellular coverage) services to Site, and all high speed data links available to Site.

1. Commercial fiber providers
  - a. Altice / Cablevision Lightpath-NY, Inc.
  - b. Century Link / Level 3 Communications
  - c. Charter Communications, Inc.
  - d. Cogent Communications Group
  - e. Crown Castle / Lightower Fiber Networks
    - i. Map: <https://fiber.crowncastle.com/our-network>
  - f. Pilot Fiber
  - g. Stealth Communications
  - h. Verizon Communications
  - i. Windstream Communications
  - j. Zayo Group
  - k. ZenFi
    - i. Map: <http://zenfi.com/the-network/our-map/>
2. Terrestrial fixed wireless
  - a. Rainbow Broadband
  - b. Skywire / Xchange Telecom
  - c. Towerstream
  - d. Windstream
3. Cellular
  - a. Verizon Wireless
  - b. AT&T Wireless
  - c. T-Mobile
  - d. Sprint
4. Major nearby carrier/collocation hotels
  - a. 60 Hudson Street, New York, NY 10013
  - b. 111 Eighth Avenue, New York, NY 10011
  - c. 32 Avenue of Americas, New York, NY 10013
  - d. 33 Thomas Street, New York, NY

- e. 811 10th Avenue, New York, NY 10019
- f. 75 Broad Street, New York, NY 10004
- g. 85 10th Avenue, New York, NY 10011
- h. 7 Teleport Drive, Staten Island, New York 10311

b. Fiber maps/routes

Providers currently deliver service in both the Waterfront and Commercial Core Districts. Service can generally be provided at any street adjacent to the Sites. Additional information for each parcel can be provided upon request.

c. Estimated cost of dark fiber lease/ownership

The monthly cost of a pair of dark fiber in NYC depends primarily on the borough, quantity, term and end points. River crossings can drive up the price. For a major collocation/data center hub site, the estimated cost range could be:

- \$250-\$750/Monthly Recurring Charge (MRC) per pair in Manhattan depending on the number of pair and length of term.
- \$800-\$1200/MRC per pair in Long Island City (to Manhattan facility) depending on the number of pair and length of term.

A typical cost range for enterprise dark fiber, assuming a term of at least 5 years could be:

- Enterprise to enterprise: \$1500-\$3000/MRC
- Enterprise to Collocation/Data Center: \$1500-\$2500/MRC
- Collocation / Data Center to Collocation / Data Center: \$500-\$1200/MRC

d. Is any telecommunication license required for dark fiber install or use?

The City has a process for awarding dark fiber franchises and will work with Amazon to facilitate the installation of dark fiber if/as needed.

Generally, an entity that wishes to install its own dark fiber in or above the City streets must obtain an information services franchise from the City's Department of Information Technology and Telecommunications (DoITT). The solicitation for this franchise can be found here: <https://www1.nyc.gov/site/doitt/business/open-business-opportunities.page>.

DoITT generally maintains an open information services franchise solicitation; the current solicitation expires in June 2018. Examples of the current contracts that the City is offering may be found here: <https://www1.nyc.gov/site/doitt/business/information-services-franchises.page>.

DoITT's Franchise Administration Office facilitates the franchise process by providing the template agreement, reviewing franchise proposals once submitted, then submitting the final agreement for approval by the City's Franchise Concession Review Committee and registration with the City Comptroller.

Alternately, any entity can obtain dark fiber from an existing franchisee without obtaining its own license.

e. Process to install new fiber lines to reach Site

If using an existing information services franchisee, the standard process is to execute a Master Services Agreement, Lease Agreement and Customer Fiber Order. Once the customer agrees to the final design, installation can usually be completed within 30-90 days.

The franchisee is responsible for obtaining the appropriate street construction permits from the City’s Department of Transportation before beginning work in the streets.

In Queens, a franchisee can install its own conduit as space permits in the City streets or may reach an agreement to use available space in an existing private conduit system.

**F. Transportation**

1. Air

- a. Nearest Airport: name, distance to Site, number of passenger carrier service providers. Also include any planned, funded and approved capital improvements to the airport.
- b. Detail daily scheduled service, including flights to Seattle, New York City, San Francisco/Bay Area, and Washington, D.C.
- c. Next nearest Airport:

LaGuardia (LGA), John F. Kennedy International (JFK), and Newark Liberty International (EWR) are easily accessible from the Site by personal vehicle or transit. Collectively, they deliver frequent non-stop air service to all national and international hubs, and serve the most annual passengers in the nation. The Port Authority of New York and New Jersey has committed \$11.6 billion in capital dollars over the next ten years to upgrading these airports, plus \$1.7 billion to improve rail access to Newark International Airport. An AirTrain connection from the subway and Long Island Railroad to LaGuardia is committed for development, as well as continued upgrades to the AirTrain service to JFK. Additionally, there is substantial private investment planned at various terminals, such as Delta Air Lines’ investment of \$3.5 billion at LaGuardia as part of that airport’s complete overhaul and modernization.

	LaGuardia Airport (LGA)*	John F. Kennedy International Airport (JFK)	Newark Liberty International Airport (EWR)
Miles from Site	6	15	20
Carriers	11	80	34
Avg daily direct service to Seattle**	-	7.6	5.4

Avg daily direct service to Washington D.C.**	14.6	13.6	13.2
Avg daily direct service to San Francisco Bay area**	-	22.2	21
Total cities served non-stop	77	171	174
Total daily flights	499	586	518
Total passengers (past 12 months)	29.4 million	59.6 million	42.5 million

\*LaGuardia currently does not provide cross-country flights by Port Authority of New York and New Jersey policy, which is subject to future reevaluation

\*\*The 2017 submission included a calculation error resulting in only half of the one-way direct plane service being communicated; these are the corrected totals for Q2, 2017

In addition to frequent service to every national and international hub, many business travelers use Amtrak's 20 daily high-speed Acela trains to travel from Penn Station to Washington D.C., Philadelphia, Boston, and other cities along the Northeast Corridor. Helicopter access is available at multiple heliports in Manhattan, including the East 34<sup>th</sup> Heliport convenient to Long Island City by car or ferry, and private airplane service is available at Teterboro Airport, approximately 16 road miles from 1 Court Square.

2. Roads: describe road access to Site and any planned improvements. Include details of how employees may commute into Site via personal auto or rideshare. Use specific highway names, road names, bridges, etc.

The area has quick access to highways, including the Long Island Expressway, Grand Central Parkway, and Brooklyn-Queens Expressway, as well as the Ed Koch Queensboro Bridge, Pulaski Bridge and the Queens Midtown Tunnel, for access to all five boroughs, and relatively direct trips to Queens airports and the wider region. Each parcel is served by existing roads. The majority of employees is expected to commute by transit, bike, or foot, following the commuting pattern of the neighborhood's current employees.<sup>1</sup> Employees and visitors who choose rideshare or personal vehicles will appreciate the proximity to vehicular connections to Manhattan, Brooklyn, and the rest of Queens and the region.

3. Tram or Light Rail: name of provider, details of system (maps) of areas served, and planned improvements. Also include data on the reliability of the service and delays.

There is no tram or light rail service at this Site. The Brooklyn Queens Connector (BQX) is a project in planning that would intersect with the project area on existing streets. The BQX will connect the Sites to neighborhoods to the north and south.

- a. Extension or new tram/light rail service

<sup>1</sup> Long Island City Partnership survey, DCP/EDC census analysis and EIS/Pre-EIS analysis for area developments  
PROJECT CLANCY

(i) Will State/Commonwealth/Province or local government(s) commit to acquire rights-of-way to assure tram or light rail service to Site?

Yes       No

(ii) If Yes, provide letter of commitment and identify funding source(s).

4.Metro or Subway: name of provider, details of system (maps) of areas served, and planned improvements. Also include data on the reliability of the service and delays.

The Sites are served by all eight Queens subway lines, the N, W, M, R, E, F, G, and 7 local/express, at seven area stations. Collectively, these lines serve over 100,000 riders in the peak morning rush hour through Long Island City across more than 170 trains, and provide frequent one-seat-ride access to much of New York City, area airports, and other transit hubs.

The NYC Subway system and the PATH system, in their comprehensiveness and frequency, are not used like a regional rail service, with customers expecting to arrive for a specific scheduled interval. Rather, customers generally arrive at the platform at their convenience because the trains arrive so frequently. On the New York City subway, on average, the more than five million daily customers are delayed by less than three minutes per trip, including extra wait time on platform or aboard.<sup>2</sup> New York City's transit network has more redundancy than any other in the nation, enabling commuters to navigate service disruptions. Though delays do occur, New York City's systems effectively serve millions of daily customers, and are critical to the regional economy. The subway is the preferred way to commute where available in New York City, since it is generally faster than vehicular travel, particularly into and out of Manhattan at peak hours.

There are numerous planned and funded investments targeted to improve the frequency, reliability and qualitative customer experience of using the subway in the vicinity of the Site. These include upgrading the signaling system on the 7, E, F, M, and R trains to enable greater reliability and frequency. Several of the stations in Long Island City are targeted for improvements to enable greater and more accessible passenger circulation in the coming years, including at Court Square and Queensboro Plaza. Relevant system-wide improvements include the implementation of a state-of-the-art fare-payment system, and new subway cars designed for better circulation as part of the current \$32.5 billion capital plan. NYC Transit increases subway frequency, when feasible, following ridership growth, per system guidelines. New lines are not planned (or needed) for the Sites.

Please refer to Maps #RE-10, RE-11, and RE-12 for additional information.

a. Extension or new service commitment

(i) Will State/Commonwealth/Province or local government(s) commit to acquire rights-of-way to assure metro service to Site?

Yes       No       NA, service to Site exists

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<sup>2</sup> <http://dashboard.mta.info/>  
PROJECT CLANCY

(ii) If Yes, provide letter of commitment and identify funding source(s).

5. Commuter Train Service: name of provider, details of system (maps) of areas served, and planned improvements. Also include data on the reliability of the service and delays.

Today, Long Island City is served by two stops on the Long Island Railroad that provide easy access to much of Queens and Nassau and Suffolk counties, as well as connections to JFK and LaGuardia airports. Frequent peak period trains serve Hunterspoint Avenue Station, which is adjacent to the Core sites, and has station enhancements and renovations planned. Although a minor part of the area's regional transit network today, with the implementation of the more than \$10 billion East Side Access project in the early 2020s, plus State commitments for better rail access to both JFK and LaGuardia airports, regional rail could play a bigger role in providing frequent access to the Sites in the medium term. Long Island Railroad has \$76.5 million in its capital plan to develop a new station where Queens Boulevard crosses the tracks, just blocks from the Commercial Core, which will improve commuter rail connectivity.

Collectively, the Long Island Railroad reports on-time performance above 90%.

Please refer to Map #RE-08 and RE-9 for additional information.

a. Extension or new service commitment

(i) Will State/Commonwealth/Province or local government(s) commit to acquire rights-of-way to assure rail service to Site?

Yes       No       NA, service to Site exists

(ii) If Yes, provide letter of commitment and identify funding source(s).

6. Ferry Service for employee commuting: name of provider, details of system (maps) of areas served, and planned improvements. Also include data on the reliability of the service and delays.

The Sites are served by two routes at two landings on the newly-expanded NYC Ferry system, including a five-minute ride to the recently opened Cornell Tech campus on Roosevelt Island. The routes include stops in Midtown Manhattan, the Financial District, Queens, and Brooklyn.

The City recently installed a ferry landing in the northernmost point within Gantry Plaza State Park at the end of Center Boulevard. This landing was built to accommodate other vessel types, including up to 500-passenger vessels. The landings in Long Island City provide easy access to more than 500,000 residents living within a half mile of NYC Ferry's other 20 landings. Service runs as frequently as every 20 minutes in peak periods.

Past proposals have called for relocating the Long Island City ferry landing to 44th Drive, in line with central Long Island City and adjacent to new development sites, though farther from the residential density near Gantry Plaza State Park. Under specific development

conditions and with adequate pedestrian connections, the City and State are open to exploring this proposal.

Please refer to Maps #RE-10, RE-11, and RE-12 for additional information.

a. Extension or new service commitment

(i) Will State/Commonwealth/Province or local government(s) commit to acquire rights-of-way to assure ferry service to Site?

Yes       No       NA, service to Site exists

(ii) If Yes, provide letter of commitment and identify funding source(s).

7. Bus Service: name of provider, details of system (maps) of areas served, and planned improvements. Also include data on the reliability of the service and delays.

The Sites are served by more than ten bus lines, collectively making dozens of peak hour trips to and from neighborhoods in Queens, Brooklyn, and Manhattan. The Metropolitan Transportation Agency regularly reviews ridership to respond to changes in use, which leads to increases in service frequency to meet service guidelines when ridership warrants such increases. Real-time next-bus information helps riders plan their rides, and over 99% of buses complete their trips citywide.<sup>3</sup> New services are sometimes implemented in response to changing land use conditions, such as with the nearby B32, which was created to serve area waterfront growth. Additionally, some developments in Long Island City run private shuttle buses to transit.

a. New service or extension commitment

(i) Will State/Commonwealth/Province or local government(s) commit to acquire rights-of-way to assure bus service to Site, if necessary?

Yes       No       NA, service to Site exists

(ii) If Yes, provide letter of commitment and identify funding source(s).

8. Master Transit Plan: please provide a copy of the Master Transit Plan encompassing Site, if any.

New York City's extensive transit and roadway network is largely mature, with its chief challenge being maintaining a state of good repair and modernization rather than new routes. It is managed by a number of overlapping jurisdictions and entities, each of which is focused on maintenance while expanding their infrastructure where appropriate. Most major

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<sup>3</sup> <http://web.mta.info/persdashboard/performance14.html#>



transit systems and the highway network are oriented toward the Manhattan central business district, including the Site, with planned investments to ensure this critical access is strong.

While there is no fully integrated Master Transit Plan for the region or the Site, the regional metropolitan planning organization (NYMTC) estimates \$496 billion has been committed for the region's transit and road network between 2018 and 2045, with about three-quarters of this dedicated to transit<sup>4</sup>. Manifold major and minor transit improvements are planned for maintenance and expansion of the transit networks that intersect this Site, including everything from new stations and Metro-North access to Penn Station, to bridge maintenance.

## **G. Local Taxes**

### **1. Real Property Tax Rate**

#### **a. Calculate Annual Real Property Taxes for Site**

Tax estimates for the office space range from \$13 to \$21 per GSF (in 2017\$), prior to accounting for any abatements. These estimates are based on assumed market value ranging from \$278 to \$452 per GSF. Property tax rate is 10.514% for commercial uses (FY18) and assessment ratio of 45% is applied.

### **2. Personal Property Tax Rate**

Property tax rate is 20.385% for Class 1 properties and 12.719% for Class 2 (FY18). Property tax rates are applied to assessed value in order to calculate the property tax liability, and assessed value as a percentage of market value is 6% for Class 1 properties and 45% for Class 2.

Class 1: Includes most residential property up to three units (such as one-, two-, and three-family homes and small stores or offices with one or two attached apartments), vacant land that is zoned for residential use, and most condominiums that are not more than three stories.

Class 2: Includes all other property that is primarily residential, such as cooperatives and condominiums.

#### **a. Detail any personal property exclusions**

- Affordable New York (421-a): 421-a legislation (known as Affordable New York) offers developers property tax breaks of up to 100% to build affordable housing. The full property exemption could be up to 35 years if 25 to 30 percent of units are set aside for low- and moderate-income tenants. (see Appendix I, page I-23 & I-24)

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<sup>4</sup>[https://www.nymtc.org/Portals/0/Pdf/RTP/Plan%202045%20Final%20Documents/Plan%202045%20Individual%200Chapters/Chapter%207\\_Financing%20the%20Plan.pdf](https://www.nymtc.org/Portals/0/Pdf/RTP/Plan%202045%20Final%20Documents/Plan%202045%20Individual%200Chapters/Chapter%207_Financing%20the%20Plan.pdf)

- School Tax Relief Program (STAR): provides property tax relief to one-, two-, and three-family homes, cooperatives, and condominiums where the property serves as the primary residence of the owner who earns less than \$500,000. The exemption is based on a fixed market value exemption adjusted for the portion of the real estate tax that represents the school tax (see Appendix I, page I-28).
- Senior/disabled: four exemption programs are available for senior and disabled residents, including Senior Citizen Homeowner Exemption (SCHE), Disabled Homeowners Exemption (DHE) 459-c Program, Senior Citizen Rent Increase Exemption (SCRIE), and Disability Rent Increase Exemption (DRIE) (see Appendix I, page I-29).
- Veterans' Exemptions: provides partial property tax exemptions to qualified veterans (and qualified family members) (see Appendix I, page I-31).
- Co-op/Condo abatement: provides partial property tax relief to owners or tenant-shareholders of Class 2 condominiums or cooperatives where the property serves as the primary residence of the owner (see Appendix I, page I-32).
- Real property tax rebate: owners of one-, two- and three-family homes and Class 2 cooperative and condominium apartments are eligible for an annual real property tax rebate of \$400 or the annual real property tax, whichever is less (see Appendix I, page I-32).

### 3. Detail any additional local taxes (i.e., overlay, infrastructure)

- Business corporation tax: This tax is imposed on those corporations, both domestic and foreign, that do business, employ capital, own or lease property or maintain an office in New York City. A corporation determines its tax liability by making three alternative calculations and comparing the results to a sliding-scale fixed minimum tax. The primary tax liability is the largest of the four amounts (page 63-65).
- Commercial rent tax: This tax is imposed at an effective rate of 3.9 percent of the base rent paid by tenants of premises used to conduct any business, profession or commercial activity. The tax does NOT apply in Manhattan north of 96th Street or in the other boroughs (page 107-109).
- Sales tax: for sales in New York City, combined City and State rate is 8.875 percent (see Appendix III, page III-6).
- Personal income tax: the personal income tax rates imposed on New York City residents range from 3.078 percent to 3.876 percent (see Appendix II, page 9 and page 32).
- Real property transfer tax: This tax is imposed on the transfer of real property located in New York City and on the transfer of a controlling economic interest in real property located in New York City (see page 95).

- For residential properties, the State and City combined rate is 1.4% for residential sales of \$500,000 or less and 1.825% for sales between \$500,000 and \$1 million. For sales above \$1 million, the rate is 2.825%.
- For properties other than the residential properties, the combined rate is 1.825% if the consideration is \$500,000 or less; and 3.025% for sales above \$500,000.
- Mortgage recording tax: This tax is imposed on the recording of real estate mortgages in New York City (page 101).
  - For mortgages that are less than \$500,000, the State and City combined rate is 2.050%
  - For residential mortgages that are \$500,000 or more, the combined rate is 2.175%
  - For other mortgages that are \$500,000 or more, the combined rate is 2.800%
- Utility tax: This tax is imposed on every utility and vendor of utility services that does business in New York City. “Utilities” are those companies that are subject to the supervision of the New York State Department of Public Service, including gas and electric companies and telephone companies. The basic utility tax rate is 2.35 percent of gross income or gross operating income. Different rates apply to bus companies and railroads (page 113-116).
- Other taxes: information on other taxes can be found on page 129 to page 131<sup>5</sup>

## H. Government

1. Describe the government in your community, focusing on:

a. Municipal government organization and responsibilities

New York City has a highly centralized municipal government. The Mayor, as head of the executive branch, has broad powers such as operation of City agencies, law enforcement, and appointments of Commissioners and Judges. The executive branch also contains an elected Comptroller and elected Public Advocate. The City Council is a unicameral legislature formed of 51 members, who have powers including legislation, budgeting, oversight, and approval of land use decisions.

b. County government organization and responsibilities

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<sup>5</sup> Source: New York City Office of Management and Budget, Tax Revenue Forecasting Documentation, Fiscal Year 2016-2020 (<http://www1.nyc.gov/assets/omb/downloads/pdf/methodology-2018-01.pdf>)

New York City's unified municipal government performs the functions that are typically responsibilities of counties. The five boroughs (contiguous with counties) each have an elected Borough President and District Attorney. The Borough Presidents have limited official powers, but do play a role in the Land Use Review process.

- c. State government organization and responsibilities, especially as government action may affect the Company and the headquarters.

### **Legislative Branch**

The legislative branch consists of a bicameral (or two chamber) Legislature — a 62-member Senate and 150-member Assembly that, together, represent the 18 million citizens of the State. All members are elected for two-year terms.

### **Judicial Branch**

The judicial branch comprises a range of courts (from trial to appellate) with various jurisdictions (from village and town courts to the State's highest court — the Court of Appeals). The State assumes the cost for all but the town and village courts.

The Judiciary functions under a Unified Court System whose organization, administration and financing are prescribed by the State Constitution and the Unified Court Budget Act. The Unified Court System has responsibility for peacefully and fairly resolving civil claims, family disputes, and criminal accusations, as well as providing legal protection for children, mentally-ill persons and others entitled to special protections.

### **Executive Branch**

The executive branch of New York State government consists of a maximum of 20 departments, a result of constitutional reforms from the 1920s that were designed to make State government more manageable. The departments that will likely have relevance to Amazon are:

#### *Empire State Development*

Creates jobs and encourages economic prosperity by providing technical and financial assistance to businesses; disposes of State properties through General Project Plans.

#### *Education*

Supervises all educational institutions in the State, operates certain educational and cultural institutions, certifies teachers and certifies/licenses 44 other professions.

#### *Environmental Conservation*

Administers programs designed to protect and improve the State's natural resources.

### *Executive*

At the time of the 1920s constitutional reforms, the Executive Department — headed by the Governor — housed only a few core functions such as budgeting, central purchasing, the State police and military and naval affairs. Since that time, numerous agencies have been created within the Executive Department to accommodate governmental functions not anticipated in the 1920s, while conforming with the limits established by the Constitution. These additions include divisions and offices that do not logically fit into the framework of the other departments, such as the Division of Veterans' Affairs (which advises veterans on services, benefits and entitlements, and administers payments of bonuses and annuities to blind veterans) and the Office of General Services (which provides centralized data processing, construction, maintenance and design services as well as printing, transportation and communication systems).

