

Downtown Rising:

How Brooklyn became a model for urban development



Report prepared by:



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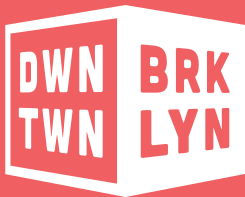


Table of Contents

Executive Summary.....	2
Part One:	
Envisioning a new future for Downtown Brooklyn.....	11
Part Two:	
Why it happened.....	19
Changes in economic and social conditions at the City level.....	19
Local trends and developments in Downtown Brooklyn.....	26
Changes in public policy and investments.....	45
Part Three:	
Downtown Brooklyn by the numbers.....	57
A surge in new development.....	57
A growing and evolving resident population.....	62
Income and educational attainment.....	64
Employment growth in Downtown Brooklyn.....	66
Part Four:	
Conclusion and key recommendations.....	71

Introduction

During the past thirty years, the Downtown Brooklyn Community has been transformed in ways and to an extent that have few parallels in New York City's recent history. Since 2004 the area has experienced a surge of new development, with nearly 41 million square feet of residential, commercial, and institutional space completed, under construction, or in the pipeline. Downtown Brooklyn has seen strong gains in population and employment. And more than \$10 billion dollars of private investment have been attracted to the area since 2004 – a staggering amount of private dollars for an often overlooked outer borough destination.

This leveraged return for the City is the result of targeted public capital spent on infrastructure, undertaken in concert with smart land-use policy and sustained local advocacy, and shows just how far strong civic leadership can go when it's bolstered by wise public investment.

The transformation of Downtown Brooklyn from laggard to leader is not traceable to any single cause. Key factors that played a role include the growth of the innovation economy, continued collaboration among local institutions of higher education, and the development of the area as a major center for arts and culture. These local milestones were supported by the public sector through zoning, land-use, and development policies; and through targeted investments in commercial development projects and world-class public spaces like Brooklyn Bridge Park.

The result is a central business district in Downtown Brooklyn that can serve as a model for the 21st century, set an ambitious pace for the rest of the city, and provide a roadmap for other burgeoning business hubs across the region and the world.

Executive Summary

Of the many changes that have reshaped New York City during the past fifteen years, few have been as dramatic and as consequential as the emergence of Downtown Brooklyn as a major center of innovation, economic growth, and cultural development. This report examines the ongoing transformation of Downtown Brooklyn, why and how it has happened, and its implications for the borough and the city.

Envisioning a new future for Downtown Brooklyn

Starting in the early 1980s, a number of local institutions, organizations, and developers undertook efforts to revitalize the greater Downtown Brooklyn area. They produced important results, including the creation of MetroTech Center, construction of Brooklyn's first full-service hotel in decades, new commercial development at Atlantic Terminal, and the initial development of what was then known as the BAM Cultural District.

This work took on new urgency after September 11, 2001 and the economic dislocation that followed. The Bloomberg administration responded with an intensive effort that led to the City's adoption of the Downtown Brooklyn Development Plan in 2004, accompanied by a major rezoning of the Special Downtown Brooklyn District.

In the twelve years since, the transformation of Downtown Brooklyn has only accelerated.



A note on geography

For purposes of this report, we have defined the broader Downtown Brooklyn area as including three areas:

- The Special Downtown Brooklyn District created in 2001 and modified in 2004;
- A “Greater Downtown Brooklyn” area that includes the blocks in Fort Greene immediately east of the Special District, Fulton Landing, Brooklyn Bridge Park, DUMBO, Vinegar Hill, and the Brooklyn Navy Yard; and
- Adjoining residential neighborhoods, including Brooklyn Heights, Cobble Hill, Boerum Hill, Prospect Heights, and Fort Greene.

We refer to these three areas collectively as the Downtown Brooklyn Community.

Why it happened

The transformation of Downtown Brooklyn cannot be attributed to any single factor. It has instead resulted from the confluence of a series of changes in three areas.

Changes in underlying economic and social conditions:

- The strong performance of New York City’s economy during the past decade, with Brooklyn serving as both a major contributor and beneficiary of that growth;
- The widening of Brooklyn’s cost advantages relative to the Manhattan central business district, both as an office location and as a place to live; and
- A dramatic reduction in crime in Downtown Brooklyn between 1990 and 2014.



Figure 1: The Downtown Brooklyn Community

Local trends, developments, and initiatives within the Downtown Brooklyn Community:

- The emergence of Brooklyn's modern innovation economy;
- The local real estate industry's response to that growth, with the rapid development of new types of commercial space particularly suited to the needs of startups and other small companies, entrepreneurs, and artisans;
- The emergence of Brooklyn as a uniquely powerful global brand;
- The Downtown Brooklyn Community's continued development as a major center for cultural organizations, artists, and arts enterprises; and
- The continued development of a cluster of colleges, universities, and professional schools, combined with new forms of collaboration among those institutions.

Actions by City and State governments:

- Changes and flexibility in zoning, land use, and development policies that have allowed the private sector to respond effectively to previously-unmet demand for new development in the Downtown Brooklyn Community; and
- Investments in public infrastructure, open space, cultural facilities, and industrial and commercial development projects. We estimate that since 2002, City and State investments in the Downtown Brooklyn Community in these areas alone have totaled more than \$1.5 billion.

The transformation of Downtown Brooklyn by the numbers

As a result of the factors described above, the Greater Downtown Brooklyn area has seen a major surge in new development since 2004, including:

- Completion of 14.3 million square feet of new or rehabilitated residential, commercial, and institutional space;
- An additional 11.5 million square feet under construction as of the summer of 2015;
- 14.9 million square feet in various stages of planning.

Downtown Brooklyn has also experienced significant demographic change. For example:

- The population of the Greater Downtown Brooklyn area grew by 17 percent between 2000 and 2013.
- During the same period, the number of younger adults (ages 18-44) living in Greater Downtown Brooklyn rose by nearly 29 percent.
- The percentage of all residents of the area having at least a four-year college degree rose from 35 to 55 percent.

As a result of all of the factors discussed above, private-sector employment in Greater Downtown Brooklyn rose by nearly one-third between 2002 and 2013, an increase of 17,078 jobs. Growth was especially strong in several key sectors of the local economy, including professional and technical services, media and information services, retailing, restaurants, hotels, the arts and entertainment.

The way forward:

Recommendations for continued growth

This assessment of the transformation of Downtown Brooklyn suggests several implications for Brooklyn's (and New York City's) future:

- Greater Downtown Brooklyn has shown that it is a good location for launching and developing innovative new businesses. To maintain its momentum, however, Greater Downtown Brooklyn and the City need to ensure that these companies also have room to grow.
- The surge in development in Downtown Brooklyn following the 2004 rezoning highlights the value of flexible permissive zoning and land use policies. The City should avoid trying to achieve narrowly defined policy objectives by enacting overly-detailed zoning restrictions and prescriptions.
- The City should continue to invest in public space improvements that make Downtown Brooklyn (and other areas in the City) a more attractive place to live, work, invest, do business, and visit.
- Developers and property owners, non-profit organizations, and the City need to work together to ensure that cultural institutions, arts groups, and artists can continue to play a vital role in the ongoing transformation of Downtown Brooklyn.
- Continued growth in Downtown Brooklyn heightened the need to address long-standing gaps in the area's transportation networks, including lack of transit access to the Brooklyn Navy Yard, difficulties in getting between the core of Downtown Brooklyn and the waterfront, and the scarcity of good options for travel between existing and new waterfront neighborhoods and growing concentrations of jobs from Sunset Park in Brooklyn to Astoria in Queens. There is no single solution to all these needs; they will require action on multiple fronts at once.
- Business leaders, local officials and community groups need to ensure local residents have the opportunity to participate in and benefit from the area's ongoing economic transformation.





Part One:

Envisioning a new future for Downtown Brooklyn

In 2004 the New York City Economic Development Corporation and the Department of City Planning published the Downtown Brooklyn Development Plan, a broad-based strategy for revitalizing the core of New York City's most populous borough and strengthening its role in the City's economy. The plan encompassed a major rezoning of the downtown area, transit and streetscape investments, and new public investments in parking facilities and public open space.

The Downtown Brooklyn Development Plan recognized and sought to build on Downtown's many assets, including:

- An existing core of commercial office space and retail facilities;
- A concentration of colleges, universities, and cultural institutions;
- Excellent access by mass transit from most neighborhoods in Brooklyn and Manhattan and some in Queens, and by commuter rail from Long Island;
- Greater availability of developable sites than in most of Manhattan;
- Proximity to Manhattan, combined with significantly lower costs; and
- Several attractive residential neighborhoods bordering the Downtown area.

At the same time, the plan also recognized – at least implicitly – that despite its status as the City's third-largest business district, Downtown Brooklyn had long been an underperforming asset.

Before the Downtown Brooklyn Plan: From MetroTech to the Group of 35

The City's 2004 Plan was not the first effort to revive Downtown Brooklyn. In the early 1980s, Dr. George Bugliarello, President of the Polytechnic Institute of New York, had sought City and State assistance for development of what he called MetroTech Center – a new university-industry research campus, to be located in an area bounded by Jay Street, Flatbush Avenue, Tillary Street, and Willoughby Street. Bugliarello won the support of Brooklyn Borough President Howard Golden and other local elected officials, who played a key role in securing City and State support.

By the mid-1980s, Mayor Edward Koch had signed on to the concept, but with one important change. Instead of a center for corporate research, development, and technology, the Koch administration envisioned MetroTech as a location for the back-office operations of Manhattan-based financial services companies. The administration saw MetroTech as an important part of the City's strategy for persuading New York's leading financial institutions to keep their back offices in the City, rather than moving them to lower-

cost office buildings then being developed along the Hudson River waterfront in Jersey City.

In 1988, Forest City Ratner Companies (FCRC) was designated as the lead developer at MetroTech. (Notably, FCRC was also the developer of what had been the first new commercial office building in Downtown Brooklyn in decades – 1 Pierrepont Plaza, a 659,000-square-foot building completed in 1988 that became a major center for Morgan Stanley's back-office operations.) FCRC moved quickly; by 1991 four buildings with a total of nearly 3.4 million square feet had been completed at MetroTech, housing the offices of Keyspan (now National Grid), the Securities Industry Automation Corporation (SIAC), and back offices for Chase Manhattan Bank.

After this initial success, however, the project slowed almost to a halt. The recession of the early 1990s hit New York City's economy especially hard, and sharply reduced the financial sector's demand for back office space.

Starting in 1994 the Giuliani administration shifted the City's focus away from developing new commercial office space, concentrating instead on moving New York City government facilities and offices to MetroTech and the surrounding area. Agencies that moved into the area included the Fire Department, the NYPD, the City's 911 system, and the Department of Information Technology and Telecommunications. This shift culminated at the end of the Giuliani administration in a decision to use the last remaining development site at MetroTech for a new, 1.1 million-square-foot courthouse.

While the Giuliani administration was emphasizing development of space for public agencies, local business groups began to envision an alternative approach. In 1998 the Brooklyn Chamber of Commerce, led by Kenneth Adams, created the Downtown Brooklyn Council, charged with formulating a new strategy for redeveloping the area. The Council was chaired by Don Elliott, a Brooklyn resident who had led the City Planning Commission during the Lindsay era.

In collaboration with the staff of the City Planning Commission's Brooklyn office, the Council began to explore ways to stimulate private development.

The Council's work gained further support in 2000, when Senator Charles Schumer convened a task force that became known as the Group of 35 to explore means to facilitate and stimulate the development of commercial office space in New York City. A central element of the strategy recommended by the Group in its 2001 report was for the City to support the development of new office buildings in "expanded central business districts" in Downtown Brooklyn, Long Island City, and the Far West Side of Manhattan, along with "housing, retail, dining, academic and cultural amenities in order to create a full-service, 24/7 environment for businesses, residents and visitors."¹ The Group of 35 called for the development of 60 million square feet of new office space by 2020, of which 12 million square feet would be developed in Downtown Brooklyn.

¹ *Group of 35, Preparing for the Future: A Commercial Development Strategy for New York City, June 11 2001, p. 30*

The Council's work and that of the Group of 35 led to the creation of a Special Downtown Brooklyn District, approved by the City Planning Commission in July 2001.

Relaxation of some height restrictions and setback requirements, along with up-zoning of some areas, was intended to allow higher-density development and make the District more attractive to private developers. These changes were only part of what the Council had sought – but they were a start.

At the same time, other planning and development efforts were under way in and around the Downtown area. Harvey Lichtenstein, President of the Brooklyn Academy of Music (BAM), had been advocating since the early 1980s for the development of a new, multi-institutional cultural district on what was then largely-vacant land around BAM. An important first step had been taken in 1986 with the renovation and reopening of the long-abandoned Majestic Theatre at 651 Fulton Street (now the BAM Harvey Theater).

Progress toward the development of a full-fledged district was slow at first, but had begun to pick up momentum by the late 1990s. In 1998 the Mark Morris Dance Group opened a new dance complex at 3 Lafayette Avenue, with seven studios and a school; and in 1999 Lichtenstein retired as president of BAM and began to devote himself full-time to the BAM Local Development Corporation, an organization that had been created to guide development of the district.

