# BOMA/CHICAGO

## 2017 Economic Impact Study

PHASE I

# INTRODUCTION

BOMA/Chicago, in partnership with JLL Chicago Research, is proud to present the 2017 Economic Impact Study. This study is the third Economic Impact Study undertaken by BOMA/Chicago. The first study was completed in 2006, and a second study followed in 2012. The purpose of this updated study is to investigate shifts in market share, employment, operating expenses, sustainability, and taxes contributed by BOMA/Chicago member buildings in order to better gauge the impact of commercial buildings on the city's economy. The underlying dynamics, stability and economic vitality of the City of Chicago are also examined. This research will address BOMA/Chicago's impact in light of current data, and it will make comparisons, when applicable, to the 2012 Economic Impact Study results.

Now in its 115th year and the oldest BOMA local association in the world, BOMA/Chicago represents the interests of the people and companies that own, operate, manage and service Chicago's commercial buildings. These valuable assets are the core of one of the world's greatest business districts. As the advocate for the owners and managers of these valuable assets, BOMA/Chicago also supports the businesses that are housed in them – businesses that require quality office space and service.

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# KEY THEMES

*Chicago's office market reached new heights in 2016. Since the 2012 Economic Impact Study, vacancy rates have fallen, rents have increased, companies have migrated to the City and new businesses are growing.*

**10.3%**

DOWNTOWN OFFICE VACANCY RATE DECREASED 5.5%

**$38.20/SF**

OVERALL AVERAGE GROSS RENTS INCREASED 23.5%

**12K+**

BUSINESSES IN BOMA/ CHICAGO BUILDINGS INCREASED 25%

**412K+**

EMPLOYEES OF TENANTS IN BOMA/ CHICAGO BUILDINGS INCREASED 16.7%

*Increases in operating expenses and property taxes since 2012 have led to steady increase in gross rents*

**$10.03/SF**

OPERATING EXPENSES HAVE INCREASED 18.7%

**$7.50/SF**

PROPERTY TAXES HAVE INCREASED 34.4%

*Chicago office building expenditures have a major impact on the local economy and jobs*

| | |
|---|---|
| $4.6B | CONTRIBUTION TO THE LOCAL ECONOMY |
| $1.4B | NEW PERSONAL EARNINGS (LABOR INCOME) |
| 34,135 | DIRECT AND INDIRECT JOBS SUPPORTED |

# EXECUTIVE SUMMARY

BOMA/Chicago's members continue to serve as the economic lifeblood of downtown Chicago. As of December 2016, the Chicago office market has seen a steady recovery since the last Economic Impact Study conducted in 2012. This has included steadily increasing occupancy, rental rates and property values, as well as migration of historically suburban-based corporations to Chicago's Central Business District (CBD). However, economic challenges are posed by increasing operating expenses and property taxes and the addition of significant new inventory.

**Composition of BOMA/Chicago's Membership**

BOMA/Chicago membership includes 235 Chicago office buildings, representing 118.4 million rentable square feet of office space, constituting 80 percent of all rentable office space and 98.4% of all Class A space in Chicago.

**Building Rents and Operating Expenses**

While Chicago's office market improved since 2012, Chicago maintained the same rankings with the nine comparable cities studied in regard to rents and operating expenses as it did in 2012. Average asking gross rents in the Chicago CBD ($38.20) rose 23.5 percent from 2012 with Chicago ranking sixth out of the nine comparable cities studied. Occupancy growth has been strong across all comparable cities, and Chicago's average vacancy rate of 10.3% was the median for the nine cities. Operating expenses (not including property taxes) in Chicago increased 18.7% to an average of $10.01, with Chicago being the median.

**Businesses in BOMA/Chicago Buildings**

There are 12,733 businesses housed in BOMA/Chicago buildings, an increase of 25 percent since the 2012 Economic Impact Study. A total of 82 percent of the largest Chicago-based privately and publicly held companies are located in BOMA/Chicago member buildings. The number of Fortune 500 companies located in the City of Chicago in 2016 doubled from 2012, with 12 companies located in BOMA/Chicago buildings.

**Tenant Diversification and Migration**

From our findings, suburban migration, the evolution of the shared space office market, and the continued growth of the technology sector contributed to occupancy growth in BOMA/Chicago member buildings since the 2012 Economic Impact Study. BOMA/Chicago buildings welcomed 59 new tenants migrating from the suburbs, comprising 3.3 percent of total BOMA/Chicago office inventory in 2016. There were 57 shared space companies in BOMA/Chicago buildings, representing 1.4 percent of total BOMA/Chicago office inventory. Additionally, Chicago's tech sector has absorbed an average of 1.82 million square feet per year between 2012 and 2016.


## Property Tax Impact

Commercial properties pay over 36 percent of all property taxes collected in the City of Chicago, of which office buildings pay nearly half. Property taxes continue to be the largest, single recoverable expense for commercial real estate owners in the City of Chicago, with average property taxes rising 34.4 percent to $7.50 per square foot since the 2012 Economic Impact Study. Since property taxes and other operating expenses are passed through to tenants under the typical CBD lease, net effective rents are growing more slowly than gross rents. Additionally, the looming budget and pension crisis facing the City of Chicago and the State of Illinois threatens to compound that property tax burden and its effects on rents.

## Employment in BOMA/Chicago Buildings

An estimated 412,639 people worked in BOMA/Chicago buildings in 2016. The largest number of accounted employees worked at law firms (24.1 percent), followed by financial institutions (15.6 percent), and business services (14.1 percent). Across all classes of BOMA/Chicago buildings, the West Loop (43.6 percent) and the Central Loop (23.7 percent) represent the highest concentration of accounted employees in downtown Chicago. Additionally, Chicago office buildings generate 34,135 direct and indirect jobs.

## Spending Impacts on the Economy

Chicago office buildings spent nearly $2.2 billion in operating expenditures in 2015, injecting $4.6 billion to the local economy, an increase of 31.3 percent from the 2012 Economic Impact Study. Additionally, new personal earnings reached nearly $1.4 billion, representing a 33.4 percent increase from 2012. Furthermore, employees of tenants who work in these buildings serve as a critical engine to our local economy. Consumer spending in the Chicago CBD and O'Hare submarket generated approximately $7.9 billion in consumer spending annually with 81.2 percent of total consumer spending attributed to the Loop.

## Impact of Labor Contracts

BOMA/Chicago has a strong track record of negotiating mutually beneficial contracts with local labor unions representing security, engineering and janitorial professionals. One hundred ninety-one (81.3 percent) of BOMA/Chicago building members are signatories to at least one of the three labor agreements – 71.5 percent benefit from the BOMA/Chicago negotiated janitorial contract, 66.8 percent from the engineering contract and 55.7 percent from the security contract.

## Impact of Sustainability on the Environment & Economy

BOMA/Chicago members and commercial office buildings across the Chicagoland area continue to demonstrate their leadership and focus on making Chicago a sustainability leader. In fact, in 2016 Chicago led the nation in green building stock – total square footage of buildings with Energy Star or LEED certifications. Chicago increased its percentage of green stock by 6.5 percent from 2015 for a year-end total of 66 percent.

**AS OF DECEMBER 2016, THE CHICAGO MARKET IS IN FULL ECONOMIC RECOVERY. THIS WAS THE FASTEST RECOVERY OF THE PAST THREE RECESSIONS, DUE TO EXPANSION IN OFFICE-USING EMPLOYMENT.**

*JLL Research as of Q4 2016*

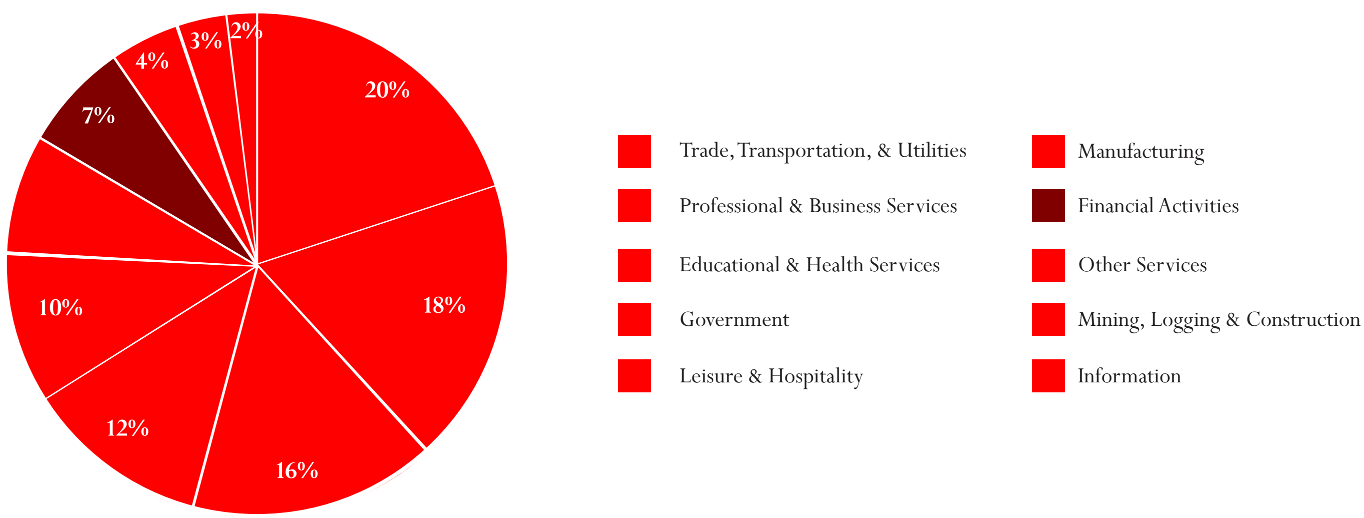
# ECONOMIC OVERVIEW: CHICAGO'S JOB GROWTH AND INDUSTRY DIVERSIFICATION

Chicago's economy thrives on a combination of mature and emerging industries. Chicago is widely recognized as one of the most important industrial, financial and cultural centers in the U.S., with a strong economic base ranging from capital goods to consumer non-durable to business services. As a global center for business, Chicago ranks as the third largest metropolitan statistical area (MSA) based on population in the U.S., according to the U.S. Bureau of Labor Statistics.

## A Highly Diverse Economy

For the Chicago metropolitan area, no single industry employs more than 20 percent of the total workforce, according to the U.S. Bureau of Labor Statistics. This diversification is critical in absorbing economic downturns through recovery and growth. The high-tech industry, part of the Information sector, is a bright spot in the national economy, driving economic recovery and employment gains throughout the country at a much faster rate than almost any other sector since the 2008 recession. High-tech service industry employment growth buoyed growth in the office-using sectors, including professional & business services and financial activities sector. While the tech industry brought over 35,000 jobs to Chicago from 2010-2015, the city remains diversified in its industries. As an example, Trade, Transportation and Utilities, Professional and Business Services, Educational and Health Services, and Government account for nearly 66 percent of all jobs in Chicago as of December 2016.

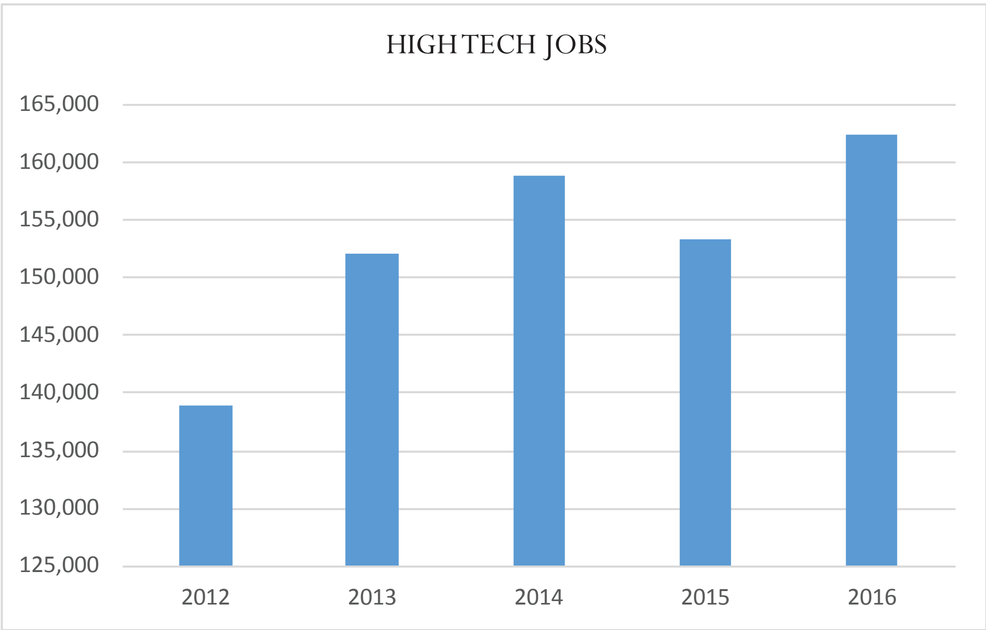
CHICAGO'S EMPLOYMENT STRATIFICATION BY SECTOR



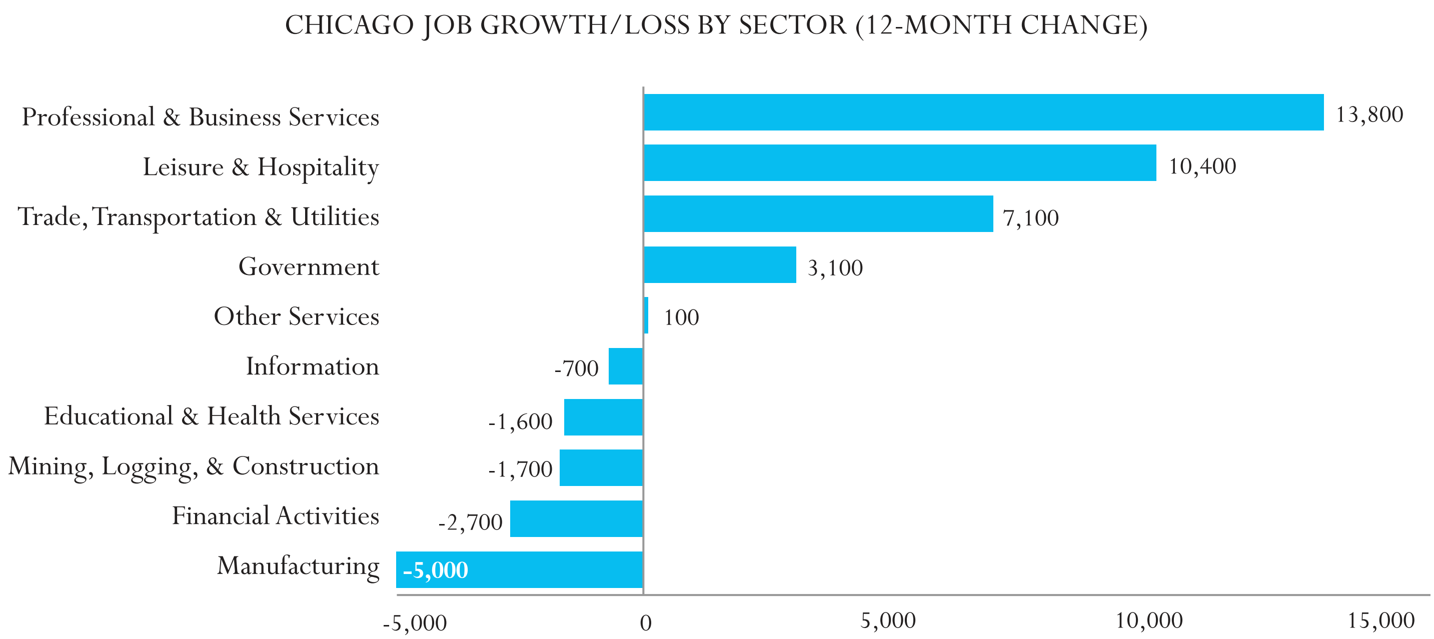

*Source: U.S. Bureau of Labor Statistics, Chicago-Naperville-Arlington Heights Metropolitan Division, Total non-farm jobs as of December 2016.*

# Chicago: Tech Hub and Center of Industry Innovation

Since the 2012 Economic Impact Study, Chicago has grown into a major tech hub and a center of industry innovation, with a high concentration of companies, ideas and talent. High-tech companies now comprise 3.8 percent of the Information sector employment in the Chicago metropolitan area with 163,340 industry jobs. From 2010 to 2015, a growth rate of 34.9 percent brought a total of 35,290 tech jobs to the city. Total non-tech occupations hired by tech firms, including sales, administrative and office support, finance, business operations and marketing, employ 429,270 workers. Despite a recent slowdown in tech, the industry is still growing 2.6 times faster than the overall economy and is expected to remain a critical component of Chicago's labor market.