### *Labor*

Helps New York work by preparing individuals for jobs; administering unemployment insurance, disability benefits and workers' compensation; and ensuring workplace safety.

### *Transportation*

Coordinates and assists in the development and operation of highway, railroad, mass transit, port, waterway and aviation facilities.

## **Elected Officers and Appointed Officials**

Only four statewide government officers are directly elected:

- The Governor, who heads the Executive Department, and Lieutenant Governor (who are elected on a joint ballot)
- The State Comptroller, who heads the Department of Audit and Control
- The Attorney General, who heads the Department of Law

With a few exceptions, the Governor appoints the heads of all State departments and agencies of the executive branch. The exceptions include:

- The Commissioner of the State Education Department, who is appointed by and serves at the pleasure of the State Board of Regents
- The Chancellor of the State University of New York, who is appointed by a Board of Trustees
- The Chancellor of the City University of New York, who is appointed by a Board of Trustees

## **Local Governments**

Geographically, New York State is divided into 62 counties (five of which are boroughs of New York City). Within these counties are 62 cities (including New York City), 932

towns, 555 villages and 697 school districts (including New York City). In addition to counties, cities, towns and villages, “special districts” meet local needs for fire and police protection, sewer and water systems or other services.

Local governments are granted the power to adopt local laws that are not inconsistent with the provisions of the State Constitution or other general law. The Legislature, in turn, may not pass any law that affects only one locality unless the governing body of that locality has first approved the bill — referred to as a home rule request — or unless a State interest exists.

## 2. Elected Officials

Name the following elected officials that represent your community and their term limit:

a. County Executive(s)

Queens Borough President Melinda Katz (D) was reelected to her second (and final, due to a two-term limit) term in 2017 and currently serving 2018-2021.

b. County Legislative Officers, Representatives

N/A

c. Mayor or Chief Executive Officer

Mayor Bill de Blasio (D) was reelected to his second (and final, due to a two-term limit) term in 2017, currently serving 2018-2021.

d. Municipal Legislative Officers, Representatives

Councilmember Jimmy Van Bramer (D) is currently serving his final term in the City Council, 2018-2021.

## I. Labor/Talent

1. Describe any unique talent in the immediate area or opportunities that may not be covered in the Talent section

**K-12 schools in the area:**

**Please refer to Map T-02 in the appendix.**

**Higher education schools in the area:**

**Please refer to Map T-02 in the appendix.**

- La Guardia Community College
- CUNY School of Law
- Berk Trade and Business School (trade and vocational school)
- Cornell Technion (Roosevelt Island)

- Devry College of New York (Murray Hill)

**Other programs in the area: Please refer to Map T-02 in the appendix.**

- **Urban Upbound:** Urban Upbound is non-profit that serves mostly Public Housing residents by providing job readiness training and one-on-one career counseling services. These employment services include Jobs-Plus, College Access, and Youth Career Pathways programs. Jobs-Plus is a proven place-based employment program designed for working age public housing residents located in a cluster of public housing developments. The program offers job readiness, search assistance and training, placement, retention and advancement support and community support.
- **LaGuardia Community College-President Society Tech:** This leadership program provides LaGuardia STEM majors with real-world skills and connections to the business world, through tech tours, panel discussions, skills based workshops and networking/mentoring opportunities. Existing corporate partners include IBM, AOL, MongoDB, Idealist, Google, Facebook, Microsoft and General Assembly.

## REAL ESTATE

Complete this section for **each** of the following site/campus options identified by the company. For example, if four Sites are under consideration, complete this section four times. If your community feels that a compelling Site was not included in this request, please feel free to contact us to explain.

### A. Site

1. Site Name/Site Designation: Midtown West
2. Street Address(es), including City, State/Commonwealth/Province and Zip/Postal Code, if available

Phase	Site ID	Street Address	Building Name
Phase 1 : Hudson Yards	P1	421 Eighth Ave. New York, NY 10001	Farley
Phase 1: Penn Plaza	P2	2 Pennsylvania Plaza (existing building) New York, NY 10121	Two Penn Plaza
<b>Phase 1: All Subtotal</b>		<b>2</b>	
Expansion: Penn Plaza	P3	1 Pennsylvania Plaza New York, NY 10119	One Penn Plaza
Expansion: Penn Plaza	P4	15 Pennsylvania Plaza New York, NY 10001	Fifteen Penn Plaza
Expansion: Penn Plaza	P5	11 Pennsylvania Plaza New York, NY 10001	Eleven Penn Plaza
Expansion: Penn Plaza	P6	330 West 34th St. New York, NY 10001	-
Expansion: Penn Plaza	P7	2 Pennsylvania Plaza (new construction) New York, NY 10121	-
Expansion: Penn Plaza	P8	100 West 33rd St. New York, NY 10001	Manhattan Mall



<b>Expansion: Penn Plaza Subtotal</b>		<b>6</b>	
Expansion : Hudson Yards	H1	450 West 33rd St. New York, NY 10001	Five Manhattan West
Expansion : Hudson Yards	H2	66 Hudson Blvd. New York, NY 10001	The Spiral
Expansion : Hudson Yards	H3	34th St. & 10th Ave. New York, NY 10001	50 Hudson Yards
Expansion : Hudson Yards	H4	3 Hudson Blvd. New York, NY 10001	-
Expansion : Hudson Yards	H5	438-444 11th Ave. New York, NY 10018	-
Expansion : Hudson Yards	H6	517 West 35th St. New York, NY 10001	70 Hudson Yards
Expansion : Hudson Yards	H7	33rd St. & 11th Ave. New York, NY 10001	40 Hudson Yards
Expansion : Hudson Yards	H8	385 Ninth Ave. New York, NY 10001	Two Manhattan West
<b>Expansion : Hudson Yards Subtotal</b>		<b>8</b>	
<b>Expansion: All Subtotal</b>		<b>14</b>	
<b>All Phases</b>		<b>16</b>	

3. Location

- a. If Site is currently unincorporated, detail any plan(s) to annex Site to an incorporated municipality, as well as the benefits and burdens of any annexation. Name the intended municipality/municipalities to which Site would be annexed.

Not applicable

- b. County (Name), if applicable: New York County

4. Description, Characterization

- a. Description – Briefly describe Site (shape, topo, etc.):

Midtown West spans a highly walkable three-quarters of a mile between the Avenue of the Americas (6<sup>th</sup> Avenue) on the east and the Hudson River (12<sup>th</sup> Avenue) on the west. It broadly encompasses Hell’s Kitchen and Times Square to the north, the Chelsea and the Garment Center neighborhoods to the south, and Herald Square to the east. The proposed sites are clustered in two districts: Penn Plaza, and Manhattan West and Hudson Yards.

As one of the City’s oldest districts with a rich history of evolving uses, Midtown West offers opportunities for interior growth as well as seamless expansion into adjacent neighborhoods. Midtown West is integrated into Manhattan’s street grid, and most parcels are rectangular.

**Penn Plaza District:** Penn Plaza is a 21-acre campus of existing and planned developments controlled by a single owner with whom Amazon can shape and implement a master plan. Penn Plaza has over 10 million square feet of existing space, providing Amazon the opportunity to immediately occupy space, and to grow over time. The redevelopment of Two Penn Plaza, Fifteen Penn Plaza, and the Manhattan Mall will add 9 million square feet and provide opportunities to customize new skyscrapers as needed for current and future employees.

**Manhattan West and Hudson Yards District:** The Hudson Yards neighborhood was created in 2007 by the City as part of a complex rezoning package, forming a new commercial center in an area that was historically railyards and other industrial uses. Manhattan West, which lies east of Hudson Yards, offers opportunities for interior growth as well as seamless expansion into adjacent neighborhoods.

Manhattan West and Hudson Yards embody New York City’s boundless ambition and stunning feats of engineering. With many buildings constructed on top of active railyards, the skyscrapers of this district are redefining the New York City skyline. Six new developments in Hudson Yards, at various stages of completion, will deliver over 10 million square feet before 2027, and development pads can be built to suit. Manhattan West - one of Amazon’s current outposts – also has room for expansion in place and in adjacent buildings.

- b. Characterization – Indicate all that may apply

Brownfield

- Commercial, including Commercial Park
- Greenfield
- Industrial, including Industrial Park
- Suburban
- Technology, including Technology Park
- Urban

- c. Description – Briefly describe any geographic features that may limit or enhance the growth of Site (e.g., water or mountains):

There are no geographic features that would materially impact growth at the Site. Midtown West is physically contiguous to the dense Manhattan grid and is integrated with adjacent neighborhoods to the north, east and south. Going north and south of Midtown West, there is a gradual transition of building heights and scale from tall office and industrial buildings to predominantly residential, four- and five-story masonry apartment buildings and brownstones. The western edge of Midtown West is bordered by the Hudson River and Hudson River Park, which is beloved by West Siders for its green spaces, Chelsea Piers sports complex, and a continuous bikeway and running path.

## 5. Size

- a. Immediate: Number of acres (either contiguous or within close enough proximity to foster a sense of place and pedestrian-friendliness) currently available for the Project’s immediate operations:

Amazon has two options in Midtown West for its initial occupancy:

- 421 Eighth Avenue (Farley Building) offers 541,000 square feet. Its lot size is 364,000 square feet (8.4 acres), and it offers large floorplates that span from 100,000 to 250,000 square feet.
- Two Penn Plaza offers 687,000 square feet for immediate occupancy, with the potential to increase over 1.6mm square feet. Its lot size is 115,000 square feet (2.6 acres). The building can also be redeveloped as a building of up to 5 million square feet for Amazon’s exclusive occupancy.

- b. Expansion: Number of acres (either contiguous or within close enough proximity to foster a sense of place and pedestrian-friendliness) available for the Project’s future or expansion operations:

The properties available for Amazon’s expansion in Midtown West total 24.3 acres in lot size with potential for 23.5 million square feet in total office space for occupancy.

- Properties available in **Penn Plaza** total 12.1 acres in lot size with potential for 11.3 million square feet of office space.

- Properties available in **Hudson Yards** total 12.2 acres in lot size with potential for 12.2 million square feet of office space.

<b>Phase</b>	<b>Site ID</b>	<b>Street Address</b>	<b>Building Name</b>	<b>Lot Size (Acres)</b>	<b>Lot Size (Square Feet)</b>	<b>Office Space Available to Amazon (GSF)</b>
Phase 1 : Hudson Yards	P1	421 Eighth Ave. New York, NY 10001	Farley	8.4	364,000	541,000
Phase 1: Penn Plaza	P2	2 Pennsylvania Plaza (existing building) New York, NY 10121	Two Penn Plaza	2.6	115,000	687,000+
<b>Phase 1: All Subtotal</b>		<b>2</b>		<b>11.0</b>	<b>479,000</b>	<b>1,228,000</b>
Expansion: Penn Plaza	P3	1 Pennsylvania Plaza New York, NY 10119	One Penn Plaza	3.6	156,000	1,926,000
Expansion: Penn Plaza	P4	15 Pennsylvania Plaza New York, NY 10001	Fifteen Penn Plaza	1.8	80,000	2,100,000
Expansion: Penn Plaza	P5	11 Pennsylvania Plaza New York, NY 10001	Eleven Penn Plaza	1.3	57,000	918,000
Expansion: Penn Plaza	P6	330 West 34th St. New York, NY 10001	-	0.9	40,000	526,000
Expansion: Penn Plaza	P7	2 Pennsylvania Plaza (new construction) New York, NY 10121	-	2.6	115,000	5,000,000
Expansion: Penn Plaza	P8	100 West 33rd St. New York, NY 10001	Manhattan Mall	1.8	80,000	790,000

<b>Expansion: Penn Plaza Subtotal</b>		<b>6</b>		<b>12.1</b>	<b>528,000</b>	<b>11,260,000</b>
Expansion : Hudson Yards	H1	450 West 33rd St. New York, NY 10001	Five Manhattan West	3.2	137,000	323,000
Expansion : Hudson Yards	H2	66 Hudson Blvd. New York, NY 10001	The Spiral	1.5	67,000	2,600,000
Expansion : Hudson Yards	H3	34th St. & 10th Ave. New York, NY 10001	50 Hudson Yards	1.6	69,000	1,639,000
Expansion : Hudson Yards	H4	3 Hudson Blvd. New York, NY 10001	-	1.1	47,000	1,741,000
Expansion : Hudson Yards	H5	438-444 11th Ave. New York, NY 10018	-	1.1	48,000	1,200,000
Expansion : Hudson Yards	H6	517 West 35th St. New York, NY 10001	70 Hudson Yards	0.7	32,000	1,037,000
Expansion : Hudson Yards	H7	33rd St. & 11th Ave. New York, NY 10001	40 Hudson Yards	1.6	68,000	1,894,000
Expansion : Hudson Yards	H8	385 Ninth Ave. New York, NY 10001	Two Manhattan West	1.4	62,000	1,775,000
<b>Expansion : Hudson Yards Subtotal</b>		<b>8</b>		<b>12.2</b>	<b>530,000</b>	<b>12,209,000</b>
<b>Expansion: All Subtotal</b>		<b>14</b>		<b>24.3</b>	<b>1,058,000</b>	<b>23,469,000</b>
<b>All Phases</b>		<b>16</b>		<b>35.3</b>	<b>1,537,000</b>	<b>24,697,000</b>

c. Schematic: Attach schematic drawing of Site.

Please refer to Map #RE-01, RE-02, and RE-03 in the appendix.

d. If less than 100 acres, is Site expandable to 100 acres?

Yes  No

(i) Detail the plan and timetable for doing so?

Though fewer than 100 acres, the zoning and urban context of Midtown West will allow Amazon to build and/or occupy more than its required office space within a vibrant, walkable area. The list of properties provided in both districts provides well over Amazon’s required 8 million square feet, with potential for additional growth.

6. Improvements

a. Are there any buildings or structures or other improvements on Site (or portion of Site)?

Yes  No

b. Description

If Yes, describe all buildings, structures and other improvements on Site (or portion of Site), including available square footages and sustainability efforts?

Phase	Site ID	Street Address	Building Name	Description of Building (Existing / Rehabilitation / New Construction)	Sustainability Features
Phase 1 : Hudson Yards	P1	421 Eighth Ave. New York, NY 10001	Farley	Existing building (Rehabilitation)	Target LEED CS Gold
Phase 1: Penn Plaza	P2	2 Pennsylvania Plaza (existing building) New York, NY 10121	Two Penn Plaza	Existing building	LEED EB O&M Gold
<b>Phase 1: All Subtotal</b>		<b>2</b>			
Expansion: Penn Plaza	P3	1 Pennsylvania Plaza New York, NY 10119	One Penn Plaza	Existing building	LEED EB Gold and Energy Star
Expansion: Penn Plaza	P4	15 Pennsylvania Plaza New York, NY 10001	Fifteen Penn Plaza	New construction	Target LEED CS Gold

Expansion: Penn Plaza	P5	11 Pennsylvania Plaza New York, NY 10001	Eleven Penn Plaza	Existing building	LEED EB Gold and Energy Star
Expansion: Penn Plaza	P6	330 West 34th St. New York, NY 10001	-	Existing building	Pending LEED CS Silver and Energy Star
Expansion: Penn Plaza	P7	2 Pennsylvania Plaza (new construction) New York, NY 10121	-	New construction	Target LEED CS Gold
Expansion: Penn Plaza	P8	100 West 33rd St. New York, NY 10001	Manhattan Mall	Existing building	LEED EB Gold and Energy Star
<b>Expansion: Penn Plaza Subtotal</b>		<b>6</b>			
Expansion : Hudson Yards	H1	450 West 33rd St. New York, NY 10001	Five Manhattan West	Existing building	LEED Certified
Expansion : Hudson Yards	H2	66 Hudson Blvd. New York, NY 10001	The Spiral	New construction	Minimum LEED Silver
Expansion : Hudson Yards	H3	34th St. & 10th Ave. New York, NY 10001	50 Hudson Yards	New construction	Targeting LEED Gold
Expansion : Hudson Yards	H4	3 Hudson Blvd. New York, NY 10001	-	New construction	LEED Gold & Green Roof
Expansion : Hudson Yards	H5	438-444 11th Ave. New York, NY 10018	-	New construction	Minimum LEED Silver
Expansion : Hudson Yards	H6	517 West 35th St. New York, NY 10001	70 Hudson Yards	New construction	Minimum LEED Silver
Expansion : Hudson Yards	H7	33rd St. & 11th Ave. New York, NY 10001	40 Hudson Yards	New construction	Minimum LEED Silver

Expansion : Hudson Yards	H8	385 Ninth Ave. New York, NY 10001	Two Manhattan West	New construction	Target LEED Gold
<b>Expansion : Hudson Yards Subtotal</b>		<b>8</b>			
<b>Expansion: All Subtotal</b>		<b>14</b>			
<b>All Phases</b>		<b>16</b>			

7. Easements, Licenses, Rights of Way: describe each of the easements, licenses and rights of way affecting Site, and identify the beneficiaries, holders or owners of the same. If easier to show on a map, please attach to submittal and label.

The below table provides easement, license, and right of way information for each property which could materially affect development potential. Where there is any easement, license, or right of way noted, additional information is available upon request.

Phase	Site ID	Street Address	Building Name	Description of Easements, Licenses, and Rights of Way
Phase 1 : Hudson Yards	P1	421 Eighth Ave. New York, NY 10001	Farley	Project is governed by various documents that preserve rights for State of New York, railroads, and United States Postal Service. However, Related-Vornado joint venture maintains full control of office space development.
Phase 1: Penn Plaza	P2	2 Pennsylvania Plaza (existing building) New York, NY 10121	Two Penn Plaza	N/A
<b>Phase 1: All Subtotal</b>		<b>2</b>		
Expansion: Penn Plaza	P3	1 Pennsylvania Plaza New York, NY 10119	One Penn Plaza	N/A



Expansion: Penn Plaza	P4	15 Pennsylvania Plaza New York, NY 10001	Fifteen Penn Plaza	There are limited easements related to subway entrances and rail rights-of-way which are not anticipated to materially impact future development.
Expansion: Penn Plaza	P5	11 Pennsylvania Plaza New York, NY 10001	Eleven Penn Plaza	N/A
Expansion: Penn Plaza	P6	330 West 34th St. New York, NY 10001	-	N/A
Expansion: Penn Plaza	P7	2 Pennsylvania Plaza (new construction) New York, NY 10121	-	Vornado ownership does not extend to train station below plaza level; development will require coordination with railroads.
Expansion: Penn Plaza	P8	100 West 33rd St. New York, NY 10001	Manhattan Mall	Limited easements related to subway entrances; not anticipated to materially impact future development.
<b>Expansion: Penn Plaza Subtotal</b>		<b>6</b>		
Expansion : Hudson Yards	H1	450 West 33rd St. New York, NY 10001	Five Manhattan West	N/A
Expansion : Hudson Yards	H2	66 Hudson Blvd. New York, NY 10001	The Spiral	N/A
Expansion : Hudson Yards	H3	34th St. & 10th Ave. New York, NY 10001	50 Hudson Yards	N/A
Expansion : Hudson Yards	H4	3 Hudson Blvd. New York, NY 10001	-	Parcel includes perpetual easements from MTA and Amtrak, which will not materially impact ability to develop on the parcel.
Expansion : Hudson Yards	H5	438-444 11th Ave. New York, NY 10018	-	An Amtrak rail cut exists below grade. Parcel requires building a decking over this.

Expansion : Hudson Yards	H6	517 West 35th St. New York, NY 10001	70 Hudson Yards	N/A
Expansion : Hudson Yards	H7	33rd St. & 11th Ave. New York, NY 10001	40 Hudson Yards	N/A
Expansion : Hudson Yards	H8	385 Ninth Ave. New York, NY 10001	Two Manhattan West	Parcel can be constructed on as-of-right basis, pending purchase of Hudson Yards district air rights. Railroads operate below grade pursuant to easement. Railroad infrastructure is separate from and independent of building structure.
<b>Expansion : Hudson Yards Subtotal</b>		<b>8</b>		
<b>Expansion: All Subtotal</b>		<b>14</b>		
<b>All Phases</b>		<b>16</b>		

8. Ownership: describe the ownership of Site, including the ownership structure and any entitlements.

Phase	Site ID	Street Address	Building Name	Parcel Control (Fee Ownership Unless Otherwise Noted)
Phase 1 : Hudson Yards	P1	421 Eighth Ave. New York, NY 10001	Farley	Joint venture of Related and Vornado (ground lease from entities affiliated with State of New York for 99 years)
Phase 1: Penn Plaza	P2	2 Pennsylvania Plaza (existing building) New York, NY 10121	Two Penn Plaza	Vornado

<b>Phase 1: All Subtotal</b>		<b>2</b>		
Expansion: Penn Plaza	P3	1 Pennsylvania Plaza New York, NY 10119	One Penn Plaza	Vornado (ground lease from Korein family expiring in 2098)
Expansion: Penn Plaza	P4	15 Pennsylvania Plaza New York, NY 10001	Fifteen Penn Plaza	Vornado
Expansion: Penn Plaza	P5	11 Pennsylvania Plaza New York, NY 10001	Eleven Penn Plaza	Vornado
Expansion: Penn Plaza	P6	330 West 34th St. New York, NY 10001	-	Vornado (has 100% of parcel control through a ground lease expiring in 2149 and owns 34.825% of fee, alongside three other owners at 34.825%, 29.85% and 0.5%)
Expansion: Penn Plaza	P7	2 Pennsylvania Plaza (new construction) New York, NY 10121	-	Vornado
Expansion: Penn Plaza	P8	100 West 33rd St. New York, NY 10001	Manhattan Mall	Vornado
<b>Expansion: Penn Plaza Subtotal</b>		<b>6</b>		
Expansion : Hudson Yards	H1	450 West 33rd St. New York, NY 10001	Five Manhattan West	Brookfield (leads joint venture; Brookfield owns 56% of fee and Qatar Investment Authority owns 44%)
Expansion : Hudson Yards	H2	66 Hudson Blvd. New York, NY 10001	The Spiral	Tishman Speyer (leads joint venture with fee ownership)
Expansion : Hudson Yards	H3	34th St. & 10th Ave. New York, NY	50 Hudson Yards	Related (owns fee of one lot and ground leases additional lots with option)

		10001		to convert to fee ownership)
Expansion : Hudson Yards	H4	3 Hudson Blvd. New York, NY 10001	-	The Moinian Group
Expansion : Hudson Yards	H5	438-444 11th Ave. New York, NY 10018	-	Tishman Speyer (leads joint venture with fee ownership)
Expansion : Hudson Yards	H6	517 West 35th St. New York, NY 10001	70 Hudson Yards	Related (under contract to acquire parcel)
Expansion : Hudson Yards	H7	33rd St. & 11th Ave. New York, NY 10001	40 Hudson Yards	Related (ground lease from MTA with option to convert to fee ownership)
Expansion : Hudson Yards	H8	385 Ninth Ave. New York, NY 10001	Two Manhattan West	Brookfield (leads joint venture; Brookfield owns 56% of fee and Qatar Investment Authority owns 44%)
<b>Expansion : Hudson Yards Subtotal</b>		<b>8</b>		
<b>Expansion: All Subtotal</b>		<b>14</b>		
<b>All Phases</b>		<b>16</b>		

#### 9. Acquisition Cost (if any)

Please describe if all or a portion of Site will be made available at no or a reduced cost to the Project.