Forest City Ratner Companies had meanwhile begun to focus on redevelopment of the area around Atlantic Terminal, opening in 1996 Atlantic Center, a 393,000-square-foot enclosed mall immediately adjacent to the Terminal. FCRC also began planning for construction of retail space and an office building directly above the Terminal.

Together, the work of the Downtown Brooklyn Council, City Planning, the Group of 35, BAM Local Development Corporation, and FCRC had by the summer of 2001 begun to suggest the outlines of a different future for the area.



After September 11: A new era

Only two months after the City Planning Commission approved creation of the Special District, the terrorist attack on the World Trade Center changed dramatically the City's sense of what was at stake in the development of Downtown Brooklyn.

The destruction of more than 13 million square feet of office space immediately made the development of new commercial office space a higher priority for the administration of Mayor Michael Bloomberg. Moreover, as federal regulatory agencies began to focus on the risks associated with geographic concentration of major financial institutions' operating divisions, the City's ability to offer locations outside of Manhattan for back-office and middle-office facilities became a central element of the administration's efforts to keep these operations in the City.

As a result, Mayor Bloomberg and Deputy Mayor Dan Doctoroff quickly embraced the Downtown Brooklyn Council's vision of higher-density development in the area, which had already shown it could provide office-based businesses with a viable alternative to the Manhattan CBD.

In November 2001, Empire Blue Cross-Blue Shield, which had been headquartered at the World Trade Center, announced that it would move its headquarters (and 1,500 jobs) to a new FCRC office building then under construction at MetroTech; and in 2002, the Bank of New York announced that it would move 1,500 employees from Lower Manhattan to the new office building then being developed by FCRC above Atlantic Terminal.

Both Bloomberg and Doctoroff nevertheless realized that to succeed in the long run, a redeveloped Downtown Brooklyn would need to offer more than new office space. In 2002 the New York City Economic Development Corporation (NYCEDC), the Department of City Planning, and the Council launched an intensive planning effort, coupled with extensive outreach to and engagement with local business and community interests. A presentation prepared by the two City agencies in 2003 stated concisely what this effort was intended to achieve:

“The plan recommends a series of zoning map and zoning text changes, new public open spaces, pedestrian and transit improvements, urban renewal, street mappings and other actions that would foster a multi-use urban environment to serve the residents, businesses, academic institutions and cultural institutions of Downtown Brooklyn and its surrounding communities. Building on the success of previous development efforts that have retained and attracted companies in New York, the plan would create new retail and housing, and would foster expanded academic and cultural facilities.”²

The proposed plan called for extensive up-zoning throughout the Downtown area, with floor area ratios (FAR) that had generally ranged between 2.0 and 6.0 being increased to 10 to 12; increased FAR for community facilities to support development of new facilities for the area’s cultural and educational institutions; and the inclusion of ground-floor retail in new office and residential buildings.

The plan also called for new public investments in open space, off-street parking, streetscape and subway station improvements; and committed the City to supporting the continued development of the BAM Cultural District. NYCEDC and City Planning projected that the proposed zoning changes and public investments would lead to the construction of 4.5 million square feet of new commercial office space and about 1,000 new residential units.

In 2004, the City Planning Commission and the City Council approved the changes proposed in the Downtown Brooklyn Plan. In order to provide a new focal point for implementation of the Plan and for other efforts to revitalize Downtown Brooklyn, the Downtown Brooklyn Council, the MetroTech Business Improvement District, and the BAM LDC were merged in 2006 into a new organization – the Downtown Brooklyn Partnership.

2 New York City Department of City Planning and New York City Economic Development Corporation, Downtown Brooklyn Development Plan Summary, p. 1, 2003.



Part Two:

Why it happened

The extent of the transformation of Greater Downtown Brooklyn during the past 15 years has few parallels in New York City's recent history. This is the cumulative result of three key factors: changes in citywide economic and social conditions that helped create new opportunities; trends and developments emerging from the local community; and public policy changes and investments that unleashed Downtown Brooklyn's growth potential.

Changes in economic and social conditions at the City level

Changes in economic and social conditions in New York City over the last two decades helped set the stage for revitalization of Downtown Brooklyn, including the growth of the City's economy, the rising cost of office space and housing in Manhattan, and a sharp decline in crime.

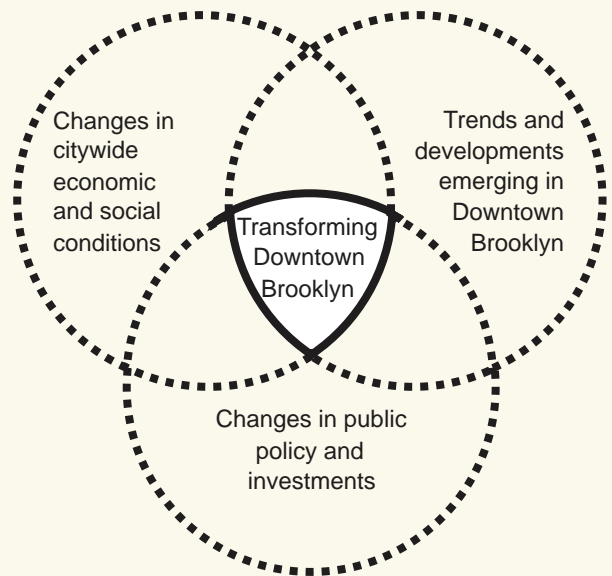


Figure 2: Factors in the transformation of Downtown Brooklyn

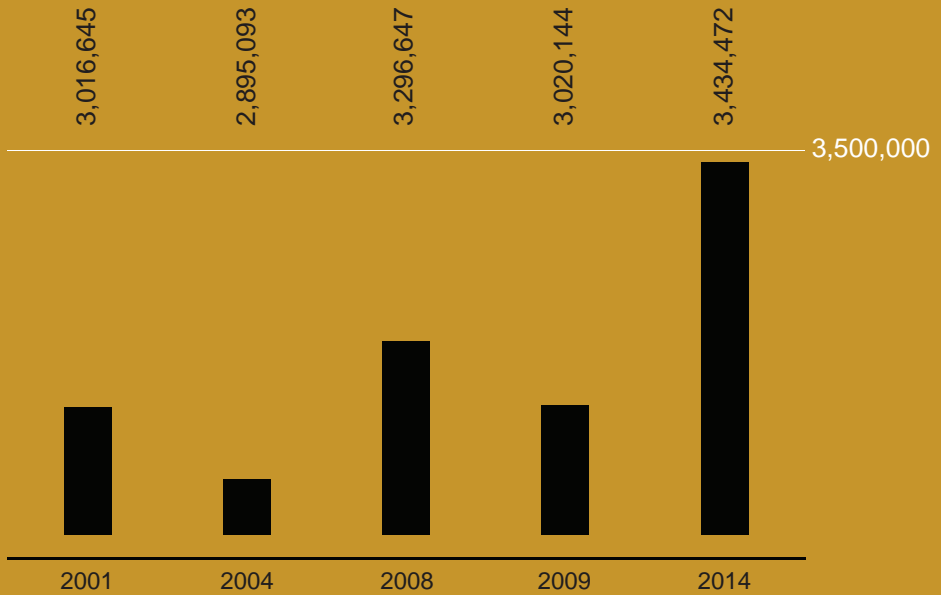


Figure 3: Average annual private payroll employment in NYC

Source: U.S. Bureau of Labor Statistics, Quarterly Census of Employment and Wages

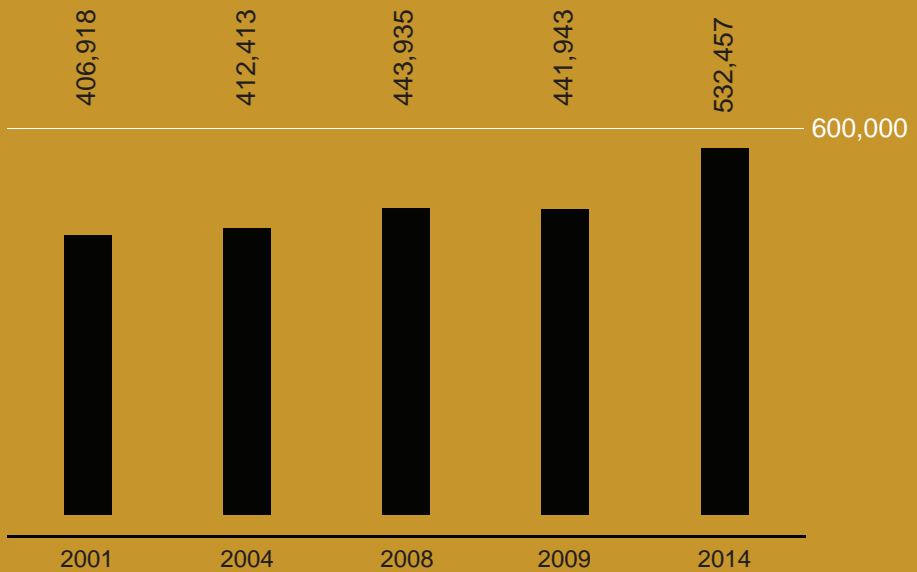


Figure 4: Average annual private payroll employment in Brooklyn

Source: U.S. Bureau of Labor Statistics, Quarterly Census of Employment and Wages

Growth in New York City's economy

In the years since the Downtown Brooklyn Plan was approved in 2004, New York City's economy has seen strong growth overall, despite the impact of the 2008 financial crisis and the severe recession that followed.

At that time, the City had only just begun to recover from the dot-com collapse and economic dislocation wrought by the September 11th attack on the World Trade Center. However, as shown in Figure 3, the City's economy rebounded during the next several years, increasing private payroll job 8.1 percent in four years.

Though the financial crisis of 2008 and the accompanying recession wiped out nearly half of those gains, since then the City has enjoyed a strong (and prolonged) recovery, with private payroll employment increasing by 13.7 percent. By 2014, private payroll employment in the City was 9.7 percent higher than it had been in 2008 – and 18.6 percent higher than it had been in 2004.

Brooklyn has been simultaneously a major beneficiary of and contributor to the strength of the City's economy.

The years 2004 through 2008 saw Brooklyn's job growth lag slightly behind that of the City as a whole. However, Figure 4 indicates the strong upward trend of private payroll employment in the borough since 2001, with only a slight dip from 2008 to 2009, the worst year of the recession. Brooklyn outperformed the City overall by a fairly wide margin from 2008 through 2014 – through both recession and recovery.

In 2008 Brooklyn accounted for 14.2 percent of all private payroll jobs in New York City; but from 2008 through 2014, the borough accounted for 29.0 percent of total City-wide growth in private payroll employment.

Primarily as a result of the borough's stability during the recession and strong growth since 2009, the number of private payroll jobs in Brooklyn in 2014 was 29.1 percent higher than it had been in 2004.

Lower costs for office space and housing

The growth of New York's economy stoked demand for space in a number of areas in Manhattan that had proven to be especially attractive to companies in the City's fast-growing technology, media, and creative sectors. Between the first quarter of 2004 and the third quarter of 2015, the office vacancy rate in Midtown South (defined for purposes of this analysis as the area between 34th Street and Houston Street) fell from 8.6 to 6.4 percent, while office rents more than doubled.

By comparison, during the same period, average rents were lower in the Special Downtown Brooklyn District; and in the decade that followed, the gap between Midtown South and Downtown Brooklyn grew larger. Especially for young technology, media, and creative service firms – which are often more sensitive than established businesses to the need to conserve cash – lower-cost space in Brooklyn became an attractive option.

A similar process has been evident – although over a longer period of time – in the residential market. Between 1996 and 2011-13, the median monthly rent in Lower Manhattan, SoHo, and Greenwich Village increased 164 percent.

While rents rose almost as rapidly in the Brooklyn Heights-Downtown-Fort Greene area during the same period (a 150 percent increase), the median rent was still 37 percent lower in 2011-2013 than the median in Lower Manhattan, SoHo, and Greenwich Village.

In Greenpoint and Williamsburg – neighborhoods outside the Downtown Brooklyn Community, but close enough to be convenient for people working there – the median rent increased 184 percent. Nevertheless, the median rent in this area was still about 45 percent lower in absolute dollar terms than it was in Manhattan below 14th Street. Brooklyn's cost advantage was even greater in Bushwick, where the median monthly rent in 2011-13 was 49 percent lower than it was in Lower Manhattan, Greenwich Village, and SoHo.

Thus, the lower cost of both residential and commercial space in this area – space for young workers and for companies that employed them – has helped make the Greater Downtown Brooklyn area one of the City's leading centers for both population and economic growth.