*Source: U.S. Bureau of Labor Statistics, Occupational Data, Chicago-Naperville-Arlington Heights Metropolitan Division - December 2016.*
*Occupations include: Computer and Mathematical Occupations, Software Developers-Applications, Software Developers-Systems Software and Web Developers*



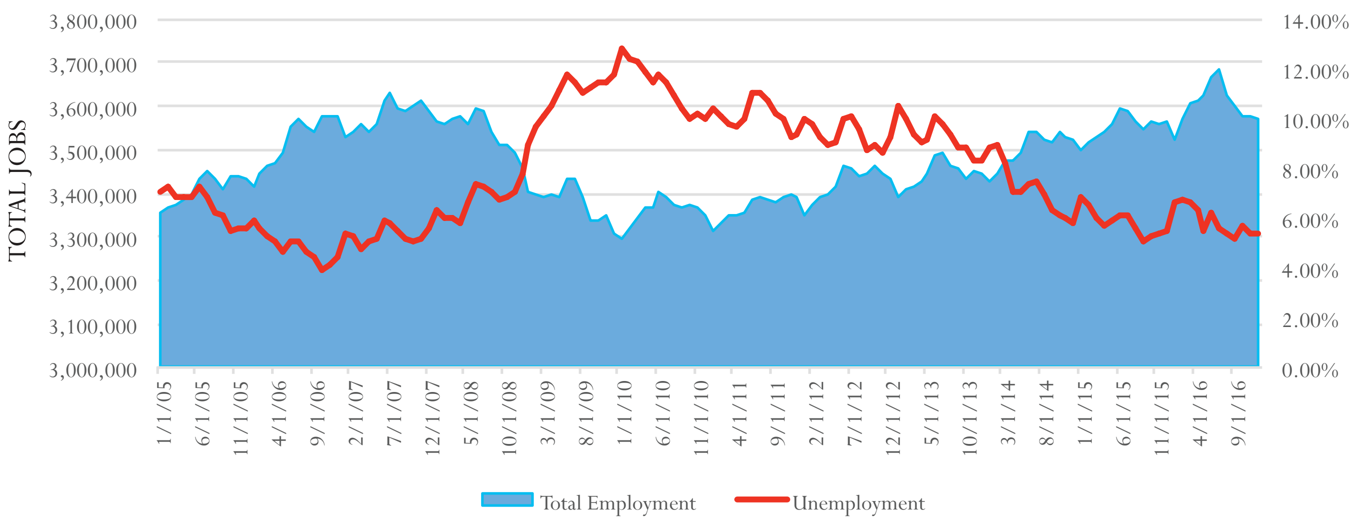

*Source: U.S. Bureau of Labor Statistics, Chicago-Naperville-Arlington Heights Metropolitan Division, total non-farm jobs as of December 2016.*

DECEMBER 2016 UNEMPLOYMENT AND JOB GROWTH

| | |
|---|---|
| **5.4%** Chicago Unemployment | **0.6%** Chicago 12-Month Job Growth |
| **5.7%** Illinois Unemployment | **0.5%** Illinois 12-Month Job Growth |
| **4.8%** U.S. Unemployment | **1.0%** U.S. 12-Month Job Growth |

*Source: U.S. Bureau of Labor Statistics – December 2016*

TOTAL JOBS VERSUS UNEMPLOYMENT RATE IN CHICAGO




*Source: U.S. Bureau of Labor Statistics, Chicago-Naperville-Arlington Heights Metropolitan Division, Total non-farm jobs as of December 2016.*

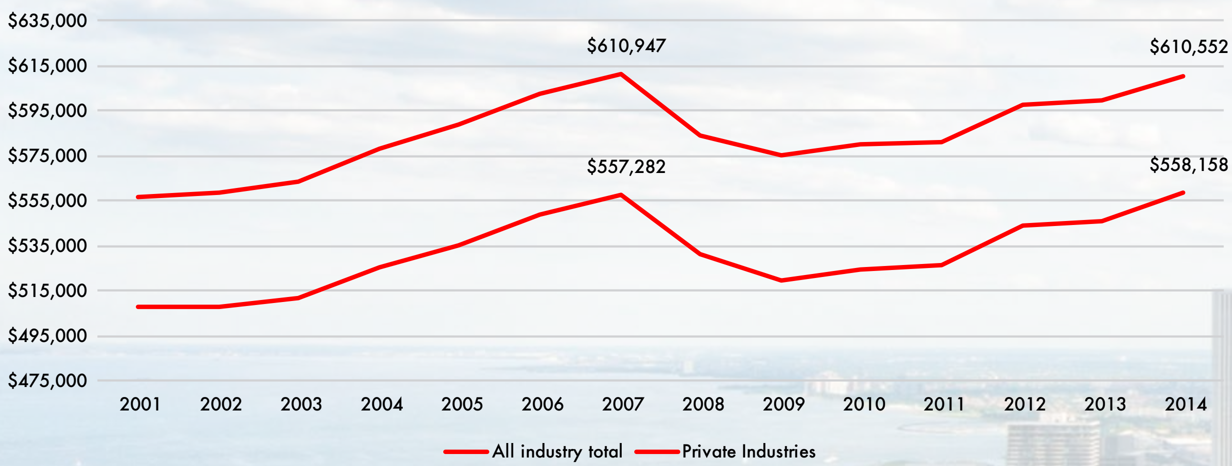
## Labor Market: At-A-Glance

While labor market volatility increased during the second half of 2016, employment continued to grow through December 2016, with more than 34,500 jobs added in Chicago over the past 12 months. Professional and Business Services, Leisure and Hospitality, and Trade Transportation and Utilities sectors were key contributors to growth, combining to add over 31,300 jobs within in the past 12 months. Conversely, 11,700 jobs were lost in 2012 for a net gain of 22,800 jobs.

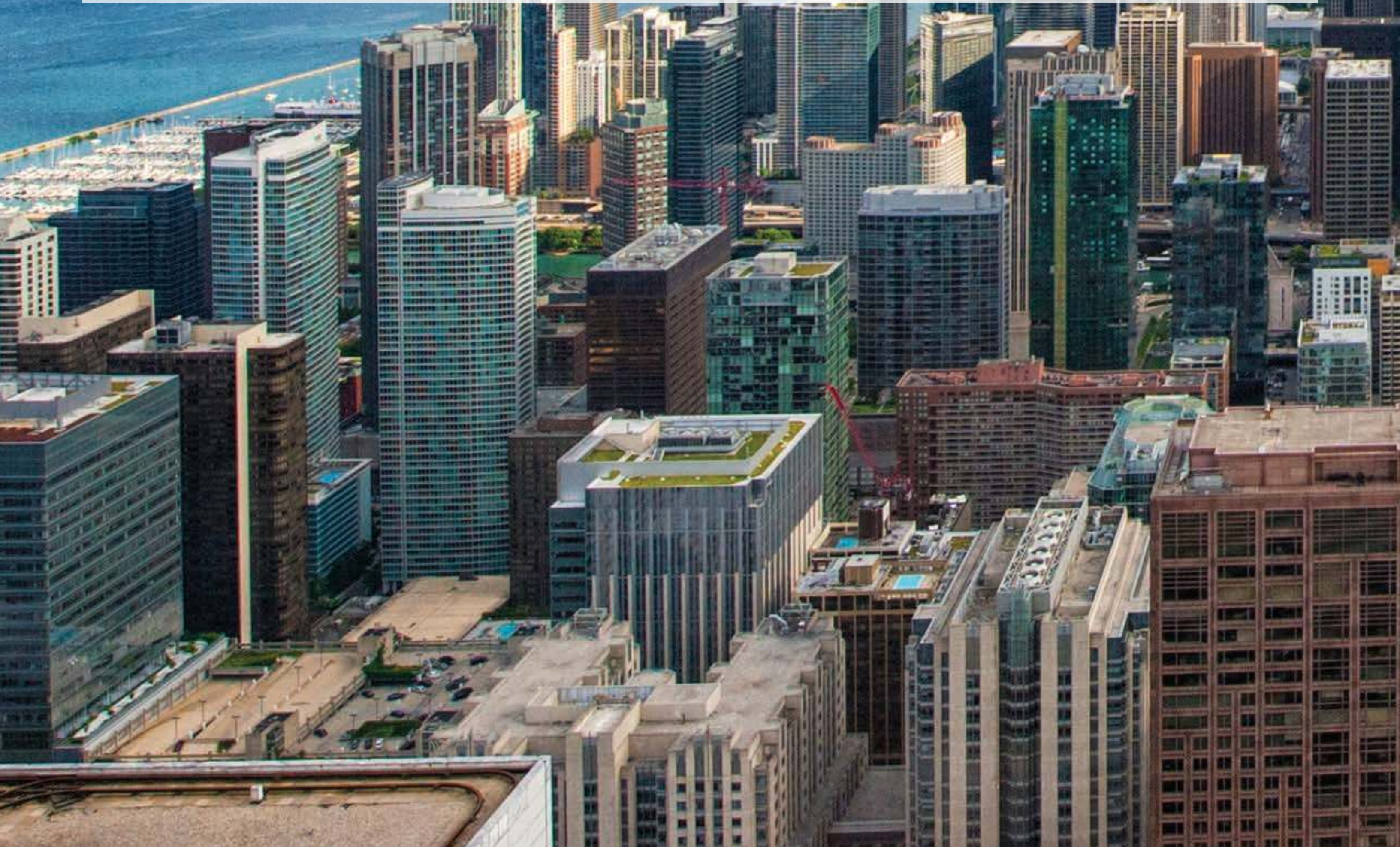
Chicago's unemployment rate at 2016 year-end was 5.4 percent, 0.3 percent lower than the State of Illinois and 0.6 percent higher than the U.S. rate. Chicago's total number of jobs hovered around prerecession highs of about 3.6 million, with recovery led by growth in the high-tech industry within the Information sector. Much of this growth was organic due to newly established firms in the CBD, coupled with firms migrating from the suburbs to the city, as well as out of state companies opening new regional headquarters. Employment in Leisure and Hospitality added 25,700 jobs since 2012, and may be correlated to new hotels opening across Chicago. Another sector, Educational and Health Services, added 48,500 jobs since 2012. Furthermore, there have been 134,154 total net jobs added to the Chicago economy, resulting in the unemployment rate declining by 3.8 percent since the 2012 Economic Impact Study.

# Chicago's Economy Rising to Pre-Recession Level

GROSS METROPOLITAN PRODUCT (GMP)
FOR CHICAGO METRO AREA FROM 2001-2014

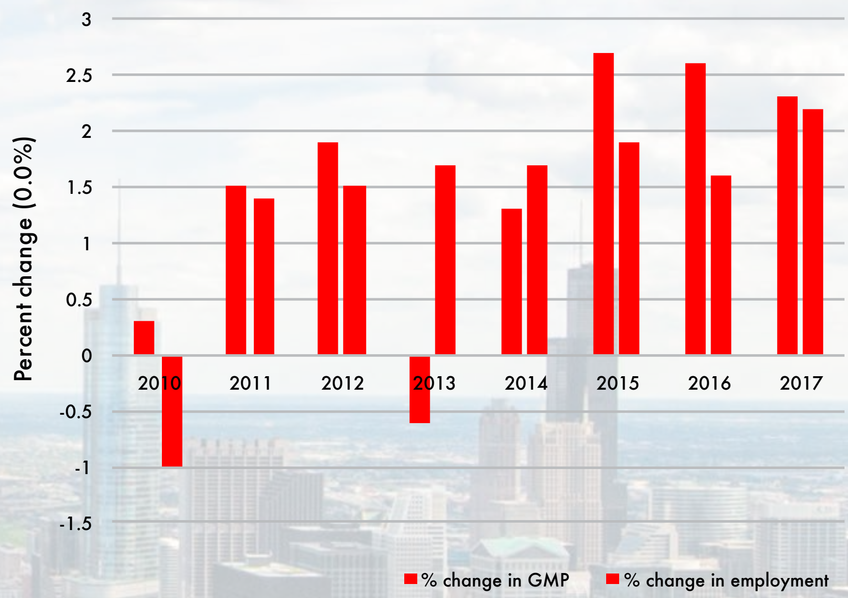



*Source: Moody's Economy, as of December 2016*

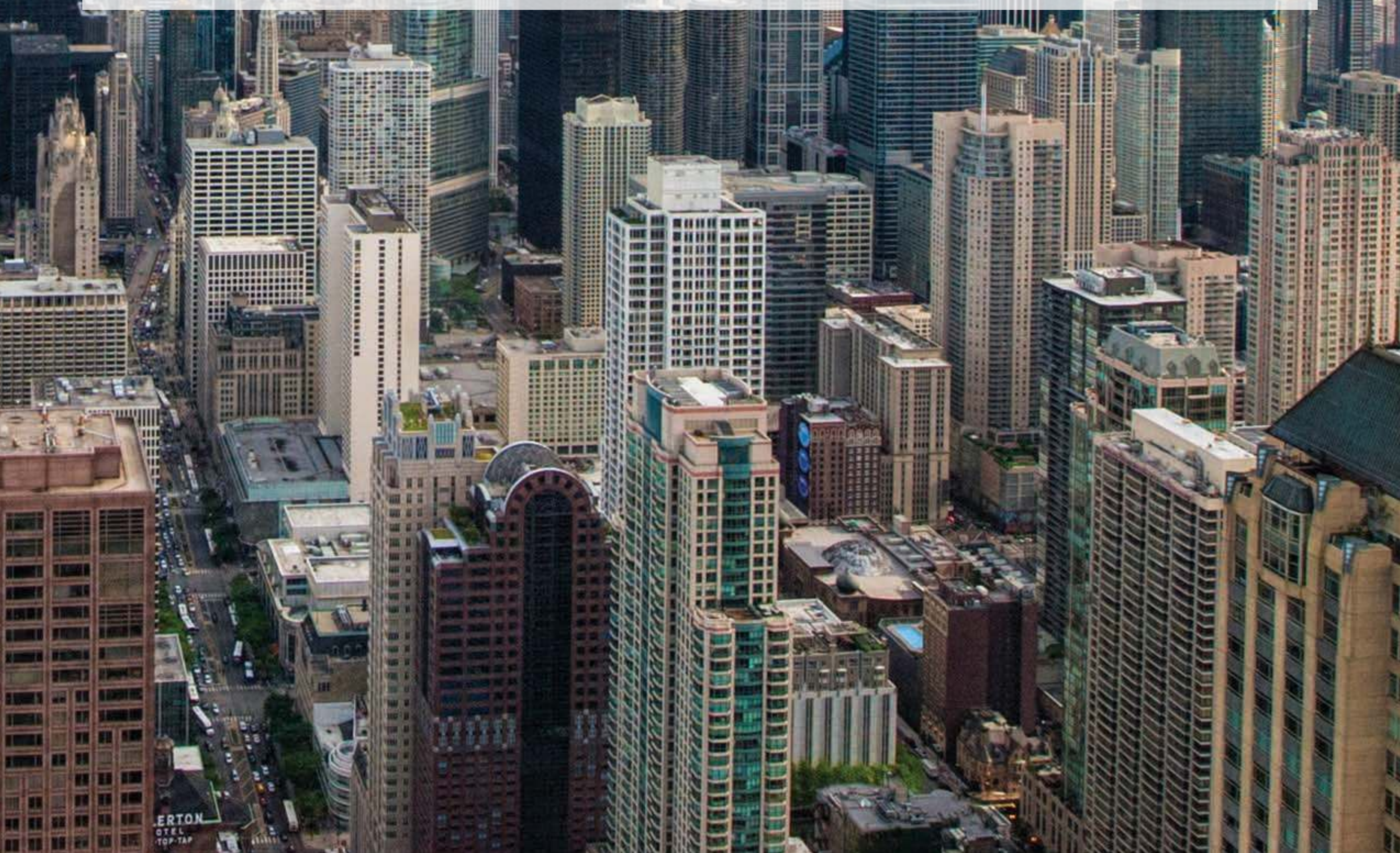


## Chicago to Expect Moderate Employment and Economic Growth Going Forward

HISTORICAL Y-O-Y CHANGE IN CHICAGO GROSS METROPOLITAN PRODUCT (GMP)




*Source: Moody's Economy, as of December 2016*



# HOW CHICAGO COMPARES TO OTHER US CITIES

Although 2016 closed at a time of unprecedented change and high global uncertainty, the U.S. economic fundamentals remain relatively sound. According to the U.S. Bureau of Labor Statistics, employment has continued to grow with more than 2.4 million jobs added over the past 12 months, with the exception of manufacturing, which has seen negligible growth in jobs over the past year. Consistently driving the largest portion of job growth – and economic recovery – the technology industry has been spurring growth in markets large and small.

## Measuring Chicago's Economy to Other Similar Metropolitan Areas

Chicago's centralized location and logistics infrastructure have helped to establish itself as the nation's transportation hub and one of the region's economic powerhouses. Other U.S. metropolitan areas with similar economic and market fundamentals, including industries, public transportation, and demographics, were examined to understand Chicago's competitive advantage. The comparable cities are: Atlanta, Boston, Denver, Los Angeles, New York City, Philadelphia, San Francisco, and Washington D.C.

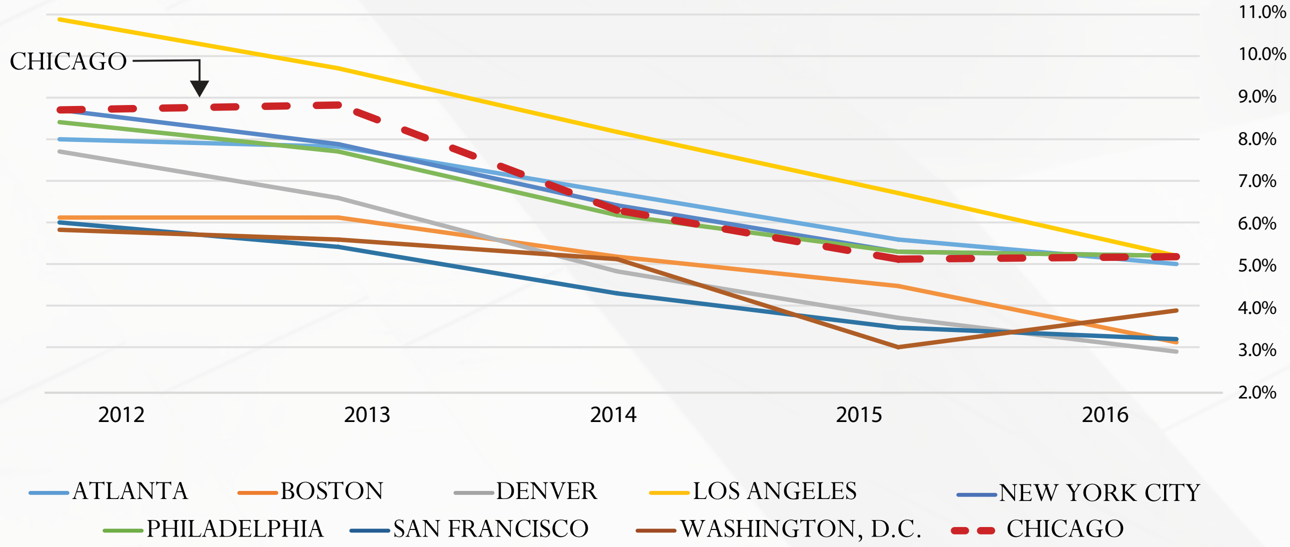
## Employment Trends Across Comparable Cities

Strong job gains have led to a declining unemployment rate between 2012 and 2016 across the subset of comparison cities displayed in the graph on page 15. Because of their size, it is easy for major regions such as New York, San Francisco, Chicago, Los Angeles and Washington D.C. to attract top tech talent. Thus, these five metros increased their tech-talent pool by more than 30 percent during the past four years according to the U.S. Bureau of Labor Statistics, with San Francisco increasing their base by more than 50.5 percent. Meanwhile, tech industry expansion into secondary markets, like Philadelphia, Denver, and Atlanta – where the demographics and cost factors are highly attractive for both firms and talent alike – has positively impacted economic and employment growth.