Parcels may be available via various deal structures (e.g., ground lease or potential acquisition). The cost of any given site will depend on deal structure and Amazon's requirements for build-out and lease and/or purchase.

Illustrative annual rents per square foot are approximately \$70-120 for Midtown West.

##### a. Public

(i) Will a government agency make Site available to the Project at no cost?

Yes  No

(ii) If No, specify the per acre (and total) cost of Site to the Project?

See above. The lease or sale of public sites is determined by an appraisal, which takes into account the specific use terms set forth in the ground lease or other transaction documents. The City and State look forward to working with Amazon to arrive at mutually agreeable business terms for any publicly-controlled and/or publicly-owned sites.

b. Nonprofit

(i) Will a nonprofit entity make Site available to the Project at no cost?

Yes  No  Not Applicable

(ii) If No, specify the per acre (and total) cost of Site to the Project.

[Click here to enter text.](#)

c. Private

(i) Will individuals or corporations or other entities make Site available to the Project at no cost?

Yes  No

(ii) If No, specify the per acre (and total) cost of Site to the Project.

A number of properties presented in this submission are owned by private parties. While indicative rents have been included in the response, the specific terms for any particular parcel will be determined in cooperation with respective private owners and the City and State, as applicable. In addition, private real estate firms that proposed buildings for Amazon's Phase 1 occupancy have executed agreements with NYCEDC that commit them to refrain from leasing their space until 2018. The City and State look forward to working with Amazon to structure mutually agreeable terms for any and all parcels included within the response.

10. Parking: identify all current and future parking options for Site

The total capacity of public parking garages within a quarter mile of the Site (as shown on Map #RE-04) is 9,251 vehicles. Rates for a reserved monthly parking spot in those garages range from \$350 to \$500 per month. In addition, any new building construction allows up to 100 accessory parking spaces as of right, which could be dedicated for Amazon use. Most daily commuters to the Site will use one of the many public transit options available to this area. Local business and airport trips can be made using via taxis or car service. Office buildings typically designate curbside drop-off points, allowing door-to-door service.

a. Existing and Planned Retail Development near Site

(i) Restaurants

Joining the broad spectrum of dining options in this area – from one of New York’s oldest, iconic steakhouses to innumerable lunch take-out spots – new food halls and outdoor markets have enlivened the dining options around Penn Station. The Shops and Restaurants at Hudson Yards, a 1 million square foot retail project, is expected to open in 2019, featuring new restaurants by international chefs Thomas Keller, Costas Spiliadis, David Chang, and Jose Andres. Within walking distance, Hell’s Kitchen and Koreatown offer the ethnically diverse food for which New York City is famous. Finally, a range of top-notch restaurants line Eighth and Ninth Avenues and the smaller side streets of Chelsea, catering to local residents as well as workers and visitors.

(ii) Cinemas

Nearby multiplexes include the nine-screen Cinopolis in Chelsea, AMC Loews 34th Street 14, AMC Empire 25, and Regal E-Walk Stadium 13 in Times Square. Classic movies are shown in repertory at the Museum of Modern Art, the Walter Reade Theater, and the Elinor Bunin Monroe Film Center at Lincoln Center.

(iii) Shopping

Tenants of the forthcoming Shops and Restaurants at Hudson Yards, a one million sf retail project expected to open in 2019, are anticipated to include Whole Foods Market, AG Jeans, Banana Republic, Kiehl’s, MAC Cosmetics, Sephora, H&M and Zara, as well as luxury retailers and brands like Neiman Marcus, Carter, Patek Phillipe, Fendi, Dior, Jo Malone, Tory Burch, Coach and Stuart Weitzman. Shoppers can also patronize existing stores like Macy’s, Uniqlo, and Lord & Taylor, and they can pick up everyday necessities at neighborhood drugstores, supermarkets, and coffee shops in the area.

(iv) Other Public Gathering Spaces (such as coffee shops and local breweries)

Midtown West’s surrounding neighborhoods feature dozens of coffee shops and restaurants, including Margay’s, Friedmans and Culture Espresso. Gotham West Market, a full-service food hall in Hell’s Kitchen, serves up cuisine from world-famous chefs. For gathering outdoors, the High Line, a world-famous elevated linear park, runs from Hudson Yards to the new Whitney Museum of American Art and is a favorite outdoor destination of New Yorkers and tourists alike. Hudson River Park is 550 acres of passive green space, beautifully curated gardens and plantings, and recreational piers with community playing fields and water sports like fishing and kayaking, among other popular active uses. It is bordered by a continuous running/biking path that runs the length of Manhattan. Hudson Boulevard and Park, spanning seven city blocks between 10th and 11th Avenues, and offers broad, tree-lined pathways, open areas for public events, grassy expanses, and quiet seating areas. At Hudson Yards, the Shed is a multi-

arts center with a telescoping outer shell that deploys over the plaza to an adjoining building to create a 120-foot-high, temperature-controlled exhibition hall. The Hudson Yards development will also include the Vessel, an interactive permanent art installation featuring interconnecting flights of stairs, which will undoubtedly become a new public icon. Finally, at the Site's eastern end is Madison Square Garden, home to the Rangers NHL hockey team and the Knicks NBA basketball team. As New York's premier multipurpose indoor arena for sports, concerts and other events, the Garden recently underwent a \$1 billion renovation.

11. Affordable Housing: identify available affordable housing options within close proximity to Site

In Midtown West, Amazon has access to a range of residential options with reasonable commutes, at a variety of price points. These include dense Manhattan neighborhoods where employees can walk or bike to work; diverse outer-borough and New Jersey neighborhoods accessible by subway and light rail; towns, small cities and traditional bedroom communities in Long Island, Westchester and beyond that dot commuter rail lines. Within the Site, new residential developments in Hudson Yards will provide thousands of new apartments where Amazon employees can live blocks from their new office.

12. Greenspace Features: are there greenspace features that enhance Site (e.g., parks, jogging trails, etc.)

Within Midtown West's Hudson Yards development is the world-famous High Line. Once a freight rail line for trains that traveled through the center of city blocks carrying goods to and from what had been Manhattan's largest industrial district in the 1930s, the elevated tracks have been repurposed into a landscaped public open space offering unique views of the city and Hudson River, art installments and unparalleled people-watching along its 1.5 mile span. The High Line can be entered from the north at several points along the west and south sides of Hudson Yards and throughout Chelsea.

The Midtown West neighborhood is also adjacent to Hudson River Park, the longest waterfront park in the nation, ideal for running, cycling, strolling and lounging. It offers spectacular views of the Hudson River and includes public piers, a waterside esplanade, a wealth of recreational activities – from open-air trapeze flying to a golf driving range within Chelsea Piers to the south of the Site – as well as other commercial activities. The four-mile park connects with the entire Manhattan Waterfront Greenway, which includes paths that curves along all 28 miles of the borough's waterfront. Hudson River Park offers tennis courts (open until midnight), a skate park, a carousel and multiple playgrounds, kayaking, and much more.

Midtown West will also have access to Hudson Yards' new public open spaces, Hudson Park and Hudson Boulevard. Hudson Boulevard, which runs from 31<sup>st</sup> to 37<sup>th</sup> Street

between 10th and 11th Avenues, is a promenade that will soon be filled with lively restaurants and shops.

13. Plat(s): attach plat(s) of Site and label according to section.

New York City property ownership is defined by Tax Maps rather than plats. The Department of Finance administers the apportionment process and has digitized and made public all tax lot boundaries. The attached land use maps show tax lots within the Site and surrounding neighborhoods. The specific tax lot dimensions of any parcel can be found at NYC Department of Finance’s Digital Tax Maps, <http://gis.nyc.gov/taxmap/>. Please refer to Maps #RE-05 and RE-06 for additional information.

**B. Planning/Zoning**

1. Designation(s): identify Site’s current planning/zoning designations(s)

<b>Phase</b>	<b>Site ID</b>	<b>Street Address</b>	<b>Building Name</b>	<b>Current Planning/Zoning Designations</b>
Phase 1 : Hudson Yards	P1	421 Eighth Ave. New York, NY 10001	Farley	C6-4 (Parcel falls within State of New York jurisdiction, and is subject to SHPO as well as fully approved General Project Plan)
Phase 1: Penn Plaza	P2	2 Pennsylvania Plaza (existing building) New York, NY 10121	Two Penn Plaza	Special Midtown District C6-6 - proposed redevelopment is as-of-right
<b>Phase 1: All Subtotal</b>		<b>2</b>		
Expansion: Penn Plaza	P3	1 Pennsylvania Plaza New York, NY 10119	One Penn Plaza	C6-6 and C6-4; Special Midtown District w/ Hudson Yards Overlay
Expansion: Penn Plaza	P4	15 Pennsylvania Plaza New York, NY 10001	Fifteen Penn Plaza	Special Midtown District C6-6 + Special Permit in place for new 2.8 million sf office tower
Expansion: Penn Plaza	P5	11 Pennsylvania Plaza New York, NY 10001	Eleven Penn Plaza	Special Midtown District C6-6, C6-4.5



Expansion: Penn Plaza	P6	330 West 34th St. New York, NY 10001	-	C6-4; Hudson Yards Special District
Expansion: Penn Plaza	P7	2 Pennsylvania Plaza (new construction) New York, NY 10121	-	Special Midtown District C6-6 and Hudson Yards District C6-4 (Flexible height and setback controls accommodate large floorplate office buildings)
Expansion: Penn Plaza	P8	100 West 33rd St. New York, NY 10001	Manhattan Mall	C6-6; Special Midtown District
<b>Expansion: Penn Plaza Subtotal</b>		<b>6</b>		
Expansion : Hudson Yards	H1	450 West 33rd St. New York, NY 10001	Five Manhattan West	C6-4
Expansion : Hudson Yards	H2	66 Hudson Blvd. New York, NY 10001	The Spiral	C6-4; Hudson Yards Special District
Expansion : Hudson Yards	H3	34th St. & 10th Ave. New York, NY 10001	50 Hudson Yards	C6-4; Hudson Yards Special District
Expansion : Hudson Yards	H4	3 Hudson Blvd. New York, NY 10001	-	C6-4; Hudson Yards Special District; sub area A-2
Expansion : Hudson Yards	H5	438-444 11th Ave. New York, NY 10018	-	C6-4; Hudson Yards Special District
Expansion : Hudson Yards	H6	517 West 35th St. New York, NY 10001	70 Hudson Yards	C6-4; Hudson Yards Special District
Expansion : Hudson Yards	H7	33rd St. & 11th Ave. New York, NY 10001	40 Hudson Yards	C6-4; Hudson Yards Special District
Expansion : Hudson Yards	H8	385 Ninth Ave. New York, NY 10001	Two Manhattan West	C6-4

<b>Expansion : Hudson Yards Subtotal</b>		<b>8</b>		
<b>Expansion: All Subtotal</b>		<b>14</b>		
<b>All Phases</b>		<b>16</b>		

2. Floor Area Ratio (FAR): identify Site's current FAR

<b>Phase</b>	<b>Site ID</b>	<b>Street Address</b>	<b>Building Name</b>	<b>Current Built or Planned FAR (Total ; Commer. ; Resi. )</b>	<b>Current Max Allowable FAR (Total ; Commer. ; Resi. )</b>	<b>Proposed FAR if Rezoning Required (Total ; Commer. ; Resi. )</b>	<b>Notes on Zoning</b>
Phase 1 : Hudson Yards	P1	421 Eighth Ave. New York, NY 10001	Farley	1.8 ; 1.8 ; 0.0	N/A ; N/A ; N/A	N/A ; N/A ; N/A	This is a State-owned, landmarked building subject to a State override of zoning, so maximum allowable FAR doesn't apply.
Phase 1: Penn Plaza	P2	2 Pennsylvania Plaza (existing building) New York, NY 10121	Two Penn Plaza	11.4 ; 11.4 ; 0.0	18.0 ; 18.0 ; 12.0	N/A ; N/A ; N/A	-
<b>Phase 1: All Subtotal</b>		<b>2</b>					
Expansion: Penn Plaza	P3	1 Pennsylvania Plaza New York, NY 10119	One Penn Plaza	11.6 ; 11.6 ; 0.0	12.0-18.0 ; 12.0-18.0 ; 12.0	N/A ; N/A ; N/A	This parcel is split across two zoning districts with

							differing maximum allowable commercial FAR's (12.0 and 18.0).
Expansion: Penn Plaza	P4	15 Pennsylvania Plaza New York, NY 10001	Fifteen Penn Plaza	18.0+ ; 18.0+ ; 0.0	18.0 ; 18.0 ; 12.0	N/A ; N/A ; N/A	Commercial FAR of 18.0+ consists of a 15.0 base, a 3.0 bonus, and additional air rights from the Manhattan Mall.
Expansion: Penn Plaza	P5	11 Pennsylvania Plaza New York, NY 10001	Eleven Penn Plaza	15.0 ; 15.0 ; 0.0	12.0-18.0 ; 12.0- 18.0 ; 12.0	N/A ; N/A ; N/A	This parcel is split across two zoning districts with differing maximum allowable commercial FAR's (12.0 and 18.0).
Expansion: Penn Plaza	P6	330 West 34th St. New York, NY 10001	-	13.0 ; 13.0 ; 0.0	12.0 ; 12.0 ; 12.0	N/A ; N/A ; N/A	-
Expansion: Penn Plaza	P7	2 Pennsylvania Plaza (new construction) New York, NY 10121	-	18.0+ ; 18.0+ ; 0.0	18.0 ; 18.0 ; 12.0	N/A ; N/A ; N/A	Commercial FAR of 18.0+ consists of a 15.0 base, a 3.0 bonus, and additional air rights from the Manhattan Mall.

Expansion: Penn Plaza	P8	100 West 33rd St. New York, NY 10001	Manhattan Mall	9.0 ; 9.0 ; 0.0	18.0 ; 18.0 ; 12.0	N/A ; N/A ; N/A	-
<b>Expansion: Penn Plaza Subtotal</b>		<b>6</b>					
Expansion : Hudson Yards	H1	450 West 33rd St. New York, NY 10001	Five Manhattan West	9.7 ; 9.7 ; 0.0	10.0 ; 10.0 ; TBD	N/A ; N/A ; N/A	For the as- built building, 37,136 ZSF has not been used (surplus FAR that can be tapped by the building in the future).
Expansion : Hudson Yards	H2	66 Hudson Blvd. New York, NY 10001	The Spiral	33.0 ; 33.0 ; 0.0	33.0 ; 33.0 ; 6	N/A ; N/A ; N/A	-
Expansion : Hudson Yards	H3	34th St. & 10th Ave. New York, NY 10001	50 Hudson Yards	33.0 ; 33.0 ; N/A	33.0 ; 33.0 ; N/A	N/A ; N/A ; N/A	Total building, including encumbered space, to be built to ~2,264,917 ZSF
Expansion : Hudson Yards	H4	3 Hudson Blvd. New York, NY 10001	-	33.0 ; 33.0 ; 0.0	33.0 ; 33.0 ; 6.0	N/A ; N/A ; N/A	Up to 6 FAR of residential is allowable under zoning regulation after a minimum of 18 FAR of commercial is built
Expansion : Hudson Yards	H5	438-444 11th Ave. New York, NY 10018	-	12.9 ; 12.9 ; 0.0	12.9-21.6 ; 12.9- 21.6 ; 6	N/A ; N/A ; N/A	Max allowable FAR is achieved with as-of-

							right air purchases.
Expansion : Hudson Yards	H6	517 West 35th St. New York, NY 10001	70 Hudson Yards	24.0 ; 24.0 ; N/A	24.0 ; 24.0 ; N/A	N/A ; N/A ; N/A	Total building to be built to ~933,311 ZSF
Expansion : Hudson Yards	H7	33rd St. & 11th Ave. New York, NY 10001	40 Hudson Yards	10.0 ; 10.0 ; (see zoning note)	10.0 ; 10.0 ; 10.0	N/A ; N/A ; N/A	10X FAR is the permitted zoning for the entirety of the Western Rail Yards parcel. Total building is anticipated to be built to 1,826,681 ZSF, including 1,820,681 ZSF Commercial and 6,000 ZSF Residential
Expansion : Hudson Yards	H8	385 Ninth Ave. New York, NY 10001	Two Manhattan West	6.5 ; 6.5 ; 0.0	12.0-19.0 ; 12.0- 19.0 ; TBD	N/A ; N/A ; N/A	Part of one consolidated zoning lot that permits as-of-right FAR of 12x, with ability to increase to FAR of 19x across Manhattan West Complex (excluding 5 Manhattan West) through



Some proposed parcels are entitled, including those identified for Amazon's initial 500,000 square feet, while others require rezoning or other land use actions as shown in the attached tables to achieve the proposed development program. The City and State are open to discussing zoning changes depending on the specific parcels Amazon would like to further review. Depending on the specific site ownership characteristics of a specific parcel, the City and/or private owners would join Amazon as a co-applicant(s) on any rezoning applications necessary, or the City and State would work together to override zoning, as appropriate, to achieve HQ2.

- a. If Yes, outline rezoning process, including all government approvals, public hearings, and schedule. Please describe any opportunity to fast track.

There are two potential entitlement methods that the City and State may employ to deliver HQ2: the City-led ULURP process, and the State-led General Project Plan process.

Typically, to rezone property in New York City, an application for rezoning must be made to the New York City Department of City Planning. An accompanying City Environmental Quality Review (CEQR), would also be submitted. A rezoning action requires a public review process pursuant to the Uniform Land Use Review Procedure (ULURP), which includes a mandated timeline for public and agency review. ULURP requires review from the local community board (60-day review period), the Borough President (30-day review period) the City Planning Commission (60-day review period), and the City Council (50 days). The local community board and Borough President recommendations are advisory; the City Planning Commission and City Council votes are binding. The ULURP process may take from seven to nine months and is subject to mandatory maximum review periods. The ULURP timeline may be reduced by several months if any of the above parties choose not to use their full allotted review period.

More information about the Uniform Land Use Review Procedure is here:  
<http://www1.nyc.gov/site/planning/applicants/applicant-portal/step5-ulurp-process.page>

Alternatively, State-owned land may be granted a zoning override, thus removing the need to pursue a rezoning application. Specifically, Empire State Development (ESD) has authority to override local laws (including zoning requirements) and craft Payment In Lieu of Taxes (PILOT) agreements through a General Project Plan (GPP), a process that takes 15 to 18 months. The process begins with ESD developing a draft General Project Plan (GPP) and draft Environmental Impact Statement (EIS), which requires a public scoping meeting early in the process and adoption by the ESD Board of Directors. ESD then holds a public hearing for comment on the draft GPP and draft EIS, followed by a 30-day public comment period. The ESD Board of Directors then certifies the final EIS, typically 3 months after close of public comment, and approves the final GPP, typically one month after EIS certification. Finally, the Public Authorities Control Board (PACB) approves the ESD Board action, typically one month after ESD Board approval (PACB

board members are appointed by the Governor's Director of the Budget, the Speaker of the State Assembly, and the Temporary President of the State Senate).

The City and State will work with Amazon to determine the optimal way to streamline land use approvals.

b. If Yes, will governments commit to rezoning prior to Site selection?

The City and State will consider requests for specific site rezoning and welcome a discussion with Amazon as to appropriate changes to underlying zoning.

## 5. Neighboring Properties

a. Designation(s): identify current planning/zoning designation(s) for Neighboring Properties.

The Site's neighboring properties reflect the diverse zoning designations found in the larger Midtown West section of Manhattan, including the following special zoning districts: Special Hudson Yards District, the Special Garment Center District, and the Special West Chelsea district. The surrounding properties are zoned for a mix of high-density residential, commercial, light manufacturing and community facility uses.

b. Permitted Use(s): briefly describe Neighboring Properties' permitted use(s).

Permitted uses for neighboring properties include high-density residential (such as 15 Hudson Yards, which will be 88 stories); commercial uses, ranging from large office towers and national headquarters, to a convention center and regional recreational and entertainment destinations, to hotels, to local and national retail; light manufacturing such as warehouses, production facilities and showrooms of major fashion designers; community facility uses including a variety of schools, museums, galleries, and health care facilities; world-renowned public spaces such as the High Line; and the region's major transit hub, Penn Station.