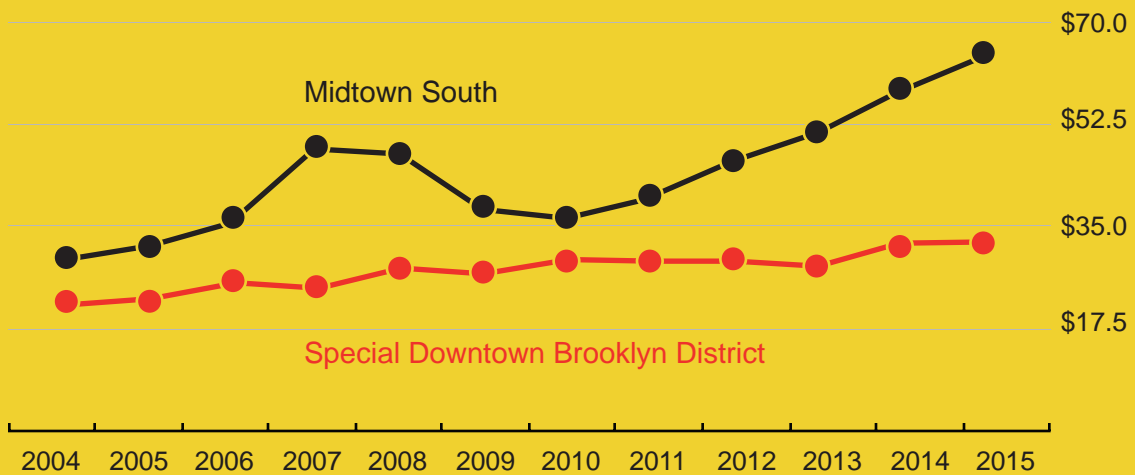


Figure 5: Midtown South and Special Downtown Brooklyn District ten year office rent history

Source: CoStar Group, www.costar.com

Community District	Median Monthly Rent			
	1996	2000	2005-07	2011-13
Lower Manhattan, Greenwich Village, SoHo	\$900	\$1,330	\$2,092	\$2,375
Greenpoint & Williamsburg	\$457	\$665	\$1,052	\$1,297
Fort Greene & Brooklyn Heights	\$600	\$726	\$1,125	\$1,498
Bushwick	\$500	\$689	\$982	\$1,208

Figure 6: Median rents in selected PUMAs in Manhattan and Brooklyn

Source: NYU Furman Center

A sharp decline in crime

In the 1980s and into the early 1990s, high crime rates undermined Brooklyn's attractiveness as both as a business location and a place to live. But as the 1990s progressed, crime rates dropped dramatically. As shown in Figures 7 and 8, the incidence of seven major types of crime in the 84th Precinct (which covers most of Greater Downtown Brooklyn) fell by more than 74 percent between 1990 and 2001.

The incidence of major crimes continued to decline thereafter. By 2014, the total number of reported crimes in the 84th Precinct in the seven categories listed in Figure 8 had declined by 84 percent from the levels reported in 2014. Most strikingly, the number of murders in the 84th Precinct declined during this 24-year period by more than 94 percent, and the number of robberies and burglaries by nearly 93 percent.

By 2001, Downtown Brooklyn had become a much safer place to live and work than it had been just a decade earlier, and since then it has become safer still. While it is difficult to measure directly the impact of lower crime rates on the economy, it is clear that both the reality and the perception of Downtown Brooklyn and the surrounding neighborhoods as a much safer place has been a major contributor to the area's ongoing transformation.



Figure 7: Total number of reported crimes in the 84th Precinct
 Source: City of New York Police Department

	1990	1993	1998	2001	2014	% Change, 1990-2001	% Change, 1990-2014
Murder	18	11	1	3	1	-83.3%	-94.4%
Rape	27	22	16	5	6	-81.5%	-77.8%
Robbery	1,908	1,314	462	279	142	-85.4%	-92.6%
Felony Assault	384	432	280	200	135	-47.9%	-64.8%
Burglary	1,563	820	392	312	115	-80.0%	-92.6%
Grand Larceny	1,715	1,136	732	736	604	-57.1%	-64.8%
Grand Larceny Auto	920	733	273	149	42	-83.8%	-95.4%
TOTAL	6,535	4,468	2,156	1,684	1,045	-74.2%	-84.0%

Figure 8: Crime in the 84th Precinct, and percent change
 Source: City of New York Police Department

Local trends and developments in Downtown Brooklyn

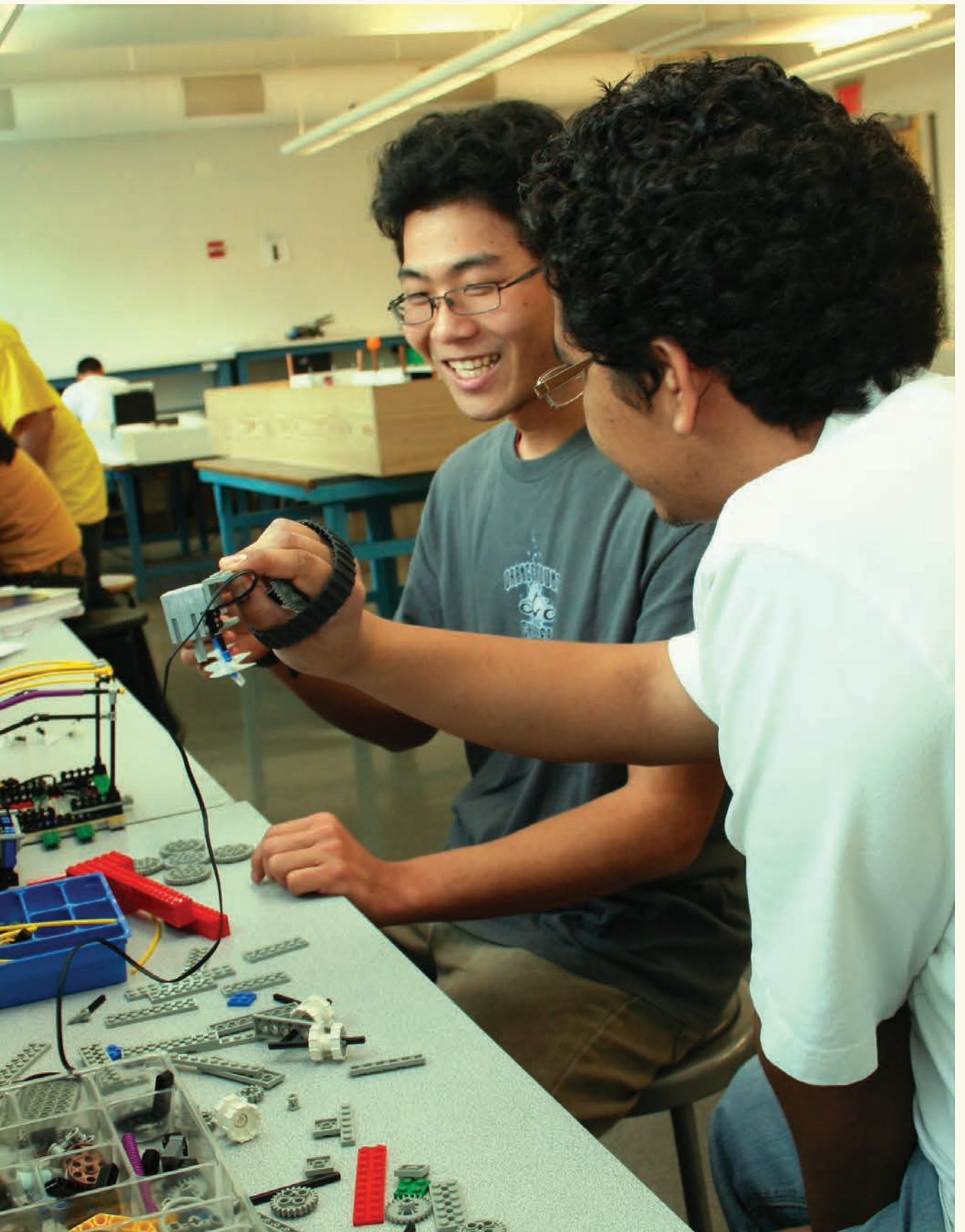
Citywide economic growth, enduring cost advantages relative to Manhattan, and declining crime rates have all had a part in the transformation of Downtown Brooklyn, but they are not sufficient in and of themselves to explain either the scale or the particular character of that transformation. Many other commercial districts and neighborhoods in New York City, for example, have experienced dramatic declines in crime since the 1990s. Some have even greater cost advantages relative to the Manhattan central business district, yet have not experienced anything like the kind of growth and development that has occurred in the Downtown Brooklyn Community.

We need therefore to identify the particular local conditions, trends, and developments that enabled the Downtown Brooklyn Community to capitalize so successfully on the changes occurring citywide. Here we highlight five such factors:

- The growth of Brooklyn's innovation economy;
- The local real estate industry's response to that growth;
- The emergence of Brooklyn as a global brand;
- The development of the Downtown Brooklyn Community as a major center for culture and the arts; and
- The continued development of the area's colleges and universities.

“The key is to zero in on what makes any neighborhood great and different from other neighborhoods, then take it, run with it, and ride it out.”

Karen Brooks Hopkins, former president of the Brooklyn Academy of Music



The growth of Brooklyn's innovation economy

The growth of what has been called Brooklyn's "innovation economy" has played a key role in the transformation of the Downtown Brooklyn area. The borough has experienced strong growth (although in most cases from a relatively small base) in private payroll employment in a number of industries that are often associated with the innovation economy.

Because the data shown in Figure 9 include only wage-and-salary jobs, however, they capture only part of the growth that has occurred in Brooklyn's innovation economy. The data do not include people who work independently – as freelance game designers, app developers or other IT professionals, independent artists or artisans or other solo entrepreneurs. Since 2006, the Census Bureau's American Community Survey (ACS) has provided data on self-employment by industry. The industry breakdown used by ACS in reporting on self-employment is too broad to allow us to say definitively how many self-employed Brooklynites are working in the borough's innovation economy. The data nevertheless offer some insight into the growth of self-employment in several sectors often associated with the innovation economy.

Self-employment in these four sectors grew by 39 percent between 2006 and 2013 – an average growth rate of 4.8 percent per year.

Reports on the Brooklyn Tech Triangle – a joint initiative of the Downtown Brooklyn Partnership, DUMBO Business Improvement District (BID), and Brooklyn Navy Yard Development Corporation (BNYDC) – further highlight the impact that the growth of the borough's innovation economy is having in the area defined by Downtown Brooklyn, DUMBO, and the Navy Yard. A recent update to the three organizations' strategic plan estimates that in just three years (from 2012 to 2015) the number of innovation-economy companies located in the Tech Triangle grew from about 1,100 to 1,350; and that the number of people employed by these companies grew from about 12,000 to 17,300.³ The updated strategic plan further estimates that this strong growth is likely to continue during the next five years.

³ *Downtown Brooklyn Partnership, Brooklyn Tech Triangle: A Look Ahead, 2015 p. 1*

Industry	2001	2014	Change	% Change
Non-store retail	1,662	3,538	1,876	112.9%
Publishing (other than Internet)	806	1,092	286	35.5%
Internet publishing	ND	521	521	NA
Other information services	ND	1,366	1,366	NA
Architecture and engineering	601	1,386	785	130.6%
Specialized design services	408	1,118	710	174.0%
Computer systems design	1,656	3,309	1,653	99.8%
Scientific research & development	1,444	1,685	241	16.7%
Advertising, marketing & public relations	694	1,590	896	129.1%
Arts, entertainment & recreation	3,314	7,275	3,961	119.5%
TOTAL	10,585	22,880	12,295	116.2%

Figure 9: Payroll job growth in Brooklyn in selected “innovation economy” industries
Source: U.S. Bureau of Labor Statistics, Quarterly Census of Employment and Wages

Industry	2006	2013	Change	% Change
Manufacturing	3,286	2,995	(291)	(8.9%)
Information	4,063	5,987	1,924	47.4%
Professional, scientific and technical services	11,983	17,623	5,640	47.1%
Arts, entertainment & recreation	7,491	10,687	3,196	42.7%
TOTAL	26,823	37,292	10,469	39.0%

Figure 10: Growth in self-employment in Brooklyn in selected industry sectors
Source: U.S. Census Bureau, American Community Survey 2013

Two location choices exemplify this change:

- In the spring of 2012, early in the gestation of the Tech Triangle, MakerBot – then one of the City’s hottest and fastest-growing tech startups – announced it was moving its headquarters and development center to 1 MetroTech Center. When they moved in January 2013, then-CEO Bre Pettis commented that “it’s great to have MakerBot as part of the Brooklyn Tech Triangle.”
- Three years later, leading digital media company, The Slate Group, announced that it was moving from the West Village to MetroTech. Explaining its choice, a company spokeswoman stated, “We’re following our staff – New York’s creative class no longer lives in Manhattan.”

“It’s amazing to look at and think about the evolution and entrepreneurialism that has gone on to make the neighborhood what it is today. It is the influx and growth of creative people in and around Downtown Brooklyn that has made it what it is.”

Joseph Chan, EVP, Empire State Development Corporation



The real estate industry's response to the growth of the innovation economy

Development of new commercial office space was perhaps the single most important objective of the 2004 rezoning of Downtown Brooklyn. Nevertheless, no new office buildings (other than medical office space) were constructed in the Special Downtown Brooklyn District in the decade after the rezoning. Strong demand for new housing, combined with the flexibility the new zoning provided, drove developers to build residential instead.

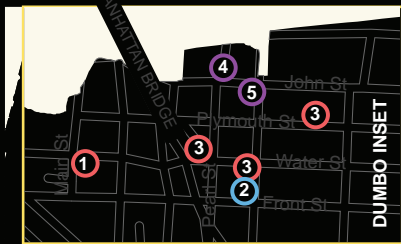
This does not mean, however, that the real estate industry was ignoring the demand for commercial space. Below the radar, a diverse group of developers began during this period to focus on the creation of commercial space – either through conversion of obsolete industrial buildings or by repositioning older, underused office space – tailored to the needs of Brooklyn's innovation economy.

