A Message from the President

Since 2005, the IT sector has seen astounding growth in terms of the number of firms and employees located in Brooklyn and annual wages earned here. In our 2014 Spring Market Labor Review, we take a look at how Brooklyn’s convenience, accessibility, affordability and cachet have made it the fastest growing IT sector in New York City. The sector was aided significantly by rezonings in Downtown Brooklyn and Williamsburg that added over 5.5 million square feet of commercial space.

Whether it has been manufacturing or music, fashion or food, shipping or shopping, Brooklyn is always on the cutting edge, and our report, *IT Grows in Brooklyn*, shows, Brooklyn’s tech industry is no different. Economic development from the tech boom has been led by initiatives like the Brooklyn Tech Triangle, which was made possible through the incredible effort and partnership of the tech community with government and local community representatives, as well as real estate and education officials. That project alone is expected to support 18,000 direct 43,000 indirect jobs over the next two years. Now we need to work on spreading Brooklyn’s tech community across the borough and find ways to connect Brooklyn’s next generation with the education, training and experience they will need to take advantage of the opportunities this growing sector brings. This effort is already underway with projects like BioBat at Brooklyn Army Terminal in Sunset Park, which has received $60 million in investments.

Brooklyn’s surging IT sector has helped propel our borough’s economy and continues to show strong signs for continued growth in the years ahead.

Carlo A. Scissura, President and CEO

Key Findings

- Public policies aimed at attracting and keeping information technology (IT) firms in Brooklyn – such as rezoning, incubator funding, and other investments – have played a major role in the initiation and growth of Brooklyn’s tech economy since 2005.

- Comparatively low-cost office space, convenience to Manhattan, and cultural and other leisure attractions are other factors that work together
to make Brooklyn attractive for IT firms to start up or relocate.

- The Brooklyn IT scene is heavily concentrated in the Tech Triangle—Downtown Brooklyn including MetroTech, DUMBO, and the Brooklyn Navy Yard.
- Brooklyn comprises 18 percent of firms, five percent of employment, and four percent of total payroll in New York City’s IT industries.
- Brooklyn’s IT industries underwent astounding growth between 2005 and 2012: 44 percent growth in the number of firms and 56 percent growth in the number employed.
- Real annual wages in the Brooklyn IT industries increased by 32 percent between 2005 and 2012. In the private sector citywide, wages remained unchanged during the same period.
- IT growth and technological change pervades all industries in the local economy. In Brooklyn, the largest concentrations of IT jobs outside of the IT industries are in the education, finance and insurance, and healthcare sectors.
- When seen through the occupational lens, Brooklyn’s IT workforce is highly educated. Three out of four have attained at least a four-year college degree.
- The IT industries also provide opportunities for people who don’t have tech skill sets, especially in administration, sales, and marketing.
- IT occupations and industries employ a larger percentage of males and a smaller percentage of foreign-born workers than does the City’s private sector overall.
- A majority of Brooklyn IT workers—in or out of the IT industries—live in Brooklyn.

Introduction

New York City has experienced substantial growth in information technology (IT) industries over the past several years. Now home to over 6,500 firms, New York City had 5,000 just seven years ago.† Start-ups focusing on the Internet, mobile technologies, and electronic retail trade are on the rise. In addition to new companies, existing and established firms from other well-established tech hubs—like San Francisco and Boston—have set up offices in New York City. Unlike the tech boom in other places, New York City’s flourishing IT economy supplements existing industries and further diversifies the City’s economy. To top off the trend, the influence of IT activity on other industries is rapidly expanding.

Defining IT: Industries and Occupations

For the purpose of this report, the definition of IT industries is adapted to the conditions of the local economy from TechAmerica Foundation’s Cyberstates 2013™. IT industries include data processing, hosting, and related; other information services; software publishers; computer systems design and related services; scientific research & development; and electronic shopping. Removed from the Cyberstates definition are the manufacturing and telecommunications industries.

IT also exists as an occupational specialization in these and other industries. IT occupations are defined in this report as all computer occupations (SOC 15-1000), plus computer and information systems managers, and computer hardware engineers.

All figures in this report are for industries or occupations in Brooklyn unless otherwise noted.
Brooklyn’s IT Growth Drivers

Of all the boroughs, Brooklyn is experiencing the strongest growth in IT firms and employment, even though the majority of the industry activity is still in Manhattan. Brooklyn’s IT growth drivers include:

Lower cost of space relative to Manhattan. Newer start-ups and established companies alike are attracted to the borough because of its relative affordability. According to the New York City Department of City Planning, office space in Brooklyn is estimated to cost $30 per square foot on average, compared to $72 per square foot in Manhattan.

Convenience and accessibility. Brooklyn is a short ride on multiple subway lines – and by car and bicycle – to lower Manhattan. Some locations in Central Brooklyn that were comparatively difficult to reach by public transportation in the early 2000s are now served by bus route extensions.