## C. Environment –

1. Site and Improvements (if any)

a. Prior Use(s): detail prior use(s) of Site (or portion of Site) in reverse chronological order.

Please refer to the documents included with Map #RE-13. The documents are historic aerials of the project areas showing past uses, arranged in reverse chronological order from 2012 back to 1924. Each photo group also has a street map for orientation purposes.

Review of the aerials indicates that uses have remained fairly consistent throughout this period, including rail and transit, residential, commercial, and light industrial. The 2012 aerial photo shows a railyard in the western portion of the Site, with a mixture of residential, commercial and light industrial in the remainder of the Site. The 1951 photo shows essentially the same buildings and railyard, with the addition of a working pier



between 30<sup>th</sup> and 33<sup>rd</sup> Streets. The 1924 photo shows a substantially larger railyard prior to the construction of Madison Square Garden/Penn Station. The railyard in 1924 connects to the west with a number of working piers.

b. Environmental Event(s)

- (i) Detail each environmental event occurring on Site (or portion of Site) in reverse chronological order. (Environmental events include – but are not limited to – any contamination, dumping, explosion, fire, landfill or spill of any kind or description)

Most properties in New York City have been subject to environmental events of some sort. In this case, a review of the NYSDEC Environmental Site Database located at <http://www.dec.ny.gov/cfm/external/derexternal/index.cfm?pageid=2> indicates that the Midtown West area has had over 60 reported spills since 1978, most of which were small quantities that do not present material impediments to development and are routinely dealt with in the course of development in NYC. The database also indicates one property in the area that has been accepted into the New York State Brownfield Cleanup Program (see below). It should be noted that substantial amounts of historic fill are located at almost all properties in New York, and this type of fill often contains non-hazardous levels of metals, SVOCs, small amounts of petroleum contamination and other contaminants.

- (ii) Describe any environmental cleanup or remediation occurring on Site (or portion of Site) as a result of an environmental event or otherwise in reverse chronological order. Please also include any environmental studies as supplemental information.

New York City remediation follows a typical pattern: investigation, remediation of any active source areas (hot spots), capping, installation of a soil vapor barrier, and preparation of an environmental easement/site management plan with ongoing annual requirements to certify that the cap is still in place and any other engineering controls are still operational. These remedial efforts are overseen by either the city Office of Environmental Remediation on less contaminated sites, or the New York State Department of Environmental Conservation on more contaminated sites. Both the City and State have Brownfield Cleanup Programs that offer clear and consistent cleanup procedures and policies, as well as incentives for developers and innocent purchasers to perform cleanup. In the case of the State program, these incentives are in the form of tax credits that can represent a maximum of \$30 million per project (see references section for links to these programs). Remediation is typically performed by qualified site developers as part of site build-out to maximize efficiency during soil movement onsite.

c. Environmental Study

- (i) Detail each environmental study undertaken on Site (or portion of Site) in reverse chronological order.

The NYSDEC website summarizes the 509 W. 34<sup>th</sup> Street (also known as 66 Hudson Boulevard, site ID H2 - see maps and property table in appendix to locate via site ID) site investigation. The investigation (see Map #RE-13, attached) found that the site was contaminated with a variety of VOCs, SVOCs, PCBs and metals due to historic

uses. This is a typical outcome, and as noted in the NYCDEC document, almost all of the contaminated soil will be removed during the course of development, which requires excavation of all soils down to bedrock.

- (ii) Provide copies of environmental studies performed on the site within the prior three years.

Environmental reports are typically performed by private parties and have not been performed on all of the parcels in the Site. However, if a particular parcel is of interest, the City and State will determine the status and seek to obtain the study if one has been performed.

## 2. Neighboring Properties –

- a. Prior Use(s): detail prior use(s) of Neighboring Properties in reverse chronological order. Please include any environmental events. Please also include any environmental studies as supplemental information

Neighboring properties are generally commercial, light industrial, or residential in nature. The aerial photographs do not show any significant differences in land use between the Site and neighboring properties, so the neighboring properties likely have a similar history with manufacturing prior uses and historic fill.

## 3. Topography –

- a. Elevation: identify Site’s minimum and maximum topographic elevation. Please provide a topographic survey of Site, if available.

The Site from Hudson Yards to Penn Station is generally flat in elevation. A topographic survey for the Site is attached (refer to Map #RE-07).

- b. Terrain: describe Site’s terrain and Neighboring Properties’ terrain:

The Site is located on generally flat terrain.

- c. Wetlands: describe bodies of water, creeks, ditches, lakes, ponds, rivers and wetlands, and identify governing body or regulatory agency for each for Site and Neighboring Properties.

Due to its proximity to the Hudson River, a portion of the Site is located within the current and projected 2050s floodplain. Additional information is available at: <https://www.fws.gov/wetlands/data/mapper.html>

## 4. Soils types for Site and Neighboring Properties

In general, the Site is topped with one to several feet of historic fill. In some areas, this is underlain by a layer of sand, followed by decomposed bedrock. Competent bedrock (Manhattan Schist) is generally located between 2 and 30 feet below grade. The schist is typically dark-gray to black micaceous rock composed of biotite, muscovite, quartz, feldspar and small amounts of accessory minerals. Locally the formation contains dikes and veins of pegmatitic material.

- a. Testing: describe any geotechnical or other testing that has been or will be completed on Site (or portion of Site)

Geotechnical reports are typically performed by private parties and have not been performed on all of the Midtown West parcels. However, if a particular parcel is of interest, the City and State will determine the status and seek to obtain the study if one has been performed.

#### 5. Studies Permit(s)

- a. Specify all required environmental impact assessments and other environmental studies, and name relevant regulatory agency or agencies.

Unless a discretionary action (such as a rezoning) is needed, privately owned sites can be developed as-of-right without environmental review. However, in cases where there is a zoning action or other public entitlement, the State Environmental Quality Review Act (SEQRA) requires that a SEQR or City Environmental Quality Review (CEQR) be undertaken. These are processes by which New York State and/or City agencies determine what effect, if any, a discretionary action they approve may have upon the environment. SEQR/CEQR is a disclosure process and not an approval process. Completion of an environmental review supports other decisions made by agencies such as approvals of rezoning or variance applications, funding, or issuance of discretionary permits. Ministerial actions, such as the issuance of a building permit, are not subject to environmental review.

The Mayor's Office of Environmental Coordination (MOEC) assists many City agencies in carrying out their environmental review responsibilities, serves as the City's liaison to State and Federal agencies on environmental matters, and advises the Mayor on matters of environmental policy. MOEC's mission is to be a resource for City agencies and private applicants by providing information and assistance in completing the environmental review process and to help the City to lead by example in applying state-of-the-art green building requirements. For any State-owned properties, ESD would perform the SEQR in coordination with Amazon.

More information on CEQR may be found here:

<http://www1.nyc.gov/site/oec/environmental-quality-review/environmental-quality-review.page>

More information about the State Environmental Quality Review Act is here:

<https://www.dec.ny.gov/permits/357.html>

- b. Specify all required environmental permits, and name each government issuer of same. Can the environmental and building permits be integrated? Include a timetable for approvals.

Environmental permits are not expected to be required for the vast majority of properties located within the Site. Depending on the nature of a parcel, a permit may be required by the New York State Department of Environmental Coordination (DEC). For example,

most waterfront sites and former brownfield parcels would require a permit or approval of a brownfield clean-up plan from DEC; the permitting process can take up to one year if the parcel is more contaminated, but permitting can occur concurrently with the environmental review and building permitting processes. More information about permits from DEC may be found here: <http://www.dec.ny.gov/permits/89000.html>.

6. Process: briefly describe the environmental study and permit processes, from preliminary discussions to final action, including any appeal periods. Also include the total costs for a building permit.

As noted in 5a, environmental review is required if certain discretionary actions are proposed, such as a rezoning or zoning override. If a building is proposed according to the zoning already in place, no additional environmental review is required. More information on the specific analysis recommended for the City Environmental Quality Review may be found here, in the CEQR Technical Manual: <http://www1.nyc.gov/site/oec/environmental-quality-review/technical-manual.page>

New York City Department of Buildings has standard fee structures that are published on its website:

[http://www1.nyc.gov/assets/buildings/pdf/pw3\\_fee\\_schedule\\_factsheet.pdf](http://www1.nyc.gov/assets/buildings/pdf/pw3_fee_schedule_factsheet.pdf)

## 7. Code(s), Regulations

- a. Include with your response a copy of the relevant state and local environmental code(s) and regulations. (Federal statutes and regulations need not be included with your response.)

NYC Department of Environmental Protection (includes asbestos, E-designations, noise):

[http://library.amlegal.com/nxt/gateway.dll/New%20York/rules/therulesofthecityofnewyork?f=templates\\$fn=default.htm\\$3.0\\$vid=amlegal:newyork\\_ny](http://library.amlegal.com/nxt/gateway.dll/New%20York/rules/therulesofthecityofnewyork?f=templates$fn=default.htm$3.0$vid=amlegal:newyork_ny)

Part 375 NYS Department of Environmental Conservation remediation regulations (includes state superfund and brownfield cleanup programs)

[https://govt.westlaw.com/nycrr/Browse/Home/NewYork/NewYorkCodesRulesandRegulations?guid=Idd484a00b5a011dda0a4e17826ebc834&originationContext=documenttoc&transitionType=Default&contextData=\(sc.Default\)](https://govt.westlaw.com/nycrr/Browse/Home/NewYork/NewYorkCodesRulesandRegulations?guid=Idd484a00b5a011dda0a4e17826ebc834&originationContext=documenttoc&transitionType=Default&contextData=(sc.Default))

Part 360 NYSDEC Solid Waste Management:

<https://govt.westlaw.com/nycrr/Browse/Home/NewYork/NewYorkCodesRulesandRegulations?guid=Ic884bcc0b5a011dda0a4e17826ebc834&originationContext=documenttoc&transitionType=Default&contextData=%28sc.Default%29&bhcp=1>

Brownfield Tax Credit Rules

<https://www.tax.ny.gov/pit/credits/brownfield-redevelopment-credit.htm>

City Environmental Quality Rules for conducting environmental analysis required when rezonings or other discretionary actions are taken by city agencies:

<http://www1.nyc.gov/site/oec/environmental-quality-review/technical-manual.page>

City Zoning Rules: <https://www1.nyc.gov/site/planning/zoning/access-text.page>

- b. Are amendments to the relevant environmental code(s) and regulations pending or proposed?

Yes       No

If Yes, please provide detail: No changes that the City reasonably believes would impact Amazon's ability to locate HQ2 in New York City

8. Noise Restrictions: detail all noise restrictions or limitations affecting Site and any exceptions to or exemptions from same. Attach the appropriate statutory and other authorities.

NYC's Noise Code is enforced by the NYC Department of Environmental Protection. The Code can be found here:

[http://www.nyc.gov/html/dep/pdf/noise\\_code\\_guide.pdf](http://www.nyc.gov/html/dep/pdf/noise_code_guide.pdf)

#### **D. Building –**

1. Permits: specify all required building permits, and name government issuer of same.

Environmental permit requirements will vary with building size, use, and location. NYCEDC will work with Amazon to facilitate all required building permits with the NYC Department of Buildings.

2. Process

- a. Briefly describe the building permit process, from pre-application discussions to final action, including any appeal periods.

NYCEDC and the New York City Department of Buildings (DOB) stand ready to assist Amazon with all aspects of the permitting process. The majority of construction in New York City, including both new construction and major alterations to buildings, requires a permit from DOB. Typically, a New York State licensed Professional Engineer or Registered Architect must file plans and secure permits before work begins. This involves review by a DOB plan examiner for code and zoning compliance. Alternately, the PE or RA may opt to certify that the building plans comply with all applicable laws, obviating the need for DOB staff level review.

In the event that the PE or RA chooses to have a plan examiner review plans, DOB is prepared to offer Amazon a suite of pre-submission services. This would include specialized collaboration with its technical staff to walk through plan-related issues. DOB leaders would be available to meet with Amazon's applicants before submission to

provide high-level guidance about filing approach. Specialized technical staff could be made available throughout the review, inspection and certificate of occupancy process to ensure a seamless experience.

Following the pre-submission process, Amazon's PE or RA could file the prepared design and construction plans electronically with DOB and track progress online through a transparent process that is among the first of its kind in the country. The HUB system is a state-of-the-art review center in Lower Manhattan that is equipped with large television screens, smart boards, and webcams and is designed to accelerate the approval process for construction projects. DOB's plan examiners and applicants review plans virtually using online meeting software. The plan examiners would raise any legal or zoning issues at this time, and through an iterative process, would work with Amazon's PE or RA to resolve them. Barriers to approval would be escalated and addressed by technical leadership expeditiously.

Upon resolution of any issues raised in plan review, DOB would approve the permit application, and work could commence.

- c. Briefly describe the estimated cost to obtain a building permit for the project. Please attach a copy of the building permit ordinance.

Although costs for permits will vary, total costs for all permitting including environmental permitting are estimated at 2%-5% of construction costs.

3. Timetable: outline the timetable for a building permit process for a project such as that proposed by the Project and include whether the community can commit to a timetable for approval.

With respect to the discrete steps in the permitting and inspection processes, the average timeframe for initial plan review is five days. The average time from initial submission through plan approval is five days. On average, four appointments are needed to correct any outstanding issues with plans for complex projects like new buildings. Scheduling an appointment takes less than one day on average in both Manhattan and Queens. Upon approval of plans, a building permit generally can be pulled the same day.

Inspections are the last step before DOB can issue a Certificate of Occupancy. Most DOB inspections occur within three days of a request from an RA or PE. The typical timeframe from successful completion of DOB inspections to issuance of a Certificate of Occupancy is two days.

4. Restrictions: outline any height restrictions relevant to Site.

The Site's neighboring properties reflect the diverse zoning designations found in Midtown West, including the following special zoning districts: Special Hudson Yards District, the Special Garment Center District, and the Special West Chelsea district. The surrounding

properties are zoned for high-density residential, commercial, light manufacturing and community facility uses.

**E. Utilities –**

For each of the following utilities/services, list the name of the utility/service provider, the person assigned to work with the Project and the relevant contact information for that person.

NYCEDC would provide assistance in determining the points of contact for utility/service providers.

- Water
- Wastewater
- Electricity
- Natural Gas
- Solid Waste
- Drainage/Storm Water
- Telecommunications
- Broadband

1. Water: Please provide name of service provider, distance to Site, line size, capacity of line and system, and any capital improvements planned.

New York City obtains its water supply from the Delaware, Catskill, and Croton reservoir systems, operated by NYC Department of Environmental Protection. The watersheds of the three reservoir systems extend as far as 125 miles north and west of the City, encompassing several reservoirs and lakes, with a storage capacity of 580 billion gallons. Water is delivered from these watersheds to New York City through a network of reservoirs, aqueducts, and tunnels. Within the city, networks of underground pipes distribute water to consumers. New York City water systems provide approximately 1.3 billion gallons per day to the five boroughs as well as Westchester, Putnam, Ulster, and Orange Counties. Water service is available in any of the streets adjacent to the Site.

- a. Costs - For water service to project on Site, estimate the cost of each of the following:

The current NYCDEP water service rates can be found here:  
[http://www.nyc.gov/html/nycwaterboard/pdf/rates/fy2018\\_rates.pdf](http://www.nyc.gov/html/nycwaterboard/pdf/rates/fy2018_rates.pdf)

- (i) Impact Fee
- (ii) Extension of water line(s)

- (iii) Installation of water line(s)
  - (iv) Tap Fee(s)
  - (v) Other relevant fees and assessments
- To be determined by consult with DEP.

2. Wastewater: Please provide name of service provider, distance to Site, line size, capacity of line and system, and any capital improvements planned.

The area surrounding the project Site relies on a combined sewer system (CSS) that conveys both sanitary sewage and storm water runoff to North River Water Pollution Control Plant (WPCP). As in most of New York City, the sewer system comprises combined sewers (for sanitary sewage and storm water), interceptor sewers, regulators, weirs, and diversion chambers. There are both combined and interceptor sewers beneath the streets adjacent to the Site.

a. Costs - For wastewater service to project on Site, estimate the cost of each of the following:

NYC sewer fees are currently calculated as 159% of a parcel's water bill.

- (i) Impact Fee [Click here to enter text.](#)
- (ii) Extension of sewage line(s) [Click here to enter text.](#)
- (iii) Installation of wastewater line(s) [Click here to enter text.](#)
- (iv) Tap Fee(s) [Click here to enter text.](#)
- (v) Other relevant fees and assessments [Click here to enter text.](#)

3. Electricity: Please provide name of service provider, distance to Site, if dual feed available, capacity of line and system (including peak usage), and any capital improvements planned.

Electricity is delivered to the Site by a public utility, Con Edison, and is available at any public street adjacent to the proposed parcels.

a. What is the expected proportion of renewable energy in the utility's generation mix over the next 20 years?

New York State has set an ambitious goal to generate 50 percent of the state's electricity using renewables by 2030. Renewable energy currently accounts for approximately 2% of electricity consumption in New York City, and there is currently 140 MW of installed solar capacity citywide. New York City is on track to meet its own 1000 MW solar target by 2030, which would also contribute toward achieving the State's broader goal. Also, New York State has announced a target to develop 2400 MW of offshore wind by 2030, starting with two 400 MW solicitations—one in 2018 and another in 2019. These plans will require robust corporate participation as offtakers to ensure they can be financed at lowest cost. The first set of projects is expected to be built and operational by the mid-2020s.



- b. What options are or will be available for the project to use up to 100% renewable energy to serve their load?

New York State has enabled remote net metering and community distributed generation, two approaches that offer opportunities for businesses to support local renewable energy development. Remote net metering allows a business to generate bill credits from renewable energy installed off-site but within the same utility service territory and load zone. Community DG (e.g., community shared solar) was approved in New York State in mid-2015, and the first such projects are going live now in New York City. Businesses have an opportunity to participate in this burgeoning local clean energy marketplace by purchasing as much as 40% of the output from shared solar farms, which leverages their creditworthiness to make subscriptions for the remaining 60% of project output more accessible for other New York City residents who cannot install solar panels on their own rooftops. Businesses can participate in a variety of projects to meet 100% of their electricity needs with local renewable energy.

Furthermore, New York State has a competitive retail electricity market that allows businesses and residents to shop for their electric supply based on preferences including supporting clean energy generation. One of the benefits of New York's competitive market is access to information that enables the user to take into account the environmental impacts of each energy purchase. A twice-yearly Environmental Disclosure Label shows the mix of fuels used to generate electricity, and the related air emissions.

- c. What options are currently available to purchase power at Site on the open market?

Businesses in New York State can purchase renewable energy directly through remote net metering or community shared solar (see above).

Energy service companies supply electricity and natural gas to homes and businesses throughout New York. Some of these companies may offer a lower price for energy, or they may offer a green energy option that includes renewable energy certificates (RECs) from out-of-city utility-scale renewable sources like wind, solar, and hydroelectric power.

- d. What is the cost per kWh?

The New York Power Authority (NYPA) provides competitive hydro and market energy rates through its landmark RechargeNY program. Through this program, energy commodity discounts are available based on projected power usage, energy load, job creation and capital expenditures. Through ReCharge NY, one of the State's signature economic development initiatives, qualified businesses and nonprofits statewide can lower their energy costs by as much as 25% by using specially allocated NYPA power that is set aside by the State and the NYPA board for economic support. Standard electrical rates from Con Edison are based on service classification. The Con Ed rate schedule is here:

[https://www.coned.com/\\_external/cerates/documents/elecPSC10/SCs.pdf](https://www.coned.com/_external/cerates/documents/elecPSC10/SCs.pdf) ..

4. Natural Gas: Please provide name of service provider, distance to Site, line size, capacity of line and system, and any capital improvements planned. Include any costs to the Project.

Natural Gas is delivered to the Site by a public utility, Consolidated Edison (Con Ed), and is available at any public street adjacent to the proposed parcels. Gas rates can be found here: <https://www.coned.com/en/rates-tariffs/rates>

5. Telecommunication & Broadband

- a. Provider(s) - Name and describe providers of telecommunications (including cellular coverage) services to Site, and all high-speed data links available to Site.

1. Commercial fiber providers

- a. Altice / Cablevision Lightpath-NY, Inc.
- b. Century Link / Level 3 Communications
- c. Charter Communications, Inc.
- d. Cogent Communications Group
- e. Crown Castle / Lighttower Fiber Networks
  - i. Map: <https://fiber.crowncastle.com/our-network>
- f. Pilot Fiber
- g. Stealth Communications
- h. Verizon Communications
- i. Windstream Communications
- j. Zayo Group
- k. ZenFi
  - i. Map: <http://zenfi.com/the-network/our-map/>

2. Terrestrial fixed wireless

- a. Rainbow Broadband
- b. Skywire / Xchange Telecom
- c. Towerstream
- d. Windstream

3. Cellular

- a. Verizon Wireless
- b. AT&T Wireless
- c. T-Mobile
- d. Sprint

4. Major nearby carrier/collocation hotels

- a. 60 Hudson Street, New York, NY 10013
- b. 111 Eighth Avenue, New York, NY 10011
- c. 32 Avenue of Americas, New York, NY 10013
- d. 33 Thomas Street, New York, NY
- e. 811 10th Avenue, New York, NY 10019
- f. 75 Broad Street, New York, NY 10004
- g. 85 10th Avenue, New York, NY 10011
- h. 7 Teleport Drive, Staten Island, New York 10311

b. Fiber maps/routes

Providers currently deliver service to Midtown West. Service can generally be provided at any street adjacent to any parcel. Additional information for each parcel can be provided upon request.

c. Estimated cost of dark fiber lease/ownership

The monthly cost of a pair of dark fiber in NYC depends primarily on the borough, quantity, term and end points. River crossings can drive up the price. For a major collocation/data center hub site, the estimated cost range could be:

- \$250-\$750/Monthly Recurring Charge (MRC) per pair in Manhattan, depending on the number of pair and length of term
- \$800-\$1200/MRC per pair in Long Island City (to Manhattan facility), depending on the number of pair and length of term

A typical cost range for enterprise dark fiber, assuming a term of at least 5 years could be:

- Enterprise to enterprise: \$1500-\$3000/MRC
- Enterprise to Collocation/Data Center: \$1500-\$2500/MRC
- Collocation / Data Center to Collocation / Data Center: \$500-\$1200/MRC

e. Is any telecommunication license required for dark fiber install or use?

