



Raleigh, N.C.

Transcendent metros

Transcendent metros tackle office market headwinds

by Stewart Rubin

Space utilization densification, technological advances and demographic changes are creating headwinds in the path of office space demand. Certain metro areas, however, have advantages that may transcend those challenges.

The number of office-using jobs are growing at a faster rate than the average for all jobs and, as a corollary, office-using jobs is a growing share of all jobs. This trend is not evenly distributed and is most pronounced in technology-concentrated markets, low-cost markets and certain major markets.

Office-using jobs have grown almost three times as fast as office inventory growth since 2009. Nevertheless, the level of new construction is near a 20-year low point. The national office occupancy rate has not yet recovered to its pre-global financial crisis level, and certainly not to the levels experienced in 2000. In New York City,

Los Angeles, and Washington, D.C., office vacancy rates are higher than they were 10 years ago.

The mismatch between job growth and space use for office can be explained by a confluence of factors working against office demand, including densification (reducing the space per employee), teleworking and technological advances. Going forward, we expect the slow growth rate in the working-age population nationally and a declining working-age population in certain major, secondary and suburban markets will affect demand for office space. This trend is exacerbated by the decline in the office-using, employable, working-age population caused by the exit of the long-term unemployed from the labor pool and low education-attainment rates in certain population centers.

These demographic and social waves will add to the technological challenges facing office



Austin

demand growth. Perhaps the greatest threat generated by technological advances — the elimination of certain cognitive office jobs — is only beginning to be experienced. Its full manifestation in the coming decades may have a considerable impact on office demand.

Nevertheless, these trends may be transcended in certain markets, including those that (1) are technology-focused, (2) are low-cost, (3) have a concentration of machinery-resistant jobs, (4) have a growing working-age population and (5) have high education-attainment rates. (The term machinery is used as an all-encompassing reference to automation and technological advance that may jeopardize certain jobs — office-using jobs in the context of this article. It was first used in the early 19th century to refer to the mechanization of production processes that resulted in the loss of jobs. Early 19th-century usages included “the machinery question,” referring to whether the introduction of machines would result in massive job losses.)

Office-using jobs as a share of total jobs increased from 21.4 percent in 1995 to 23.6 percent

in 2015. It had been 18.1 percent in 1982. The distribution of this increase is uneven, and certain metros benefitted disproportionately, while others experienced a decline.

Office construction as a share of existing inventory is at its lowest level since 1996. Since 1994, office employment has grown 45 percent, while office stock has grown 34 percent, and since second quarter 2009, office employment has grown 14.2 percent, while office stock has grown 3.5 percent.

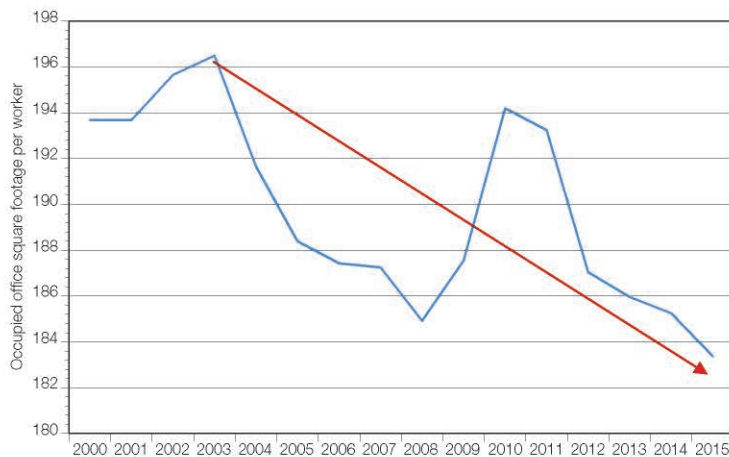
Despite very little new construction over the past 10 years, the vacancy rate for The CoStar Group’s top 54 markets (PPR54) has only declined from its post-global financial crisis high of 13.3 percent to its current level of 10.8 percent, but still has not rebounded to the 6.4 percent experienced in 2000. According to CoStar, Nashville; San Jose; San Francisco; Austin; Pittsburgh; Raleigh, N.C.; Columbus, Ohio; Portland, Ore.; and Denver are among those showing the largest declines in vacancy over the past 10 years.