Cachet. Brooklyn has become a destination for culture, food and entertainment, and as a place to live for a young, educated population who have migrated from all over the country.

Rezoning. Large parts of the borough previously zoned for manufacturing have been rezoned for or converted to commercial space, allowing for spillover from Manhattan.
as office space grows increasingly restricted there. The rezoning of Downtown Brooklyn and Williamsburg played a major role in bringing the tech sector to Brooklyn and creating the Tech Triangle. Approved by the City Planning Commission under the Bloomberg Administration in 2004, The Downtown Brooklyn Plan allowed for construction of 4.5 million square feet of office space and 1 million square feet of retail, ushering in a new era of commercial growth in the borough. In 2005, the rezoning of Williamsburg transformed previously industrial swaths into residential areas, bringing a large influx of new residents into the borough. Many of these newcomers brought with them technical skills that led to the creation of new businesses in the area.

Other economic development initiatives. Three tech incubators have been established in the past six years and more are under way. NYU Poly and Two Trees Management establish an incubator at 20 Jay Street with a $250,000 grant from the New York City Economic Development Corporation (NYCEDC). NYCEDC partnered with SUNY Downstate Medical Center to create a biotech park adjacent to the hospital. The City invested $12 million to establish BioBat at the Brooklyn Army Terminal in Sunset Park, also in partnership with SUNY Downstate. State Senator Golden and the partners raised an additional $48 million from New York State. The site includes 500,000 square feet of commercial biotech space.

Although not targeted to grow IT industries, other economic development initiatives have contributed to their growth in Brooklyn. In 2013, NYU Poly and NYCEDC announced they would be establishing the NYC Clean Technology Entrepreneur Center in 15 MetroTech. Former factories at 1000 Dean Street and 630 Flushing are opening office hubs in what were under-utilized manufacturing neighborhoods in Crown Heights and East Williamsburg/Bedford Stuyvesant.

Employment Trends

Firms. Brooklyn is home to 18 percent of all IT firms in New York City. There were 1,176 IT firms in Brooklyn in 2012, up 44 percent from 2005. Data from proprietary business lists suggest that 90 percent of Brooklyn’s IT firms have 10 or fewer employees and 37 percent have just one employee. In addition, 38 percent of the firms are in the computer systems design and related services industry; 13 percent in scientific research and development; and about 10 percent each are in software publishing, data processing and hosting, and e-commerce.

IT firms are especially concentrated in the Tech Triangle—the Navy Yard, DUMBO and Downtown Brooklyn, including Metrotech. Some of the largest most well-known firms in this area include Etsy, Huge, and Makerbot.

Employment. Brooklyn represents about seven percent of the City’s employment in IT industries, suggesting that firms in the borough are comparatively small.

Employment in the borough grew dramatically between 2005 and 2012, from 4,773 to 7,432, up an astounding 56 percent over the seven-year period despite losses during the
recession (Figure 3). IT employment citywide grew by 49 percent in comparison.

As suggested by the location of IT firms in Brooklyn, employment is densest in the Tech Triangle, as well as in Williamsburg, Greenpoint and Prospect Lefferts Gardens. Several small firms dot Manhattan Beach, Marine Park and Midwood too (Figure 3).

**Wages.** Wages in Brooklyn’s IT industries are higher than in the private sector overall. Moreover, while wages in other industries have decreased or stagnated over the past several years, wages in Brooklyn IT firms have grown considerably. In 2012, the average wage in Brooklyn’s IT industries was $60,604 up nearly $15,000 in 2012 dollars or 32 percent in since 2005. In comparison, Brooklyn’s average wage was $39,842, down six percent over the same period in real terms. Citywide, real wages remained stable at just over $80,500 between 2005 and 2012. In 2012, Brooklyn’s total payroll in the IT industries was just over $450 million, making up about four percent of the city’s total IT payroll.

**IT Occupations**

IT occupations exist in and out of the IT industries; and the IT industries employ people in both IT and non-IT occupations. The analysis below highlights IT occupations both in and out of Brooklyn’s IT industries and the non-IT occupations in the IT industries.

**Occupations in the IT industries.** Forty-two percent of the jobs in Brooklyn’s IT industries were in IT occupations (American Community Survey). The top IT occupations were systems analysts, computer programmers, network systems and data communications analysts, computer scientists, information security analysts, and software developers. These occupations account for four out of five IT jobs. The median income earned by IT occupations in Brooklyn’s IT industries was $55,556.

There are about 85 non-IT occupations employed in the Brooklyn’s IT industries. Among the most common are office managers, office clerks, secretaries, office machine repairers, salespeople, and marketing managers. The median wage income earned by non-IT workers in the industry in 2011 was $38,880.