The City has a process for awarding dark fiber franchises and will work with Amazon to facilitate the installation of dark fiber if/as needed.

Generally, an entity that wishes to install its own dark fiber in or above the City streets must obtain an information services franchise from the City's Department of Information Technology and Telecommunications (DoITT). The solicitation for this franchise can be found here: <https://www1.nyc.gov/site/doitt/business/open-business-opportunities.page>.

DoITT generally maintains an open information services franchise solicitation; the current solicitation expires in June 2018. Examples of the current contracts that the City is offering may be found here: <https://www1.nyc.gov/site/doitt/business/information-services-franchises.page>.

DoITT's Franchise Administration Office facilitates the franchise process by providing the template agreement, reviewing franchise proposals once submitted, then submitting the final agreement for approval by the City's Franchise Concession Review Committee and registration with the City Comptroller.

Alternately, any entity can obtain dark fiber from an existing franchisee without obtaining its own license.

f. Process to install new fiber lines to reach Site

If using an existing information services franchisee, the standard process is to execute a Master Services Agreement, Lease Agreement and Customer Fiber Order. Once the customer agrees to the final design, installation can usually be completed within 30-90 days.

The franchisee is responsible for obtaining the appropriate street construction permits from the City’s Department of Transportation before beginning work in the streets.

In Manhattan, the City has a common conduit system, Empire City Subway. Franchisees all utilize the common conduit but are responsible for constructing and maintaining laterals from the main conduit system to the property.

**F. Transportation**

1. Air

- a. Nearest Airport: name, distance to Site, number of passenger carrier service providers. Also include any planned, funded and approved capital improvements to the airport.
- b. Detail daily scheduled service, including flights to Seattle, New York City, San Francisco/Bay Area, and Washington, D.C.
- c. Next nearest Airport:

LaGuardia (LGA), John F. Kennedy International (JFK), and Newark Liberty International (EWR) are easily accessible from the Site by vehicle or transit. Collectively, they deliver frequent non-stop air service to all national and international hubs, and serve the most annual passengers in the nation.<sup>1</sup> The Port Authority of New York and New Jersey has committed \$11.6 billion in capital dollars over the next ten years to upgrading these airports, plus \$1.7 billion to improve rail access to Newark International Airport. An AirTrain connection from the subway and Long Island Railroad to LaGuardia is committed for development, as well as continued upgrades to the AirTrain service to JFK. Additionally, there is substantial private investment planned at various terminals, such as Delta Air Lines’ investment of \$3.5 billion at LaGuardia as part of that airport’s complete overhaul and modernization.

	<b>LaGuardia Airport (LGA)*</b>	<b>John F. Kennedy International Airport (JFK)</b>	<b>Newark Liberty International Airport (EWR)</b>
<b>Miles from Site</b>	9	18	17
<b>Carriers</b>	11	80	34
<b>Avg daily direct service to Seattle**</b>	-	7.6	5.4
<b>Avg daily direct service to Washington D.C.**</b>	14.6	13.6	13.2
<b>Avg daily direct service to San Francisco Bay area**</b>	-	22.2	21

<sup>1</sup> <https://www.panynj.gov/airports/pdf-traffic/ATR2016.pdf>  
 PROJECT CLANCY REAL ESTATE SECTION  
 R-19

<b>Total cities served non-stop</b>	77	171	174
<b>Total daily flights</b>	499	586	518
<b>Total passengers (past 12 months)</b>	29.4 million	59.6 million	42.5 million

\*LaGuardia currently does not provide cross-country flights by Port Authority of New York and New Jersey policy, which is subject to future reevaluation

\*\*The 2017 submission included a calculation error resulting in only half of the one-way direct plane service being communicated; these are the corrected totals for Q2, 2017

In addition to frequent service to every national and international hub, many business travelers use Amtrak’s 20 daily high-speed Acela trains to travel from Penn Station to Washington D.C., Philadelphia, Boston, and other cities along the Northeast Corridor. Helicopter access is available at multiple heliports in Manhattan, including the West 30th St Heliport adjacent to the Site. Private airplane service is available at Teterboro Airport, approximately 13 road miles from the Site.

2. Roads: describe road access to Site and any planned improvements. Include details of how employees may commute into Site via personal auto or rideshare. Use specific highway names, road names, bridges, etc.

Midtown West is at the intersection of major regional and local north-south and east-west connectors. The regional highway network is accessible via the West Side Highway, which connects to the Bronx, Westchester and upstate New York, each Hudson River Crossing, and Brooklyn and Staten Island, and via the Lincoln and Queens-Midtown Tunnels, which provide nearby access to Queens and Long Island, and New Jersey. The Site fronts or will front avenues and streets such as Eighth Avenue and 34th Street that are central to the rectilinear Manhattan street grid, providing redundant and tight-knit vehicular, pedestrian, and bicycle connectivity. Additional roads are not necessary to serve the Site. While this road network will serve employees using personal auto and rideshare vehicles, the vast majority of employees are anticipated to commute by transit, bike, or foot, consistent with the commuting pattern of employees who work in the neighborhood currently.<sup>2</sup>

3. Tram or Light Rail: name of provider, details of system (maps) of areas served, and planned improvements. Also include data on the reliability of the service and delays.

None at present; new tram or light rail service is not necessary to facilitate commuters to the Site.

- a. Extension or new tram/light rail service

<sup>2</sup> DCP/Internal census analysis  
PROJECT CLANCY

(i) Will State/Commonwealth/Province or local government(s) commit to acquire rights-of-way to assure tram or light rail service to Site?

Yes  No

(ii) If Yes, provide letter of commitment and identify funding source(s).

[Click here to enter text.](#)

4. Metro or Subway: name of provider, details of system (maps) of areas served, and planned improvements. Also include data on the reliability of the service and delays.

There are nearly 20 subway and PATH rapid transit lines that connect to Manhattan, Brooklyn, Queens, the Bronx, Jersey City, Newark, and Hoboken. Key subway stations at the Site include the 1/2/3/A/C/E at Penn Station, the 7 at Hudson Yards – 34th St, and the B/D/F/M/N/Q/R at Herald Square, as well as the 33rd St PATH to New Jersey. Collectively, these area subway and PATH stations serve more than 300,000 daily riders, with approximately 300 trains in the peak hour alone.

The NYC Subway system and the PATH system, in their comprehensiveness and frequency, are not used like a regional rail service, with customers expecting to arrive for a specific scheduled interval. Rather, customers generally arrive at the platform at their convenience because the trains arrive so frequently. On the New York City subway, on average, the more than five million daily customers are delayed by less than three minutes per trip, including extra wait time on platform or aboard.<sup>3</sup> New York City's transit network has more redundancy than any other in the nation, enabling commuters to navigate service disruptions. Though delays do occur, New York City's systems effectively serve millions of daily customers, and are critical to the regional economy. The subway is the preferred way to commute where available in New York City, since it is generally faster than vehicular travel, particularly into and out of Manhattan at peak hours.

There are numerous planned and funded investments targeted to improve the frequency, reliability and qualitative customer experience of the subway in the vicinity of this Site. These include upgrading the signaling system on the 7, E, F, M, and R trains to enable greater reliability and frequency, as well as complete upgrades to the two subway stations connected to Penn Station. Relevant system-wide improvements include the implementation of a state-of-the-art fare-payment system, and new subway cars designed for better circulation as part of the current \$32.5 billion capital plan. NYC Transit increases subway frequency, when feasible, following ridership growth, per system guidelines. New subway lines are not necessary for this Site.

Please refer to Maps #RE-10, RE-11, and RE-12 for additional information.

a. Extension or new service commitment

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<sup>3</sup> <http://dashboard.mta.info/>  
PROJECT CLANCY

(i) Will State/Commonwealth/Province or local government(s) commit to acquire rights-of-way to assure metro service to Site?

Yes       No       NA, service to Site exists

(ii) If Yes, provide letter of commitment and identify funding source(s).

[Click here to enter text.](#)

5. Commuter Train Service: name of provider, details of system (maps) of areas served, and planned improvements. Also include data on the reliability of the service and delays.

Commuter trains serving Penn Station include rail service from throughout New Jersey via NJ Transit, and Long Island via the Long Island Railroad, providing easy rides from cities, suburbs and less dense communities throughout the greater region. Amtrak intercity rail service (including high-speed Acela trains) covers much of the northeast, including frequent high-speed service to Boston, Philadelphia, and Washington, D.C. Rail from Penn Station provides access to all three major airports, with improvements to all three in planning stages. Penn Station serves over 400,000 regional rail passengers a day on hundreds of trains, which, combined with its hundreds of thousands of subway trips, makes it the busiest transit hub in the western hemisphere.<sup>4</sup> With about 80 combined Long Island Railroad and NJ Transit trains arriving in a peak hour, both NJ Transit and Long Island Railroad boast on-time performance above 90%.<sup>5</sup>

Recently, the City, State and Federal government committed over \$7 billion to improve rail capacity and passenger experience at Penn Station, with more expected to come. The new Moynihan Train Hall is under construction within the historic Farley Post Office building, west of Penn Station. When the train hall is completed in 2021, rail passengers will enjoy a sky-lit space with modern amenities and enhanced retail options. Amtrak's relocation to the new train hall will open the way for substantial capital improvements to Penn Station, where the LIRR concourse and adjoining subway stations are undergoing redesign and expansion with improved signage, lighting, finishes, and retail space. In addition, Metro-North Penn Access will provide an additional commuter rail connection between Midtown West and the suburbs of Westchester and Connecticut. A variety of additional projects in advanced planning, such as the "Gateway" package of new tunnels and improvements, will further improve capacity and reliability for regional rail at Penn.

Please refer to Map #RE-08 and RE-9 for additional information.

a. Extension or new service commitment

(i) Will State/Commonwealth/Province or local government(s) commit to acquire rights-of-way to assure rail service to Site?

Yes       No       NA, service to Site exists

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<sup>4</sup> Stats from Vornado, confirmed by various news articles

<sup>5</sup> [http://www.njtransit.com/AdminTemp/NJTRANSIT\\_2016\\_Annual\\_Report\\_Final.pdf](http://www.njtransit.com/AdminTemp/NJTRANSIT_2016_Annual_Report_Final.pdf),  
<http://web.mta.info/persdashboard/performance14.html#>

(ii) If Yes, provide letter of commitment and identify funding source(s).

6. Ferry Service for employee commuting: name of provider, details of system (maps) of areas served, and planned improvements. Also include data on the reliability of the service and delays.

A number of private ferry routes serve commuters in Midtown West from Pier 79 at West 39th Street, providing direct connections to New Jersey waterfront communities, connecting trains and buses in Hoboken, and transporting park-and-ride commuters. Pier 79 is a modern ferry facility built in the early 2000s to meet the growing needs of trans-Hudson ferry service.

New York Waterway operates seven routes from New Jersey to Manhattan via Pier 79. Services operate every 20 minutes for local crossings and up to every 70 minutes for longer routes. Trans-Hudson ferry service is a meaningful park-and-ride option for many New Jersey residents, serving growing communities such as Hoboken, Jersey City, Edgewater, and Port Imperial, with trips as short as 10 minutes.

The New York City Department of Transportation is currently evaluating the feasibility of regular ferry service between Staten Island and Midtown Manhattan.

Please refer to Maps #RE-10, RE-11, and RE-12 for additional information.

a. Extension or new service commitment

- (i) Will State/Commonwealth/Province or local government(s) commit to acquire rights-of-way to assure ferry service to Site?

Yes       No       NA, service to Site exists

(ii) If Yes, provide letter of commitment and identify funding source(s).

7. Bus Service: name of provider, details of system (maps) of areas served, and planned improvements. Also include data on the reliability of the service and delays.

Sixty-six express and local New York City bus lines serve the Site from all five boroughs. The Metropolitan Transportation Agency regularly reviews ridership to respond to changes in use, which leads to increases in service frequency to meet service guidelines when ridership warrants such increases. Real-time next bus information helps riders plan their rides, and over 99% of buses complete their trips citywide.

Midtown West is also served by a number of private borough-wide and long-distance bus routes from New Jersey and further afield, as well as over 8,000 buses serving over 200,000 riders a day at the nearby Port Authority Bus Terminal, a short walk or bike ride or single subway stop to the north of the Site.



Please refer to Maps #RE-10, RE-11, and RE-12 for additional information.

a. New service or extension commitment

(i) Will State/Commonwealth/Province or local government(s) commit to acquire rights-of-way to assure bus service to Site, if necessary?

Yes       No       NA, service to Site exists

(ii) If Yes, provide letter of commitment and identify funding source(s).

8. Master Transit Plan: please provide a copy of the Master Transit Plan encompassing Site, if any.

New York City's extensive transit and roadway network is largely mature, with its chief challenge being maintaining a state of good repair and modernization rather than new routes. It is managed by a number of overlapping jurisdictions and entities, each of which is focused on maintenance while expanding their infrastructure where appropriate. Most major transit systems and the highway network are oriented toward the Manhattan central business district, including the Site, with planned investments to ensure this critical access is strong.

While there is no fully integrated Master Transit Plan for the region or the Site, the regional metropolitan planning organization (NYMTC) estimates \$496 billion has been committed for the region's transit and road network between 2018 and 2045, with about three-quarters of this dedicated to transit<sup>6</sup>. Manifold major and minor transit improvements are planned for maintenance and expansion of the transit networks that intersect this Site, including everything from new stations and Metro-North access to Penn Station, to bridge maintenance.

## G. Local Taxes

### 1. Real Property Tax Rate

#### a. Calculate Annual Real Property Taxes for Site

Tax estimates for the office space range from \$13 to \$21 per GSF (in 2017\$), prior to accounting for any abatements. These estimates are based on assumed market value ranging from \$278 to \$452 per GSF. Property tax rate is 10.514% for commercial uses (FY18) and assessment ratio of 45% is applied.

### 2. Personal Property Tax Rate

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<sup>6</sup>[https://www.nymtc.org/Portals/0/Pdf/RTP/Plan%202045%20Final%20Documents/Plan%202045%20Individual%200Chapters/Chapter%207\\_Financing%20the%20Plan.pdf](https://www.nymtc.org/Portals/0/Pdf/RTP/Plan%202045%20Final%20Documents/Plan%202045%20Individual%200Chapters/Chapter%207_Financing%20the%20Plan.pdf)

Property tax rate is 20.385% for Class 1 properties and 12.719% for Class 2 (FY18). Property tax rates are applied to assessed value in order to calculate the property tax liability, and assessed value as a percentage of market value is 6% for Class 1 properties and 45% for Class 2.

Class 1: Includes most residential property up to three units (such as one-, two-, and three-family homes and small stores or offices with one or two attached apartments), vacant land that is zoned for residential use, and most condominiums that are not more than three stories.

Class 2: Includes all other property that is primarily residential, such as cooperatives and condominiums.

a. Detail any personal property exclusions

- **Affordable New York (421-a):** 421-a legislation (known as Affordable New York) offers developers property tax breaks of up to 100% to build affordable housing. The full property exemption could be up to 35 years if 25 to 30 percent of units are set aside for low- and moderate-income tenants. (see Appendix I, page I-23 & I-24)
- **School Tax Relief Program (STAR):** provides property tax relief to one-, two-, and three-family homes, cooperatives, and condominiums where the property serves as the primary residence of the owner who earns less than \$500,000. The exemption is based on a fixed market value exemption adjusted for the portion of the real estate tax that represents the school tax (see Appendix I, page I-28).
- **Senior/disabled:** four exemption programs are available for senior and disabled residents, including Senior Citizen Homeowner Exemption (SCHE), Disabled Homeowners Exemption (DHE) 459-c Program, Senior Citizen Rent Increase Exemption (SCRIE), and Disability Rent Increase Exemption (DRIE) (see Appendix I, page I-29).
- **Veterans' Exemptions:** provides partial property tax exemptions to qualified veterans (and qualified family members) (see Appendix I, page I-31).
- **Co-op/Condo abatement:** provides partial property tax relief to owners or tenant-shareholders of Class 2 condominiums or cooperatives where the property serves as the primary residence of the owner (see Appendix I, page I-32).
- **Real property tax rebate:** owners of one-, two- and three-family homes and Class 2 cooperative and condominium apartments are eligible for an annual real property tax rebate of \$400 or the annual real property tax, whichever is less (see Appendix I, page I-32).

3. Detail any additional local taxes (i.e., overlay, infrastructure)

- **Business corporation tax:** This tax is imposed on those corporations, both domestic and foreign, that do business, employ capital, own or lease property or maintain an office in New York City. A corporation determines its tax liability by making three alternative calculations and comparing the results to a sliding-scale fixed minimum tax. The primary tax liability is the largest of the four amounts (page 63-65).
- **Commercial rent tax:** This tax is imposed at an effective rate of 3.9 percent of the base rent paid by tenants of premises used to conduct any business, profession or commercial activity. The tax does NOT apply in Manhattan north of 96th Street or in the other boroughs (page 107-109).
- **Sales tax:** for sales in New York City, combined City and State rate is 8.875 percent (see Appendix III, page III-6).
- **Personal income tax:** the personal income tax rates imposed on New York City residents range from 3.078 percent to 3.876 percent (see Appendix II, page 9 and page 32).
- **Real property transfer tax:** This tax is imposed on the transfer of real property located in New York City and on the transfer of a controlling economic interest in real property located in New York City (see page 95).
  - For residential properties, the State and City combined rate is 1.4% for residential sales of \$500,000 or less and 1.825% for sales between \$500,000 and \$1 million. For sales above \$1 million, the rate is 2.825%.
  - For properties other than the residential properties, the combined rate is 1.825% if the consideration is \$500,000 or less; and 3.025% for sales above \$500,000.
- **Mortgage recording tax:** This tax is imposed on the recording of real estate mortgages in New York City (page 101).
  - For mortgages that are less than \$500,000, the State and City combined rate is 2.050%
  - For residential mortgages that are \$500,000 or more, the combined rate is 2.175%
  - For other mortgages that are \$500,000 or more, the combined rate is 2.800%
- **Utility tax:** This tax is imposed on every utility and vendor of utility services that does business in New York City. “Utilities” are those companies that are subject to the supervision of the New York State Department of Public Service, including gas and electric companies and telephone companies. The basic utility tax rate is 2.35 percent of gross income or gross operating income. Different rates apply to bus companies and railroads (page 113-116).

- **Other taxes:** information on other taxes can be found on page 129 to page 131<sup>7</sup>

## **H. Government**

1. Describe the government in your community, focusing on:

a. Municipal government organization and responsibilities

New York City has a highly centralized municipal government. The Mayor, as head of the executive branch, has broad powers such as operation of City agencies, law enforcement, and appointments of Commissioners and Judges. The executive branch also contains an elected Comptroller and elected Public Advocate. The City Council is a unicameral legislature formed of 51 members, who have powers including legislation, budgeting, oversight, and approval of land use decisions.

b. County government organization and responsibilities

New York City's unified municipal government performs the functions that are typically responsibilities of counties. The five boroughs (contiguous with counties) each have an elected Borough President and District Attorney. The Borough Presidents have limited official powers, but do play a role in the Land Use Review process.

c. State government organization and responsibilities, especially as government action may affect the Company and the headquarters.

### **Legislative Branch**

The legislative branch consists of a bicameral (or two chamber) Legislature — a 62-member Senate and 150-member Assembly that, together, represent the 18 million citizens of the State. All members are elected for two-year terms.

### **Judicial Branch**

The judicial branch comprises a range of courts (from trial to appellate) with various jurisdictions (from village and town courts to the State's highest court — the Court of Appeals). The State assumes the cost for all but the town and village courts.

The Judiciary functions under a Unified Court System whose organization, administration and financing are prescribed by the State Constitution and the Unified Court Budget Act. The Unified Court System has responsibility for peacefully and fairly resolving civil claims, family disputes, and criminal accusations, as well as providing

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<sup>7</sup> Source: New York City Office of Management and Budget, Tax Revenue Forecasting Documentation, Fiscal Year 2016-2020  
(<http://www1.nyc.gov/assets/omb/downloads/pdf/methodology-2018-01.pdf>)

legal protection for children, mentally-ill persons and others entitled to special protections.

## **Executive Branch**

The executive branch of New York State government consists of a maximum of 20 departments, a result of constitutional reforms from the 1920s that were designed to make State government more manageable. The departments that will likely have relevance to Amazon are:

### *Empire State Development*

Creates jobs and encourages economic prosperity by providing technical and financial assistance to businesses; disposes of State properties through General Project Plans.

### *Education*

Supervises all educational institutions in the State, operates certain educational and cultural institutions, certifies teachers and certifies/licenses 44 other professions.

### *Environmental Conservation*

Administers programs designed to protect and improve the State's natural resources.

### *Executive*

At the time of the 1920s constitutional reforms, the Executive Department — headed by the Governor — housed only a few core functions such as budgeting, central purchasing, the State police and military and naval affairs. Since that time, numerous agencies have been created within the Executive Department to accommodate governmental functions not anticipated in the 1920s, while conforming with the limits established by the Constitution. These additions include divisions and offices that do not logically fit into the framework of the other departments, such as the Division of Veterans' Affairs (which advises veterans on services, benefits and entitlements, and administers payments of bonuses and annuities to blind veterans) and the Office of General Services (which provides centralized data processing, construction, maintenance and design services as well as printing, transportation and communication systems).