U.S. employment continues to see improvement as nearly all nine key cities decreased their unemployment rates every year since 2012, as shown in the following graph. Although Chicago and Los Angeles recorded higher unemployment rates than the rest of the cities, they have both improved by over 3 percent since 2012.

Denver's unemployment rate sits at a historic low of 2.9 percent, declining 4.8 percent since 2012 largely due to the emerging tech industry. Yet, Los Angeles had the largest unemployment rate decrease of 5.7 percent compared to the other metro areas since 2012. This was largely driven by the media and entertainment, technology, professional and business services, and construction industries. Boston and San Francisco recorded similarly low unemployment rates.

UNEMPLOYMENT RATE 2012-2016
ACROSS COMPARABLE CITIES

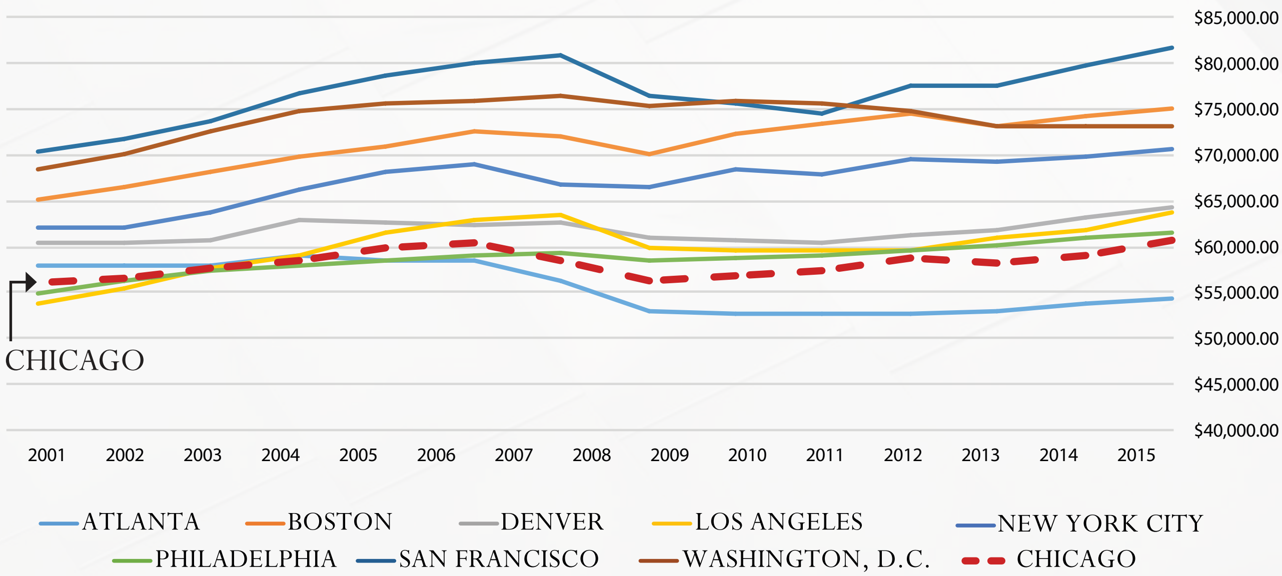



*Source: U.S. Bureau of Labor Statistics November 2016*

## Gross Domestic Product Composition Shifting Among Comparable Cities

Cities with high costs of living recorded some of the highest real per capita GDP, including San Francisco, New York City, and Washington D.C. San Francisco has the highest in real per capita GDP largely attributed to its thriving tech sector. Boston surpassed Washington D.C. in 2013 with innovation and growth in the life sciences industry, now ranking second highest in real per capita GDP. Despite recording the second lowest real capita per GDP in 2015, Chicago's 2015 figure surpassed its 2007 prerecession peak.

REAL PER CAPITA GDP (USD 2009) ACROSS
COMPARABLE CITIES




*Source: U.S. Bureau of Economic Analysis November 2016*

# CHICAGO MARKET

Comprised of 243.1 million square feet of multi-tenant office space, Chicagoland (including the city and suburbs) has the second largest office market in the United States (JLL Research, Q4 2016). As of November 2016, BOMA/Chicago membership included 235 commercial office, institutional, government, and public buildings in the City of Chicago, constituting over 165.8 million square feet, including data centers, medical office buildings, and certain retail space. BOMA/Chicago members include iconic buildings such as Willis Tower, John Hancock Center, Aon Center, Merchandise Mart, and many more.

Methodology for the following three tables, including total building inventory, total rentable building area and total office rentable building area in BOMA/Chicago buildings, is on page 44 in the Appendix.

## BOMA/CHICAGO TOTAL BUILDING INVENTORY

| | BOMA/CHICAGO |
|---|---|
| TOTAL GROSS SQUARE FOOTAGE | 165,845,641 |
| [redacted] | |

*Source: BOMA/Chicago membership as of November 2016 and JLL Research as of December 2016*

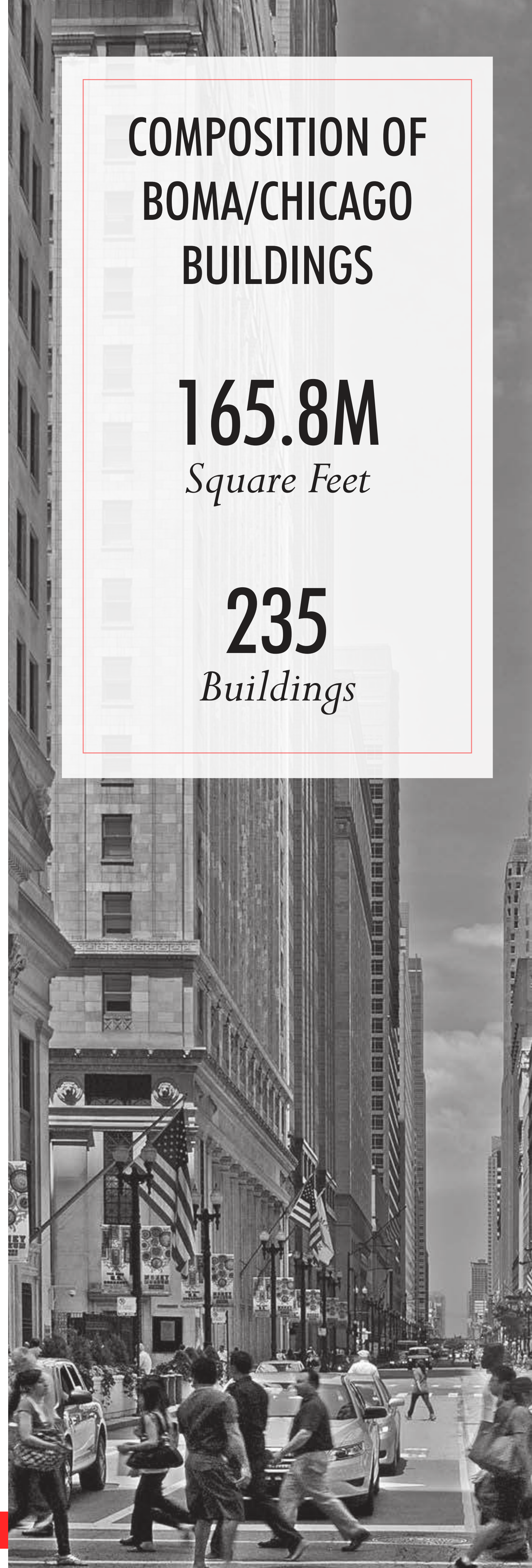
## BOMA/CHICAGO TOTAL RENTABLE BUILDING AREA

| PROPERTY TYPE | CHICAGO (S.F.) | BOMA/CHICAGO (S.F.) | NUMBER OF BOMA/CHICAGO BUILDINGS |
|---|---|---|---|
| [redacted] | | | |
| OFFICE | 148,025,100 | 122,183,825 | 197 |
| [redacted] | | | |
| DATA CENTERS | 3,900,000 | 2,206,188 | 3 |
| [redacted] | | | |

*[1]A majority of medical office buildings are owner-occupied in Chicago, and therefore would not be counted in the analysis of the total rentable building area in the study.*

*Includes rentable retail and office space. Excludes certain Specialty Buildings without rentable space: government-owned buildings, entertainment and concert venues, land sites, libraries, schools, museum and multi-family, as well as hotel space in mixed use buildings.*

*Source: JLL Research and CoStar Group as of December 2016; BOMA/Chicago membership as of November 2016*



## COMPOSITION OF BOMA/CHICAGO BUILDINGS

**165.8M**
*Square Feet*

**235**
*Buildings*

**BOMA/CHICAGO OFFICE MARKET**

**98%**

*of all Class A Buildings*

**80%**

*of all Rentable Office Space*

# OFFICE MARKET

Together, the CBD office market (comprised of over 143.9 million square feet across nine submarkets including the Central Loop, West Loop, East Loop, South Loop, Far West Loop, River West, Fulton Market, River North, and North Michigan Avenue) and the O'Hare submarket* (made up of over 4 million square feet) comprise over 148 million square feet of office space.

BOMA/CHICAGO TOTAL OFFICE RENTABLE BUILDING AREA

| OFFICE RBA | O'HARE* + | CHICAGO CBD | = CHICAGO | BOMA/ CHICAGO |
|---|---|---|---|---|
| **TOTAL INVENTORY (S.F)** | **4,080,452** | **143,944,648** | **148,025,100** | **118,396,062** |
| CLASS A | 3,301,620 | 60,074,185 | 63,375,805 | 62,375,805 |
| CLASS B | 623,832 | 63,870,180 | 64,494,012 | 45,442,370 |
| CLASS C | 155,000 | 20,000,283 | 20,155,283 | 9,090,248 |
| MEDICAL | - | - | -- | 1,487,639 |
| **TOTAL NUMBER OF BUILDINGS** | **18** | **428** | **446** | **201** |
| CLASS A | 13 | 71 | 84 | 77 |
| CLASS B | 4 | 204 | 208 | 82 |
| CLASS C | 1 | 153 | 154 | 38 |
| MEDICAL | - | - | -- | 4 |

**BOMA/Chicago membership in the O'Hare submarket is limited to the City of Chicago*

*Excludes Specialty Buildings: government-owned buildings, entertainment and concert venues, land sites, libraries, schools, museum, multi-family, hotel, data centers and retail buildings where retail is over 60 percent of the rentable space.*

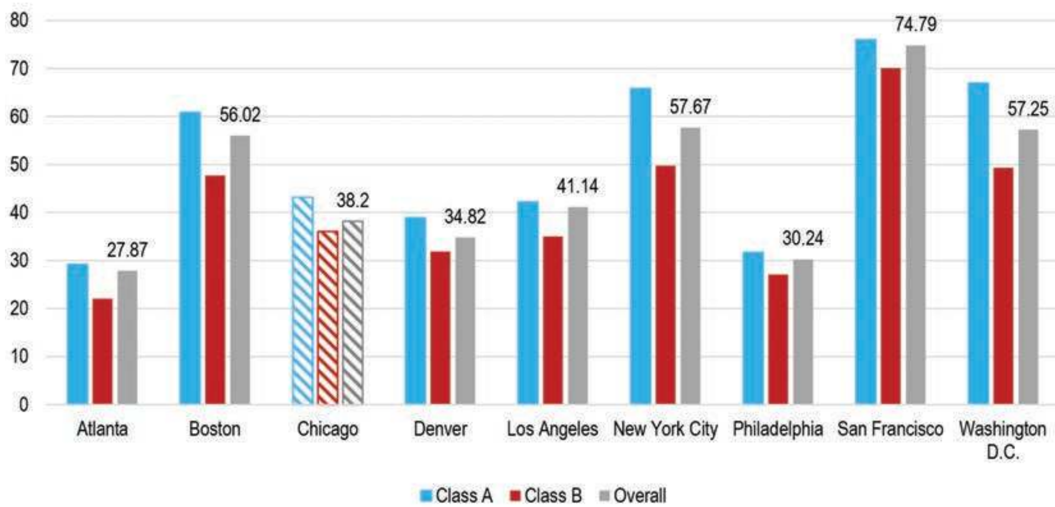
*Source: JLL Research and CoStar Group as of December 2016; BOMA/Chicago membership as of November 2016*

## Rentable Office Space in BOMA/Chicago Buildings

Excluding the specialty BOMA/Chicago buildings (see page 44 in the Appendix for related methodology), which include government-owned buildings, entertainment and concert venues, land sites, libraries, schools, museum, multi-family, and hotel, in addition to data centers and retail buildings where retail is over 60 percent of the rentable building space, BOMA/Chicago buildings comprise 118.4 million square feet of rentable office and medical office space throughout 201 buildings. This encompasses 79.9 percent of all the commercial square footage available for rent in Downtown Chicago and 81.4 percent of all commercial square footage available for rent across all Class A and Class B buildings within the O'Hare submarket (limited to the City of Chicago). By square feet, BOMA/Chicago buildings account for 80 percent of all rentable office space in Chicago and 98.4 percent of all Class A rentable office space in Chicago across Downtown and O'Hare. In Downtown Chicago, BOMA/Chicago buildings comprise 70.5 percent of all Class B rentable office space and 45.5 percent of all Class C rentable office space. In the O'Hare submarket, BOMA/Chicago buildings comprise 69.8 percent of all Class B rentable office space.

# City Comparison: Rents and Vacancy

AVERAGE DIRECT GROSS ASKING RENT ACROSS COMPARABLE CITIES ($/SF)

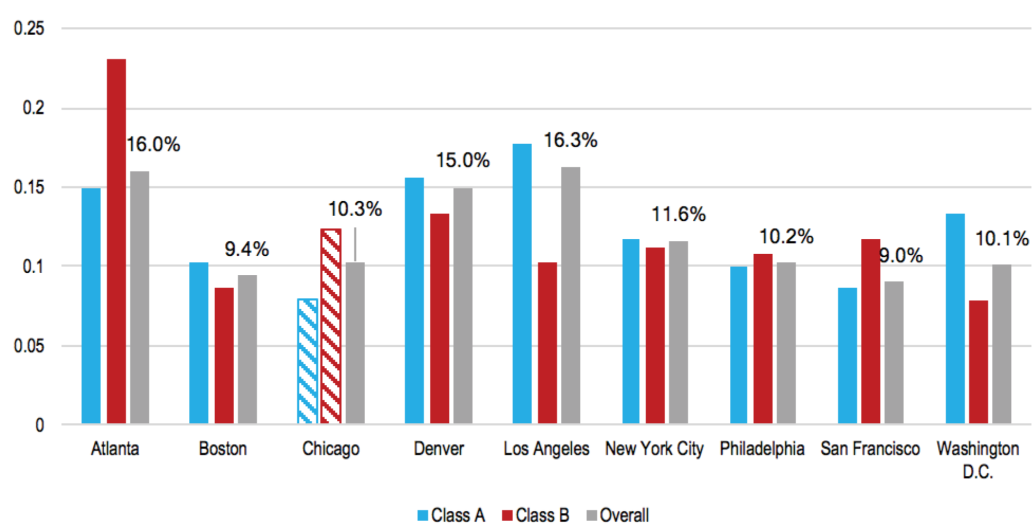



*Source: JLL Research, market statistics are of Q4 2016*

Asking gross rents across the comparable cities rose by an average of 33.2 percent since the year-end of 2012, as reported in the 2012 Economic Impact Study. Rents in San Francisco have risen an astounding 57.5 percent since the last quarter of 2012, the largest rent increase of the comparable cities. Downtown Chicago saw rents increase by 23.5 percent to $38.20 as of year-end 2016, less than the average across the comparable cities. A number of major markets such as Chicago, Washington D.C., Los Angeles, and New York also posted strong rent growth, while some mid-sized cities recorded new market high office rents including Denver and Boston since 2012. See methodology on page 44 in the Appendix.

Occupancy growth has been strong across all comparable cities since the 2012 Economic Impact Study. Office supply continues to tighten, with Class A vacancy dropping to 7.9 percent in Downtown Chicago as of year-end 2016. See methodology on page 44 in the Appendix.

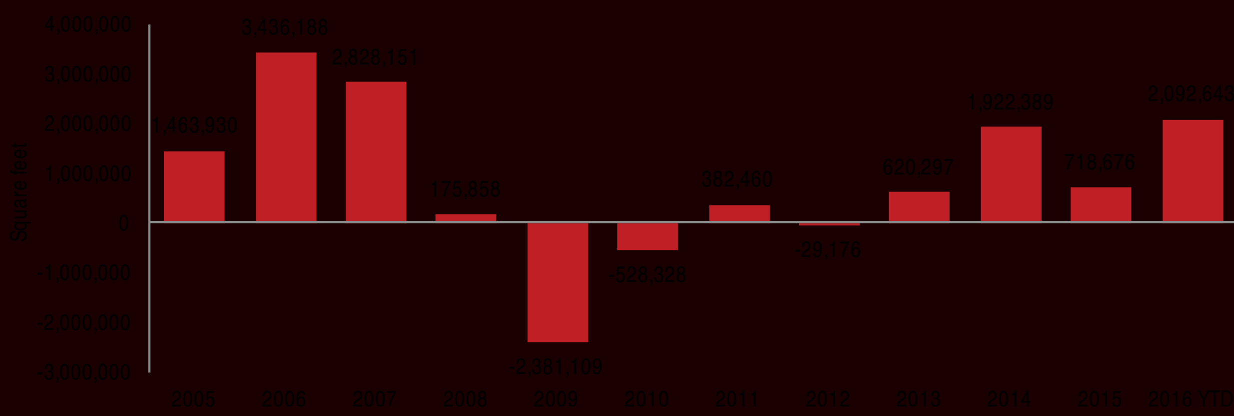
TOTAL VACANCY ACROSS COMPARABLE CITIES




*Source: JLL Research, market statistics are of Q4 2016*

# CBD MARKET

CITYWIDE TOTAL ANNUAL ABSORPTION IN SQUARE FEET




*Source: JLL Research, market statistics are of Q4 2016*

## Chicago's Strength in Vacancy and Rental Rates

Chicago is one of the strongest leasing office markets in the country according to JLL Research and has realized steady improvements since the last Economic Impact Study was conducted in 2012. As of the fourth quarter of 2016, Chicago was on the eleventh consecutive quarter of positive net absorption since year-end 2013. Across all asset classes, total vacancy was also at a historic low of 10.3 percent as of the fourth quarter of 2016, declining 5.7 percent since the fourth quarter of 2012.