Piecing together information from a variety of sources, we estimate that as of the summer of 2015, there were 56 locations in western Brooklyn at which space for startups and small ventures was being offered, under construction, or planned. These locations range from co-working facilities occupying a few thousand square feet to the 225,000 square feet that WeWork is planning to develop and operate as part of a 675,000-square-foot office new building to be constructed in the Brooklyn Navy Yard.

We estimate that to date nearly 1 million square feet of such space has been completed (most of it during the past ten years), and about 400,000 square feet is under construction or planned.

“It was all about trying to create critical mass so that companies would find it worthwhile and safe to relocate to the borough...and establish the area as a legitimate central business district.”

MaryAnne Gilmartin, President and CEO, Forest City Ratner Companies



1. The Digital Zone
2. DUMBO Startup Lab
3. Green Desk
4. IFP Made in New York Media Center
5. NYU Tandon Incubators

1. 1000 Dean
2. Alpha One Labs
3. The Bakery
4. Bat House Cowring
5. Blue Ridge Labs
6. Brooklyn Creative League
7. Brooklyn Desks
8. Brooklyn Fashion + Design Accelerator Pratt Institute
9. Brooklyn Metal Works
10. Brooklyn Research
11. Brooklyn Works at 159
12. Brooklyn Writers space
13. Chashama Artist Studios at Brooklyn Army Terminal
14. The Commons
15. The Compound Cowork
16. Confluence Coworking
17. Cowork|rs
18. CUNY Fuse Lab
19. Dean Machine
20. Dittos Workspace
21. Double 6 Studio
22. Freecandy Creative Space
23. Friends Work Here
24. Genspace
25. Gowanus Print Lab
26. The Gowanus Studio Space
27. Green Desk
28. Industrious
29. Makeshift Society
30. Manufacturing Innovation Hub for Apparel, Textiles & Wearable Tech
31. The Metropolitan Exchange
32. Mica Studios
33. Milk Studios
34. Myrtle Light Studios
35. New Lab - BNY green manufacturing center
36. No Space
37. Nowhere Studios
38. NYC Resistor
39. NY Studio Factory
40. NYU Tandon Incubators
41. OfficeOps
42. Old Can Factory
43. Prospect Commons
44. Regus - Brooklyn Heights - MetroTech
45. SHARED Brooklyn
46. SPark Workshop Brooklyn
47. St. Lydia's
48. SUNY Downstate Medical Center Biotechnology Incubator
49. The WorkAround (Location TBD)
50. The Works
51. The Yard
52. Wendy's Subway
53. WeWork (Open in 2017)

Square Feet

- < 5,000
- 5,000 - 9,999
- 10,000 - 24,999
- 25,000 - 49,000
- > 50,000

Type of Space

- General coworking space
- Coworking for artists & makers
- Incubators & accelerators
- Other shared space

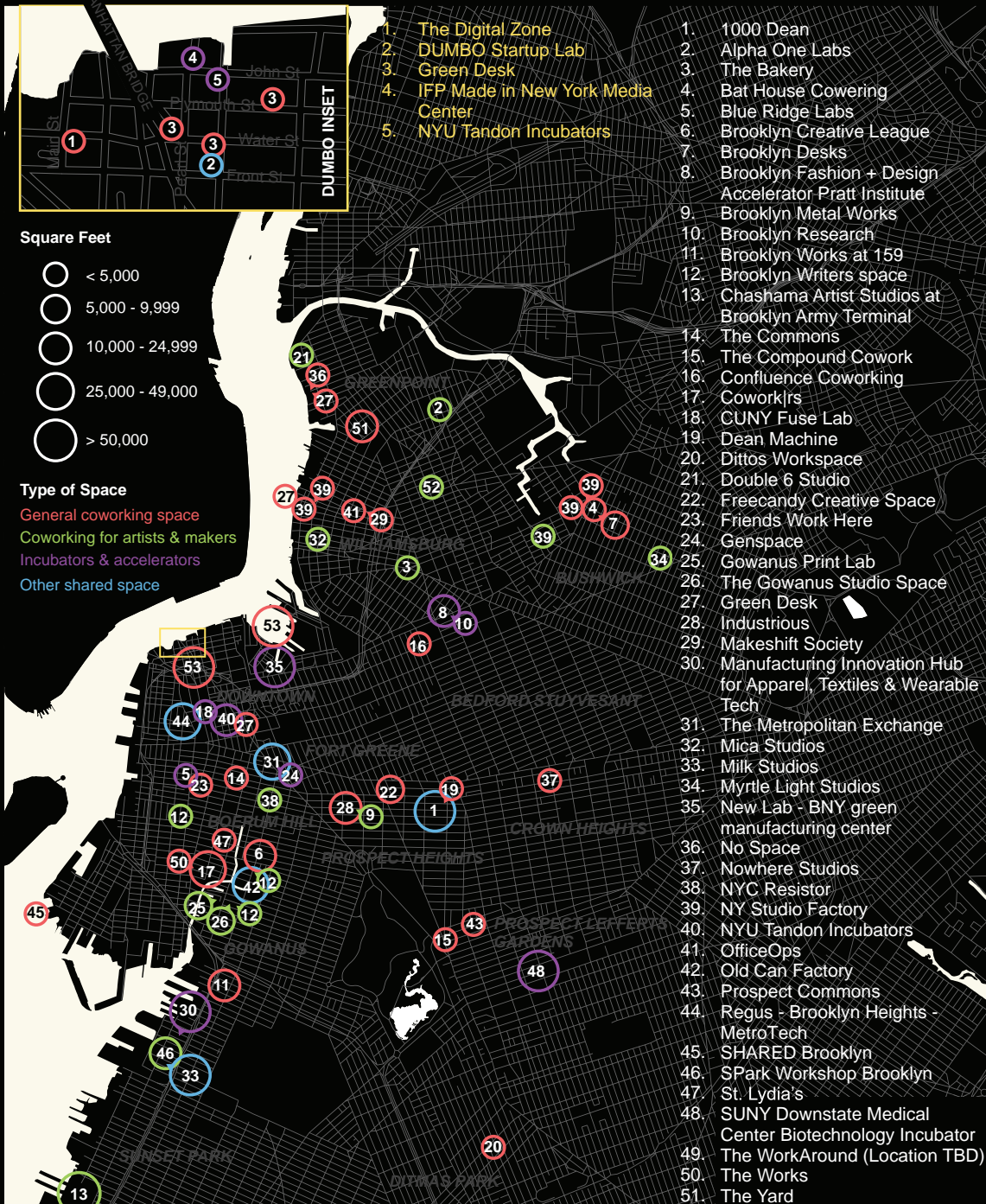


Figure 11: Coworking sites, shared space, and other space for startups, 2015

Source: Appleaseed research

The emergence of Brooklyn as a global brand

Less easily quantifiable than the growth of the innovation economy or the development of new types of commercial space, but just as critical to the Downtown community's transformation, has been the emergence of Brooklyn as a global brand. There are undoubtedly many factors that have contributed to this phenomenon, the growth of immigrant communities that have created connections between Brooklyn and scores of countries around the world; the borough's popularity as a locale in movies, television shows, and literature; and its place in the history of hip hop, to name just a few.

Perhaps no other enterprise has been as emblematic of a borough gone global as Brooklyn Brewery. Founded in Williamsburg in the 1980s, the company has grown to be one of the largest craft brewers in the U.S. – and perhaps the most international, with exports accounting for 40 percent of its sales. It has simultaneously been a major contributor to and a beneficiary of Brooklyn's worldwide visibility, and its success has inspired dozens of other Brooklyn businesses to incorporate their home borough into their identity.

Just as the Brooklyn brand helps local businesses sell their products and services worldwide, it has also helped attract foreign investment. Probably the most visible example has been the investment by Onexim Group in the Brooklyn Nets and Barclays Center. Owned by Russian entrepreneur Mikhail Prokhorov, Onexim is now the principal owner of both the team and the facility. Similarly, Greenland Group – a Shanghai-based, government-owned real estate developer, has acquired a 70 percent interest in Atlantic Yards (excluding Barclays Center and the B2 apartment tower).

Brooklyn is a magnet not just for financial capital but also human capital as well. It is increasingly a place where bright, ambitious young people from all over the U.S. and the world want to live and work.



The role of cultural institutions, organizations, and artists

The important role that artists and the arts play in the revitalization of urban areas is now widely recognized. Nowhere is this more apparent than in Downtown Brooklyn.

While artists and non-profit cultural organizations are initially drawn to neighborhoods with lower, more affordable rents, their presence inherently increases the value of the property they inhabit. As a result, it has been a combination of an established arts community and committed local leadership that has allowed Downtown Brooklyn to flourish.

Today, Downtown Brooklyn is home to over 60 cultural organizations – including the Brooklyn Academy of Music (BAM), Brooklyn Historical Society, and Issue Project Room – that collectively draw 4.5 million annual visitors and pump over \$300 million into the City's economy.

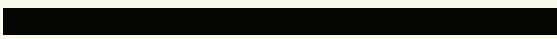
The groups form the creative backbone of what is now the Brooklyn Cultural District, which is centered on the three blocks surrounding BAM, BRIC, Theatre for a New Audience, and Mark Morris Dance Group.

These institutions have traditionally provided a base on which to build the area's identity as a place for culture and the arts. As discussed in Part One, BAM in particular has supported the development of new cultural facilities and organizations.

Growth accelerated most significantly during the last twelve years, with particular emphasis on the last decade since the BAM Local Development Corporation was merged into the Downtown Brooklyn Partnership in 2006.



Figure 12: Selected cultural institutions and organizations in the Downtown Brooklyn Community



Notable developments include:

- 2004** 80 Arts – James E. Davis Arts Center at 80 Hanson Place is a 30,000-square-foot building that provides office space for non-profit arts organizations and ground-floor gallery space for the Museum of Contemporary African Diasporan Arts (MoCADA).
- 2008** Irondale Center for Theater, Education, and Outreach is set in a former Sunday school space at the historic Lafayette Avenue Presbyterian Church.
- 2011** Roulette Intermedium on Atlantic Avenue, an experimental arts organization with a 400-seat theater, is one of several innovative cultural organizations that has relocated from Manhattan to Downtown Brooklyn in recent years.
- 2013** The BAM Fisher building at 321 Ashland Place includes a 250-seat theater and flexible space for rehearsals, exhibitions, and other programming.
- 2013** UrbanGlass and BRIC's shared home in the redeveloped Majestic Theatre at 647 Fulton Street includes the country's foremost glassblowing facility, as well as a unique mixed media center offering performance, exhibition, and educational space and state-of-the-art television production studios.
- 2013** Theatre for a New Audience presents Shakespearean and other classical works at its permanent home, the Polonsky Shakespeare Center, located on Ashland Place.

Even as Harvey Lichtenstein was formulating his vision for the then-named BAM Cultural District, individual artists were already moving into DUMBO, then a largely derelict collection of industrial loft buildings and warehouses. David Walentas, whose Two Trees Management Company was gradually redeveloping acquired properties throughout the area, saw artists as a key asset to create a new image for the area to market it to prospective tenants. Artists were offered discounted rents and flexible, short-term leases – a practice that eventually turned into a formal program.

Among the best-known of these cultural tenants was St. Ann's Warehouse, which moved into a Two Trees building at 38 Water Street in 2001 and paid no rent for nine years. St. Ann's has since relocated into the Tobacco Warehouse near Brooklyn Bridge Park. Nearby, Jane's Carousel, a gift of the Walentas family, has also become a celebrated cultural draw.

By 2008, The New York Times estimated that there were about 1,000 artists and arts groups working in DUMBO. That total has no doubt since declined with rising rents, though Two Trees is still providing low- or no-cost space to emerging artists and organizations. They are also currently developing a 32-story building in the Brooklyn Cultural District that will include 384 apartments (20 percent of which will be affordable), 15,000 square feet of retail space, a 16,000-square-foot public plaza, and 50,000 square feet of cultural space for BAM Cinema, MoCADA, 651 Arts, and the Brooklyn Public Library.

In fact, developers throughout Downtown Brooklyn are increasingly recognizing the value of providing cultural spaces in residential and commercial buildings, as evident in the following examples:

- The Schermerhorn, a residential building developed by Common Ground, provided a new home for Brooklyn Ballet.
- The Gotham Organization is developing a building at Fulton Street, Rockwell Place, and Ashland Place, that will include 586 residential units (50 percent affordable) and 8,000 square feet of cultural office space.
- Jonathan Rose is developing a project that will include 42 units of affordable housing, a restaurant, and 27,000 square feet for cultural use on a site adjacent to the Mark Morris Dance Center.

Continued growth of educational institutions in Downtown Brooklyn

Groups such as the Downtown Brooklyn Council and the Downtown Brooklyn Partnership have long seen the area's higher education institutions as an underappreciated asset supporting the local economy. Not only are the 11 colleges represented in Greater Downtown Brooklyn significant enterprises in their own right, together employing thousands of workers, they also serve as centers of intellectual discourse, experimentation, and research that position them as magnets to draw talent to the area.