### *Labor*

Helps New York work by preparing individuals for jobs; administering unemployment insurance, disability benefits and workers' compensation; and ensuring workplace safety.

### *Transportation*

Coordinates and assists in the development and operation of highway, railroad, mass transit, port, waterway and aviation facilities.

## **Elected Officers and Appointed Officials**

Only four statewide government officers are directly elected:

- The Governor, who heads the Executive Department, and Lieutenant Governor (who are elected on a joint ballot)
- The State Comptroller, who heads the Department of Audit and Control
- The Attorney General, who heads the Department of Law

With a few exceptions, the Governor appoints the heads of all State departments and agencies of the executive branch. The exceptions include:

- The Commissioner of the State Education Department, who is appointed by and serves at the pleasure of the State Board of Regents
- The Chancellor of the State University of New York, who is appointed by a Board of Trustees
- The Chancellor of the City University of New York, who is appointed by a Board of Trustees

### **Local Governments**

Geographically, New York State is divided into 62 counties (five of which are boroughs of New York City). Within these counties are 62 cities (including New York City), 932 towns, 555 villages and 697 school districts (including New York City). In addition to counties, cities, towns and villages, “special districts” meet local needs for fire and police protection, sewer and water systems or other services.

Local governments are granted the power to adopt local laws that are not inconsistent with the provisions of the State Constitution or other general law. The Legislature, in turn, may not pass any law that affects only one locality unless the governing body of that locality has first approved the bill — referred to as a home rule request — or unless a State interest exists.

## 2. Elected Officials

Name the following elected officials that represent your community and their term limit:

a. County Executive(s)

Manhattan Borough President Gale Brewer (D) was reelected to her second (and final, due to a two-term limit) term in 2017, currently serving 2018-2021.

b. County Legislative Officers, Representatives

N/A

c. Mayor or Chief Executive Officer

Mayor Bill de Blasio (D) was reelected to his second (and final, due to a two-term limit) term in 2017, currently serving 2018-2021.

d. Municipal Legislative Officers, Representatives

Councilmember Corey Johnson (D) is currently serving his second (and final, due to a two-term limit) term in the City Council, 2018-2021. He was selected by his colleagues as Speaker of the Council, a position regarded as second only to the Mayor in political power.

## I. Labor/Talent

1. Describe any unique talent in the immediate area or opportunities that may not be covered in the Talent section

**K-12 schools in the area:**

**Please refer to Map T-02 in the appendix.**

**Higher education schools in the area:**

**Please refer to Map T-02 in the appendix.**

- CUNY School of Professional Studies
- CUNY Graduate Center
- Research Foundation of CUNY
- Fashion Institute of Technology (FIT)
- Kent State University
- Mercy College

**Other programs in the area: Please refer to Map T-02 in the appendix.**

- **Workforce1:** NYC Small Business Service that offers resume and interview preparation and help identify education and training opportunities prepare and connect candidates to job in healthcare, industrial, transportation, and other industries. The Midtown Workforce1 Career Center is located on 32nd Street and 5<sup>th</sup> avenue ([Workforce1](#)).
- **Tech training programs:**
  - NYC Data Science Academy (Midtown West)
  - Data Science Dojo (Midtown West)
  - Metis (Korea Town)
  - App Academy (Midtown Central)
  - Product School (Midtown Central)
  - Byte Academy (Midtown Central)

# TAXES AND TAX POLICY

## A. State/Commonwealth/Province

Detail the tax structures and policies of the State/Commonwealth/Province, including types of taxes, bases and application and exemptions and credits, including:

### 1. Income Taxation

#### Taxable Income

The computation of the New York State Personal Income Tax starts with the Federal definition of adjusted gross income as included in the Internal Revenue Code (IRC). The IRC permits certain exclusions and adjustments in arriving at Federal adjusted gross income. New York allows several subtraction modifications and requires certain addition modifications in arriving at New York adjusted gross income (NYAGI). Taxpayers can then reduce their NYAGI by subtracting the higher of the New York standard deduction or New York itemized deductions. New York itemized deductions generally conform to Federal itemized deductions; however, certain modifications, such as an add-back for income taxes, apply. Federal law, to which New York conforms, requires certain high-income taxpayers to further limit itemized deductions. In addition, an overall New York State deduction limitation applies to upper-income taxpayers. New York taxpayers may also subtract from NYAGI a \$1,000 exemption for each dependent, not including the taxpayer and spouse.

(See Appendix for a list of modifications to determine NYS/NYC taxable income.)

#### Rates

New York's personal income tax rates range from 4% to 8.82%.

For taxable years beginning in 2018 the middle income brackets are expanded and the following rates are in effect:

#### Joint Filers

##### New York Taxable Income:

##### Tax Rate:

Not over \$17,150	4%
Over \$17,150, but not over \$23,600	4.5%
Over \$23,600, but not over \$27,900	5.25%
Over \$27,900, but not over \$43,000	5.90%
Over \$43,300, but not over \$161,550	6.33%
Over \$161,550, but not over \$323,200	6.57%
Over \$323,200, but not over \$2,155,350	6.85%
Over \$2,155,350	8.82%



## Single Filers

<u>New York Taxable Income:</u>	<u>Tax Rate:</u>
Not over \$8,500	4%
Over \$8,500, but not over \$11,700	4.5%
Over \$11,700, but not over \$13,900	5.25%
Over \$13,900, but not over \$21,400	5.90%
Over \$21,400, but not over \$80,650	6.33%
Over \$80,650, but not over \$215,400	6.57%
Over \$215,400, but not over \$1,077,550	6.85%
Over \$1,077,550	8.82%

For taxable years beginning after 2019, the top personal income tax rate reverts to 6.85%; the brackets and dollar amounts will reflect a cost of living adjustment.

New York City and the City of Yonkers (Westchester County) both levy a local personal income tax which is in addition to the State personal income tax.

## **2. Franchise Taxation**

### General

The Corporate Franchise Tax has three separate bases. The business income base is the primary tax base, while the business capital and fixed dollar minimum tax bases are alternatives. Corporations pay the highest tax computed on these bases less applicable credits, but generally not less than the fixed dollar amount.

The computation of the tax on business income begins with Federal taxable income (FTI) for U.S. corporations (including domestic banks) or effectively connected income (ECI), with treaty benefits added back, for alien (non-U.S.) corporations. Taxpayers then make several state specific modifications to arrive at entire net income (ENI). Investment income and other exempt income are then subtracted from ENI, resulting in business income (BI). Taxpayers doing business within and without the State use a single receipts factor with market-based sourcing rules to apportion BI to New York State.

### Rates

- New York State's maximum corporate franchise (income) tax rate for most corporate taxpayers is 6.5%.
- For qualified New York manufacturers the corporate franchise tax rate on business income is 0%.

Corporations pay the highest tax computed on the following three alternative bases:

- **Business Income** -- a tax of 6.5% on business income; (0% for qualified NYS manufacturers; 5.7% for qualified emerging technology companies);
- **Capital** -- a tax of 0.075% on allocated business and investment capital (0.056% for qualified NYS manufacturers, maximum tax: \$350,000; maximum for non-manufacturers: \$5 million); (NOTE: the capital base tax is being reduced and phased out through 2021.) or
- **Fixed Dollar Minimum Tax** -- a separate minimum tax at fixed dollar amounts, based on New York receipts:

Note on the Capital Base:

The tax on business capital starts with the taxpayer's total assets reduced by its liabilities to arrive at total capital before apportionment. Taxpayers then subtract out investment capital as only business capital is subject to tax. Taxpayers multiply business capital by the business apportionment percentage (NY State uses a single sales factor apportionment formula: NY State sales/receipts divided by everywhere sales/receipts) to determine the apportioned business capital base which is subject to tax.

For qualified NYS manufacturers the 2018 rates range from \$19 to \$3,750:

	Tax Year 2018 and Thereafter
If New York receipts are:	
Not more than \$100,000	\$19
\$100,001 - \$250,000	\$56
\$250,001 - \$500,000	\$131
\$500,001 - \$1,000,000	\$375
\$1,000,001 - \$5,000,000	\$1,125
\$5,000,001 - \$25,000,000	\$2,625
Over \$25 million	\$3,750

For other C corporations the rates range from \$25 to \$200,000 as follows:

If New York receipts are:	The fixed dollar minimum tax is:
Not more than \$100,000	\$25
\$100,001 - \$250,000	\$75
\$250,001 - \$500,000	\$175
\$500,001 - \$1,000,000	\$500
\$1,000,001 - \$5,000,000	\$1,500
\$5,000,001 - \$25,000,000	\$3,500
\$25,000,001 - \$50,000,000	\$5,000

\$50,000,001 - \$100,000,000	\$10,000
\$100,000,001 - \$250,000,000	\$20,000
\$250,000,001 - \$500,000,000	\$50,000
\$500,000,001 - \$1,000,000,000	\$100,000
Over \$1 billion	\$200,000

MTA Surcharge -- A surcharge rate of 28.6% also applies to a taxpayer's pre-credit tax liability allocable to the 12-county Metropolitan Commuter Transportation District (MCTD) for tax year 2018. This includes the City of New York, Long Island, and the mid-to-lower Hudson River Valley.

### 3. Option Taxation, State/Commonwealth/Province

N/A

### 4. Property Taxation

a) Personal, including machinery, equipment, or tools.

**EXEMPT** -- Personal property, whether tangible or intangible, is exempt from ad valorem taxation.

b) Real

**N/A** -- Local governments in New York levy taxes on real property, which is defined as land and any permanent structures attached to it. No taxes apply to other types of property, and **no State property tax is levied.**

### 5. Sales and Use Taxation

The New York State Sales and Use Tax applies primarily to sales of tangible personal property in New York State, not for subsequent resale. The Sales and Use Tax also applies to a variety of services, notably, services to real or personal property, telephone service, and commercial energy use. Certain admissions, hotel occupancies, and restaurant meals are also taxed.

Generally, the tax base includes tangible personal property unless the law provides a specific exclusion or exemption and does not include services unless the law specifically enumerates the service as taxable.

The Tax Law provides manufacturers with exemptions for the purchase, repair, and maintenance of machinery and equipment used in production. Other exempt items include food, medicine, residential energy, and sales to exempt entities.

The Department of Taxation and Finance administers the Sales and Use Tax for the State and its constituent jurisdictions that also impose the tax. The State rate equals 4 percent. Local rates range from 3 percent to 4.75 percent. Communities within the Metropolitan Commuter Transportation District are subject to an additional  $\frac{3}{8}$  of 1 percent tax rate.

## **6. Surtaxes**

### Metropolitan Commuter Transportation District (MCTD) -- Corporation Franchise Tax Surcharge

A surcharge is imposed on the portion of the corporation franchise tax attributable to business activity carried on within the Metropolitan Commuter Transportation District (the 12-county area including the City of New York, Long Island, and the mid-to-lower Hudson River Valley).

Taxpayers determine the portion of their business activity carried on within the MCTD using a 3-factor formula using property/receipts/compensation. A taxpayer initially determines three percentages comparing its property, receipts and compensation within the MCTD to its property, sales, and compensation throughout the State as a whole.

These percentages are then added together and the result is divided by the number of percentages. The taxpayer's franchise tax (before credits) is multiplied by the resultant percentage to determine the tax upon which the surcharge is imposed.

For 2018, the surcharge rate is 28.6%

## **7. Other Taxation (State/Commonwealth/Province)**

### Metropolitan Commuter Transportation District Mobility Tax (MTA Payroll Tax)

The MCTMT is administered by the New York State Tax Department, however the proceeds from the tax are distributed to the Metropolitan Transportation Authority.

The MCTMT is imposed on certain employers (those required to withhold New York State income tax from wages and whose payroll expense exceeds \$312,500 in any calendar quarter) and individuals (those with net earnings attributable to the Metropolitan

Commuter Transportation District (MCTD) exceeding \$50,000 in the tax year) engaging in business within the MCTD.

The MCTD includes New York City (the counties of New York (Manhattan), Bronx, Kings (Brooklyn), Queens, Richmond (Staten Island), and the counties of Rockland, Nassau, Suffolk, Orange, Putnam, Dutchess, and Westchester.

Except for certain START-UP NY tax benefits, any exemption from tax allowed in any other New York State law does not apply to this tax.

The MCTMT is imposed at the following rates:

- 0.11% for employers with payroll expense over \$312,500 but not over \$375,000 in any calendar quarter;
- 0.23% for employers with payroll expense greater than \$375,000 and no greater than \$437,500 in any calendar quarter; and,
- 0.34% for employers with payroll expense in excess of \$437,500 in any calendar quarter.

For individuals, the rate is 0.34% of net earnings from self-employment allocated to the MCTD during the tax year.

An employer is prohibited from deducting from the wages or compensation of an employee any amount that represents all or any portion of the MCTMT.

#### Real Estate Transfer Tax

- A tax imposed on the conveyance of real property or an interest in real property where the consideration exceeds \$500.
- Tax also applies to conveyances of shares of stock in a cooperative housing corporation, the creation of long-term leaseholds and subleases, and transfers or acquisitions of a controlling interest in an entity which owns an interest in real property.
- Basic Rate: the rate of tax equals \$2.00 for every \$500 (or fraction thereof) of consideration (responsibility for payment rests with the person making conveyance/grantor; if grantor/seller fails to pay the tax or is exempt, grantee is responsible for payment).
- Mansion Tax: together with the basic transfer tax, and additional 1% tax (“mansion tax”) is imposed on the conveyance of residential real property or interest therein where the consideration is \$1 million or more (imposed on the grantee, unless the grantee is exempt, then the tax is imposed on the grantor).

#### Mortgage Recording Tax

- A tax imposed on the recording of mortgages on real property located in New York.
- In addition, New York City, Yonkers, and various counties are authorized to impose similar taxes.

- Exemptions apply for certain types of mortgages, such as those involving the New York State or federal governments. The tax is payable to the recording office of the county in which the mortgaged property is located.

The following mortgage recording taxes could apply, varying by county:

- a basic tax equal to 50 cents per \$100 of mortgage debt or obligation secured;
- an additional tax of 25 cents per \$100, (30 cents per \$100 for counties within the Metropolitan Commuter Transportation District) with a \$10,000 exemption for one or two-family residences; and
- a special additional tax equal to 25 cents per \$100.

The three distinct taxes reflect the fact that revenues from each tax are generally dedicated to various State and local transportation and housing programs, or other specified local governmental purposes.

### Estate Tax

The estate of an individual who was a New York State resident at the time of death must file a New York State estate tax return if the total of the federal gross estate plus any taxable gifts made while the individual was a resident of New York State exceeds the New York State basic exclusion amount (\$5,250,000) applicable for dates of death on or after April 1, 2017, and on or before December 31, 2018.

## **B. Local**

Detail the tax structures and policies of the local governments in your community, including types of taxes, bases and application and exemptions and credits:

### **1. Income Taxation**

Tax imposed on the taxable income of every resident of New York City. The City's definition of taxable income follows, with certain modifications, Federal law, and is the same as the New York State definition. Like the sales and use tax, the NYC personal income tax is collected, administered and enforced by the New York State Department of Taxation and Finance.

RATES: The personal income tax rates imposed on New York City residents range from 3.078% (taxable income up to \$21,600 for joint filers; up to \$12,000 for single filers) to 3.876% (taxable income over \$90,000 for joint filers; \$50,000 for single filers).

## 2. Franchise Taxation

Business Corporation Tax (<http://www1.nyc.gov/site/finance/taxes/business-corporation-tax.page> )

A tax applicable to business income, (however business capital and gross receipts are alternative minimum bases).

- Business Income Base Tax Rates:
  - Qualified Manufacturing Corporations: 4.425% - 8.85%
  - Small businesses (based on income level): 6.5% - 8.85%
  - Financial Corporations: 9%
  - Remaining Taxpayers: 8.85%
- Business Capital Base Tax Rates:
  - Cooperative housing corporations: .04%
  - All other corporations: .15%
  - Maximum tax is \$10 million.
- Fixed Dollar Minimum Tax:
  - \$25 (NYC receipts not more than \$100,000) to \$200,000 (NYC receipts more than \$1 billion)

### General Corporation Tax

([http://www1.nyc.gov/assets/finance/downloads/pdf/tax\\_rates/general\\_corp\\_tax\\_rates.pdf](http://www1.nyc.gov/assets/finance/downloads/pdf/tax_rates/general_corp_tax_rates.pdf) )

- applicable to S corporations (NYC does not recognize federal or NYS S corporation elections).
- Tax computed by four different methods and is imposed at whichever method produces the largest amount of tax:
  - Entire net income base: 8.85% of “net income allocated to NYC”; OR
  - Total Capital base: .15% of business and investment capital allocated to NYC, not to exceed \$1 million; OR
  - Alternative Tax Base: 8.85% of 15% of net income plus the amount of salaries or other compensation paid; OR
  - Fixed Dollar Minimum Tax, ranging from \$25 (NYC receipts not more than \$100,000) to \$5,000 (NYC receipts over \$25,000,000).

## 3. Option Taxation, Local

N/A

## 4. Property Taxation

a. Personal, including Equipment, Machinery or Tools

EXEMPT -- Personal property, whether tangible or intangible, is exempt from ad valorem taxation.

b. Real

Under Article 18 of the Real Property Tax Law, real property in New York City is divided into four different classes:

- (1) Class 1 consists of 1-, 2- and 3-family residential property, small condominiums, and certain vacant land north of 110<sup>th</sup> Street in Manhattan and in other boroughs;
- (2) Class 2 consists of all other residential property, including cooperatives and condominiums;
- (3) Class 3 consists of utility company equipment and special franchises; and
- (4) Class 4 consists of all other real property, such as office buildings, factories, stores, hotels and lofts.

FY 2017 Rates:

New York City assesses properties at a uniform percentage of market value within each class of real property, applying class-specific tax rates to determine tax liability. The rates, per \$100 of assessed value, are as follows:

Class 1	19.991
Class 2	12.892
Class 3	10.934
Class 4	10.574

## 5. Sales and Use Taxation

GENERAL: The New York City sales and use tax is imposed on the sale or use of tangible personal property and certain services; sales of gas, electricity, steam, refrigeration, and intrastate telephone and telegraph services; food and beverages sold by restaurants and caterers; hotel and motel occupancies; admission charges to certain places of amusement; and club dues.

RATE: 4.5%

PARKING: NYC sales and use tax is also imposed on charges for the parking or garaging of motor vehicles. The basic rate imposed on the parking charge is 6%; an additional 8% tax is imposed on parking in Manhattan. (Manhattan residents who meet certain conditions are exempt from the 8% tax.)



## 6. Surtaxes

## 7. Other Taxation (local)

Unincorporated Business Tax -- imposed on every individual or unincorporated entity carrying on a business, trade, profession or occupation wholly or partly within New York City, and that has a total gross income from all business, regardless of where carried on, of more than \$95,000.

- Rate of tax: 4%
- Credit:
  - Liability of \$3,400 or less is allowed a credit for the full amount of the tax;
  - Liabilities between \$3,401 and \$5,400 are allowed a partial credit.

Commercial Rent Tax -- tax charged to tenants who occupy or use a property for commercial activity in Manhattan, south of 96<sup>th</sup> Street, if the annual or annualized gross rent paid is at least \$250,000.

- Rate of Tax: 6% of base rent
- All taxpayers are granted a 35% base rent reduction, which reduces the effective tax rate to 3.9%.
- A tax credit is available if annualized base rent is between \$250,000 and \$300,000 before the 35% rent reduction.
- Small Business Tax Credit (effective July 1, 2018):
  - Eliminates tax liability for tenants that have total annual income of \$5 million or less and pay less than \$500,000 per year in rent.
  - Establishes a partial, sliding scale credit for taxpayers who have incomes of \$5 million or less and who pay between \$500,000 and \$550,000 per year in rent, and those taxpayers who have incomes between \$5 million and \$10 million and who pay less than \$550,000 per year in rent.
  - (Taxpayers who receive more than \$10 million would not receive any credit.)

Mortgage Recording Tax – tax imposed on the recording of real estate mortgages in New York City.

- For mortgages that are less than \$500,000, the rate is \$1.00 per \$100 of indebtedness;
- For mortgages that are \$500,000 or more the rate varies:
  - For mortgages on 1-, 2- or 3-family homes or individual residential condominium units, the rate is \$1.25 per \$100 of indebtedness;
  - For all other mortgages that are \$500,000 or more, the rate is \$1.75 per \$100 of indebtedness.

Real Property Transfer Tax – tax imposed on the transfer of real property located in New York City and on the transfer of a controlling economic interest in real property located in New York City.

RATES:

- for transfer of residential properties (1-, 2- or 3-family homes, an individual residential condominium unit, or an individual cooperative apartment:
  - 1% of consideration for property transferred for consideration of \$500,000 or less;
  - 1.425% of consideration for property transferred for consideration more than \$500,000.
- for properties other than the residential properties referred to above:
  - 1.425% of consideration, if the consideration is not more than \$500,000; and
  - 2.625% of consideration, if the consideration is more than \$500,000.

Utility Tax – tax imposed on every utility and vendor of utility services that does business in New York City.

- “Utilities” are those companies that are subject to the supervision of the New York State Department of Public Service, including gas and electric companies and telephone companies.
- Vendors of utility services are those that are not “utilities” but that sell gas, electricity, steam, water, refrigeration, or telecommunications services, or that operate omnibuses, whether or not those activities represent the vendor’s main business.
- RATE: the basic utility tax rate is 2.35% of gross income or gross operating income. Different rates apply to bus companies and railroads.

Hotel Room Occupancy Tax – a tax imposed on the occupancy, or right of occupancy, of a room or rooms in a hotel (apartment, hotel, motel, boardinghouse, bed-and-breakfast, bungalow, or club, whether or not meals are served). The tax has two components:

- Rent Per Day Tax (or “room tax”) – based on room rate; maximum rate (for rent of \$40 or more) is \$2.00 per day per room; and
- Additional Tax (“hotel occupancy tax”)– imposed at the rate of 5.875% (5% on/after 12/1/2019) of the rent or charge per day for each room.