Meanwhile, rental rates have increased across all submarkets and asset classes since the fourth quarter of 2016, with Class C buildings experiencing the largest rent growth of 20 percent, while average rents in River North increased 13 percent, which is the largest increase of any Chicago submarket.

## Developments Raising the Bar Downtown

The current wave of construction downtown is a representation of pure pent-up demand for high-quality space located near transit. According to JLL Research, the first trophy building to be delivered in this cycle was the 1.1 million square foot River Point office tower at 444 West Lake Street in the West Loop in December 2016. The 1.2 million square foot office tower at 150 North Riverside Plaza, in the West Loop, is the second trophy tower with completion in January 2017. Both trophy towers have had significant success over the past two years attracting tenants and delivering the much needed supply.

In the first half of 2016, two additional office projects broke ground in the West Loop. The first project, 151 North Franklin, will add 825,000 square feet of new supply by mid-2018, while 625 West Adams will add 435,000 square feet by the end of 2018. One challenge (and an opportunity) of this new development cycle is that many tenants will be relocating from existing space into newly-completed buildings. Tenants relocating into newly-completed office towers will give companies across the city access to high-quality space they are leaving behind, while putting pressure on absorption and slightly increasing vacancy rates. However, it's important to note that this decade's projected increase of approximately 7 million square feet in new construction is still less than half of the average 21 million square feet traditionally added to Chicago inventory each previous decade since the 1970s.

### VACANCY RATES IN CHICAGO CBD

| VACANCY RATE | CHICAGO CBD |
|---|---|
| CLASS A | 7.9% |
| CLASS B | 12.3% |
| CLASS C | 10.4% |
| **TOTAL VACANCY** | **10.3%** |

*Source: JLL Research and CoStar Group, market statistics are of Q4 2016*

### AVERAGE GROSS ASKING RENTS IN CHICAGO CBD

| AVERAGE ASKING GROSS RENTS | CHICAGO CBD |
|---|---|
| CLASS A | $43.19 |
| CLASS B | $36.07 |
| CLASS C | $30.24 |
| **OVERALL** | **$38.20** |

*Source: JLL Research and CoStar Group, market statistics are of Q4 2016*

# CHICAGO O'HARE MARKET

## O'Hare

The O'Hare submarket enjoys the second lowest vacancy rate out of six Chicago suburban submarkets according to JLL Research, benefiting from the close proximity to the international airport. Overall rents command the second highest among suburban submarkets at $24.64. The submarket's low vacancy and rental growth is attributed to certain industries, such as finance and communications. BOMA/Chicago membership in the O'Hare submarket is limited to the City of Chicago, and therefore will be reflected in our analysis.

BOMA/Chicago buildings are limited to Class A and Class B product with rents above the overall O'Hare Class A and Class B averages. Overall Class A gross rents in the submarket are $28.60. Overall Class B rents in the submarket are $21.45. This trend is true for vacancy as well, total vacancy sits at 16.9 percent for the submarket.

### VACANCY RATES IN O'HARE

| O'HARE | AVERAGE VACANCY RATE |
|---|---|
| CLASS A | 14.0% |
| CLASS B | 22.7% |
| **TOTAL VACANCY** | **16.9%** |

*Data reflect City of Chicago only in O'Hare submarket*
*Source: JLL Research and CoStar Group, market statistics are of Q4 2016.*

### AVERAGE ASKING GROSS RENTS IN O'HARE

| O'HARE | AVERAGE ASKING GROSS RENTS |
|---|---|
| CLASS A | $28.60 |
| CLASS B | $21.45 |
| **OVERALL** | **$24.64** |

*Data reflect City of Chicago only in O'Hare submarket*
*Source: JLL Research and CoStar Group, market statistics are of Q4 2016.*

# A GLOBALLY COMPETITIVE WORLD-CLASS CITY

Attracting and retaining tenants to our world-class city is of critical importance. From leading Fortune 500 companies to corporate headquarters to small and medium-sized businesses, the businesses that reside in BOMA/Chicago buildings hail from diverse industries and fuel employment and growth in our CBD.

## Hub for Corporate Headquarters

A total of 82 percent of the top 125 (based on highest revenues) privately held and publicly traded companies with corporate headquarters in Chicago are housed in BOMA/Chicago buildings. BOMA/Chicago buildings capture 86.8 percent of the publicly-traded companies and 73.6 percent of the privately-held companies with corporate headquarters in Chicago. See Methodology on page 44 in the Appendix.

## Fortune 500 Headquarters Double

Out of the thirty-six Fortune 500 companies located in the greater Chicago area in 2016, 12 were headquartered within Chicago city limits and located in BOMA/Chicago buildings. This marks an increase of six Fortune 500 companies with corporate headquarters in Chicago – double the number since the 2012 Economic Impact Study. Fortune 500 companies headquartered in BOMA/Chicago buildings include: Boeing, Archer Daniels Midland, United Continental Holdings, Exelon, Kraft Heinz, ConAgra Foods, R.R. Donnelley & Sons, LKQ, Jones Lang LaSalle, Old Republic International, Motorola Solutions and Telephone & Data Systems. See Methodology on Page 44 in the Appendix.

## Downtown Industries Remain Diverse

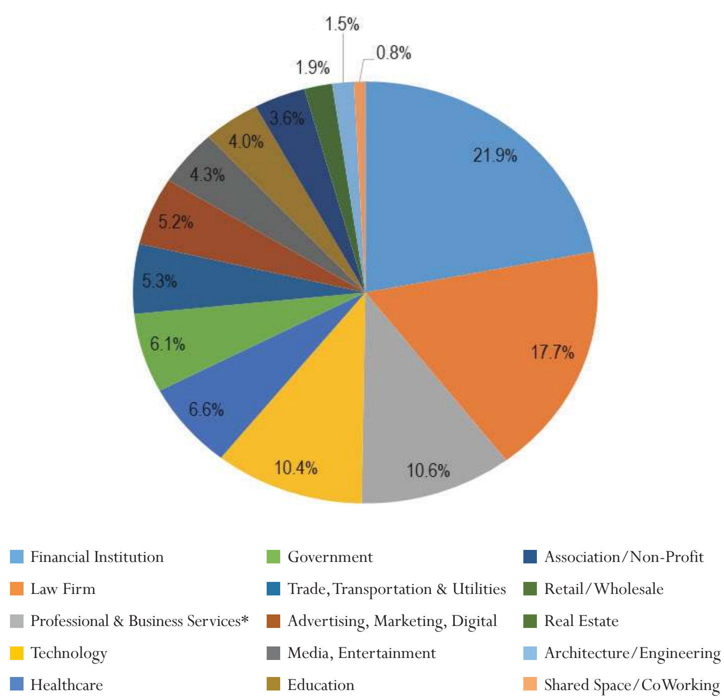
Identifying the type of industries and their size (based on square footage) in BOMA/Chicago buildings is significant as it lets BOMA/Chicago benchmark building leasing trends based on market and industry changes. Our analysis on the current tenant mix in BOMA/Chicago buildings reveals financial institutions (21.9 percent) have the largest footprint, then law firms (17.7 percent), followed by professional & business services firms (10.6 percent), and closely followed by technology tenants (10.4 percent).

## Businesses in BOMA/Chicago Buildings Increase 25 Percent

BOMA/Chicago member buildings house 12,733 businesses according to the data compiled from the CoStar Group database, including: 8,952 (70.3 percent) local companies, 2,317 (18.2 percent) national businesses, and 1,464 (11.5 percent) international corporations. The total number of businesses in BOMA/Chicago buildings increased by 25 percent, illustrating Chicago's robust economic and employment growth since the 2012 Economic Impact Study.

INDUSTRY SHARE OF TOTAL TENANT SQUARE FEET

Top three office tenants by square footage leased in each BOMA/Chicago office building




**Professional & Business Services include insurance, consulting, and companies offering B2C and B2B services. Referred to as Personal Services in the 2012 Economic Impact Study.*
*Source: CoStar Group and JLL Research as of December 2016*

# THREE NEW INDUSTRY DRIVERS

There are three defining trends creating continued demand for BOMA/Chicago buildings since the 2012 Economic Impact Study: the rise of the technology-based economy; the migration of talent and corporations to the CBD; and the emergence of shared workspaces. The source for the analysis throughout the next three sections on the growth of the tech industry, shared spaces industry, and suburban migration is from JLL Research as of December 2016.

## Chicago's Evolution into a Robust Tech Market

With a shift toward an economy centered on consumer-based applications, enterprise cloud software and social media platforms, the tech industry has evolved into a services-based industry on a large scale, having a greater impact on office demand than ever before. Many of the largest tech companies have expanded into Chicago, including Google, Salesforce, Twitter, Uber and LinkedIn, seeking to tap its highly-educated talent pool—subsequently leasing space and increasing occupancy in BOMA/Chicago buildings.

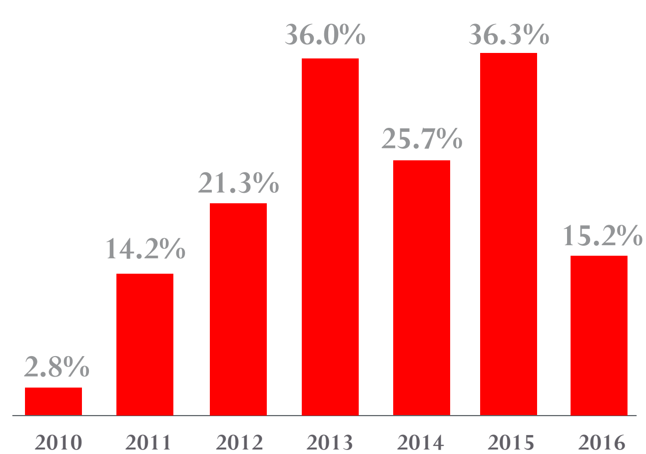
*The tech sector has demonstrated a voracious appetite for Chicago real estate, absorbing nearly 9.1 million square feet over the past five years.*

The tech sector has absorbed an average of 1.82 million square feet between 2012 and 2016. During the same time period, Chicago's tech sector expanded its occupancy in BOMA/Chicago office buildings, capturing 6.27 million square feet of tech firm leases. From 2011 to 2014, tech's share of the large lease market exhibited a compounded annual growth rate of 22 percent. In 2013 and 2014, the sector accounted for 36 and 25.7 percent, respectively. High-profile deals in Chicago resulted in 36.3 percent of leasing by tech firms in 2015, reaching a record high. In 2016, the sector accounted for 15.2 percent; lower than previous years, but still capturing a share of the large lease market.

LEASING ACTIVITY BY THE TECH SECTOR


*Source: JLL Research, JLL proprietary data on the tech industry; excludes WeWork, MakeOffices and other co-working leases.*

TECH SECTOR'S PERCENTAGE SHARE OF TOP 20 LEASES



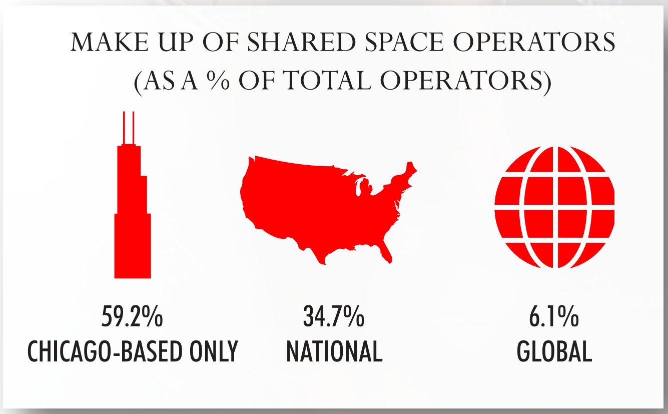

*Source: JLL Research as of Q4 2016*

## Expansive Growth of Shared Space Operators

During the course of the current economic cycle, there has been a significant shift in the way people work, as well as where that work gets done. Shared space companies consist of executive suites, incubators, accelerators and shared office space. Since 2011, shared office companies have doubled their footprint annually in the CBD, bringing the total size of this industry to more than 2.38 million square feet. More than 100 shared space companies represent more than 1.7 percent of the downtown total office inventory. Furthermore, 59.2 percent of these companies are located only in Chicago, meaning they do not have a presence in any other markets. Shared space operators in multiple markets across the U.S. make up 34.7 percent, while 6.1 percent are global shared space operators.

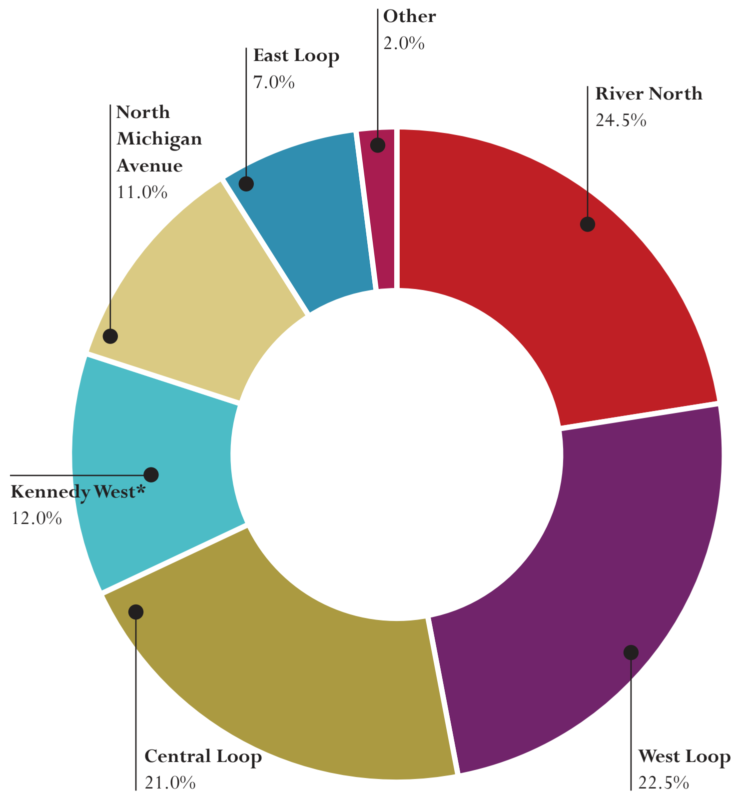
*57 shared space companies operate in BOMA/Chicago buildings, comprising 1.6M square feet of total inventory.*

Some of the largest occupiers in BOMA/Chicago buildings are MakeOffices, Regus, Amata and increasingly, WeWork – all except for Regus did not exist in Chicago when the 2012 Economic Impact Study was completed. WeWork's footprint in downtown Chicago totals 423,500 square feet along with the lead anchor tenant of two BOMA/Chicago buildings. Overall, shared space companies represent 1.4 percent of total BOMA/Chicago office inventory. The question today is whether this industry will sustain in a market correction. However, both small businesses and landlords alike are benefitting from increased options for office space and a new way of working and leasing that space. Additionally, companies that have outgrown shared space environments have added to office space demand.




*Source: JLL Research as of December 2016*

SHARED SPACE LEASING VOLUME BY SUBMARKET
(AS A % OF TOTAL SQUARE FEET)




**Kennedy West includes River West, Fulton Market, and the Far West Loop submarkets*
*Source: JLL Research as of Q4 2016*

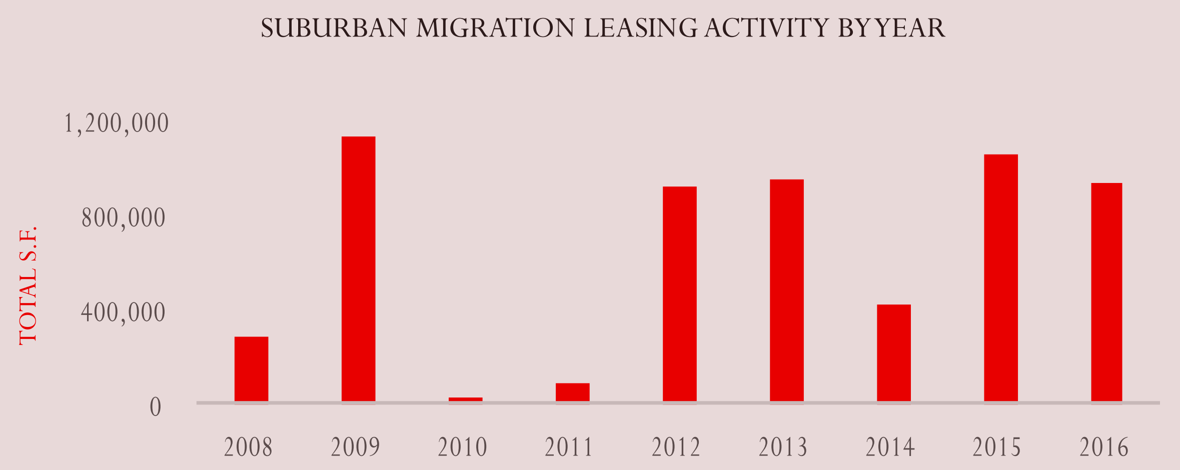
River North, with 24.5 percent, closely followed by the West Loop, with 22.5 percent, have the highest concentration of shared office space operators in Downtown Chicago. Kennedy West has emerged over the past five years paralleling with the growth of this industry in Chicago, and now comprises 12 percent of the total shared space in Chicago.