During the past few years several new developments have increased the value of these institutions' current contribution to Downtown Brooklyn's economy and their potential value as a source of future economic growth:

- Barry R. Feirstein Graduate School of Cinema: Brooklyn College's new graduate program at Steiner Studios is the nation's first film school to be located in a major television and movie studio.
- Berkeley College's Brooklyn Campus: Opened in 2014, this branch offers bachelor's and associate's degrees in fields such as business, fashion, health care, and information technology.
- Carnegie Mellon University's Integrative Media Program: Part of New York City's Applied Sciences Initiative, CMU announced the creation of a new program to be located at Steiner Studios. The first class of master's degree students is expected to enroll in August 2016, working in industries integrating technology and the arts.
- New York City College of Technology: A new, 360,000-square-foot building is now under construction at 300 Jay Street, and is scheduled to be completed in 2017.
- NYU Center for Urban Science and Progress (CUSP): Another output of the City's Applied Sciences Initiative, CUSP is dedicated to using the tools of "big data" to address some of the greatest challenges facing urban communities and offers a master's degree in applied urban science and informatics. Its new home at 370 Jay Street is now being redeveloped, and is scheduled to be completed in 2017.

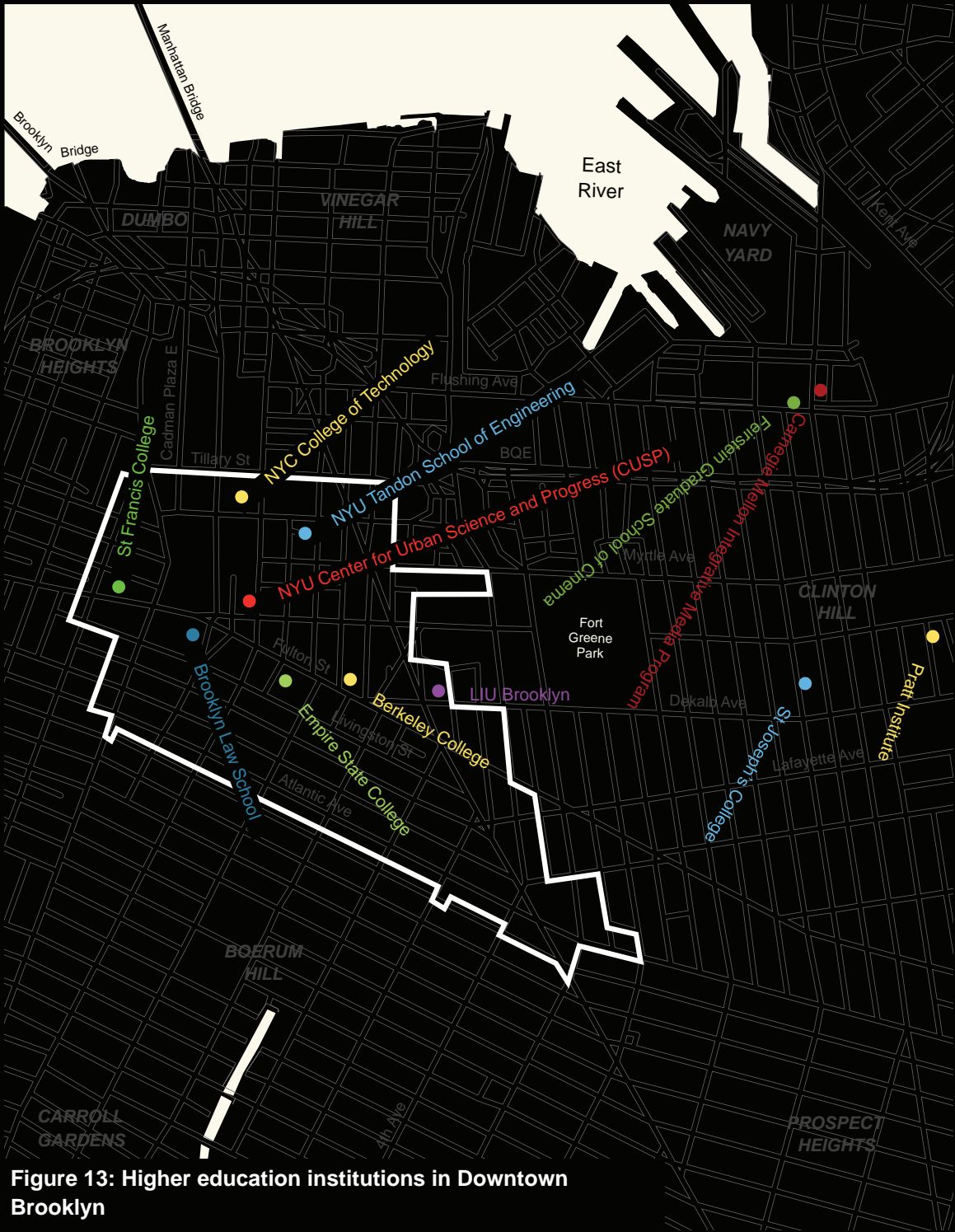



Figure 13: Higher education institutions in Downtown Brooklyn

- 
- NYU Tandon School of Engineering: Created when Polytechnic University merged with New York University, the school provides opportunities for collaboration in areas such as computer science, data sciences, digital media, and biomedical engineering.

Several university-affiliated incubator and accelerator programs have also been established, including:

- Brooklyn Law School's Center for Urban Business Entrepreneurship, a hub for exploring legal issues surrounding entrepreneurship, and for providing effective legal representation and support for new commercial and not-for-profit businesses;
- The Brooklyn Law Incubator & Policy Clinic, which functions as a modern, technology-oriented law firm training a new generation of lawyers with a spectrum of skills needed to represent emerging tech, Internet, communications, and new media companies;
- LIU Brooklyn's Center for Entrepreneurship offering programs, resources, networking opportunities, and incubator space to connect the LIU community with the New York startup ecosystem;
- NYU Tandon School of Engineering's DUMBO incubator, which focuses primarily on computer technology and digital media;
- NYU Tandon School of Engineering's New York City Accelerator for a Clean and Renewable Economy and Urban Future Lab, which support the growth of promising young companies in alternative energy and clean technology;

- Pratt Institute's Brooklyn Fashion + Design Accelerator, which assists fashion entrepreneurs in incorporating elements of sustainability into their designs; and
- St. Francis College's Center for Entrepreneurship, which hosts a virtual incubator for local businesses and entrepreneurs.

Recognizing an area of opportunity, the Downtown Brooklyn Partnership began working in 2012 to foster increased collaboration among these institutions and with businesses and other organizations in the Downtown area. Initial efforts included an annual entrepreneurship symposium that brings together representatives of local tech companies and educational institutions; a job board for local companies to post employment and internship opportunities; the Brooklyn Tech Triangle Internship Program, funded by the NYC Department of Small Business Services, which expands internship opportunities with local companies for students; and intercollegiate service and learning opportunities.

These collaborative efforts were formalized in 2014 with the establishment of the Brooklyn Educational Innovation Network (BE.IN) by the Downtown Brooklyn Partnership with support from the New York City Economic Development Corporation. The consortium is currently made up of 10 member institutions and will primarily focus its efforts on providing educational and career opportunities to its students. Perhaps most importantly, the consortium will also work to create a real-time feedback loop between the labor needs of local companies and the curriculum schools are using to prepare their students for these opportunities – a seemingly straightforward and logical connection, but one that is often missing in local labor markets.



Changes in public policy and investments

Despite key elements such as local trends and positive economic and social conditions, Downtown Brooklyn’s potential for growth could not have been realized without strong support from both New York City and State. Zoning and land use policies and public investment are two areas that have been especially important to the transformation of Downtown Brooklyn.

Zoning, land use, and development policies

As noted in Part One, the zoning changes implemented in the Special Downtown Brooklyn Development District in 2004 were designed to permit and encourage higher-density commercial and residential development. The rezoning also called for inclusion of ground floor retail space in new residential and office buildings, and offered additional floor area ratios (FAR) to developers who included community facilities (such as space for cultural, educational, and health care uses).

While the primary objective of the authors of the Downtown Brooklyn Plan was to encourage new commercial office development, the 2004 rezoning was

flexible enough to permit a surge in residential development. The rezoning did not create demand for new housing in Downtown Brooklyn, but instead made it economically feasible for developers to respond to that demand.

The new development made possible by the rezoning was not limited to market-rate housing. By providing developers with an incentive (in the form of additional density), the new Downtown zoning made it not only feasible but economically attractive for them to include affordable units in their projects. The impact of this “inclusionary zoning” is discussed in further detail in Part Three.

The Special District is not the only place within the wider Downtown Brooklyn Community where zoning changes have contributed to the area’s transformation. From the mid-1980s through 2005, a series of piecemeal changes and variances had accommodated DUMBO’s gradual transition from a declining industrial area to a vibrant mixed-use neighborhood.

In 2009, the Department of City Planning proposed and the City Council approved a more comprehensive rezoning of an area east of the Manhattan Bridge, bounded roughly by John, Front, Adams, and Bridge Streets. The rezoning allowed conversion of industrial loft buildings to residential use, and the construction of new mixed-use projects consistent in scale and character with the surrounding neighborhood. It also provided zoning bonuses for inclusion of affordable units in residential development projects.

New York State has also contributed to the area's transformation by authorizing development of Atlantic Yards, a mixed-use project now being developed on a 22-acre site roughly bounded by Flatbush and 4th Avenues on the west, Vanderbilt Avenue on the east, Atlantic Avenue on the north, and Dean and Pacific Streets on the south. Forest City Ratner Companies' preliminary plans for the site had focused primarily on residential and commercial office space, but at the urging of then-Brooklyn Borough President Marty Markowitz, then-CEO Bruce Ratner agreed to include in the proposed development an arena large enough to accommodate a professional sports franchise.

Ratner then purchased a controlling interest in the New Jersey Nets, and announced plans to move the team to Brooklyn.

The General Project Plan for Atlantic Yards – originally approved by the Empire State Development Corporation in 2006 – calls for development of a sixteen-building complex that when completed will include more than 5,000 residential units, commercial office and retail space, community facilities, parking, and eight acres of public open space. Later, the Plan was modified during the depths of the recession to allow FCRC to stretch development out over a longer period.

Barclays Center – the first new building at the site – was completed in 2012 and quickly became one of the nation's leading sports and entertainment centers. In 2014 the Plan was amended once again to accelerate the development of affordable housing, with 2,250 affordable units scheduled to be completed by 2025.

Public investment in Downtown Brooklyn

New York City and New York State have similarly contributed to the transformation of the Downtown Brooklyn Community through their investments in public spaces and facilities and their support for private investment.

Investments in public space

Public space improvement and creation has helped make the Downtown Brooklyn Community a more attractive place to live, work, invest, do business, and visit. One such development with great impact is the creation of Brooklyn Bridge Park.

In 2000, after many years of controversy over the redevelopment of Piers 1 through 6, preliminary plans for the Park were completed by the Brooklyn Waterfront Local Development Corporation, an entity created a few years earlier by Borough President Howard Golden.

Two years later, New York City and State entered into an agreement to develop Brooklyn Bridge Park, with more than \$300 million in capital funds provided by the City, the State, and the Port Authority.

Operations and maintenance would be funded with revenues derived from residential and hotel development sites at the Park. Construction got underway in 2008, and the first section of the Park opened in 2010.

Today, Brooklyn Bridge Park serves as the gateway to Greater Downtown Brooklyn. It is an 85- acre, multi-use public space that stretches along 1.3 miles of Brooklyn's East River waterfront and attracts 4 million annual visits from residents and New York City tourists.

The Park's success has stimulated nearby residential investment, raised property values, and attracted new customers to a wide range of businesses near the Park.

Although Brooklyn Bridge Park may be the grandest improvement in the last fifteen years, it is far from the only one. Investment in the following public spaces help form a chain of public spaces from Brooklyn Bridge Park to Barclays Center.

-
- Willoughby Square Park: This one-acre public park will be developed on top of an automated 700-car underground parking garage on a city-owned site on Willoughby Street. In 2013 the New York City Economic Development Corporation (NYCEDC) selected the Willoughby Operating Company (an affiliate of American Development Group) to develop the park along with capital contributions from the City and owners of adjoining properties.
 - Flatbush Ave and Fulton Mall: Since 2006, over \$40 million dollars has been spent on the reconstruction of Flatbush Avenue and the Fulton Mall, creating streetscapes that eliminate barriers between neighborhoods and enliven historic shopping districts.
 - Fort Greene Park: The past decade has seen revitalization of Brooklyn's oldest public park thanks to collaboration between the New York City Parks Department and Fort Greene Park Conservancy.
 - Fox Square and BAM Park: The City and State have also funded the renovation of two small public spaces in the Brooklyn Cultural District – Fox Square, a plaza at the corner of Flatbush and Fulton, and the long-closed BAM Park at Flatbush and Lafayette, scheduled to reopen in 2017.



Investments in cultural facilities

The accelerated development of new cultural facilities in the Brooklyn Cultural District and elsewhere in the Downtown Brooklyn Community would not have been possible without capital funds provided by NYCEDC and the New York City Department of Cultural Affairs. To date the City has invested more than \$100 million toward the renovation of facilities in the Cultural District, including BAM Fisher, the Polonsky Shakespeare Center, BRIC House, and BAM Strong – a new project, launched in 2015, that will knit together three existing BAM buildings along Fulton Street. The City also contributed \$10 million to the \$31 million cost of converting the historic Tobacco Warehouse in Brooklyn Bridge Park to a theater, to serve as a permanent home for St Ann’s Warehouse.