According to CoStar, space per employee has been declining; 2010 saw 194 square feet per employee, compared with 183 square feet in 2015, a 5.6 percent decline (see “Occupied office square footage per worker,” below left). This follows an overall densification pattern that began in 2004 and was interrupted by the Great Recession. During that economic downturn, significant job losses resulted in a greater amount of office space per employee. Carving out the layoff-driven increase, the longer trend of 2003 to 2015 represents a 6.7 percent decline in space per employee.

Space per employee has declined by 7.7 percent over the past five years, and CoStar forecasts it to decline by an additional 4.8 percent over the next five years. This is not evenly distributed among metro areas. In general, the markets with high growth rates in terms of both rent and jobs have experienced greater densification; densification is being used as a tool to keep costs low in accelerating and presently expensive markets. In its *2016 Workplace Report: TMA by the Numbers*, Ted Moudis Associates (TMA) notes the average space per worker for newly leased space is now 142 square feet and ranges from a high of 220 square feet to a low of 95 square feet.

Demand for office space can be further reduced via a leveraged-seating ratio. According to TMA, most offices could leverage seats at a ratio of 1.3 persons for every one seat and still have enough seats for everyone who physically works in an office on any given day. Some employers may be able to use an even higher ratio. Densification does have limits and may be curbed by elevator, bathroom and parking capacity, particularly in older buildings. In addition, not all work can be

Occupied office square footage per worker (U.S.)



Source: The CoStar Group



Denver

efficiently done in close quarters, and certain types of cognitive effort require more privacy and quiet.

Densification of employee workspace is not the only cause of reduced office use, however; digitization of files and cloud computing also are lessening the need for office space. Historically, offices of large insurance companies, law firms, lending institutions and financial services firms used thousands of square feet of office space for the storage of paper files. Now files can be digitized and stored electronically. Files also can be stored and accessed in the cloud. The aforementioned TMA report stated paper-light offices are reducing file drawer space to one for every 1.7 workers.

Telework, as defined by the U.S. Office of Personnel Management, is a work flexibility arrangement under which an employee performs the duties and responsibilities of such employee's position, and other authorized activities, from an approved worksite other than the location from which the employee would otherwise work (e.g., home or telework center). This does not mean they work exclusively from home.

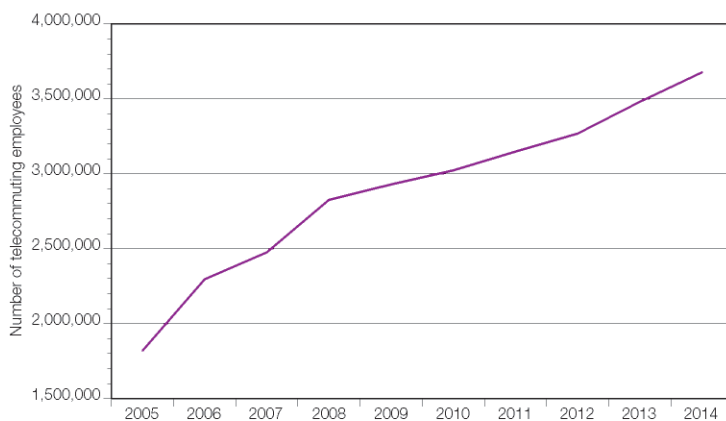
According to Global Workplace Analytics, the number of teleworkers who regularly work at home more than doubled between 2005 and 2014, increasing from 1,819,000 in 2005 to 3,700,000 in 2014, meaning 2.8 percent of the workforce now works from home at least half the time (see "Number of telecommuting employees," below left). Gallup Inc. polls have documented a steady rise in workers who have telecommuted, from 9 percent in 1995 to 32 percent in 2006 to 37 percent in 2015. The 2015 Gallup poll found 55 percent of college-educated respondents had telecommuted, compared with only 26 percent of those who were not college graduates. This has a direct impact on office space demand because college-educated employees are more likely to work in an office environment.