## Suburban Migration Continues Driving Occupancy Gains

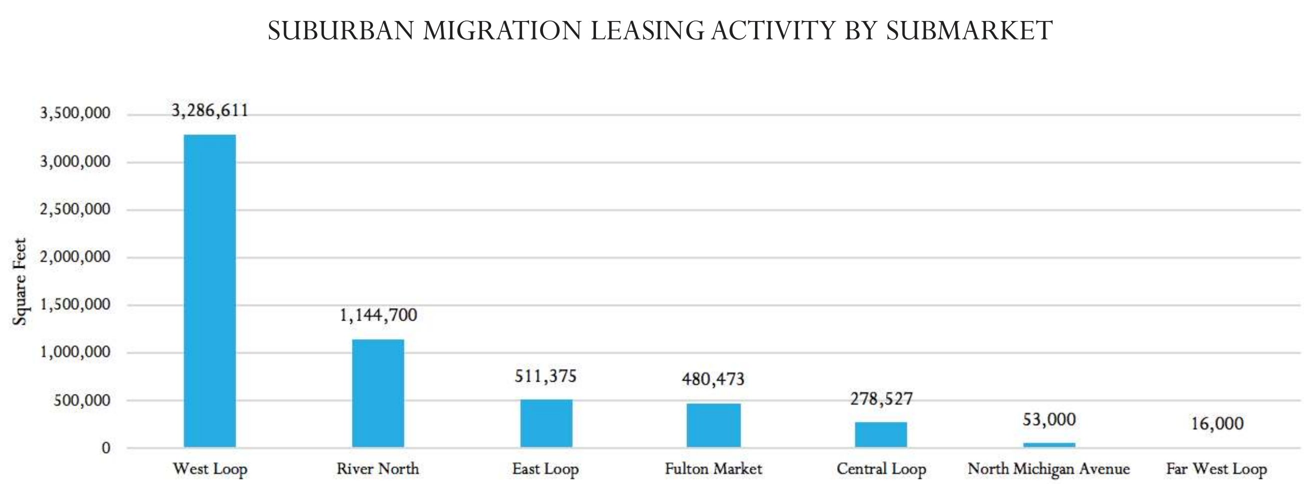
The migration of corporate tenants within the Chicago office market has seen a seismic shift since 2010. A trickle of companies that started with United Airlines and BP Trading several years ago, has turned into a steady stream of major employers that see downtown Chicago as the absolute best location for their talent attraction, retention, and innovation strategies. Since 2012, 75 companies have relocated nearly 4.29 million square feet downtown from the suburbs. BOMA/Chicago buildings have captured 78.7 percent of increased demand, with occupancy totaling over 3.5 million square feet.

*BOMA/Chicago buildings have welcomed 59 new suburban tenants, comprising 3.3% of total BOMA/Chicago office inventory*

One BOMA/Chicago building capturing the lion's share is the Merchandise Mart, now home to ConAgra, Beam Suntory, and Motorola Mobility Solutions. With no slowdown in sight, large suburban companies are relocating into the perceived millennial hotspots of River North, West Loop, and Fulton Market.

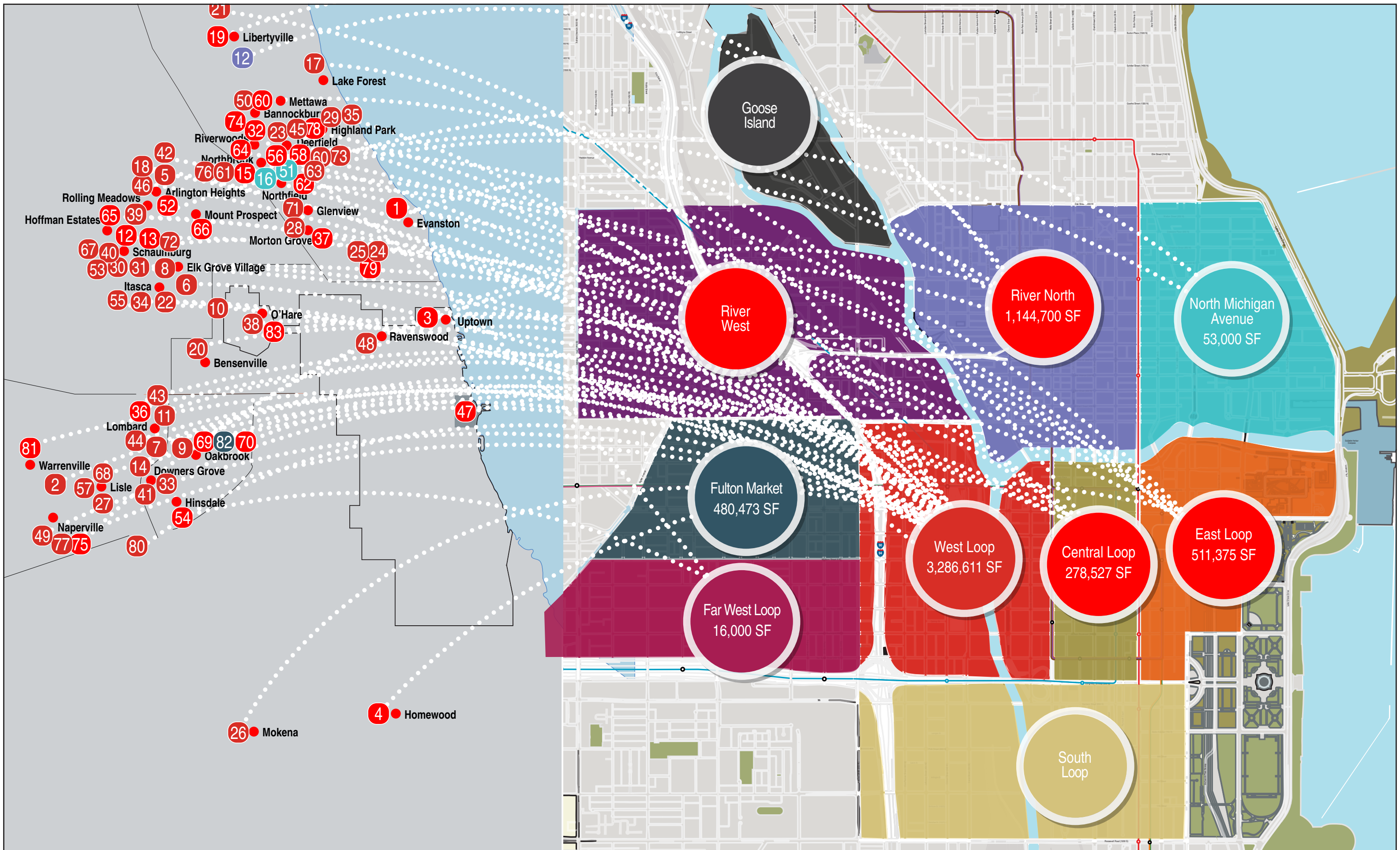



*Source: JLL Research as of December 2016*




*Source: JLL Research as of December 2016*

## SUBURBAN MIGRATION TO CHICAGO CBD 2008-2016




| # | Company | To Full Address | RSF |
|---|---|---|---|
| | **2008** | | |
| 1 | Thomson Reuters | 1 N Dearborn | 41,000 |
| 2 | BP | 10 & 30 S Wacker | 240,000 |
| | **2009** | | |
| 3 | Combined Insurance | 111 E Wacker | 100,000 |
| 4 | Silliker | 111 E Wacker | 33,000 |
| 5 | PCM Logistics | 300 S Riverside | 28,000 |
| 6 | United Airlines | 233 S Wacker | 830,000 |
| 7 | Willis Group Holdings | 233 S Wacker | 140,000 |
| | **2010** | | |
| 8 | Bel Brands | 10 & 30 S Wacker | 27,200 |
| | **2011** | | |
| 9 | UHC | 155 N Wacker | 70,000 |
| 10 | RHR International | 233 S Wacker | 10,000 |
| | **2012** | | |
| 11 | Engagement Health | 224 N Des Plaines | 4,800 |
| 12 | Motorola Solutions | 224 S Michigan | 24,000 |
| 13 | Catamaran | 300 N LaSalle | 25,000 |
| 14 | DeVry University | 300 S Riverside | 75,000 |
| 15 | Maximus | 303 E Wacker | 70,000 |
| 16 | Sterling Partners | 401 N Michigan | 23,000 |
| 17 | W.W. Grainger | 500 W Madison | 58,000 |
| 18 | Sagence Group | 525 W Monroe | 9,500 |
| 19 | Motorola Mobility | 222 W Merchandise Mart | 604,000 |
| 20 | Zones | 233 S Wacker | 29,000 |
| | **2013** | | |
| 21 | Medline | 100 S Wacker | 11,000 |
| 22 | Gogo Wireless | 111 N Canal | 232,000 |
| 23 | Walgreens Co. | 120 S Riverside | 26,000 |
| 24 | Retrofit Inc. | 123 N Wacker | 3,000 |
| 25 | CohnReznick | 200 S Wacker | 17,300 |
| 26 | Presence Health | 200 S Wacker | 44,000 |
| 27 | Guggenheim Partners | 227 W Monroe | 38,000 |
| 28 | John Crane Inc. | 227 W Monroe | 15,000 |
| 29 | Cappex | 230 W Monroe | 14,000 |
| 30 | Great American Insurance | 300 S Wacker | 100,000 |
| 31 | Canon | 311 S Wacker | 20,000 |
| 32 | Discover Financial Services | 350 N Orleans | 26,000 |
| 33 | Hillshire Brands | 400 S Jefferson | 233,000 |
| 34 | Nokia Xpress | 425 W Randolph | 32,500 |
| 35 | OpinionLab Inc. | 549 W Randolph | 8,000 |
| 36 | Marketing Store Worldwide | 55 W Monroe | 31,300 |
| 37 | BayRu | 640 N LaSalle | 2,000 |
| 38 | Legal & General Investment Management America Inc. | 71 S Wacker | 26,000 |
| 39 | Capital One | 77 W Wacker | 65,000 |
| | **2014** | | |
| 40 | Assurance Agency | 111 N Canal | 27,000 |
| 41 | GRN | 200 S Wacker | 8,500 |
| 42 | Revenew | 200 W Monroe | 5,000 |
| 43 | Medix | 222 S Riverside | 12,000 |
| 44 | Sungard | 222 W Adams | 20,000 |
| 45 | Vail Systems | 224 N Des Plaines | 12,000 |
| 46 | AT&T | 225 W Randolph | 53,000 |
| 47 | HDR | 30 N Lasalle | 15,000 |
| 48 | Newark Corp. | 300 S Riverside | 80,000 |
| 49 | WR Berkley Syndicate | 10 S Wacker | 20,000 |
| 50 | FGMK | 333 W Wacker | 26,200 |
| 51 | Kraft | 401 N Michigan | 30,000 |
| 52 | Fusion92 | 440 W Ontario | 25,700 |
| 53 | SAC Wireless | 540 West Madison | 40,000 |
| 54 | Sustainable Solutions LED | 910 W Van Buren | 6,000 |
| 55 | Scor S.E. | 233 S Wacker | 30,000 |
| | **2015** | | |
| 56 | Blue Chip Worldwide | 10 W Hubbard | 5,000 |
| 57 | CA Technologies | 123 N Wacker | 3,000 |
| 58 | Textura Corporation | 130 E Randolph | 23,400 |
| 59 | Horizon Pharma | 150 S Wacker | 65,111 |
| 60 | Beermann Pritkin Mirabelli Swerdlove | 161 N Clark | 20,850 |
| 61 | Miller Cooper and Company | 2 N Riverside | 20,000 |
| 62 | Kraft Heinz | 200 E Randolph | 170,000 |
| 63 | Baxter | 200 W Madison | 4,500 |
| 64 | Stats | 203 N LaSalle | 70,000 |
| 65 | SAP | 30 W Monroe | 8,000 |
| 66 | Venta Airwasher | 300 N Elizabeth | 10,473 |
| 67 | Zurich | 300 S Riverside | 100,000 |
| 68 | KONE | 311 S Wacker | 3,000 |
| 69 | McDonald's | 351 W Hubbard | 12,000 |
| 70 | Redbox | 405 W Superior | 7,000 |
| 71 | Mead Johnson | 444 W Lake | 75,000 |
| 72 | Motorola Solutions | 500 W Monroe | 150,000 |
| 73 | Baxalta | 540 West Madison | 83,000 |
| 74 | Zebra Technologies | 820 W Jackson | 10,000 |
| 75 | ConAgra | 222 W Merchandise Mart | 210,000 |
| | **2016** | | |
| 76 | Allstate | 444 W Lake | 45,000 |
| 77 | BP | 30 S Wacker | 40,000 |
| 78 | Beam Suntory | 222 W Merchandise Mart | 100,000 |
| 79 | Echo Global Logistics | 600 West Chicago | 135,000 |
| 80 | Ulta Beauty | 120 S Riverside | 23,000 |
| 81 | EN Engineering | 180 N LaSalle | 20,377 |
| 82 | McDonald's | 1045 W Randolph | 470,000 |
| 83 | Wilson Sporting Goods | 130 E Randolph | 90,975 |
| | All leases less than 25,000 RSF | | 430,700 |
| | **TOTAL** | | 5,770,686 |

*Source: JLL Research as of December 2016*

# OPERATING EXPENSES OVERVIEW

Despite many of the positive market indicators surrounding occupancy and rental rates, average operating expenses as reported by JLL Research continued to climb since the 2012 Economic Impact Study, increasing 18.7 percent from 2012 to 2016. Class A buildings were hit particularly hard with a 31.4 percent average operating expense increase of $2.69 per square foot during the same period, while Trophy buildings – which are newer, equipped with the newest energy and technology systems, and require less maintenance – experienced a 13.1 percent average operating expense increase of $1.16.

The vast majority of this increase is driven by labor costs (direct and indirect), rising fees, and other regulatory requirements. Though the ability to negotiate labor rates, reduce energy expenses through energy efficiency programs, and proactive cost control measures can help to mitigate rising operating expenses, these factors will be of critical importance to the market's continued viability in the years ahead. Inevitably, these operating expenses are passed through to tenants under typical lease terms.

AVERAGE OPERATING EXPENSES
BY BUILDING CLASS ($/SF)

| BUILDING CLASS | 2012 | 2016 |
|---|---|---|
| [redacted] | | |
| TROPHY | $8.87 | $10.03 |
| [redacted] | | |
| CLASS C | $7.83 | $7.92 |
| **TOTAL CBD OVERALL** | **$8.43** | **$10.01** |

*Source: JLL Research as of Q4 2016*

Operating expenses include cleaning, repair/maintenance, utility, roads/grounds, security and administration. Taxes are covered separately in this study. Methodology is on page 45 in the Appendix.

## City Comparison: Operating Expenses

Consistent with the 2012 Economic Impact Study, Chicago ranks fifth in overall operating expenses per square foot among comparable cities. Los Angeles ranks the highest with $15.50 per square foot, followed by San Francisco with $13.76 per square foot. Denver is ranked the lowest among comparable cities with $7.59 per square foot, followed by Philadelphia with $8.50 per square foot.

OPERATING EXPENSES ACROSS COMPARABLE CITIES ($/SF)

| CITY | OVERALL |
|---|---|
| LOS ANGELES | $15.50 |
| SAN FRANCISCO | $13.76 |
| NEW YORK CITY | $12.49 |
| WASHINGTON, D.C. | $12.25 |
| CHICAGO | $10.01 |
| ATLANTA | $10.00 |
| BOSTON | $8.66 |
| PHILADELPHIA | $8.50 |
| DENVER | $7.59 |

*Source: JLL Research as of Q4 2016*

# PROPERTY TAX OVERVIEW

Commercial properties pay over 36 percent of all property taxes collected in the City of Chicago, with office buildings accounting for nearly half of that share. Moreover, commercial buildings are assessed at a rate that is 250 percent of the rate of assessment for residential property. See methodology on page 45 in the Appendix.

## COMMERCIAL BUILDINGS ARE ASSESSED AT A RATE THAT IS 250% OF THE RESIDENTIAL RATE

*Commercial Taxes*

| | |
|---|---|
| Estimated Market Value | $100,000 |
| County Assessment Level | x 25% |
| **Assessed Valuation** | **$25,000** |
| State Equalization Factor | x 2.8439 |
| **Equalized Valuation (EAV)** | **$71,098** |
| Homeowner's Exemption | N/A |
| **Adjusted Equalized Value** | **$71,098** |
| Sample Tax Rate | x 10% |
| **Estimated Tax Bill** | **$7,110** |

*Residential Taxes*

| | |
|---|---|
| Estimated Market Value | $100,000 |
| County Assessment Level | x 10% |
| **Assessed Valuation** | **$10,000** |
| State Equalization Factor | x 2.8439 |
| **Equalized Valuation (EAV)** | **$28,439** |
| Homeowner's Exemption | -$5,500 |
| **Adjusted Equalized Value** | **$22,939** |
| Sample Tax Rate | x 10% |
| **Estimated Tax Bill** | **$2,294** |

*Based on Cook County tax bill calculations.*

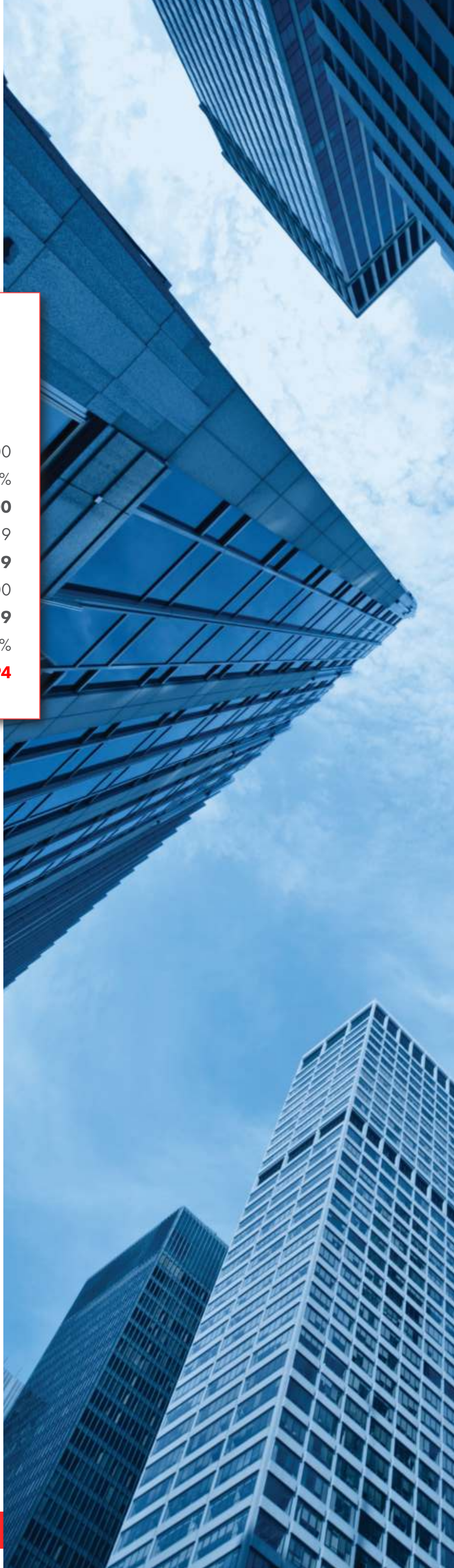
For Chicago property owners, the current economic climate has a degree of uncertainty. The State of Illinois, Cook County and the City of Chicago continue to face pressures stemming from massive pension funding issues and a budget stalemate in Springfield, the effects of which are impacting the Chicago Public Schools, social and city services and various city and county pension systems. All of those factors exert upward pressure on property taxes.