Investments in transportation

One of Downtown Brooklyn’s greatest assets is its transit-rich infrastructure that has come as a result of massive investments by the MTA and New York State since the 1980s.

The Greater Downtown area is served by thirteen subway lines – the 2, 3, 4, 5, A, B, C, D, F, G, N, Q and R trains, 15 local bus lines, the Long Island Railroad, and the East River Ferry Service.

As seen in Figures 14 and 15, a population of more than 6.5 million and a labor force of nearly 3.5 million live within a one-hour commute by mass transit from the center of the Special Downtown Brooklyn District. Additionally, some of Brooklyn’s most attractive neighborhoods are within walking distance of most jobs in the Downtown area; and many more are within easy biking distance.

This level of access enhances Downtown Brooklyn’s attractiveness to employers looking to tap a large and diverse pool of workers, and expands the potential audience for Downtown Brooklyn’s cultural institutions and organizations; and has been an essential element in the success of Barclays Center.



Figure 14: Census tracts within a one-hour trip from Downtown Brooklyn by public transportation

Source: Census Bureau data, Google Maps, Applesseed calculations

County	Total Population	In Labor Force
Brooklyn	2,539,789	1,250,241
Manhattan	1,592,329	932,233
Queens	1,504,428	811,107
Bronx	352,419	154,848
Staten Island	52,886	25,653
Nassau County	76,323	40,225
Hudson County, NJ	389,130	227,728
Essex County, NJ	37,993	19,250
TOTAL	6,545,297	3,461,285

“We need to examine how people get around, particularly by mass transit. Circulating in and around Downtown Brooklyn can be a challenge.”

*James Whelan,
Executive Vice President, Real Estate Board of New York*

Figure 15: Population of census tracts within a one-hour trip by public transportation
 Source: U.S. Census Bureau, American Community Survey 2009-13 5-Year Estimates

Investments in educational facilities

New York City and State have also supported the ongoing development of Downtown Brooklyn's colleges and universities. The most notable investment during the past decade has been the State's and the City University of New York's financing of a new, 350,000-square-foot academic building for the New York City College of Technology, located at Jay and Tillary Streets. Construction of the \$406 million project began in 2013, and is scheduled to be completed by 2017.

Other notable investments include the City's commitment of \$3.5 million to support development of Carnegie Mellon's Integrative Media Program at Steiner Studios; as well as \$15 million and a 350,000-square-foot building at 370 Jay Street as NYU's Center for Urban Science and Progress (CUSP). Renovations for CUSP include 150,000 square feet for research and academic programs and a 40,000-square-foot incubator, with completion expected in 2017.

Finally, a total of \$2 million contributed by the City, State, and former Borough President Marty Markowitz went toward the cost of developing Pratt Institute's Brooklyn Fashion + Design Accelerator.

Investments in commercial and industrial development

City financing has also played a critical role in several industrial and commercial development projects in the Downtown Brooklyn Community. The New York City Independent Budget Office reports that between fiscal year 2002 and fiscal year 2013, the City financed \$269.5 million in capital improvements in the Brooklyn Navy Yard,⁴ including both site, building, and infrastructure improvements. These investments have played a critical role in enhancing the Brooklyn Navy Yard's ability to attract private investments (as at Steiner Studios and the planned construction of a 675,000-square-foot office building at Pier 72), to retain existing tenants, and to attract new ones. This in turn has enabled BNYDC and its tenants to increase employment at the Navy Yard from 3,000 in 1998 to 5,800 in 2012 and nearly 7,000 in 2015.

The City also played a central role in financing the development of Barclays Center. Construction was financed with tax-exempt bonds, with the City committing to use the Barclays Center's annual payments in lieu of real property taxes on the facility to pay debt service on the bonds. In 2009, the Independent Budget Office estimated the net present

value of PILOT revenues used by the City to pay Barclays Center's debt service at \$146 million. New York City and New York State also funded infrastructure improvements needed to support the development and ongoing operations of the facility, at an estimated cost of \$274 million. When the cost of other tax benefits and incentives are added in, the IBO estimated the net present value of City and State contributions to development of Barclays Center at more than \$470 million.⁵

Taken together, City and State contributions in just the areas cited above represent a public investment of more than \$1.5 billion dollars since 2002 in support of the redevelopment of the Downtown Brooklyn Community. These public investments have been instrumental in attracting more than \$12 billion in private investment during the past ten years that will benefit the area for decades to come.

4 Sean Campion, City Support for the Industrial Sector, NYC Independent Budget Office, June 2014, p. 5

5 New York City Independent Budget Office, The proposed arena at Atlantic Yards: An analysis of City fiscal gains and losses, September 2009 p. 3





Part Three:

Downtown Brooklyn by the numbers

The transformation of Downtown Brooklyn can be better understood by investigating statistics around the surge of private development following the 2004 rezoning of the Special Downtown Brooklyn District, population growth, demographic change, and job growth in the broader community.

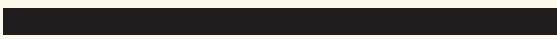
A surge in new development

In the twelve years since Downtown Brooklyn was rezoned, both the Special Downtown Brooklyn District and the Greater Downtown area have seen a remarkable surge in private development. Some of this development has been a direct consequence of the rezoning, and some reflects an array of other factors that have been driving growth in Brooklyn.

Figure 17 shows residential, commercial, and institutional projects that since 2004 have been completed in Greater Downtown Brooklyn, are now under construction, or in the pipeline.

Together these projects account for more than 40 million square feet built, under construction, or planned. The zoning changes enacted in 2001 and 2004 opened the door to private investment in dozens of new developments in the heart of the Downtown area. The development that has occurred, however, differs substantially from that which the authors of the Downtown Brooklyn Development Plan had envisioned.

As noted in Part One, NYCEDC and the Department of City Planning expected that the rezoning and public investments included in the plan would lead to the development of 4.5 million square feet of new commercial office space and 1,000 new residential units. What private developers have instead produced (at least to date) is much less new office space and much more new housing.



Projects completed, under construction, or planned in Greater Downtown Brooklyn from 2004 through mid-2015 include:

- More than 27.9 million square feet of residential development;
- More than 2.8 million square feet of additional retail space;
- Nearly 5.8 million square feet of office space; and
- More than 3,800 hotel rooms.

While most of the new housing completed in the area since 2004 has been market-rate rental or condo units, residential projects completed in the Special Downtown Brooklyn District since 2004 have also included 534 affordable apartments – about 8 percent of all new units completed during that period. Moreover, as affordability has become a higher priority for the City, the percentage of new units designated as affordable has increased. As of December 2015, affordable apartments accounted for 19 percent of all residential units under construction in the Special District – and 26 percent of all new units in the pipeline. This figure includes units associated with the Pacific Park development project.

By the time all of the residential projects planned for the Special District are completed, we estimate that 18 percent of all of the units developed in the Special District since 2004 will be affordable – a total of more than 3,500 affordable units.

Just as it has in the Special District, the rezoning of DUMBO provided incentives for developers to include affordable units in their residential projects – and made it financially feasible for them to do so. Taking into account projects completed or being developed in DUMBO and Fort Greene since 2004, we estimate that of the approximately 24,600 units completed, under construction, or planned in Greater Downtown Brooklyn, more than 4,000 will be affordable.

In large part, the NYC Department of Housing Preservation and Development's (HPD) Inclusionary Housing Program, whose tax exempt bond financing offering, when combined with land prices found in Downtown Brooklyn before 2013 that were below \$100 per square foot, incentivized the creation of a significant number of new affordable units for Brooklyn. Thus, smart affordable housing policy and reasonable land prices converged to create a window of opportunity that is being realized today in the supply of affordable housing coming online in the area.

To help ensure that local residents were prepared to take advantage of these housing opportunities, the Downtown Brooklyn Partnership launched in 2013 a seminar series with local developers and housing advocates to train community members to navigate the complex HPD housing lottery process. The goal was to train 650 families – a number that has been far exceeded, with approximately 3,500 people attending the seminars to date.

Completed projects	Within Special District*			Outside Special District		
	SF	Units	Rooms	SF	Units	Rooms
Residential (Market)	7,934,333	6,224	-	2,848,519	2,003	-
Residential (Affordable)	-	534	-	-	N/A	-
Retail	1,127,980	-	-	32,528	-	-
Hotel	457,604	-	1,117	260,690	-	454
Office	554,627	-	-	145,113	-	-
Cultural/Entertainment	118,000	-	-	850,000	-	-
Education	-	-	-	-	-	-
SUBTOTAL	10,192,544	6,758	1,117	4,136,850	2,003	454
Under construction						
Residential (Market)	4,578,211	4,250	-	1,576,280	2,246	-
Residential (Affordable)	-	1,004	-	-	N/A	-
Retail	988,000	-	-	57,000	-	-
Hotel	231,000	-	693	128,743	-	200
Office	397,000	-	-	2,699,864	-	-
Education	820,000	-	-	-	-	-
SUBTOTAL	7,014,211	5,254	693	4,461,887	2,246	200
Planned projects						
Residential (Market)	10,432,715	5,769	-	562,286	730	-
Residential (Affordable)	-	2,021	-	-	N/A	-
Retail	646,000	-	-	1,953	-	-
Hotel	203,000	-	665	453,000	-	700
Office	1,326,000	-	-	670,000	-	-
TBD	650,000	-	-	-	-	-
SUBTOTAL	13,257,715	7,790	665	1,687,239	730	700
TOTAL	30,464,470	19,802	2,475	10,285,976	4,979	1,354

Figure 16: Completed, under construction and planned development projects within and outside the Special District since 2004

**Includes units associated with the Pacific Park development project*

Source: Downtown Brooklyn Partnership, CoStar



Figure 17: Development in Greater Downtown Brooklyn since 2004

A growing and evolving resident population

While the physical redevelopment of the area may be the most readily visible aspect of Downtown Brooklyn's transformation, the community has been evolving in other ways as well. One aspect of this has been the growth of the area's resident population, especially in the heart of the Downtown area. As shown in Figure 18, between 2000 and 2009-13:

- The population of the Special Downtown Brooklyn District grew from 17,515 to 23,806 – an increase of 35.9 percent.⁶
- In Greater Downtown Brooklyn, the resident population rose during the same period from 39,040 to 45,723 – an increase of 17.1 percent.
- Combining the Greater Downtown area with the surrounding residential neighborhoods, the population of the Downtown Brooklyn Community rose from 140,373 to 150,656, an increase of 7.3 percent.

Especially noteworthy is the growth of the area's younger adult population – those age 18 through 44. Between 2000 and 2009-13, the number of residents in this age group rose by 48.2 percent in the Special District, 28.6 percent in Greater Downtown Brooklyn, and 8.4 percent in the Downtown Brooklyn Community.

For Brooklyn as a whole, in contrast, the resident population age 18 to 44 grew by only 3.5 percent during the same period. The Greater Downtown area was home to just 1.8 percent of Brooklyn's resident population in 2009-13, but it accounted for 15.2 percent of the borough-wide increase in population age 18 through 44.

⁶ Since the smallest geographic area for which the American Community Survey provides estimates is the census tract, these estimates are for a group of census tracts that roughly correspond to the Special District. The Downtown Brooklyn Partnership sometimes cites population estimates, based on a different configuration of census tracts, that differ from those used here.