**IT Occupations in Other Industries.** More than two-thirds of all IT workers in Brooklyn work in non-IT industries. Leading the list are finance, health care, and education. Within finance IT workers are concentrated in investment banks, commercial banks, credit card companies, and insurance carriers. Within healthcare, they are concentrated in hospitals. IT jobs are found in equal numbers in the K-12 schools and postsecondary institutions. The median wage income earned by Brooklyn IT workers outside of the IT industries was $67,500.
Labor Force Characteristics

Appendix Figures A through F show the demographic characteristics of Brooklyn’s IT workforce as compared to the New York City workforce as a whole. As discussed above, Brooklyn’s IT workforce is divided into three parts: 1) IT occupations in IT industries (ITO-ITI), 2) non-IT occupations in IT industries (NITO-ITI), and 3) IT occupations in non-IT industries (ITO-NITI).

Place of Residence. Compared to the New York City workforce as a whole, Brooklyn’s IT workforce is a great deal more likely to live in Brooklyn (Figure A). A little more than half of the people working in IT occupations in IT industries (51%) live in Brooklyn as do more than two thirds (69%) of all IT workers in non-IT industries.

Sex. Three out of four (74%) of those working in Brooklyn’s IT industries are male as are 85 percent of the IT workers in other industries (Figure B). New York City’s workforce in general is more balanced by sex at 54 percent male.

Age Group. Brooklyn’s IT workers—in or out of the IT industries—are slightly younger than the New York City workforce overall (Figure C). The age distribution of people in non-IT occupations working in the IT industries nearly mirrors the New York City workforce, however.

Place of Birth. The workforce of Brooklyn’s IT industries is more likely to be foreign-born than the City’s workforce overall (Figure D). IT workers in other industries are less likely to be foreign-born.

Education. When seen through an occupational lens, the IT workforce is highly educated (Figure E). Nearly three out of four IT workers graduated from college or attained a postgraduate degree, compared to 45 percent in the general workforce and 32 percent of non-IT workers in Brooklyn’s IT industries.

Race and Ethnicity. The racial/ethnic profile of the IT workforce in the IT industries differs from the IT workforce in other industries (Figure F). Half of all IT workers in Brooklyn’s IT industries are white and about one in five are black, compared to 65 percent white and 10 percent black in other industries. Hispanic workers are under-represented in Brooklyn’s IT industries: one in nine IT workers is Hispanic, compared to one in four in the New York City workforce overall.
In sum, tech workers in the IT industry in Brooklyn are highly educated, slightly younger, less diverse, and more likely to live in Brooklyn than the City’s workforce overall. On the other hand, the non-IT workers in Brooklyn’s IT industries are similar to the overall workforce in almost every respect: by age, sex, race and educational attainment. Just over half live in Brooklyn, one quarter commute to Brooklyn from outside NYC, and the remaining come to Brooklyn from other boroughs.

**IT and the Future of Brooklyn’s Economic Vitality**

The opportunities for Brooklyn to continue its tech growth are good. Some, though very few, challenges confront Brooklyn as it makes its bid.

- **Expanding upon the success of the past several years into new Brooklyn neighborhoods will require focused effort.** Early, praiseworthy examples include the new office developments in Crown Heights and East Williamsburg/Bed Stuyvesant. Continued rezoning and investment in new neighborhoods should lead to additional IT growth in the coming years.

- **Looking at the educational attainment of the current IT workforce, it appears that opportunities for employment in IT occupations are fairly limited for people with less than a college degree.**

- **The IT industries offer a variety of opportunities in other types of occupations, however.** Given the positive outlook for Brooklyn’s IT sector, public workforce providers should not overlook Brooklyn’s IT industries as possible employers for their constituents who have attained fewer years of education.

- **Many IT jobs outside of Brooklyn’s IT industries are concentrated in healthcare and education, countercyclical sectors that are of tremendous value to the borough.** As well, technological change is revolutionizing advertising, design, engineering, and television and movie production. Some amount of private investment can ensure that Brooklyn attracts a more diverse tech base in these industries. For example, the borough can further capitalize on the presence of Steiner Studios and Brooklyn College’s new post-production program to attract additional tech jobs in this field.

- **Brooklyn must continue to nurture its cultural institutions and maintain its diverse leisure offerings. They lend cachet and play an important role in attracting educated visitors and residents to the borough.**

Regardless, Brooklyn’s tech growth will surely continue, supporting New York City’s attempt to become the nation’s next tech hub. The forces behind Brooklyn’s IT growth of the last several years remain in place. Ample and comparatively low-cost office space, convenience to Manhattan, and the ability to attract educated visitors and workers all work together to suggest that IT will, indeed, continue to grow in Brooklyn.

**Endnote**

†2005 is the base year for analyses that appear in this report for two reasons: 1) it is after the trough of the dot com bust and ensuing recession; and 2) it is the year in which both relevant Brooklyn rezonings went into effect.
Appendix Figures