Property taxes are the highest recoverable expense of commercial buildings. They have increased 34.4% between 2012 and 2016 according to JLL Research, burdening both owners and tenants. As stated in the Operating Expense Overview section of this report, operating expenses have increased 18.7 percent since 2012. As property taxes and operating expenses are passed on to the tenants, large and small businesses ultimately bear that burden. Consequently, net effective rents are growing for most buildings more slowly than gross rents.

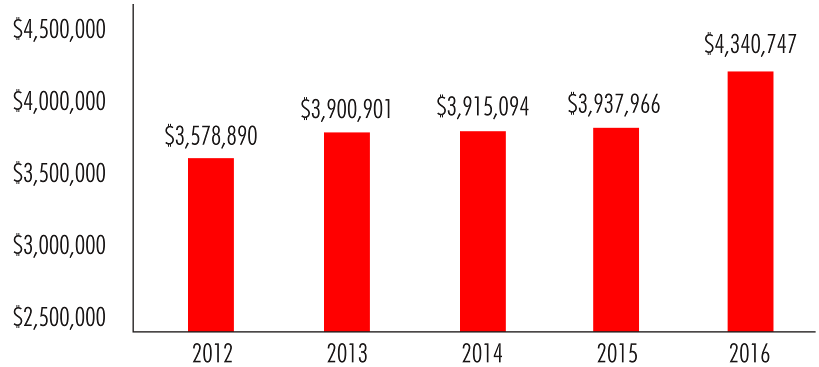
### THE IMPACT OF GROWING OPERATING EXPENSES AND PROPERTY TAXES ON GROSS RENTS

| | OPERATING EXPENSES | PROPERTY TAX | OPERATING EXPENSES + PROP TAX | NET RENTS | GROSS RENTS |
|---|---|---|---|---|---|
| 2012 | $8.43 | $5.58 | $14.01 | $16.93 | $30.94 |
| 2016 | $10.01 | $7.50 | $17.51 | $20.69 | $38.20 |
| **% OF CHANGE 2012 TO 2015** | **18.7%** | **34.4%** | **25.0%** | **22.2%** | **23.5%** |

*Source: JLL Research as of Q4 of 2016 and BOMA/Chicago 2012 Economic Impact Study*
**Gross Rents reflect the sum of operating expenses, property taxes and net rents*

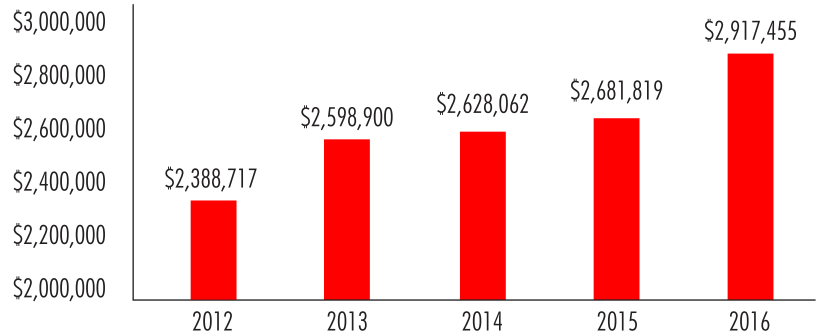


AVERAGE PROPERTY TAX PAID
BY BOMA/CHICAGO TAX INDEX BUILDINGS*




*Source: Cook County Assessor's Office, Cook County Treasurer, and BOMA/Chicago*

MEDIAN PROPERTY TAX PAID
BY BOMA/CHICAGO TAX INDEX BUILDINGS*




*Source: Cook County Assessor's Office, Cook County Treasurer, and BOMA/Chicago*

**Real estate property taxes in the year paid by BOMA/Chicago Tax Index buildings*

For additional perspective, BOMA/Chicago has consistently monitored the relative property tax burden on its member buildings. Studying a population of 190 BOMA/Chicago member buildings in the Chicago CBD, a composite index was created and analyzed. The buildings in the composite index were selected for their taxable status, information availability, completeness of assessments and minimal changes in building use. For clarification, some buildings are no longer BOMA/Chicago members and newer members may not be included in the latest index.

The assessed value information was obtained from the Cook County Assessor and County Board of Review. Tax information, including taxation rates and equalization factors, was obtained from the Cook County Clerk. The figures above provide an indication of the average and median property tax payments made by BOMA/Chicago Tax Index buildings over the past four years. Additional methodology can be found on page 45 in the Appendix.

As shown above, the average property tax paid per building for BOMA/Chicago Tax Index buildings was approximately $4.3 million in 2015. This average tax burden is approximately 22.1 percent greater than it was in 2012.

## Property Taxes on the Rise

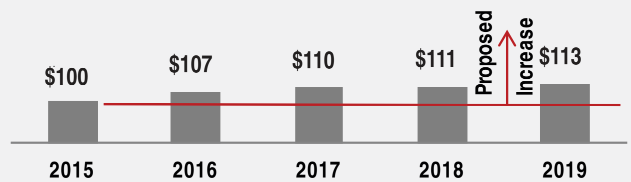
While the property tax burden on Chicago commercial properties is already significant, it is expected that the tax rates will continue to rise in the near future, largely driven by the City of Chicago's budget and pension funding shortfalls.

After passing the largest tax increase in Chicago history in 2015, property taxes on commercial buildings are expected to increase by more than 12 percent over the next four years. The recent increase does not include likely increases in other levies. Under typical net leases, the ultimate burden of tax increases falls on tenants. See methodology on page 45 in the Appendix.

TENANT PERSPECTIVE

Assume an office tenant in the CBD with a triple net lease, requiring the tenant to cover their allocated property taxes. In this example, the tenant's taxes would increase by $13,000 over four years, with a cumulative effect of $41,000.

**Proposed Property Taxes by Year**
(in thousands)




*Does not account for new assessment valuation applicable in 2018*

*Source: Cook County Assessor's Office, Cook County Treasurer, and BOMA Chicago — as of 2016*

## Dual Pressure of Assessed Values and Tax Rates

While the average tax per square foot is critical, it is just as important to understand the significance of assessed values. The total assessed value of buildings in the BOMA/Chicago Tax Index has increased from approximately $4.2 billion to $4.6 billion between 2012 and 2015, or approximately 9.6 percent.

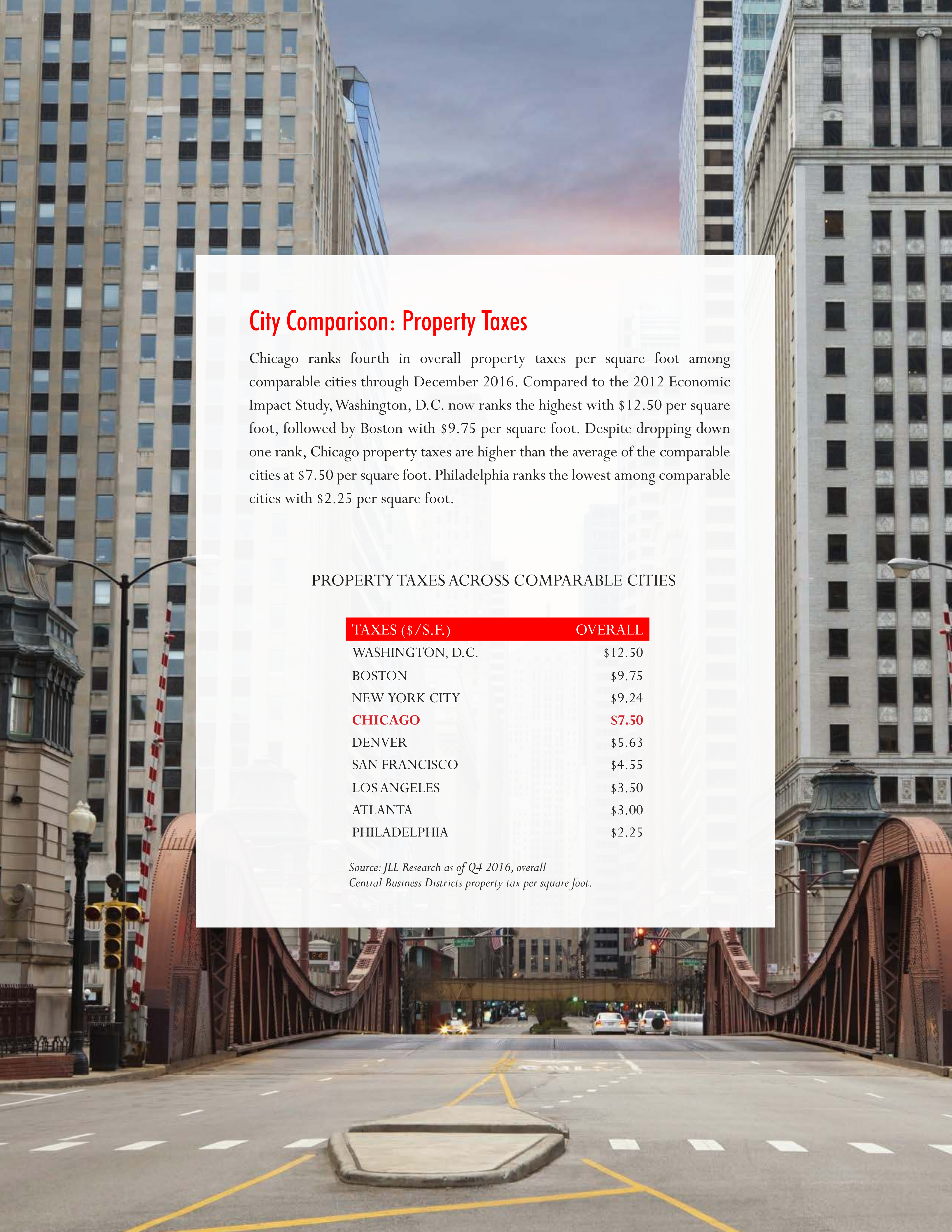
Historically, increases in assessed values have resulted in decreases in tax rates. Recent pension obligations have forced rates to increase along with assessed values. Building owners are now exposed to dual pressure on their tax bills – one from increasing assessments and another from increasing rates in the amount of $842.1 million paid by BOMA/Chicago Tax Index buildings in 2016. Between 2012 and 2016, the actual taxes paid by buildings in the Index have increased by 23.8 percent.

TOTAL ASSESSED VALUATIONS AND PROPERTY TAXES PAID BY BOMA/CHICAGO TAX INDEX BUILDINGS

| | 2012 | 2013 | 2014 | 2015 | 2016 | % OF CHANGE 2012 TO 2016 |
|---|---|---|---|---|---|---|
| ASSESSED VALUATIONS | $4,192,590,905 | $4,130,326,022 | $4,090,002,920 | $4,032,661,292 | $4,595,491,570 | 9.6% |
| TAXES PAID | $679,989,034 | $741,171,210 | $743,867,940 | $748,213,621 | $842,104,966 | 23.8% |

*Source: Cook County Assessor's Office, Cook County Treasurer, and BOMA Chicago — as of 2016*

*Years reflect pay year for property taxes assessed in previous year.*



## City Comparison: Property Taxes

Chicago ranks fourth in overall property taxes per square foot among comparable cities through December 2016. Compared to the 2012 Economic Impact Study, Washington, D.C. now ranks the highest with $12.50 per square foot, followed by Boston with $9.75 per square foot. Despite dropping down one rank, Chicago property taxes are higher than the average of the comparable cities at $7.50 per square foot. Philadelphia ranks the lowest among comparable cities with $2.25 per square foot.

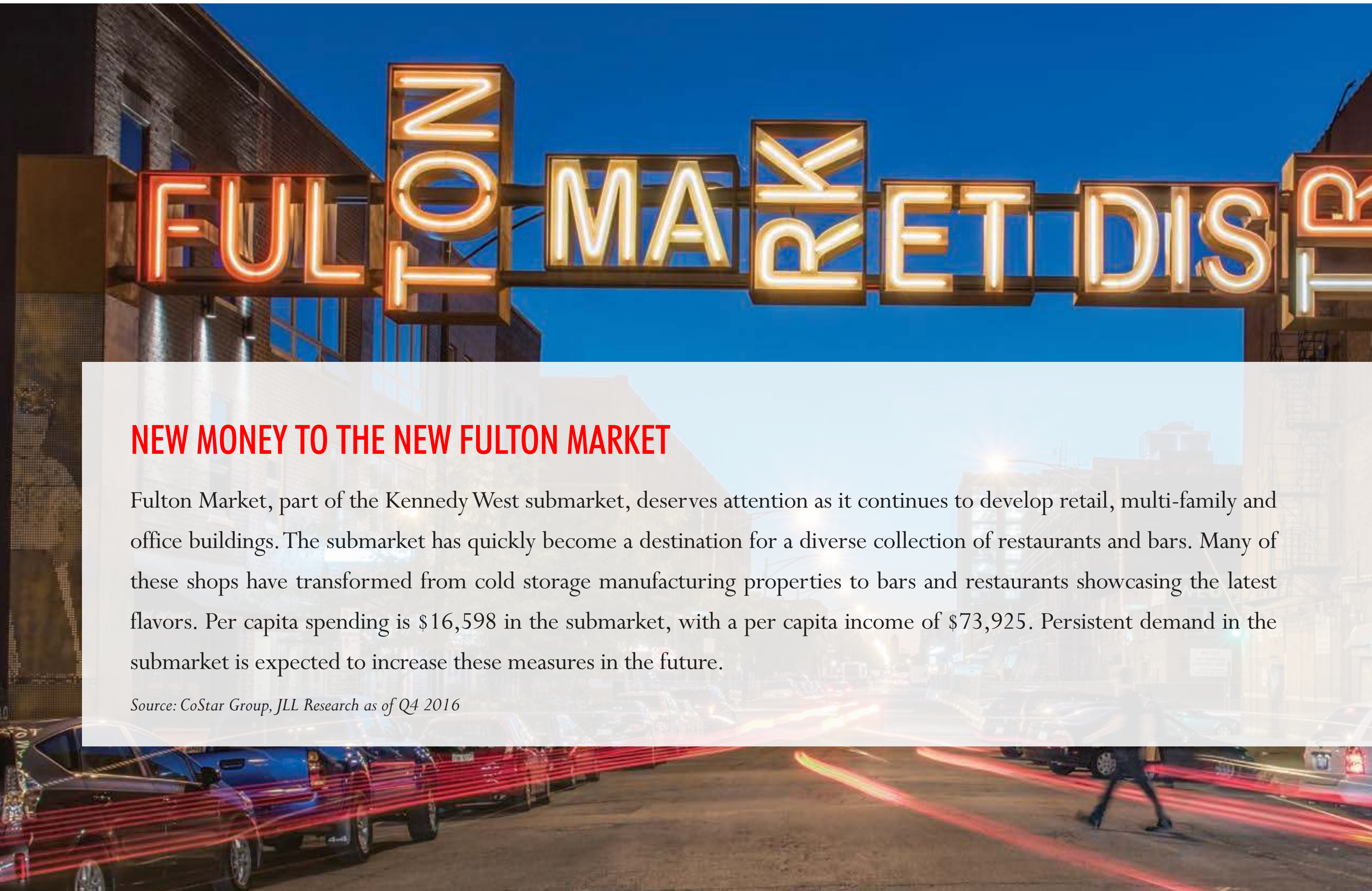
PROPERTY TAXES ACROSS COMPARABLE CITIES

| TAXES ($/S.F.) | OVERALL |
|---|---|
| WASHINGTON, D.C. | $12.50 |
| BOSTON | $9.75 |
| NEW YORK CITY | $9.24 |
| **CHICAGO** | **$7.50** |
| DENVER | $5.63 |
| SAN FRANCISCO | $4.55 |
| LOS ANGELES | $3.50 |
| ATLANTA | $3.00 |
| PHILADELPHIA | $2.25 |

*Source: JLL Research as of Q4 2016, overall Central Business Districts property tax per square foot.*

## SPENDING TOP DOLLAR ON NORTH MICHIGAN AVENUE

North Michigan Avenue enjoys the highest amount of annual per capita spending among all submarkets with $18,346. This is partly due to the submarket's composition of real estate along Magnificent Mile, one of the country's top shopping destinations. Shoppers enjoy a variety of upscale retailers and restaurants along North Michigan Avenue, ranging from jewelry and furniture to Italian eateries and steakhouses. One driver of spending in the submarket is per capita income, which is $85,761, the highest among all Chicago CBD submarkets.




## NEW MONEY TO THE NEW FULTON MARKET

Fulton Market, part of the Kennedy West submarket, deserves attention as it continues to develop retail, multi-family and office buildings. The submarket has quickly become a destination for a diverse collection of restaurants and bars. Many of these shops have transformed from cold storage manufacturing properties to bars and restaurants showcasing the latest flavors. Per capita spending is $16,598 in the submarket, with a per capita income of $73,925. Persistent demand in the submarket is expected to increase these measures in the future.

*Source: CoStar Group, JLL Research as of Q4 2016*

N MICHIGAN AVE

$18,346

ANNUAL PER CAPITA SPENDING


Fulton Market

$73,925

ANNUAL PER CAPITA INCOME

# SPENDING IMPACTS ON THE ECONOMY

## Building Expenditures Inject $4.6 Billion Into Economy

According to BOMA International, Chicago office buildings spent nearly $2.2 billion in operating expenditures in 2015, injecting $4.6 billion into the local economy, an increase of 31.3 percent from 2012. Additionally, new personal earnings – labor income generated as a result of both the jobs supported directly by this spending and the jobs supported indirectly by the re-spending of these dollars for consumer goods and services – reached nearly $1.4 billion, representing a 33.4 percent increase from 2012.

### CHICAGO OFFICE MARKET OPERATIONAL EXPENDITURES: THE ECONOMIC IMPACT

**$4.6B**
CONTRIBUTION TO THE ECONOMY

**$1.4B**
NEW PERSONAL EARNINGS

*Source: BOMA International "Where America Goes to Work: The Contributions of Office Building Operations to the Economy, 2016"*

## Consumer Spending Reaches Nearly $8 Billion

Every day, employees of businesses in BOMA/Chicago buildings are contributing to the local economy through direct spending at area retailers, restaurants and more, further evidence that BOMA/Chicago's buildings serve as the economic lifeblood of the city's buzzing CBD. When examining total consumer spending in 2016 across the Chicago CBD and O'Hare submarkets as shown in the chart below, annual aggregate total spending reached nearly $8 billion, with 81.2 percent of consumer spending attributed to the Loop.