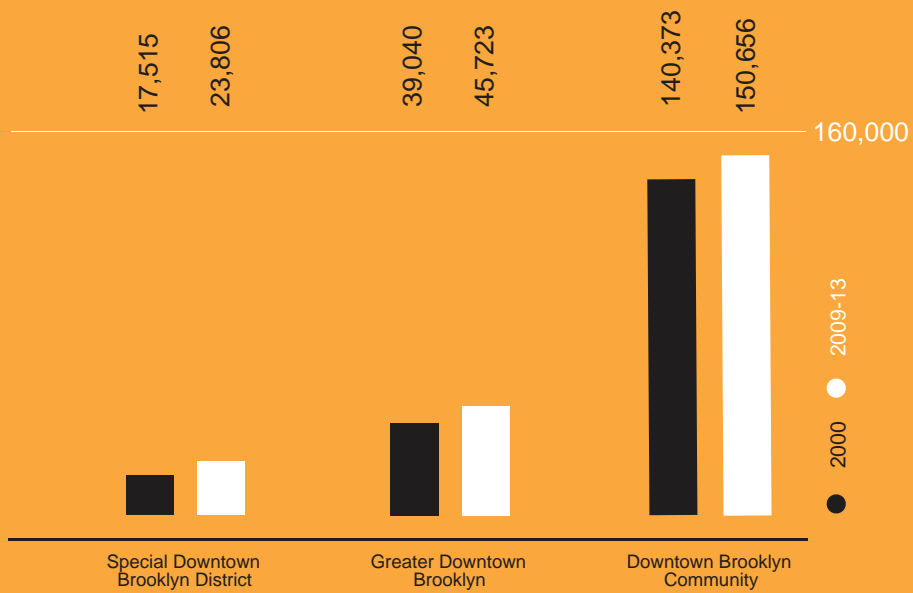


Figure 18: Population growth in Downtown Brooklyn
 Sources: Census 2000 and American Community Survey 2009-2013 5-Year Estimates (Social Explorer)

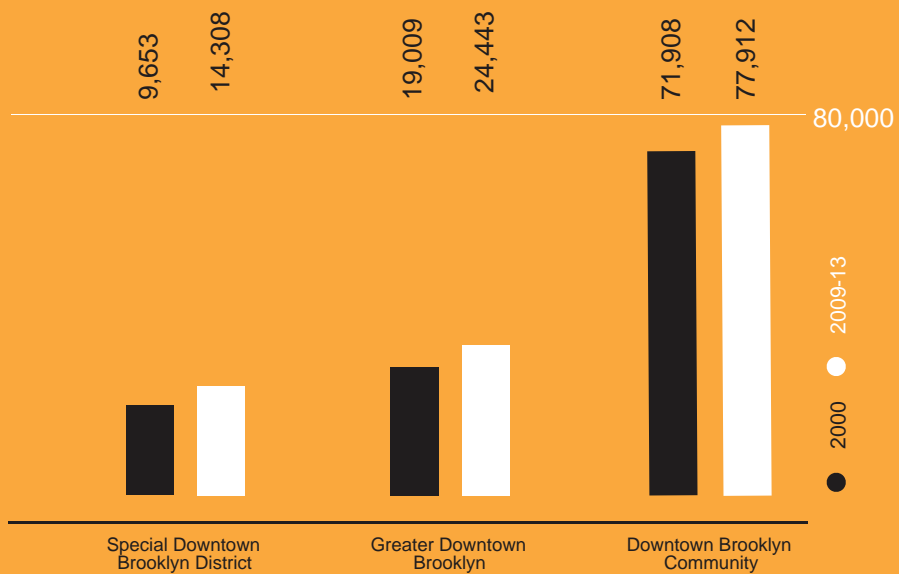


Figure 19: Growth in population age 18-44 in Downtown Brooklyn
 Sources: Census 2000 and American Community Survey 2009-2013 5-Year Estimates (Social Explorer)

Income and educational attainment

In 2009-13, the median household income (MHI) in the Downtown Brooklyn Community was \$83,399 – an increase of 22.4 percent in real terms (after adjusting for inflation) since 2000 and 81.0 percent higher than the median household income for all of Brooklyn.

Downtown Brooklyn's relatively high MHI reflects its relatively high levels of educational attainment. In 2009-13, 64.0 percent of residents of the Downtown Brooklyn Community age 25 and older had at least a bachelor's degree – more than double the percentage for Brooklyn as a whole – and those numbers have been growing over the years across Downtown Brooklyn. Growth in the community's college-educated population was especially strong within the Greater Downtown area, where residents with at least a bachelor's degree grew by more than 99 percent between 2000 and 2009-13.

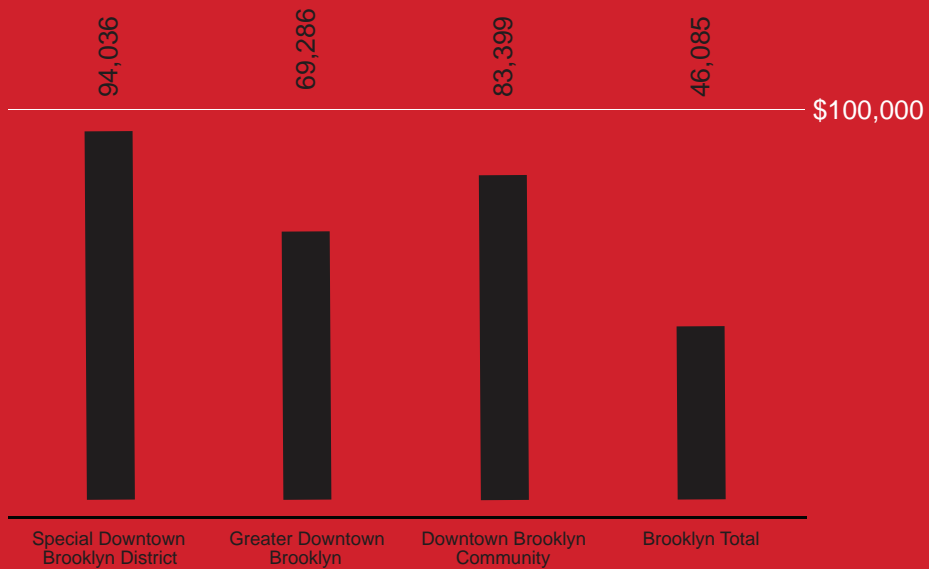


Figure 20: Median household income (in 2013 dollars), 2009-13
 Source: American Community Survey 2009-2013 5-Year Estimates (Social Explorer)

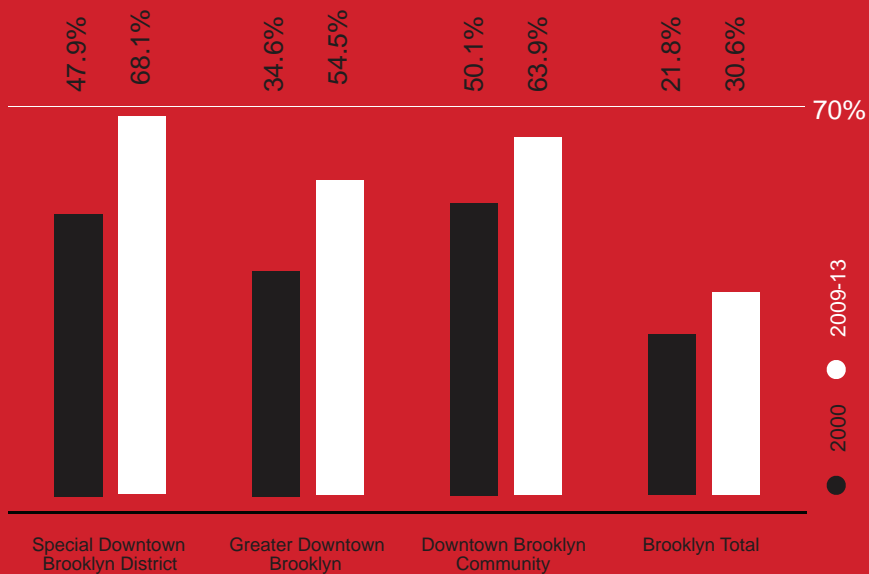


Figure 21: Percentage of residents age 25 and older with at least a bachelor's degree
 Sources: Census 2000 and American Community Survey 2009-2013 5-Year Estimates (Social Explorer)

Employment growth in Downtown Brooklyn

Downtown Brooklyn's relatively high MHI in part reflects its relatively high employment ratio, where 66.7 percent of all working-age residents of the Downtown Brooklyn Community were employed in 2009-2013, as compared to 55.5 percent of all working-age Brooklyn residents. Private-sector employment also rose across Downtown Brooklyn between 2002 and 2013, as shown in data from the Census Bureau's Local Employment Dynamics (LED) series.

Even as private-sector employment in Downtown Brooklyn was growing, its composition was changing. Between 2002 and 2013, private employment in the Downtown Brooklyn Community declined in manufacturing, financial services, administrative services, and health care and social assistance; but grew strongly in professional and business services, media and information services, real estate, education, the arts and entertainment, hotels and restaurants, and retailing.

The growth of private employment in the Downtown Brooklyn Community has fueled demand for commercial space at key locations within the overall area, and led to the development of new types of space designed to accommodate

emerging industries, new working arrangements, and new ways of doing business.

Until recently, however, it had not led to the type of development envisioned in the Downtown Brooklyn Development Plan – specifically, large-scale development of more traditional commercial office space.

It is nevertheless worth noting that during the last few years the continued growth in business activity and employment in the Downtown area has resulted in a dramatic reduction in the available supply of office space. Figure 25 traces the rise in the office vacancy rate in the Special Downtown Brooklyn District during the recession and its sharp decline thereafter.

These rates – along with more than 5 million square feet of office space already under construction or planned in the Greater Downtown area – suggest that Downtown Brooklyn is poised for yet another round of commercial office development and job growth.

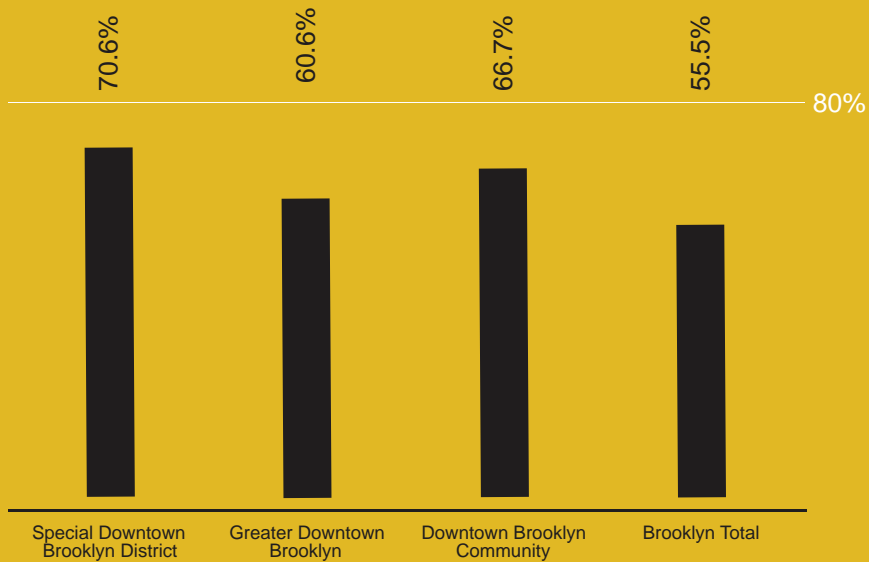


Figure 22: Percentage of employed civilian population age 16 years and over, 2009-13
 Source: American Community Survey 2009-2013 5-Year Estimates (Social Explorer)

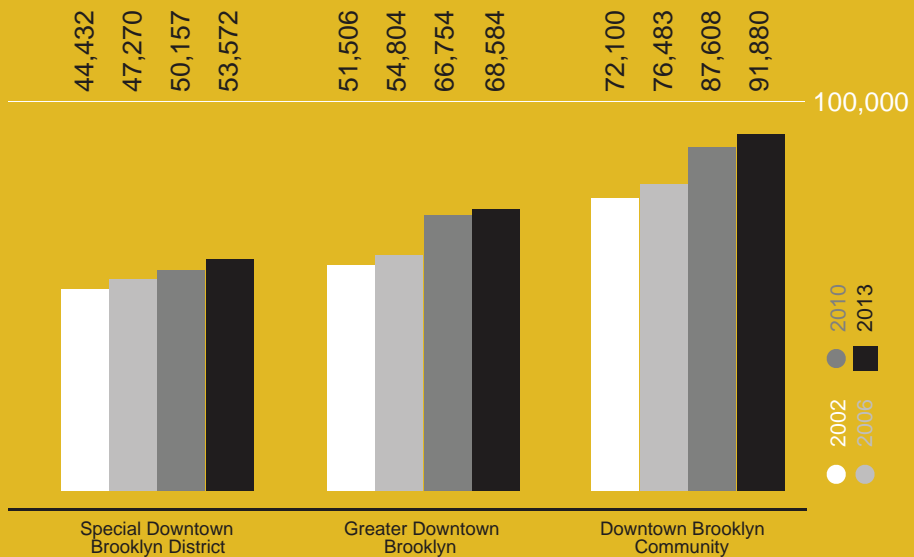


Figure 23: Growth in private-sector employment in Downtown Brooklyn
 Source: U.S. Census Bureau, OnTheMap Application and LEHD Origin-Destination Employment Statistics (Beginning of Quarter Employment, 2nd Quarter of 2002-2012)