### **C. Projected Employee Tax Burden**

Describe in detail the typical State/Commonwealth/Province and local tax burden that a company worker might anticipate if HQ2 were built on Site and the worker lived in your community. Assume the worker earns \$100,000 annually, excluding benefits.

Assumptions:

- Single filer
- \$100,000 taxable income
- Standard Deduction
- NYC resident

New York State Personal Income Tax:	\$5,619
New York City Personal Income Tax:	<u>\$3,441</u>
<b>Total NYS/NYC tax:</b>	<b>\$9,060</b>

#### D. Other

Detail any State/Commonwealth/Province tax legislation that has been proposed over the last two years that would positively or negatively impact the business community.

#### 2017

Life Sciences Research and Development Tax Credit (Ch. 59 (S. 2009-C/A. 3009-C, Part K), Laws 2017) – Refundable tax credit based on a qualified life science company’s research and development expenditures in New York State.

Excelsior Jobs Program R&D Credit (Ch. 59 (S. 2009-C/A. 3009-C, Part YY), Laws 2017) – increases the Excelsior R&D credit from 3% to 6% of research expenditures in New York State.

Film Production Tax Credit Extension (Ch. 59 (S. 2009-C/A. 3009-C, Part L), Laws 2017) – Extends the film production credit, upstate bonus credit, and post production credit for three years, through 2022.

## APPENDIX I

### Modifications In Determining NYS/ NYC Taxable Income

The following list identifies selected items that modify personal income and tax liability for New York City personal income tax purposes. These items are primarily federal exclusions from income and State modifications that pass through in determining City taxable income.

#### **Federal Exclusions from Income**

IRA and Keogh Contributions and Earnings Exclusion  
Income Earned Abroad by U.S. Citizens  
Passive Losses on Rental Real Estate  
Capital Gains on Home Sales  
Scholarship and Fellowship Income  
Employee Meals and Lodging  
Public Assistance Benefits  
Veterans Benefits  
Employer Contributions for Medical or Long-Term Care Insurance  
Employer Contributions for Employee Pensions  
Workers' Compensation Benefits  
Employer-Provided Tuition Assistance  
Employer-Provided Child Care  
Certain Employer-Provided Transportation Benefits  
Benefits and Allowances to Armed Forces Personnel  
Accelerated Death Benefits  
Contributions to Health/Medical Savings Accounts  
Self-Employed Persons' Health and Long-Term Care Insurance  
Employer-Provided Adoption Assistance  
Employer-Paid Premiums on Life, Accident and Disability Insurance  
Interest on Life Insurance Policy and Annuity Cash Value  
Interest on Qualified New York State and Local Bonds  
Oil and Gas Exploration and Development Costs  
Accelerated Depreciation  
Amortization of Business Start-Up Costs  
Capital Gains at Death  
Farmers' Expensing of Capital Outlays  
Capital Asset Treatment of Certain Timber Income and from Ore and Coal Royalties  
Expensing of R&D Costs  
Expensing of Certain Depreciable Business Property  
Social Security and Railroad Retirement Benefits (Partial Exclusion)  
Capital Gains from Small Corporation Stock  
Expensing of Certain Small Investments  
Deferral of Income from Installment Sales  
Student Loan Interest  
Education IRA's  
Earnings of Qualified Tuition Programs

#### **New York State Modifications to Income**

##### *Additions*

Interest or Dividends on Obligations or Securities of Certain Federal Authorities

Interest on Obligations of Other States or Political Subdivisions of those States  
State, Local or Foreign Income Taxes, Including Unincorporated Business Income  
Taxes, Deducted in Determining Federal Taxable Income  
Interest on Loans Incurred to Carry Tax-Exempt Securities  
Expenses for Production of Tax-Exempt Income  
Public Employee Retirement Contributions  
Federal Percentage Depletion  
New Business Investment Deferral  
S Corporation Shareholder Additions  
College Choice Tuition Savings Distributions  
Other Additions

*Subtractions*

Interest and Dividends on Obligations or Securities Taxable Federally but NY Tax-Exempt  
Interest and Dividends on Obligations or Securities of Certain Federal Authorities  
Interest on Obligations of the U.S. and its Possessions  
Pensions Paid by the Federal Government, the State of New York or New York Localities  
Portion of Pensions and Annuities Received by Individuals 59½ Years of Age or Older  
Disability Income Included in Federal AGI  
Social Security and Tier I Railroad Retirement Benefits Included in Federal AGI  
Accelerated Death Benefits and Viatical Settlements  
Contribution to NYS College Choice Tuition Savings Program  
Compensation for Members of an Organized Militia  
Deferral of Gain from Sale of Qualifying Emerging Technology Investments  
Payments to Victims of Nazi Persecution  
Expenses Incurred by Living Organ Donors  
Compensation for Service in a Combat Zone for Members of the U.S. Armed Services  
Small Business and/or Farm Income  
Income Attributable to NYS Business Incubator and Innovation Hot Spot Support Act  
Wages Received from Employers Located in a START-UP New York

For a list of New York State Personal Income Tax Credits, see:

[https://www.tax.ny.gov/pit/credits/more\\_income\\_tax\\_credits.htm](https://www.tax.ny.gov/pit/credits/more_income_tax_credits.htm)

## INCENTIVES

Please provide a summary of total incentives offered by the State/Commonwealth/Province and Local Community. If there are different incentive opportunities depending on the proposed real estate site, detail each incentive by real estate site. If the incentives are the same for all sites, complete this section once. Please organize your response in accordance with the incentive categories outlined herein and provide the following information with respect to **each** incentive:

- Brief overview of the incentive
- Timing of incentive utilization/realization
- Estimated net present value (using a [6%] annual discount factor) of the incentive based on the **Project Assumptions** set forth below
- Description of any specific or unique eligibility requirements applicable to the incentive
- Description and timing of required approvals (including any legislative or other approvals that may be required)
- If the incentive is uncertain or is not guaranteed, an explanation of the factors that contribute to that uncertainty and an estimate of the level of certainty
- Description of any claw back or recapture provisions applicable to the incentive
- Whether the incentive is refundable, transferable, or may be carried forward or carried back

### **Project Assumptions**

In order to estimate the net present value of each incentive, please use an annual discount factor of 6% and the following assumptions regarding buildout and employment ramp-up:

- An initial building campus comprised of 500,000 square feet in Year 1
- A total building campus comprised of 8,000,000 square feet upon completion of the Project
- Three phases of buildout over 15 years, starting with an initial 500,000 square feet in 2019/2020. Next, an incremental 500,000 square feet built in Years 2-5 (totaling 2,000,000 square feet over the first phase), an incremental 600,000 square feet built in Years 6-11 (totaling 3,600,000 square feet over the second phase), and the remainder built in the third phase in years 12-16 in 380,000 square foot increments (totaling 1,900,000 square feet over the third phase).
- Investment by the Project and/or the developer (if any) of \$600 per square foot for construction.
- Initial direct Project employment of 2,500 in Years 1-2.
- 50,000 direct Project employees upon completion of the Project, increasing relative to construction at the rate of one job per 160 square feet built.

- Average compensation will be over \$100,000 for employees, excluding benefits. More detailed information may be available later in the process.

### **State/Commonwealth/Province/Local**

Please complete the section below for all State/Commonwealth/Province and Local Incentives. Organize your responses by specific jurisdictions. If there are different incentives for real estate sites, organize your response accordingly.

1. Tax Incentives - For each of the following, please provide the relevant percentage (e.g. a XX% investment credit or XX% reduction in real property taxes), maximum length of incentive (e.g. 10 year credit period or 20 year abatement period), eligibility requirements (e.g. what constitutes eligible investment under an investment credit), initial and on-going compliance obligations (such as prevailing wage requirements, annual reporting, etc.), any caps (annual and/or aggregate), carryforward (if any), refundability, transferability, and assignability (e.g. to members of an affiliated group).
  - a. Payroll withholding tax rebates/grants (existing or potential)  
None.
  - b. Job creation tax credits (existing or potential)  
Excelsior Tax Credits. See attached incentive guide and proposal sent under separate cover.

### **Relocation and Employment Assistance Program (REAP)**

(Only applicable to properties in Long Island City)

#### Overview

REAP provides an annual income tax credit of \$3,000 for each job created in designated locations, or relocated from outside of New York City to such designated locations.

#### Term

12 years

#### Benefit

- Estimated NPV of incentive: \$853,508,018
- REAP as % of investment: 18%

#### Eligibility Requirements

- Expenditures must be made for improvements to the property in excess of \$25 per square foot or 50% of the assessed value at the start of the improvements for buildings currently receiving Industrial and Commercial Incentive Program incentives where the space was not previously occupied by a REAP recipient.
- Businesses must have been conducting substantial business operations for at least 24 consecutive months immediately before relocating.

### Approvals and Timing

- Business must relocate at least one person within first five years of relocation, and it may receive tax credit for each new employee added during this period.
- Business has 36 months to complete renovation or 72 months if renovation exceeds \$50,000,000.
- Business must submit a completed REAP application and all supporting documentation within one taxable year of relocation or the year a lease is signed and renovations commence.
- An application for Certificate of Eligibility of Designated Premises (REAP-ADD) must be filed for additional or replacement premises.
- REAP is administered by the New York City Department of Finance.

### Initial and Ongoing Compliance

- An Annual Eligible Aggregate Employment Shares Computation Form is submitted to the Department of Finance to determine the amount of REAP benefits available in that year. The Department of Finance provides an annual certification to be included with the business tax return.

### Certainty of Incentive

- The program described is an “as-of-right” incentive, meaning it is available to any applicant who can demonstrate that a project meets eligibility requirements of geography, capital expenditures, employment, or other factors.

### Benefit Caps

- The maximum number of employees eligible for REAP, is twice the number of eligible aggregate employment shares (EAES) maintained by the business outside of New York City (excluding Manhattan south of 96<sup>th</sup> Street) in the taxable year immediately preceding the taxable year when the business first relocates.
- Eligible Employment share with respect to each employee is the sum of:
  - a) The number of full-time work weeks worked by employees during the eligible taxable year divided by the number of weeks in the taxable year, and
  - b) The number of part-time work weeks worked by employees during the eligible business’ taxable year divided by an amount equal to twice the number of weeks in the taxable year.

### Refundability, Transferability, Assignability, Recapture/Claw back and Carry Forward

- Benefits are refundable for the year of relocation and the following four years.
- Benefits are not transferable.
- Benefits are not assignable.
- Recapture/claw back provisions do not apply.
- Unused credits from subsequent years may be carried forward for five years.

c. Investment tax credits (indicate whether investment by a developer, if any, would count)



Excelsior Tax Credits. See attached incentive guide and proposal sent under separate cover.

- d. Research and development tax credits and any other incentives available in connection with R&D activity conducted by or in conjunction with universities in the State/Commonwealth/Province.

Not applicable.

- e. Sales and use tax credits/exemptions or sharing agreements

Not applicable.

- f. Lodging tax, airport fees, etc. credits/exemptions or sharing agreements

None.

- g. Tax abatements of any type (indicate whether real, personal or both types of property are covered)

Personal Property – EXEMPT; NYS has no personal property tax.

**Industrial and Commercial Abatement Program (ICAP)**

(Only applicable to properties in Long Island City)

Overview

ICAP provides property tax abatements for real estate projects involving new construction or substantial renovation.

Term

15 to 25 years

Benefit

- Estimated NPV of incentive: \$809,321,254
- ICAP as % of gross tax liability: 37%

Eligibility Requirements

- Projects can be anywhere in New York City, except for some parts of Manhattan.
- Buildings must be built, modernized, expanded, or otherwise physically improved after submission of a formal ICAP application.
- Business must invest at least 30% of the property's taxable assessed value no later than four years from the date a building permit was issued (or from start of construction if no permit is required).

Approvals and Timing

- The Preliminary ICAP Application must be filed prior to the project initiation (the building permit issuance date or prior to start of construction if no permit is required). ICAP Applications will be accepted until March 1, 2022.
- The Final ICAP Application must be filed within one year from project initiation.
- Construction must be completed no later than five years from project initiation.

- Benefits are formalized on January 5 following the issuance of a certificate of occupancy, and the business will begin receiving benefits on July 1 thereafter.
- ICAP is administered by the New York City Department of Finance.

#### Initial and Ongoing Compliance

- Each Borough-Block-Lot with an ICAP abatement is required to file a Certificate of Continuing Use renewal each year in order to continue receiving the abatement.

#### Certainty of Incentive

- The program described is an “as-of-right” incentive, meaning it is available to any applicant who can demonstrate that a project meets eligibility requirements of geography, capital expenditures, employment, or other factors.

#### Benefit Caps

- N/A

#### Refundability, Transferability, Assignability, Recapture/Claw back and Carry Forward

- Benefits are not refundable
- Benefits may not be transferred across projects. ICAP benefits stay with the abated property if the property remains commercial and any retail portion does not exceed 5 percent.
- Benefits are not assignable.
- Recapture/claw back provisions do not apply.
- Benefits may not be carried forward to future years.

#### h. Millage/property tax rate reductions

Not applicable.

#### i. Rate freezes and/or caps on income, business license and/or other taxes

None.

#### j. Film tax credits

##### **Empire State Film Production Credit** (Tax Law sections 24; 210-B.20; 606(gg))

- Refundable credit against corporate franchise (income) tax and personal income tax for qualified film production companies, or sole proprietors of qualified film production companies.
- The credit is the product of 30% of the qualified production costs paid or incurred in the production of a qualified film, provided that at least 75% of the production costs (“stagework”) are spent in New York State.
- The credit is allowed for the taxable year in which the production of such qualified film is completed.
- “Qualified Film” excludes documentary films, news or current events programs, interview or talk programs, game shows, award ceremonies, sports programming, soap operas, commercials, music videos, or “reality” programs.

- Total available credits are subject to annual cap: \$420 million through 2019.
- Can reduce corporate tax to the fixed dollar minimum tax.
- New York City is authorized to allow this credit against NYC tax; NYC credit is 5% of qualified production costs; NYC program capped at \$12.5 million per year.
- Applicable to Articles 9-A and 22; expires December 31, 2019.
- <http://esd.ny.gov/BusinessPrograms/filmCredit.html>

**Empire State Film Post Production Credit** (Tax Law section 31; 210-B.32; 606(qq))

Up to \$25 million of the Empire State Film Production Credit is made available annually for the Post Production Credit, which will be allocated by the Governor's Office of Motion Picture and Television Development in the same manner as the Empire State Film Production Credit.

- Credit is equal to 10% of qualified post production costs, available to a qualified film production company, (unless such company is eligible for the Empire State Film Production Credit).
- To be eligible, qualified post production costs at a qualified post production facility must meet or exceed 75% of the total post production costs at any post production facility.
- NOTE: Any qualified post production costs used by a taxpayer as the basis for this credit cannot be used by the taxpayer to claim any other credit.
- Credit is 50% refundable in year 1, with the remainder carried forward to the immediately succeeding taxable year, where any remaining unused credit is refundable in that year.

**Empire State Commercial Production Tax Credit** (Tax Law sections 28, 210-B.23; 606(jj))

- This credit is provided to a taxpayer that is a qualified commercial production company, or a partner of a partnership (including a member of a limited liability company that is treated as a partnership for federal income tax purposes) that is a qualified commercial production company. (A New York S corporation may not use this credit against its own tax; instead, the credit is provided to its shareholders who are subject to tax under Article 22 of the Tax Law.)
- To be eligible for this credit, at least 75% of the production costs (excluding post production costs) paid or incurred directly and predominately in the actual filming or recording of a qualified commercial must be incurred in New York State.
- New York will provide \$7 million of credit annually to be disbursed to all eligible commercial production companies as follows:
  - Growth Credit (\$3 million) – a refundable credit equal to 20% of the qualified production costs attributable to the use of tangible property or the performance of services in New York in the production of a qualified commercial. Total qualified production costs must be greater in the current year than the average of the three previous years for which the credit was applied. However, until a qualified production company has established a three-year history for the credit,

the benchmark for the credit will be the greater of the previous year's or the average of the two previous years' qualified production costs. If the qualified production company has never applied for the credit, the previous year's data will be used to create a benchmark. The credit is applied only to the excess of the current calendar year's costs over the previous calendar year's cost. The annual \$3 million cap will be disbursed on a pro rata basis to all eligible commercial production companies. No qualified production company will be allocated more than \$300,000 of credit annually. The credit is allowed for the tax year in which the production of the qualified commercial is completed.

- Downstate Credit (\$3 million) –a refundable credit equal to 5% of the qualified production costs attributable to the use of tangible property or the performance of services in New York in the production of the qualified commercial within the Metropolitan Commuter Transportation District (MCTD, which includes New York City and the counties of Dutchess, Nassau, Orange, Putnam, Rockland, Suffolk and Westchester). Total qualified production costs in the current calendar year must be greater than \$500,000 and the credit applies only to such costs exceeding \$500,000. The annual \$3 million cap will be disbursed on a pro rata basis.
- Upstate Credit (\$1 million) – a refundable credit equal to 5% of the qualified production costs attributable to the use of tangible property or the performance of services in New York in the production of the qualified commercial outside the MCTD. Total qualified production costs in the current calendar year must be greater than \$200,000, and the credit applies only to such costs exceeding \$200,000. The annual \$1 million cap will be disbursed on a pro rata basis.

k. Tax incentives associated with the creation of an enterprise zone, development district or innovation zone  
None.

l. Other tax incentives not described above

**Automatic External Defibrillator Credit** (Tax Law sections 210.25; 606(s); 1511(l))

- Credit equals the cost to the taxpayer of the automated external defibrillator purchased during the taxable year. The credit cannot exceed \$500 for each unit purchased; however, there is no limit on the number of units for which the credit may be taken.
- Credit is neither refundable nor able to be carried forward.

2. Workforce Education, Training, and Relocation

a. Grants for workforce education, training, and relocation

Day One Center for Commerce Innovation, workforce development activities, and SUNY Amazon Scholars. See attached incentive guide and proposal.

## **SBS Customized Training Program**

### Overview

- Customized Training is a competitive program that provides funding to enable New York City business owners to invest in their workforce in the following areas:
- Training on new equipment or software
- Training to offer new products or services to reach a new market
- Training to promote employees into higher level positions
- Training to update obsolete skills that are necessary in order for the business to be competitive

### Term

1 year

### Benefit

Up to \$400,000

### Eligibility Requirements

- Business must:
  - Be a for-profit;
  - Be located in any New York City borough;
  - Demonstrate the ability to pay for training upfront;
  - Project wage increases for at least 50% of currently employed trainees; and
  - Propose to train at least 10 employees (with no more than 50% as projected new hires)
- Employees must:
  - Be either a direct employee of the business;
  - Be working in any New York City borough;
  - Be over 18 years old;
  - Be paid during training (must meet Federal and State minimum wage standards);
  - Earn less than a pre-deduction wage of \$71,979/year or \$34.57/hour; and
  - Meet all applicable Federal Selective Service requirements

### Approvals and Timing

- Business must complete eligibility questionnaire at [www.nyc.gov/training](http://www.nyc.gov/training)
- Upon notice that business is an eligible applicant, business must complete the program application received by email.

- Applicants will receive award status by letter and/or email within two weeks of evaluation.
- There is no limit to the number of times a business can apply for Customized Training.
  - If a previous application resulted in a Customized Training award, the funded project must be complete and closed-out before reapplication. The new proposal must either significantly expand on the original project or address a new training need.
  - Business must contribute 30% to 40% of program cost. 80% of quarterly training costs incurred less employer contribution will be reimbursed throughout the duration of the training project. 20% that is withheld from each quarterly reimbursement is held until conclusion of project.

Certainty of Incentive

- Applicants must be approved by SBS staff. Common reasons for unsuccessful applications include: incomplete application, application does not meet eligibility requirements, clear outcomes are not indicated, and/or project scope is not timely or feasible.
- If a previous application was unsuccessful and the business applicant did not receive funding, a discussion with Customized Training staff is required before reapplication to determine the reasons for rejection and which pieces of the application can be resubmitted.

Refundability, Transferability, Assignability, Recapture/Claw back and Carry Forward

- Benefits are not refundable.
- Benefits are not transferable.
- Benefits are not assignable.
- Recapture/claw back provisions do not apply.
- Benefits may not be carried forward to future years.

b. Loans for workforce education, training, and relocation (no interest/low interest)  
None.

c. Reimbursements for workforce education, training, and relocation  
Day One Center for Commerce Innovation, workforce development activities, and SUNY Amazon Scholars. See attached incentive guide and proposal.

d. Other workforce education, training, and relocation programs (including but not limited to internships and cooperative education programs linked to universities and technical schools)  
Numerous schools throughout NYC have indicated a willingness to partner with Amazon to create cooperative education and training programs.

3. Project and Infrastructure-Related

- a. Site acquisition and preparation assistance (discretionary grants and no interest/low interest loans)  
Capital grant funding. See attached incentive guide and proposal sent under separate cover.
- b. Infrastructure acquisition and construction assistance (discretionary grants and no interest/low interest loans)  
Capital grant funding. See attached incentive guide and proposal sent under separate cover.
- c. Temporary office space to accommodate immediate hiring during initial construction  
None.
- d. State/Commonwealth/Province financing, including:
  - i. Forgivable loans  
None.
  - ii. No interest/low interest loans

**Job Development Authority (JDA)**

Provides Direct Loans for the growth of manufacturing and other eligible businesses within New York State by assisting in financing a portion of the cost of acquiring and renovating existing buildings or constructing new buildings, or for purchasing machinery and equipment. Funds to make Loans are derived from the sale of State-guaranteed bonds. In most cases, JDA Loans may be for up to 40% of the total project cost of Real Estate projects or M&E projects. Additionally:

- Loans may be up to 60% for projects located in economically distressed area.
- The combination of a bank loan and a JDA Loan allows up to 90% financing of a project.
- Typical financing structure is 50% Bank Loan, 40% JDA Loan, and 10% Borrower Equity.
- A JDA Real Estate Loan is normally a second mortgage loan, subordinate to a first-mortgage loan provided by a bank; M&E Loans are secured by a first lien, co-equal with the bank's lien, on the M&E being financed.
- Real Estate project costs include the cost of an existing building and renovations, purchase of land and construction of a new building and soft costs normally associated with a real estate transaction.
- M&E project costs include the cost of the machinery and its delivery, installation costs solely attributable to the machinery being purchased and soft costs related to the M&E acquisition.