For methodology on how to determine annual per capita spending as well as annual aggregate total spending for 2016 across O'Hare and Chicago CBD submarkets, see page 45 in the Appendix.

### CONSUMER SPENDING ACROSS CHICAGO CBD SUBMARKETS AND O'HARE

| SUBMARKET | ANNUAL PER CAPITA SPENDING | PER CAPITA INCOME | ANNUAL AGGREGATE TOTAL SPENDING |
|---|---|---|---|
| [redacted] | | | |
| EAST LOOP | $17,881 | $84,654 | $1,334,548,435 |
| [redacted] | | | |
| NORTH MICHIGAN AVENUE | $18,346 | $85,761 | $654,585,280 |
| [redacted] | | | |
| RIVER NORTH | $17,918 | $82,719 | $667,714,270 |
| [redacted] | | | |
| WEST LOOP | $17,106 | $79,766 | $2,826,673,381 |
| AGGREGATE SPENDING | | | $7,946,467,093 |

*Source: CoStar Group, JLL Research as of Q4 2016*
*[1] Kennedy West includes Fulton Market, River West, Far West Loop*

# WORKFORCE DYNAMICS: WAGES AND COST OF LIVING

Minimum wages and cost of living are just some of the key economic indicators that can impact Chicago's ability to compete. In examining these, it's important to consider how Chicago compares to other peer cities as we continue to compete for tenants, talent and more.

## Minimum Wages

This study examines the minimum wages for Chicago and the peer cities, including Atlanta, Boston, Denver, Los Angeles, New York City, Philadelphia, San Francisco and Washington, D.C.

Six of the nine cities currently have minimum wages that are set to increase before 2020, four of which will reach $15.00 per hour. These four cities are Los Angeles, New York City, San Francisco and Washington, D.C. Following public demand for higher wages, these cities plan on incrementally increasing the minimum wage to let businesses adapt.

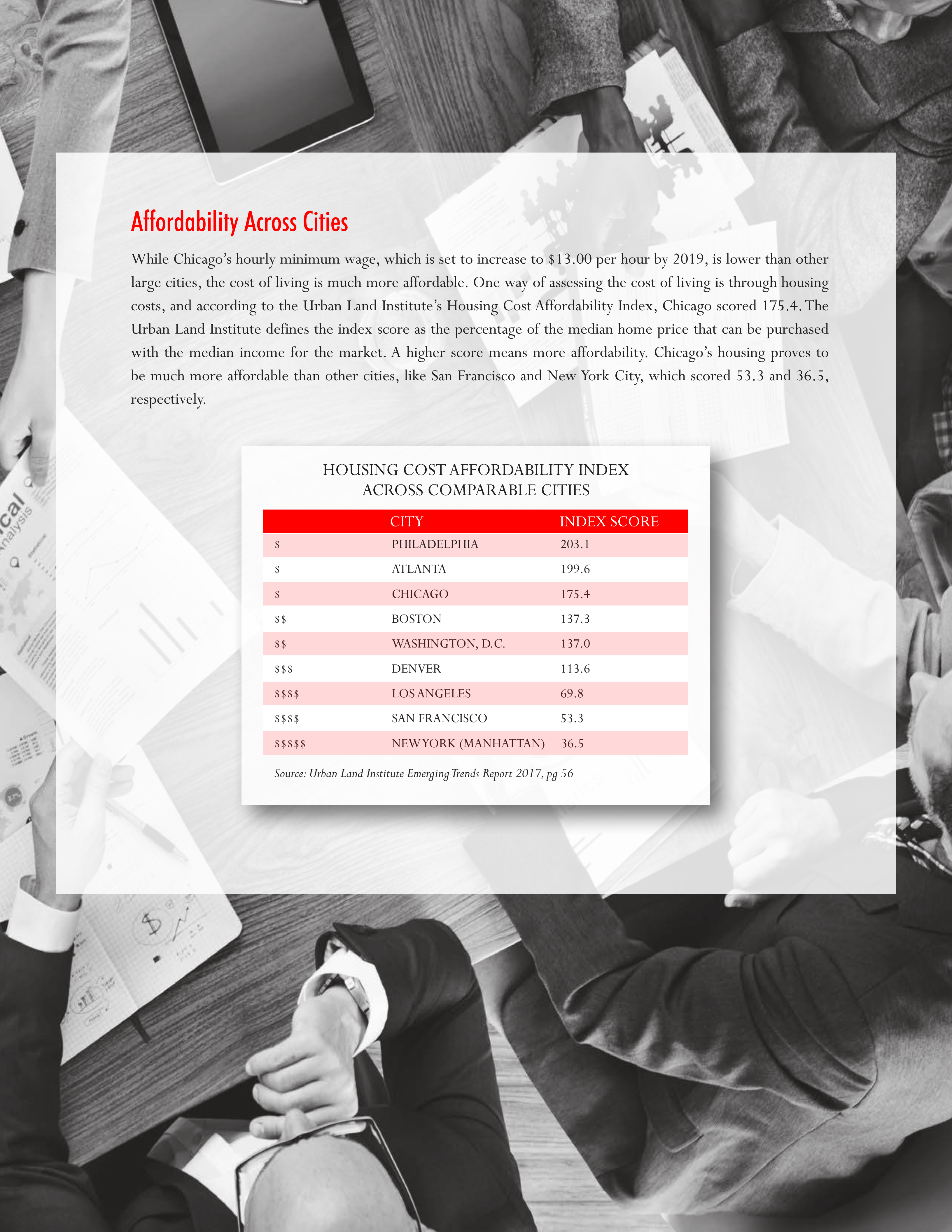
While some cities only plan on increasing the minimum wage by 2020, Chicago will join a select few cities that will continue to grow their minimum wage based on the Consumer Price Index (CPI), including Los Angeles (starting in 2022), San Francisco and Washington, D.C.

MINIMUM WAGE BY YEAR ACROSS COMPARABLE CITIES

| CITY | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 |
|---|---|---|---|---|---|---|
| ATLANTA | $7.25 | - | - | - | - | - |
| [redacted] | | | | | | |
| CHICAGO[2] | $10.50 | $11.00 | $12.00 | $13.00 | CPI | CPI |
| [redacted] | | | | | | |
| LOS ANGELES (employers with 26 or more employees) | $10.50 | $12.00 | $13.25 | $14.25 | $15.00 | $15.00 |
| [redacted] | | | | | | |
| NEW YORK CITY (employers with 11+ employees) | $11.00 | $13.00 | $15.00 | - | - | - |
| [redacted] | | | | | | |
| PHILADELPHIA[4] | $7.25 | - | - | - | - | - |
| [redacted] | | | | | | |
| WASHINGTON, D.C.[5] | $11.50 | $12.50 | $13.25 | $14.00 | $15.00 | CPI |

[1]Boston minimum wage for service employees is $3.35 if the employee receives $20+ per month in tips
[2]Chicago minimum wage will increase with CPI in 2020. Tipped employees currently earn $5.95 and will increase with CPI from 2017 to 2020
[3]Denver tipped employees wage is $5.29
[4]Philadelphia city employees receive $10.15 per hour
[5]After reaching year of maximum increase, minimum wage in San Francisco and Washington, D.C. will increase annually with CPI

*Sources:*
*City and County of San Francisco Office of Labor Standards Enforcement (2016). Minimum Wage Ordinance. Retrieved from http://sfgov.org/olse/minimum-wage-ordinance-mwo*
*Davis, A. (June 2016). D.C. gives final approval to $15 minimum wage. Retrieved from https://www.washingtonpost.com/local/dc-politics/dc-gives-final-approval-to-15-minimum-wage/2016/06/21/920ae156-372f-11e6-8f7c-d4c723a2becb_story.html*
*New York State Department of Labor (2016). Minimum wage. Retrieved from http://www.labor.state.ny.us/workerprotection/laborstandards/workprot/minwage.shtm*
*City of Chicago (2016). Minimum wage ordinance. Retrieved from https://www.cityofchicago.org/city/en/depts/mayor/supp_info/minimum-wage.html*
*Massachusetts Labor and Workforce Development (2016). Minimum wage program. Retrieved from http://www.mass.gov/lwd/labor-standards/minimum-wage/*
*Los Angeles Office of Wage Standards (2016). Raise the wage. Retrieved from http://wagesla.lacity.org/*



## Affordability Across Cities

While Chicago's hourly minimum wage, which is set to increase to $13.00 per hour by 2019, is lower than other large cities, the cost of living is much more affordable. One way of assessing the cost of living is through housing costs, and according to the Urban Land Institute's Housing Cost Affordability Index, Chicago scored 175.4. The Urban Land Institute defines the index score as the percentage of the median home price that can be purchased with the median income for the market. A higher score means more affordability. Chicago's housing proves to be much more affordable than other cities, like San Francisco and New York City, which scored 53.3 and 36.5, respectively.

HOUSING COST AFFORDABILITY INDEX
ACROSS COMPARABLE CITIES

| | CITY | INDEX SCORE |
|---|---|---|
| $ | PHILADELPHIA | 203.1 |
| $ | ATLANTA | 199.6 |
| $ | CHICAGO | 175.4 |
| $$ | BOSTON | 137.3 |
| $$ | WASHINGTON, D.C. | 137.0 |
| $$$ | DENVER | 113.6 |
| $$$$ | LOS ANGELES | 69.8 |
| $$$$ | SAN FRANCISCO | 53.3 |
| $$$$$ | NEW YORK (MANHATTAN) | 36.5 |

*Source: Urban Land Institute Emerging Trends Report 2017, pg 56*

## BOMA/CHICAGO BUILDINGS SUPPORT:

**12,733**
TOTAL BUSINESSES

**412,639**
TOTAL OFFICE EMPLOYEES

# WORKFORCE DYNAMICS: EMPLOYMENT TRENDS

Another key way to measure the impact of BOMA/Chicago member buildings on Chicago's local economy is to examine the number of workers housed in those buildings. For methodology, reference page 45 in the Appendix.

## Estimated Number of Employees in BOMA/Chicago Buildings

Overall, the number of estimated office workers in BOMA/Chicago buildings compared to the 2012 Economic Impact Study went from 353,513 to 412,639. This can largely be attributed to growth in the Information and Professional and Business Services sectors. Assuming zero vacancy, the estimate is 461,288 office workers. For methodology used to determine estimated number of employees, refer to page 45 in the Appendix.

### Core CBD Submarkets Lead the Way in Employee Numbers

It is no surprise that Central Loop and West Loop lead the CBD submarkets in estimated employee count. Housing large employers such as financial services and law firms, the two submarkets collectively support 267,925 estimated office workers.

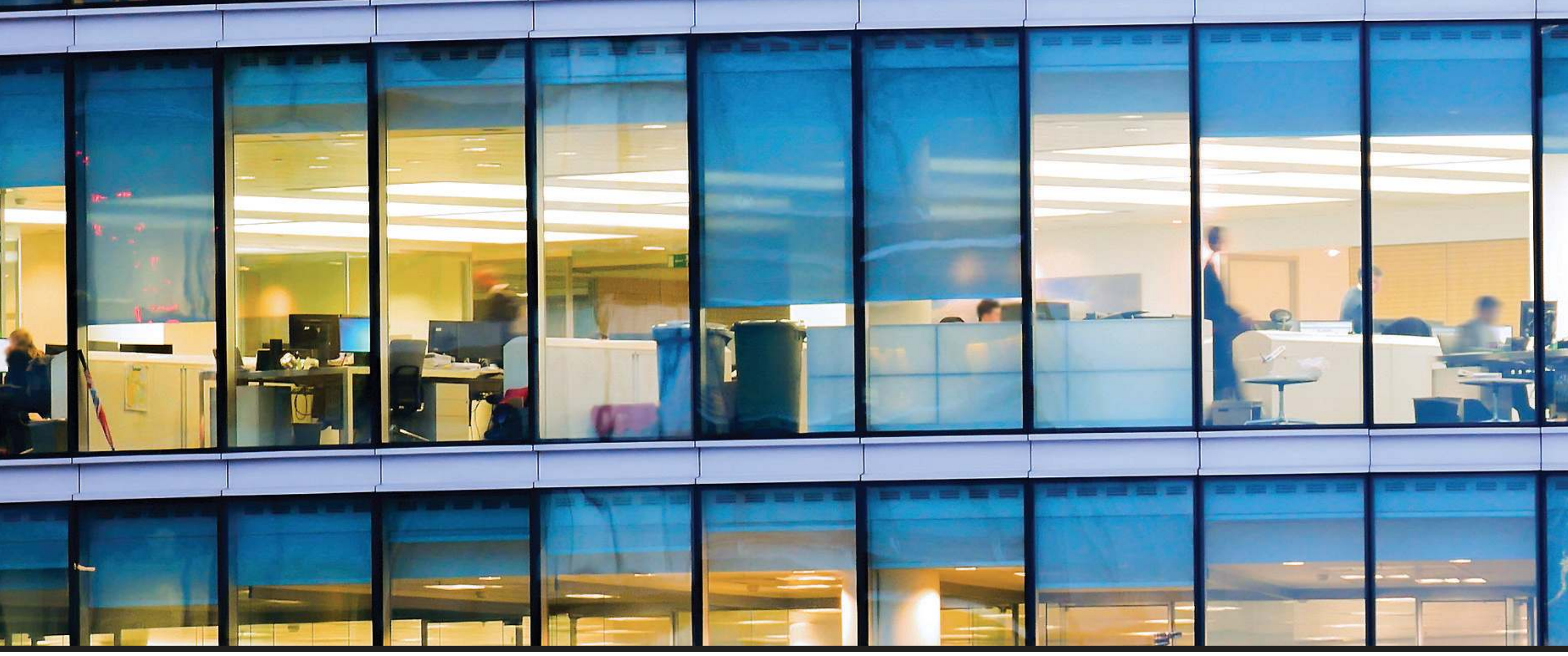
TENANT EMPLOYEES IN BOMA/CHICAGO BUILDINGS BY SUBMARKET

| SUBMARKET | ACCOUNTED NUMBER OF OFFICE WORKERS | ESTIMATE OF OFFICE WORKERS[1] |
|---|---|---|
| CENTRAL LOOP | 60,661 | 120,362 |
| EAST LOOP | 50,040 | 65,753 |
| KENNEDY WEST[2] | 182 | 2,148 |
| NORTH MICHIGAN AVENUE | 16,962 | 31,577 |
| O'HARE | 4,065 | 10,057 |
| RIVER NORTH | 12,169 | 35,178 |
| SOUTH LOOP[3] | - | - |
| WEST LOOP | 111,434 | 147,563 |
| **TOTAL** | **255,513** | **412,639** |

*Source: CoStar Group as of Q4 2016*
[1]Estimate based on calculations of 275 square feet per employee and total rentable building area (RBA)
[2]Kennedy West includes River West, Fulton Market and Far West Loop submarkets
[3]South Loop is predominately comprised of students and residents

### Tech Growth Key Driver in River North, Kennedy West

Tech continues to be a key driver for growth in River North with an estimated 35,178 office workers. Much of the office product in River North consists of creative lofts and older buildings. Kennedy West, which includes the Fulton Market submarket, has also benefited from the industry. Google moved into 1000 West Fulton, a converted cold-storage building of 530,000 square feet. McDonald's will also contribute to future office worker growth as it moves its headquarters to the former Harpo Studios site.



## Office Workers in BOMA/Chicago Buildings

In order to understand employment trends in the Chicago CBD, it is vital to examine employment by industry in each submarket. For methodology used to determine the accounted number of employees by industry, refer to page 45 in the Appendix.

The largest number of employees in BOMA/Chicago buildings work in law firms (24.1 percent), and financial institutions (15.6 percent), followed by business services (14.1 percent). While all three of these industries have increased their share of total employees, law firms saw the largest increase since the 2012 Economic Impact Study. West Loop (57.9 percent) and Central Loop (29 percent) account for the highest concentrations of law firm employees. West Loop (42.3 percent) and East Loop (20.9 percent) account for the highest concentrations of business services employees, followed by Central Loop (17.9 percent). East Loop has the highest concentration of engineers and architects, with 4,808 employees, in addition to housing 4,927 government employees, more than any other submarket. River North (48.6 percent) and East Loop (21.8 percent) account for the highest concentrations of communications employees.

While the accounted workers in the Kennedy West area only cites manufacturing jobs, Google occupies space in 1K Fulton, a BOMA/Chicago building, with nearly 650 employees according to *Crain's Chicago Business*. These 650 workers are spread across multiple business units, including business services, accountants, computer and data processing, among others.

ACCOUNTED NUMBER OF EMPLOYEES BY INDUSTRY (CONTINUED ON PAGE 41)

| | ACCOUNTANTS | AGRI/ MINING/ UTILITIES | BUSINESS SERVICES | COMMUNICATIONS | COMPUTERS/ DATA PROCESSING | ENGINEERS/ ARCHITECTS | FINANCIAL INSTITUTIONS |
|---|---|---|---|---|---|---|---|
| CENTRAL LOOP | 3,030 | 71 | 6,454 | 590 | 1,760 | 1,263 | 13,833 |
| EAST LOOP | 1,828 | 590 | 7,530 | 1,565 | 1,997 | 4,808 | 2,894 |
| N. MICHIGAN AVE. | 360 | 2 | 3,612 | 1,166 | 462 | 423 | 983 |
| O'HARE | 10 | 28 | 690 | 211 | 49 | 185 | 313 |
| KENNEDY WEST[1] | - | - | - | - | - | - | - |
| RIVER NORTH | 2 | 90 | 2,514 | 3,488 | 1,173 | 138 | 922 |
| SOUTH LOOP[2] | - | - | - | - | - | - | - |
| WEST LOOP | 2,337 | 426 | 15,274 | 161 | 4,731 | 2,188 | 21,008 |
| GRAND TOTAL | 7,567 | 1,207 | 36,074 | 7,181 | 10,172 | 9,005 | 39,953 |

*Source: CoStar Group as of Q4 2016; [1]Kennedy West includes River West, Fulton Market, and Far West Loop submarkets; [2]South Loop is predominately comprised of students and residents.*

## Direct and Indirect Jobs Generated by Chicago Office Buildings

In addition to supporting over 12,000 businesses and more than 412,000 of their employees throughout Chicago, it's also important to note the jobs that are generated – both direct and indirect (including suppliers and vendors) – by office buildings across the Chicago market. According to BOMA International's 2016 "Where America Goes to Work: The Contributions of Office Building Operations to the Economy" report, Chicago office buildings generate 34,135 direct and indirect jobs.