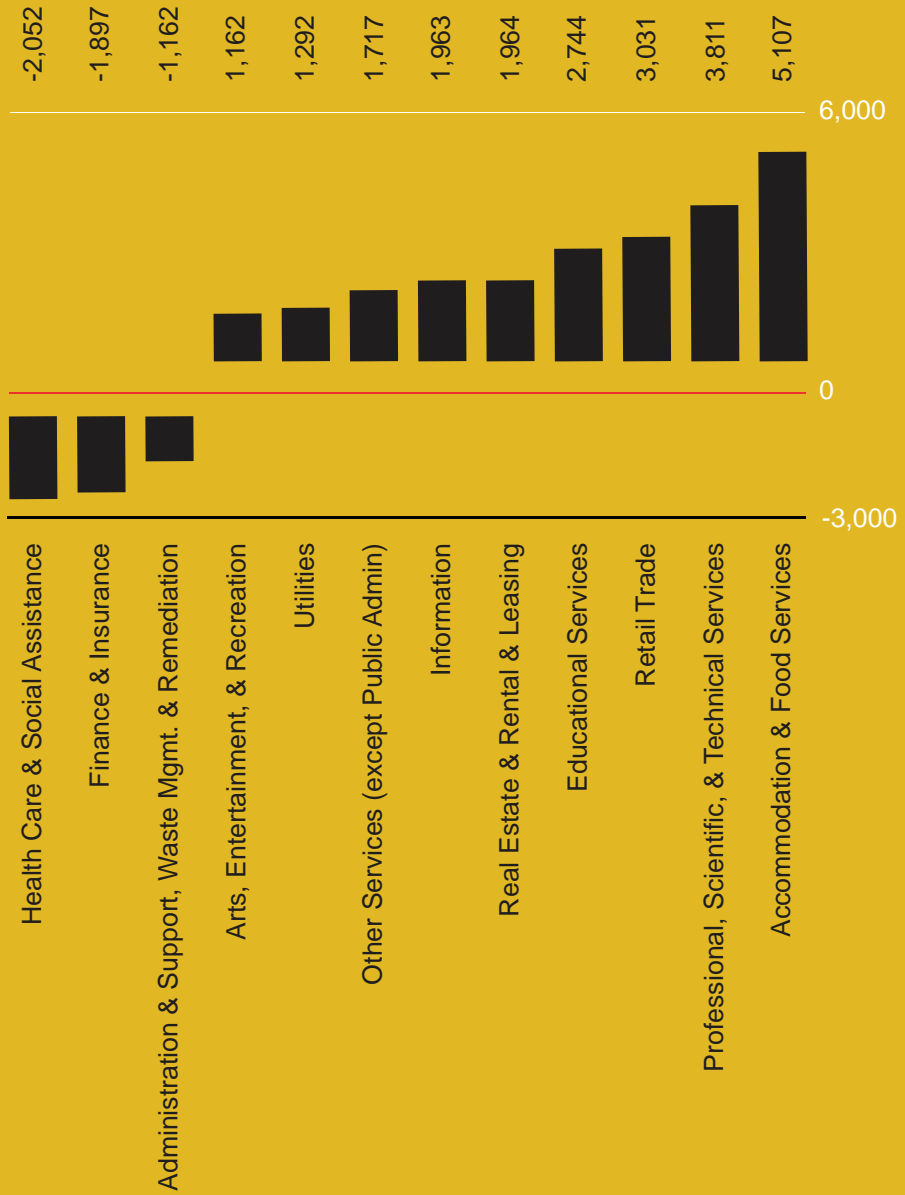
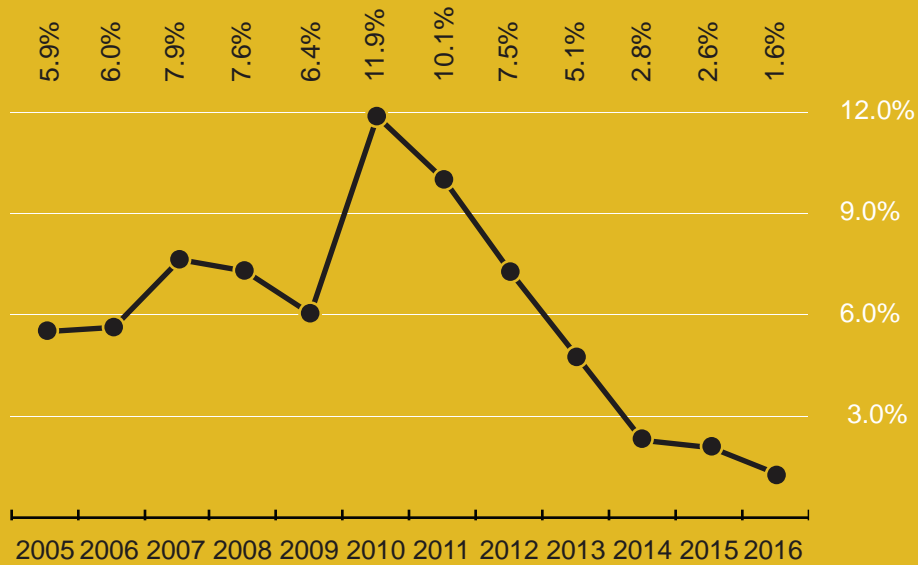


Figure 24: Change in private-sector employment in selected industries in the Downtown Brooklyn Community, 2002 – 2013

Source: U.S. Census Bureau, OnTheMap Application and LEHD Origin-Destination Employment Statistics (Beginning of Quarter Employment, 2nd Quarter of 2002-2012)



“The creative industries are getting priced out of Manhattan. These big companies reinventing themselves in the digital age are creating innovation divisions, with a desire to be around other manufacturers, makers and creators and following where the intellectual capital is.”

Andrew Kimball, CEO, Industry City

Figure 25: Special Downtown Brooklyn District vacancy rate
 Source: CoStar



Part Four:

Conclusion and key recommendations

Perhaps only Brooklyn, of all of New York City's five boroughs, possessed the local leadership and commitment to harness its assets to create a new magnet for economic activity and cultural energy. The remarkable transformation of Downtown Brooklyn is the result of sustained efforts by civic leaders and private firms who worked closely with elected officials, especially the Brooklyn borough presidents, to mobilize support from City and State government.

The Downtown Brooklyn Community has been able to leverage its key assets to advance this transformation: superb transportation access, a concentration of cultural organizations and institutions of higher education, industrial space that could be repurposed and modernized for cultural activities, startup firms and housing, and land that could be redeveloped for new commercial, recreational, and residential uses.

But serious challenges remain.

Public amenities and spaces will require substantial investment in order to create walkable areas through Downtown Brooklyn. New job creation efforts should build upon the abundance of workers in the borough – especially those in adjacent communities with high unemployment. Academic institutions will require a new cooperative approach for housing, research, and assistance to startup firms that need a broad array of labor and skills.

Most important, Downtown Brooklyn must continue to be the place in New York City which attracts artists, innovators, and startups. It cannot and should not replicate Manhattan-style development. The appeal of Downtown Brooklyn lies in its contrast with Manhattan: no one firm or industry dominates the landscape or economy. Creating new commercial space is essential to its future, but this space will only work if it is congruent with the new economy firms that prefer older buildings at less cost than Manhattan's prime A office towers. It is as close to a natural experiment in urban revival as exists in North America.

Key recommendation: **Maintain space for innovation, but also for growth**

During the past decade, conditions in Greater Downtown Brooklyn have made it a good place to launch and develop a wide range of innovative businesses. As their number and economic significance grows, the Downtown Brooklyn Community and the City need to ensure that these companies have the space they need to grow.

Local developers and development agencies are already responding to this need – at Building 77 and Dock 72 in the Brooklyn Navy Yard; at Industry City in Sunset Park; at Empire Stores and DUMBO Heights in DUMBO; at the Domino site in Williamsburg; and most recently at Albee Square and on Flatbush Avenue in Downtown Brooklyn.

While some companies growing or moving to Brooklyn may be in the market for Class A office space, there is likely a greater need for less costly space that is nevertheless attractive, flexible, efficient, expandable, and capable of supporting a wide range of technology requirements.

Providing a sufficient supply of what is in effect high-quality Class B commercial space is both a challenge and an opportunity for New York – in Brooklyn and elsewhere. The Downtown Brooklyn Community is particularly attractive for such development due to the greater availability of lower cost developable sites when compared to Manhattan in combination with attractive residential areas, a vibrant and diverse urban culture, and an array of neighborhood amenities that few areas in (or outside New York City) can match.

The City should work with developers to ensure that they can provide this type of space in the Greater Downtown Brooklyn area, as quickly and as economically as possible.

Key recommendation: **Employ less prescriptive land use and zoning policies**

The rezoning of Downtown Brooklyn did not in itself create new demand for development. Rather, it revealed at a critical time the latent demand for new development that the old, more restrictive zoning had artificially repressed. The nature of that demand was not what the authors of the Downtown Brooklyn Development Plan had anticipated, yet the new framework they created proved flexible enough to allow developers to respond in a timely and efficient manner to what the market was telling them.

The desire on the part of local officials and community groups to keep the most profitable forms of development from driving other uses out of mixed-use areas is understandable. Zoning restrictions, however, may not be the most efficient or effective way to address this concern. The zoning code should not attempt to define precisely the “right” mix of uses in any given mixed-use area.

Key recommendation: **Provide increased support for open space**

The creation of Brooklyn Bridge Park has had a major impact on the redevelopment of Downtown Brooklyn. Both the City and local Brooklyn interests should work to complete the remaining phases of Brooklyn Bridge Park and then build upon these efforts by supporting the development of the Brooklyn Strand, an innovative proposal linking a series of public green spaces stretching from Brooklyn Bridge Park to Borough Hall to more effectively connect the core of Downtown Brooklyn to the waterfront.

Additionally, it will be crucial to provide increased public and private support for capital improvements and ongoing maintenance and programming in neighborhood parks throughout the area. Commodore Barry Park – a 10.4-acre park bounded by Flushing and Park Avenues, Navy Street, and Elliott Place – offers a particularly notable example. Its proximity to several New York City Housing Authority projects, new residential development, and the Brooklyn Navy Yard’s fast-growing daytime population makes it an asset of significant importance to the community, yet it has suffered from chronic underinvestment.

Key recommendation: **Maintain incentives to support the role of the arts**

The role that cultural institutions, arts businesses, and artists have played in the rebirth of Downtown Brooklyn stems from their long history in the area. Their interest and commitment to seeing it thrive again, however, has been particularly impactful with the support of two groups: local government officials and Brooklyn developers and business leaders.

As the area has been reborn, cultural institutions have flourished, and many innovative organizations and enterprises have emerged. However, redevelopment of the area gives rise to fears that artists and small arts-based enterprises that have contributed so much to the area may no longer be able to live or work there.

Initiatives undertaken by Two Trees and the Walentas Family Foundation demonstrate how developers can play a constructive role in preserving cultural uses, and how arts organizations, property owners, and the community can benefit as a result. The City should develop incentives that encourage developers and property owners to do likewise – in the Brooklyn Cultural District, in DUMBO, and beyond.

Key recommendation: **Improve transportation within the Downtown Brooklyn Community**

While a dense network of transit services is among Downtown Brooklyn's greatest strengths, the area's continued growth has highlighted a number of gaps in that network. These gaps include the Brooklyn Navy Yard's isolation from the City's subway network; limited connections between Downtown and the area along the East River waterfront; and the lack of travel connections between residential neighborhoods and fast-growing concentrations of jobs along the waterfront, from Sunset Park to Long Island City, and beyond.

There is no silver bullet that can address all of these. The best strategy is likely to pursue multiple improvements simultaneously, including expansion of East River Ferry Service, new select bus service or a streetcar system, an improved pedestrian environment, expansion of bike transportation, and innovation in for-hire vehicle service.

Leaders of the Downtown Brooklyn Community should continue to work with the MTA, New York City Department of Transportation, and the private sector on all of these fronts.

Key recommendation: Create increased opportunity for local residents

While the transformation of Downtown Brooklyn creates opportunities for borough residents in a wide range of industries, a combined effort by the business community, local educational institutions, public agencies, and community organizations needs to ensure that local residents have the opportunity to participate in and benefit from the area's ongoing economic transformation.

This will require a long-term commitment from all involved, along with the same innovative spirit that Brooklyn's entrepreneurs, artists, researchers, developers, and community leaders have long demonstrated in their daily work.

Examples of approaches to expanding economic opportunity that could be pursued in the Greater Downtown area and elsewhere in Brooklyn include the creation and expansion of high school career and technical education (CTE) programs that are particularly relevant to Brooklyn's innovation economy and establishing employment service centers at sites with large or growing concentrations of jobs – as was done by the Brooklyn Navy Yard in 1999 and is

now being done at Industry City. These centers would be responsible for connecting residents to local employment opportunities along with training or services needed to take full advantage of those opportunities.

Additionally, support for the creation of partnerships between local colleges and universities and businesses, as called for in the Brooklyn Education Innovation Network (BE.IN) strategic plan, should aim to expand opportunities for co-operative education, internships, and other forms of experiential education. Colleges and universities should be encouraged to establish satellite locations in areas with large or growing numbers of jobs, offering a wide range of adult, continuing, career, and specialized professional education programs.

Learning from Downtown Brooklyn

While specific challenges that the City, borough, and community will face over the next ten years will of course differ from those of the last ten, one underlying constant has endured: Downtown Brooklyn's determined capacity for creative change.

The ongoing transformation has been a product of favorable citywide changes in economic and social conditions, the creativity and energy with which the local community responded to those changes, and the combination of public investments and public policy changes that supported that effective local community response.

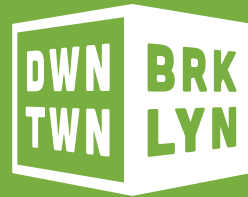
In addition, targeted investment in infrastructure, undertaken in concert with smart land-use policy and sustained local advocacy, allowed Downtown Brooklyn to enjoy a significant leveraged return on public investment. This return will continue to pay dividends for years to come in the form of jobs, housing, cultural and educational advancements and private investment attraction.

The de Blasio administration has signaled a continued focus on creating opportunity in this community.

Building on the achievements of Downtown Brooklyn will require continuous efforts by civic and local government leaders. A broad agenda of new investment in job creation, public spaces, and affordable housing will take the same level of sustained commitment that has led to the transformation of Downtown Brooklyn over the past two decades. This report demonstrates the power of harnessing local groups, private business, and public officials working together – and that the decades ahead are not for resting on the past but building for an even greater future.

Acknowledgments

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