More information on JDA may be found at:

<http://esd.ny.gov/BusinessPrograms/JDADirectLoanProgram.html>

**Metropolitan Economic Revitalization Fund Program**

The Metropolitan Economic Revitalization Fund (MERF) provides loans to businesses or governments investing in projects that retain or create a significant

number of private-sector jobs in economically distressed areas that are within the geographic area known as the NEW YORK portion of the service area of the Port Authority of New York and New Jersey. These areas include New York City and parts of Nassau, Westchester and Rockland counties.

- Loans up to a maximum of \$5 million or 10% of total project cost, whichever is less, for improving land and/or buildings, construction and renovation, and for machinery and equipment purchases.
- Interest rates are based on market conditions, the applicant's ability to repay and project requirements.
- Project loan terms will not exceed 20 years for real estate and seven years or the useful life of collateral for machinery and equipment.

More information on MERF can be found at:

<https://esd.ny.gov/metropolitan-economic-revitalization-fund-program>

iii. Credit enhancement

None.

iv. Leases

None.

v. Bond financing

Not applicable.

e. Sustainability/renewable energy programs

**NYSERDA's Commercial New Construction Program\***

NYSERDA will provide technical support to applicants and their design teams to identify energy efficiency opportunities in non-residential new construction, and substantial renovations where the building is, or will be vacant for at least 30 days. Applicants may select a technical consultant from a list maintained by NYSERDA or may use the services of a provider of their choice, subject to NYSERDA approval. NYSERDA will provide additional financial support for Zero Net Energy and Deep Energy Savings projects.

The Commercial New Construction Program is about to relaunch with new program rules. New program rules should be available on NYSERDA's website mid to late March.

**NYSERDA's Geothermal Rebate Program\***

Ground source heat pump (GSHP) systems transfers thermal energy between the ground and a building to heat and cool without any harmful emissions or additional fuel. Through the Ground Source Heat Pump Rebate initiative, NYSERDA is making \$15 million available for the installation of this cutting-edge, renewable energy



technology. Large systems—those that use more than 10 tons of cooling capacity—are eligible for rebates of \$1,200 per ton of cooling capacity.

For program rules, limitations, and who can apply, please visit the program page: <https://www.nyserderda.ny.gov/All-Programs/Programs/Ground-Source-Heat-Pump-Rebate>

### **NYSERDA's NY-SUN Incentive\***

The NY-Sun Incentive Program provides financial incentives to help reduce the installation costs associated with solar electric systems. The incentives are built around customized megawatt (MW) blocks tied to specific regions of New York State. Incentives are based on building sector and size (residential, small commercial, and large commercial/industrial), and within each sector, there are different incentives for specific regions of NY.

Commercial program page - <https://www.nyserderda.ny.gov/All-Programs/Programs/NY-Sun/Customers/Available-Incentives>

Current incentive rates - <https://www.nyserderda.ny.gov/All-Programs/Programs/NY-Sun/Megawatt-Block-Dashboards/Residential-Small-Commercial-MW-Block>

\*Site must pay into the System Benefits Charge to be eligible for NYSERDA's incentive programs.

#### f. Environmental mitigation/remediation assistance

### **Brownfield Cleanup Program**

To encourage private-sector cleanup and redevelopment of brownfield sites across New York State as a means to revitalize economically and environmentally blighted communities. The Brownfield Cleanup Program (BCP) is an alternative to greenfield development and provides incentives such as liability relief and tax credits.

Six properties are in the Department of Environmental Conservation's (DEC) BCP:

- Long Island City Core Section
  - 22-34 Jackson Ave (Former Neptune Meter Site)
- Long Island City Waterfront
  - Silvercup West NYPA Site (42-22 to 42-48 Vernon Blvd)
  - Silvercup West-Parcel A (41-98 and 42-02 Vernon Blvd)
  - Silvercup West-Parcel C
- Midtown
  - 509 West 34<sup>th</sup> Street

ESD will work with Amazon and DEC to determine the value of Brownfield opportunities.

More information on the BCP can be found here: <https://esd.ny.gov/brownfield-cleanup-program>

- g. Grant/cash matching incentives  
Capital grant funding. See attached incentive guide and proposal sent under separate cover.
- h. Permitting fee discounts, abatements or waivers  
The city and State will work with Amazon to determine appropriate assistance.
- i. Utility fee discounts, abatements or waivers

### **New York Power Authority (NYPA) – Recharge New York**

Electricity rate assistance through NYPA’s Recharge New York (RNY) program may be made available for this project. Any allocation would be based on the project’s capital investment and job creation. The term of the allocation would be for up to seven (7) years and could represent a savings of up to 70% off market rates. Any allocation offered would also be based on NYPA’s standard commercial terms pertaining to similar RNY customers at the time the allocation commences, and the company would be required to report actual job levels and capital investments annually. Allocations may be proportionately reduced if these commitment levels are not achieved and maintained. The value of this incentive is TBD, but more information may be found at: <http://www.nypa.gov/RechargeNY/default.htm>.

### **Business Incentive Rate (BIR)**

#### Overview

Provides a reduction on the delivery components of electricity bill by 30% to 35%.

#### Term

Provides a benefit for 15 years (10 years with a five-year phase-out).

#### Benefit

Estimated NPV of incentive: \$8,520,093

#### Eligibility Requirements

- Business must demonstrate a matching New York City incentive (ICAP or ECSP would qualify) or matching New York State
- Business must make a commitment to increase employment by 10% in three years.
- 
- Business must conduct an energy survey of the facility it plans to occupy.

### Approvals and Timing

- Upon delivery of application materials, benefits will be made available within two months.
- BIR is co-administered by New York City Economic Development Corporation and Con Edison.

### Certainty of Incentive

The program described is an “as-of-right” incentive, meaning it is available to any applicant who can demonstrate that a project meets eligibility requirements of geography, capital expenditures, employment, or other factors.

### Refundability, Transferability, Assignability, Recapture/Claw back and Carry Forward

- Benefits are not refundable.
- Benefits are not transferable.
- Benefits are not assignable.
- Recapture/claw back provisions do not apply.
- Benefits may not be carried forward to future years.

## **Energy Cost Savings Program (ECSP)**

(Only applicable to properties in Long Island City)

### Overview

ECSP reduces the delivery portion of regulated electricity costs by up to 45% and regulated natural gas costs by up to 35%. (Regulated costs are the transmission and distribution costs by the regulated utility.)

### Term

12 years with a 4-year phase out by 20% annually in years 9 through 12.

### Benefit

Estimated NPV of incentive: \$7,120,363

### Eligibility Requirements

- Business must satisfy one of the following eligibility requirements:
  - Receive matching benefits through ICAP and make real property improvements in excess of 30% of the assessed valuation of the building and land, or
  - Operate in a building owned by the City of New York or Empire State Development Corporation, and make real property improvements in excess of 10% of the property’s assessed value
  - Relocation from areas outside of New York City to all areas of NYC excluding Manhattan south of center line of 96<sup>th</sup> Street; or relocation from

Manhattan south of 96<sup>th</sup> Street, Fulton Ferry area of Brooklyn to areas of New York City outside of these areas.

#### Approvals and Timing

- Filing schedules apply: Applicants seeking benefits through ICAP must meet ICAP filing requirements and apply to ECSP following submission of ICAP application; if seeking eligibility through Relocation - must apply prior to signing a lease, contract of sale or taking occupancy of property. Notification of preliminary qualification is typically provided within one month of application receipt. Benefits are conferred following completion of renovation requirements and/or relocation of operations.
- All energy must be independently and accurately metered either directly to utility or sub metered to property with a direct meter and account with utility.
- There can be no mark up on energy costs exceeding 12 % if energy is sub metered.
- This program is administered by the New York City Department of Small Business.

#### Certainty of Incentive

The program described is an “as-of-right” incentive, meaning it is available to any applicant who can demonstrate that a project meets eligibility requirements of geography, capital expenditures, employment, or other factors.

#### Refundability, Transferability, Assignability, Recapture/Claw back and Carry Forward

- Benefits are not refundable.
- Benefits may transfer to the new owner if the new operations are an eligible business activity. The new owner would be eligible to receive the remainder of the original benefit. The owner can confer benefits to tenants if ICAP was used to become eligible for ECSP.
- Benefits are not assignable.
- Recapture/claw back provisions do not apply.
- Benefits may not be carried forward to future years.

j. Impact or other development fee discounts, abatements or waivers  
Not applicable.

k. Other project or infrastructure-related incentives  
None.

4. Project manager / ombudsman to coordinate/expedite approvals.

NYCEDC will coordinate with other agencies to expedite and facilitate administration of approvals.

5. Other State/Commonwealth/Province Incentives

None.

6. Describe other incentives not addressed in Item 1, 2 or 3.

ESD and NYCEDC will work with Amazon on the State and local level to bring together partners from the business, education, workforce development, and local communities to foster a collaborative environment. The goals of these partnerships will be to develop long-term solutions to Amazon's goals of fostering entrepreneurship, creating a pipeline of talented workers from all walks of life, and bettering the community in which it locates; all while creating inventive ways to be sustainable and minimize adverse impacts on the environment.

## Guide to Amazon HQ2 Incentives Package from New York State

### Excelsior Tax Credits

Excelsior tax credits are awarded based on projected job creation and qualified capital investments. These credits are fully refundable tax credits meaning the credits are first used to reduce a company's state tax liability to the fixed dollar or alternative minimum tax and any remaining credits are refunded to the company and are disbursed based on a demonstration of actual performance, thus there is no carry forward of tax credits as the full monetary value of the credit is refunded. The difference in credit remaining after the annual state tax liability has been satisfied will be directly refunded to the company.

#### The process for making awards and disbursing funds is as follows:

1. An Incentive Proposal will be presented to Amazon attesting to the State's commitment of Excelsior tax credits based on Amazon's commitment to job creation and capital investment.
  - a. Included in this incentive proposal is a preliminary schedule of tax benefits which indicates the issuance of tax credits over a 10 year benefit period, beginning the first year that the annual job and investment goals will be met, with each subsequent year tied to additional the job and investment goals. **The 10 projected schedule of benefits is attached. Please note that it is based on an assumption of employment ramp up outlined by Amazon in the RFP.**
2. Amazon will accept, sign and return the Incentive Proposal to ESD. Once accepted, the company can begin the project and all qualified jobs created and investments made after the acceptance date will be counted towards the project goals.
3. To receive its first tax credit, a company must submit a performance report demonstrating that it satisfies the performance goal for that year. To receive tax credits in subsequent years, a performance report must be submitted each year showing that company is meeting the goals for that year. The tax benefit indicated for each year in the preliminary schedule of benefits represents the maximum amount of credit allowed for that year. If job creation and wages, or investments, are lower than those projected when calculating the preliminary schedule of benefits, then the tax benefit will be pro-rated, provided the company reaches at

least 75% of the job goal for that year. The tax credits are approved and issued by the Commissioner of Economic Development. No other approvals are required. When a certificate of tax credit is issued by the company, it must submit the certificate with the tax return for the appropriate tax year as indicated on the certificate. The tax credits are not transferable.

4. ESD typically reviews Performance Reports and issues tax credits within three months of receiving a complete report.

## Capital Grant Funds

Capital Grant funds are also awarded based on projected job creation and qualified capital investments. Capital grant funds are paid to the company on a reimbursement basis and typically according to 3 milestones capturing 50% completion of the capital project followed by 25% and the remaining 25%. For Amazon, the 3 milestones will align with 3 phases outlined in the RFP.

### The process for making awards and disbursing funds is as follows:

1. An Incentive Proposal will be presented to Amazon attesting to the State's commitment of capital grant funds based on Amazon's commitment to job creation and capital investment.
  - a. In the grant section of the incentive proposal you will find a 3 milestone requirement for outlining the company's commitment to investment and job creation and structuring the point in which the State will provide monetary reimbursement for meeting each phase of those commitments.
2. Amazon will accept, sign and return the Incentive Proposal to ESD. Once accepted, the company can begin the project and all qualified jobs created and investments made after the acceptance date will be counted towards the project goals.
3. Capturing grant payments requires the company to provide documentation showing qualified capital investment has been made and job creation has reached a specified level. Prior to any grant disbursement, the ESD Board of Directors must review and approve the project, a public hearing must be held in the community where the project is taking place, and the project must be approved by the Public Authorities Control Board (PACB). [If there are adverse comments at the public hearing, such comments must be addressed and the project must be affirmed by the ESD Board of Directors.]  
**\*NOTE: A public hearing and PACB approval are not required for grant funds used for working capital.\***

4. After all the necessary public notice and approvals are completed, the company and ESD enter into a grant disbursement agreement (GDA) that details the terms of the agreement, including the performance goals, project documentation requirements, and payment schedule – usually a three year schedule as indicated above. Once the GDA is in effect, a company can begin to submit requests for payment according to the schedule.
5. Payment requests are processed in a timely manner assuming all required documentation is provided.

### **Day One Center for Commerce Innovation (CFCI)**

**Research** – Funds will be made available to the State University of New York (SUNY) and ESD to administer research at Amazon’s direction based on a percentage of total employment at Amazon. Job creation will be tracked using performance reports submitted for the Excelsior Tax Credit Program.

**Workforce Development** – Funds will be made available to the CFCI based on a percentage of new jobs created per year to support workforce development programs and to reimburse Amazon 25% of wages of employees that graduate from a qualified training program. Job creation will be tracked using performance reports submitted to the Excelsior Tax Credit Program.

**Amazon Scholars** – Funds will be made available to SUNY based on a percentage of total employment at Amazon to create Just-in-Time Learning programs for Amazon employees and to allow Amazon employees to enroll in classes of their choice. Job creation will be tracked using performance reports submitted to the Excelsior Tax Credit Program.

### Recapture

- For tax credits, the only basis for recapture is if the company is out of compliance with labor laws.



- For grant funds, a company must demonstrate that the jobs created are still in place for up to three years after the final payment is made or ESD has the right, at its discretion, to pursue a recapture of a portion of or all funding.

### Availability of funds

The magnitude of the proposed project will require special legislation to make sufficient grant funds and Excelsior Jobs Program tax credits available. Funding of this kind would most likely be appropriated as part of the NYS annual budget. The Governor's budget is usually presented to the Legislature in January of each year and a final budget agreement between the Governor and the Legislature is completed by April 1<sup>st</sup>.

### Diversity

New York State encourages equal opportunities in the workforce across the ethnic and cultural spectrum. As such, in supplying incentives in the form of Capital Grants, New York State will typically set a goal for minority and women participation in each project supported by said Grants.

## New York State Day 1 Center for Commerce Innovation

**New York State will commit \$500 million over ten years to establish and maintain the Day 1 Center for Commerce Innovation (CFCI) near the selected site, approximately \$200 million for collaborative research, \$200 million for workforce development, and \$100 million for educational programs at the State University targeted specifically to Amazon’s needs.**

### Research

The CFCI will perform research and development in dedicated service to Amazon’s areas of interest. For example, research thrusts could include but not be limited to: software engineering, big data, artificial intelligence, cognitive computing, consumer sciences, Internet of Things technologies, sensors, robotics, distribution and logistics, unmanned/autonomous systems, machine learning, cybersecurity, and biometric authentication. The CFCI will also organize regular showcases of promising technologies in these fields, sourced from institutions and companies across New York State, in an effort to further develop partnerships around disruptive technologies.

Amazon will set the CFCI’s research direction. The CFCI will be jointly administered by the State University of New York (SUNY) and ESD. The CFCI will be part of a family of over 70 innovation assets supported through ESD that advance technology innovation and commercialization—in particular, 27 existing Centers of Excellence and Centers for Advanced Technology addressing areas from nanotechnology and electronics to advanced materials and big data. Centers that may be of particular interest to Amazon include:

- **High Performance Computing Consortium (HPC-NY).** Rensselaer Polytechnic Institute; University at Buffalo; Stony Brook University; Marist College; and Mount Sinai are part of HPC-NY, which has assisted companies in carrying out detailed analysis of large datasets to gain valuable insights and discover new trends.
- **University of Rochester's Center of Excellence in Data Science** is committed to applying data science methods and tools to solve some of the world’s greatest challenges in sectors including: medicine and health; imaging and optics; energy and the environment; food and agriculture; defense and national security; and economics and finance.

- **Stony Brook University's Center for Advanced Technology in Sensor Systems and Diagnostic Tools** is driven by the needs of New York State industry and addresses magnetic, optical, X-ray, and infrared sensors; signal processing and image recognition; super-conducting electronics for sensor applications; DNA sequencing devices; and Micro-Electro-Mechanical Systems (MEMS)-based sensors and actuators.
- **Center for Advanced Technology in Telecommunications and Distributed Information Systems at NYU Polytechnic School of Engineering** focuses on wireless networks, cybersecurity, and media/network applications.
- **Northeast UAS Airspace Integration Research (NUAIR) Alliance** is a New York based not-for-profit coalition of more than 100 private and public entities and academic institutions working together to operate and oversee Unmanned Aircraft System (UAS) test ranges in New York, Massachusetts and Michigan. Headquartered at Griffiss International Airport, in Rome, New York. NUAIR manages one of just seven FAA-designated UAS test sites in the United States leading research and deployment technologies that establish the case for safe UAS operations in the National Aerospace System.
- **Binghamton University's Small Scale Systems Integration & Packaging (S3IP) Center and Integrated Electronics Engineering Center (IEEC)** collectively focus on the electronics industry, emphasizing electronic product manufacturing, energy efficiency, and energy storage devices.

The CFCI will also coordinate with ESD's 30 funded Innovation Hot Spots and New York State Certified Business Incubators to identify emerging companies and technology that could become part of Amazon's supply chain or assist in furthering the development of Amazon technologies.

### Workforce Development

**The Day 1 Center for Commerce Innovation will drive the development of the pipeline of talent Amazon will require.** Through the CFCI, the extraordinary network of universities in New York State (the only state with two Ivy League schools) will provide funding for program and curriculum development specifically targeted to create the pipeline of graduates Amazon will need. Such funding will be granted in collaboration with Amazon. Additionally, the CFCI will be charged with establishing a system to highlight Amazon job opportunities and attract talent globally. The CFCI will also develop and implement a workforce development strategy that draws on the power of the 64 SUNY campuses, which would include allowing Amazon to benefit from reduced-cost access to SUNY community colleges and online training programs. However, New York's effort to produce a pipeline of workers will not stop at the collegiate level.

The CFCI will also provide support for statewide scaling of programs proven to equip residents of underserved communities with IT- and software-related certifications, such as Per Scholas (<https://perscholas.org>). These organizations will coordinate with Amazon to develop programs that provide individuals with the necessary skills to perform in key technical roles, supplying Amazon with a diverse, educated workforce. The effects of these programs will be felt beyond Amazon into the community by creating opportunities, closing the skills divide, and increasing income in the underserved communities. Such programs can be completed in a matter of months and are offered at little to no cost to students. For example, Per Scholas classes can be completed in fourteen weeks, and training, certification, and job placement is offered at no cost to students. To underscore New York's commitment to this concept, the CFCI will subsidize 25% of the base wages of such graduates that Amazon hires for up to one year.

### Customized Educational Programming

**SUNY will tailor educational programs through Just-in-Time Learning and offer free courses through the Amazon Scholars Program to meet Amazon's workforce needs.**

**SUNY is pioneering Just-in-Time Learning (JITL)** through its extensive applied learning programs as a strategy to develop critical workforce needs and strengthen campus relationships with business and non-profit partners. SUNY faculty delivers JITL both onsite and via video conferencing, telepresence, online courses and augmented reality systems. SUNY will offer customized, high-quality, flexible, and just-in-time learning opportunities to employees of Amazon and Amazon's partner organizations, helping them achieve their education goals while improving on-the-job performance.

**Employees at Amazon and its select partners would be eligible to apply to be an Amazon Scholar.** The applications will be jointly reviewed by Amazon and SUNY. Amazon Scholars will be automatically enrolled in the SUNY program of their choice for up to 10 credit-bearing or non-credit bearing courses per semester that can assist the Scholar to: (1) work towards and ultimately achieve an associate, bachelor's or master's degree; and/or (2) receive Just-In-Time education in an area that is critical to their current and future career success. On-line, credit-bearing and non-credit bearing courses will be no-cost to Amazon Scholars. In addition to offering free courses, SUNY will make available Open Education Resources to Amazon Scholars allowing them to save approximately \$100 on textbooks per course.

SUNY's system-level, online learning platform, called "OpenSUNY", is an initiative designed to extend the reach of SUNY campuses nationally and internationally. SUNY campuses deliver more than 20,000 online courses annually in a wide range of disciplines and serve to increase access to a SUNY education and improve students' opportunity to complete. Forty-three SUNY campuses offer fully online degree and certificate programs through OpenSUNY, for a total of more than 500 online programs across the systems. OpenSUNY courses cost \$825 on average cost and more information on specific programs and courses available online can be found at [open.suny.edu](http://open.suny.edu).

Amazon Scholars will save on average \$925 per course to pursue JITL opportunities tailored to Amazon's workforce needs and/or pursue one of the 500 programs to obtain an associate's, bachelor's, or master's degree in an area that is critical to their success.