## Union Employees in BOMA/Chicago Buildings

BOMA/Chicago has a long and productive relationship with local labor unions, particularly Service Employees International Union (SEIU) Local 1 and International Union of Operating Engineers (IUOE) Local 399. These labor unions represent janitorial, engineering and security personnel in BOMA/Chicago buildings. BOMA/Chicago holds the distinction of being the only local BOMA association to negotiate directly with unions as the collective bargaining agent for our members, and this process has ensured mutually beneficial wage, benefits and compensation packages for employees.

One hundred ninety-one (81.3 percent) BOMA/Chicago buildings are signatory to at least one of the three labor agreements negotiated by BOMA/Chicago on behalf of its members, with 168 (71.5 percent) buildings signatory to the janitorial contract, 157 (66.8 percent) buildings signatory to the building engineer contract and 131 (55.7 percent) signatory to the security contract. Additionally, BOMA/Chicago member buildings report the total number of employees under labor contracts is 4,712. See methodology on page 45.

ACCOUNTED NUMBER OF EMPLOYEES BY INDUSTRY (CONTINUED FROM PAGE 40)

| | GOVERN-MENT | INSURANCE | LAW FIRMS | MANUFAC-TURING | MEDICAL | PERSONAL SERVICES | REAL ESTATE | RETAILERS/ WHOLESALERS | TRANSPOR-TATION | GRAND TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|
| CENTRAL LOOP | 1,704 | 816 | 17,847 | 4,485 | 74 | 3,191 | 4,330 | 1,028 | 175 | 60,661 |
| EAST LOOP | 4,927 | 3,353 | 3,875 | 614 | 670 | 7,348 | 7,292 | 732 | 17 | 50,040 |
| N. MICHIGAN AVE. | 359 | 9 | 2,375 | 766 | 287 | 3,126 | 1,845 | 1,145 | 0 | 16,962 |
| O'HARE | 0 | 142 | 63 | 576 | 164 | 1,038 | 158 | 390 | 48 | 4,065 |
| KENNEDY WEST[1] | - | - | - | 182 | - | - | - | - | - | 182 |
| RIVER NORTH | 0 | 172 | 1,693 | 789 | 85 | 171 | 846 | 79 | 7 | 12,169 |
| SOUTH LOOP[2] | - | - | - | - | - | - | - | - | - | - |
| WEST LOOP | 784 | 6,121 | 35,606 | 5,943 | 417 | 9,351 | 2,048 | 3,852 | 1,136 | 111,434 |
| GRAND TOTAL | 7,774 | 10,613 | 61,459 | 13,355 | 1,697 | 24,225 | 16,519 | 7,226 | 1,383 | 255,513 |

*Source: CoStar Group as of Q4 2016; [1]Kennedy West includes River West, Fulton Market, and Far West Loop submarkets; [2]South Loop is predominately comprised of students and residents.*

# CHICAGO, A NATIONAL LEADER IN SUSTAINABILITY

BOMA/Chicago's members have a strong track record of being dedicated stewards of the environment. This has been driven by ongoing education, best practice sharing and investments in energy efficiency programs and technologies. This commitment is further evidenced by strong participation in well regarded benchmarking programs such as the Environmental Protection Agency (EPA) Energy Star ratings and the U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED) certifications.

According to CBRE's 2017 National Green Building Adoption Index which ranks green office buildings across the U.S. in 2016, the Chicago market led the nation in the percentage of green building stock – total square footage of buildings with Energy Star or LEED certifications. Chicago increased its percentage of green stock by 6.5 percent from 2015 for a year-end total of 66 percent.

GREEN BUILDINGS (LEED OR ENERGY STAR CERTIFICATIONS)
ACROSS COMPARABLE CITIES

| CITY | % SQ. FT. OF BUILDINGS | % OF BUILDINGS |
|---|---|---|
| CHICAGO | 66.0 | 20.2 |
| SAN FRANCISCO | 61.8 | 20.2 |
| ATLANTA | 55.1 | 26.3 |
| LOS ANGELES | 49.4 | 17.8 |
| DENVER | 41.9 | 13.3 |
| WASHINGTON, D.C. | 41.7 | 15.8 |
| NEW YORK (MANHATTAN) | 39.4 | 28.6 |
| PHILADELPHIA | 37.9 | 13.4 |
| BOSTON | 34.1 | 10.8 |

*Source: CBRE 2017 National Green Building Adoption Index, Q4, 2016*

LEED CERTIFIED BUILDINGS
ACROSS COMPARABLE CITIES

| CITY | % SQ. FT. OF BUILDINGS | % OF BUILDINGS |
|---|---|---|
| CHICAGO | 37.0 | 6.8 |
| SAN FRANCISCO | 35.2 | 8.4 |
| LOS ANGELES | 23.9 | 6.2 |
| WASHINGTON, D.C. | 21.8 | 7.9 |
| DENVER | 21.5 | 5.0 |
| NEW YORK (MANHATTAN) | 20.2 | 11.4 |
| ATLANTA | 20.0 | 6.6 |
| BOSTON | 15.3 | 3.8 |
| PHILADELPHIA | 7.9 | 2.1 |

*Source: CBRE 2017 National Green Building Adoption Index, Q4, 2016*

ENERGY STAR CERTIFIED BUILDINGS
ACROSS COMPARABLE CITIES

| CITY | % SQ. FT. OF BUILDINGS | % OF BUILDINGS |
|---|---|---|
| **CHICAGO** | **56.4** | **16.3** |
| SAN FRANCISCO | 52.6 | 17.1 |
| ATLANTA | 48.6 | 24.4 |
| DENVER | 39.1 | 11.8 |
| LOS ANGELES | 40 | 14.9 |
| PHILADELPHIA | 35.1 | 12.3 |
| WASHINGTON, D.C. | 34.9 | 13.3 |
| NEW YORK (MANHATTAN) | 32.5 | 24.6 |
| BOSTON | 27.5 | 9.0 |

*Source: CBRE 2017 National Green Building Adoption Index, Q4, 2016*

# APPENDIX – METHODOLOGY

### BOMA/Chicago Building Analysis (Pages 16-17)

BOMA/Chicago square footage and total buildings were reported by BOMA/Chicago member buildings. JLL rentable square footage data was substituted when the difference between JLL square footage data was greater than 10% of BOMA/Chicago dataset.

The two new office developments, 150 North Riverside Drive and 444 West Lake Street (River Point), are excluded from the dataset as they came online in November 2016 and February 2017 respectively and therefore are not part of the analysis in this study.

### BOMA/Chicago Total Building Inventory Chart (Page 16)

This analysis includes total gross square footage and total number of buildings for all BOMA/Chicago member buildings.

### BOMA/Chicago Total Rentable Building Area Chart (Page 16)

This comparative analysis of total rentable building area for the Chicago market and BOMA/Chicago buildings includes rentable retail and office space. The analysis excludes certain specialty buildings that do not have rentable space, including government-owned buildings, entertainment and concert venues, land sites, libraries, schools, museum and multi-family, as well as hotel space in mixed use buildings.

### BOMA/Chicago Total Office Rentable Building Area Chart (Page 17)

This comparative analysis of total office rentable building area for the Chicago CBD and O'Hare markets and BOMA/Chicago buildings excludes the following specialty buildings:

- Buildings that do not have rentable space, including government-owned buildings, entertainment and concert venues, land sites, libraries, schools, museum, multi-family, and hotels
- Data centers and retail buildings where retail is over 60 percent of the rentable space

This method accounts for the BOMA/Chicago buildings data used throughout buildings data used throughout the study for analysis and comparison purposes with the Chicago office market.

### Specialty Buildings (Page 17)

Specialty buildings are highly specialized buildings that lack comparable characteristics with BOMA/Chicago office buildings, resulting in an inability to draw comparisons with the Chicago market. There are 37 specialty buildings accounting for 17.5 million square feet, and the chart on page 48 illustrates the different types of BOMA/Chicago specialty buildings. Specialty buildings include government-owned buildings, entertainment and concert venues, land sites, libraries, schools, museums, multi-family, and hotels, in addition to data centers and retail buildings where retail is over 60 percent of the rentable space.

### Professional and Business Services (Page 18)

To enable comparisons between the current study and the 2012 Economic Impact study, classification categories used in the 2012 Economic Impact Study were combined where possible to present some of the same categories for the current study. Professional & business service firms were combined in the current study whereas in the 2012 Economic Impact Study they were referred to separately in the categories of personal services and business services.

### Average Direct Gross Asking Rents Across Comparable Cities (Page 19)

JLL Research provided data for gross asking rents by Class A and Class B buildings, in addition to overall average direct gross asking rents for properties located in the CBD of select cities. This data includes commercial office buildings reporting 2016 gross asking rents.

### Total Vacancy Across Comparable Cities (Page 19)

JLL Research provided data for total vacancy by Class A and Class B buildings, in addition to overall average vacancy for properties located in the CBD of select cities. This data includes commercial office buildings reporting 2016 vacancy rates.

### Fortune 500 Companies (Page 22)

Based on World Business Chicago 2016 Fortune 500 list from Fortune magazine, and their headquarter locations were compared to BOMA/Chicago building locations. Kraft Heinz was added to the list as it moved its headquarters to Chicago in 2016.

### Privately Held and Publicly Traded Companies (Page 22)

2016 lists from *Crain's Chicago Business* and CNN of Chicago-based privately held and publicly traded companies were combined and sorted based on revenues. The top 125 companies with highest revenues were used, and their headquarter locations were compared with BOMA/Chicago building locations.

### Average Operating Expense by Building Class (Page 28)

JLL Research provided data for average operating expenses by building class for properties located in Chicago. This data includes 428 commercial office buildings across the Chicago market reporting 2016 grossed up operating expenses.

### Operating Expenses Across Comparable Cities (Page 29)

JLL Research provided data for average operating expenses by building class for properties located in the CBD of select cities. This data includes commercial office buildings reporting 2016 operating expenses.

### Percentage of Property Taxes Paid by Commercial Buildings and BOMA/Chicago Buildings (Page 30)

Property tax statistics were derived from data provided by the Cook County Clerk and Cook County Treasurer. Office building percentage is based on the BOMA/Chicago Tax Index.

### BOMA/Chicago Tax Index (Page 31-32)

In order to determine the relative property tax burden on its member buildings, BOMA/Chicago has completed a detailed analysis of the tax and assessment trends over the past four years. Studying a population of 190 BOMA/Chicago member buildings in the Chicago Central Business District, a composite index was created and analyzed. The buildings in the composite index were selected for their taxable status, information availability, completeness of assessments and minimal changes in building use. For clarification, some buildings are no longer BOMA/Chicago members and newer members may not be included in the latest index.

The assessed value information was obtained from the Cook County Assessor and County Board of Review. Tax information, including taxation rates and equalization factors, was obtained from the Cook County Clerk.

### Property Tax Increase (Page 32)

The expected property tax increase is based on the multi-year levy increases passed in 2015, which consisted of a 2015 supplemental levy and additional increases for 2016, 2017 and 2018 totaling $543m over 2015 baseline. (Or $5.24B in total levy). Sources include Chicago City Ordinances O2015-7393 (2015 Supplemental Levy), O2015-7395 (2016 Levy), O2015-7396 (2017 Levy), and Ordinance O2015-7398 (2018 Levy). All passed the City Council on 10/28/2015 and were signed by the Mayor on 11/2/2015.

### Consumer Spending (Page 35)

Data was taken from CoStar Group to determine annual per capita spending in each Chicago CBD submarket, as well as annual aggregate total spending for 2016. In order to provide a complete picture of consumer spending, per capita income was also collected from ESRI BAO.

### Estimated Number of Employees in BOMA/Chicago Buildings (Page 39)

Based on a review of an "Accounted Number of Office Workers" database search of BOMA/Chicago buildings in Costar, there are, at minimum 255,513 workers accounted for in the database. The "Estimate of Office Workers" calculates the occupied rentable building and the square feet to employee ratio (275 square feet). The occupied rentable building area is calculated by taking the current overall submarket vacancy rate and multiplying it by the total rentable building area by submarket.

### Office Workers by Submarket and Industry in BOMA/Chicago Buildings (Page 40-41)

Based on a review of "Accounted Number of Office Workers," a tenant database search of BOMA/Chicago buildings in Costar provides workers by submarket and industry type as reflected in the analysis. This analysis is based on the "accounted number of office workers," which is 255,513. From there, the CoStar given accounted number of employees was applied by submarket and by industry.

### Signatory Buildings and Union Employees in BOMA/Chicago Buildings (Page 41)

Signatory status and union employee counts were provided to BOMA/Chicago by member buildings.

# APPENDIX – REFERENCE CHARTS

## LARGEST U.S. METROS BY TOTAL OFFICE INVENTORY AND POPULATION

| CITY | TOTAL OFFICE INVENTORY (SQUARE FEET) | METROPOLITAN STATISTICAL AREA POPULATION (2015) |
|---|---:|---:|
| NEW YORK CITY | 449,872,906 | 20,182,305 |
| **CHICAGO** | **243,707,777** | **9,551,031** |
| LOS ANGELES | 189,189,812 | 13,340,068 |
| WASHINGTON D.C. | 179,547,932 | 6,097,684 |
| BOSTON | 166,905,911 | 4,774,321 |
| ATLANTA | 133,487,744 | 5,710,795 |
| PHILADELPHIA | 131,434,102 | 6,069,875 |
| DENVER | 108,329,487 | 2,814,330 |
| SAN FRANCISCO | 76,335,189 | 4,656,132 |

*Source: JLL Research*

## BOMA/CHICAGO SPECIALTY BUILDING INVENTORY

| BOMA/CHICAGO SPECIALTY | NUMBER OF BUILDINGS |
|---|---:|
| DATA CENTERS | 3 |
| GOVERNMENT-OWNED BUILDINGS | 7 |
| LAND SITE | 1 |
| LIBRARY | 1 |
| MEDICAL OFFICE | 4 |
| MULTIFAMILY | 1 |
| MUSEUM | 1 |
| MUSIC VENUE | 1 |
| PUBLIC & PRIVATE UNIVERSITIES | 10 |
| RETAIL BUILDINGS & HOTELS | 8 |
| OTHER (NAVY PIER) | 1 |

*Source: JLL Research and BOMA/Chicago*

## TROPHY BUILDINGS

| BUILDING |
|---|
| 1 SOUTH DEARBORN |
| 1 NORTH WACKER |
| 191 NORTH WACKER |
| 155 NORTH WACKER |
| 111 SOUTH WACKER |
| 71 SOUTH WACKER |
| 300 NORTH LASALLE |
| 353 NORTH CLARK |
| 131 SOUTH DEARBORN |
| 300 EAST RANDOLPH |
| 444 WEST LAKE STREET[1] |
| 150 NORTH RIVERSIDE[1] |

*[1]These new buildings were excluded from this report as they came online in November 2016 and February 2017, respectively; Source: JLL Research*

## COMPARABLE HIGH-TECH CITIES TO CHICAGO

| | CITYWIDE OFFICE RENT AVERAGE PSF | CITYWIDE VACANCY RATE | AVG. 1-BDRM RENT | AVG. TECH WAGES |
|---|---:|---:|---:|---:|
| CHICAGO | $37.55 | 10.4% | $1,970 | $95,767 |
| SAN FRANCISCO | $72.04 | 8.2% | $3,490 | $175,557 |
| SILICON VALLEY | $49.04 | 12.8% | $2,570 | $211,906 |

*Source: JLL Research, Yardi Matrix, and Bureau of Labor Statistics, market statistics are of Q4 2016.*

# APPENDIX – GLOSSARY

**Average Asking Rent –** Quoted at a gross price exclusive of tenant electricity based on a weighted average of available space

**BTS (build to suit)** – A method of leasing property whereby the landlord builds a new building in accordance with a tenant's specifications

**Chicago Central Business District (CBD)** – The Chicago CBD office market is comprised of over 143.9 million square feet across nine submarkets including the Central Loop, West Loop, East Loop, South Loop, Far West Loop, River West, Fulton Market, River North, and North Michigan Avenue

**Central Business District (CBD)** – The main business or commercial area of a town or city

**GDP (gross domestic product)** – The total dollar value of all finished goods and services

**Gross Rents** – The quoted rents include tax and operating costs (property taxes, insurance, and maintenance expenses)

**Lease** – A legally binding agreement whereby the owner of real property (i.e. landlord) gives the right of possession to another (i.e. tenant) for a specified period of time (i.e. term) and for a specified consideration (i.e. rent)

**Leased Space** – Existing space under contract, regardless of if it is occupied; also includes subleased space

**Net Absorption** – Net change in occupied space between two dates measured as square footage

**Net Rent** – Quoted rents do not include tax or operating costs (property taxes, insurance, and maintenance expenses

**Occupied Space** – Total supply minus available space

**Operating Expenses** – The actual costs associated with operating a property, including maintenance, repairs, management, utilities, taxes, and insurance

**Preleased Space** – Space that has been leased prior to construction completion date or Certificate of Occupancy date

**Real GDP Per Capita** – Dollar adjusted gross domestic product per capita

**Sublease Space** – Leased space that is being actively marketed by the tenant under contract to another party

**Tenant Improvement Allowance (TI)** – Improvements to land or buildings to meet the needs of tenants. May be new improvements or remodeling, and may be paid for by the landlord, the tenant, or shared

**Total Supply** – The entire area of an office building comprised of both usable space and an allocated portion of the common area

**Trophy Buildings** – Premier office towers built since 2000, located in desirable locations that are highly efficient. Trophy office buildings are equipped with the newest energy and technology systems creating lower operating costs for owners and tenants

**Vacant Space** – Direct existing space being actively marketed for immediate occupancy as of the survey date, not including sublease space

**Building Definitions by Class**

***Class A:*** Most prestigious buildings competing for premier office users with rents above average for the area. Buildings have high quality standard finishes, state of the art systems, exceptional accessibility and a definite market presence.

***Class B:*** Buildings competing for a wide range of users with rents in the average range for the area. Building finishes are fair to good for the area. Building finishes are fair to good for the area and systems are adequate, but the building does not compete with Class A at the same price.

***Class C:*** Buildings competing for tenants requiring functional space at rents below the average for the area.

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For more information:

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