Need for workers may decrease: technological advances and globalization

Technology has been a net job creator, as evidenced by the growth in cognitive jobs and the success of technology-focused metros. Nevertheless, technological advances and globalization have reduced the need for workers in various job sectors in the United States. Technology also has enabled the offshoring of cognitive jobs that would not have been possible in previous generations. The ability to offshore office jobs to India, the Philippines and other lower-cost locations has reduced the need for U.S. office workers.

The Federal Reserve Bank of St. Louis divided certain types of jobs in to four categories: (1) cognitive non-routine, (2) manual non-routine, (3) cognitive routine and (4) manual routine. Cognitive non-routine jobs include management; business and financial operations; computer and mathematical; architecture and engineering; life, physical and social sciences; community and social service occupations; legal; education, training and library; arts; design; entertainment; sports; media; healthcare

Number of telecommuting employees



Source: Global Workplace Analytics



Dallas

practitioners; and technical occupations. These types of jobs have exhibited the most growth over the past 30 years. Cognitive routine jobs include sales and related jobs, as well as office and administrative support occupations (see “Occupation by type,” below).

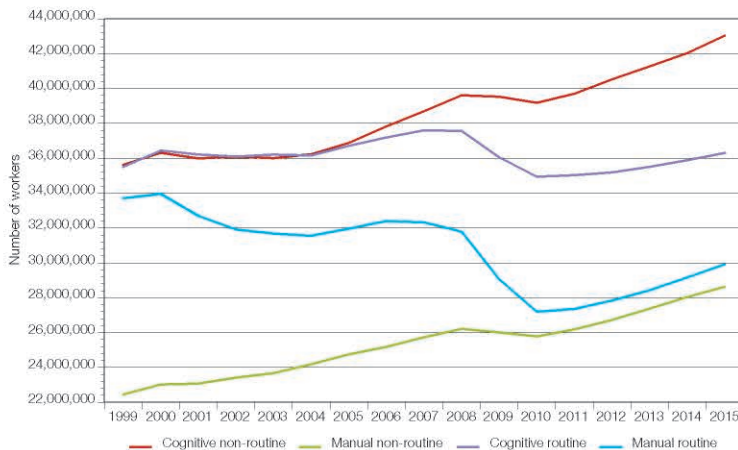
The relevant categories for office space include the cognitive routine and cognitive non-routine categories. Technological advances have had a profound impact on routine cognitive jobs, eliminating roles such as secretarial typing pools. In the eight years ended December 2015, the number of cognitive routine jobs declined by 3.4 percent. The losses in the cognitive routine category have been more than offset by increases in the cognitive non-routine category, which grew 11.2 percent during the same period; however, this may not be the case going forward.

According to a 2013 study by Carl Benedikt Frey and Michael Osborne of Oxford University, about 47 percent of total U.S. employment is at

risk. Although the magnitude of such job losses may be overstated, the direction is clear. This would not be the first time new technology has reduced demand for labor. Indeed, concerns were raised from the very inception of technological innovation. Reconsidering his original view, in the 1821 edition of his *On the Principles of Economy and Taxation*, the economist David Ricardo wrote that the employment of machinery is frequently detrimental to the laboring class. What is new is, it is now affecting jobs that require an advanced degree. Deep neural networks (or “deep learning” systems) are making rapid progress in areas such as speech recognition, image classification and language translation. Law, brokerage, insurance claims and policy processing, bookkeeping, accounting, and auditing clerks, as well as library technicians, tax preparers, insurance underwriters, mathematical technicians, title examiners, abstractors, telemarketers, loan officers, and legal secretaries are exposed to this 21st-century machinery risk. Numerous other cognitive jobs may be affected in the computer, law, insurance, mathematical and finance sectors. As more job functions are automated by artificial intelligence, additional job types will move to cognitive routine from cognitive non-routine and, ultimately, to a fully automated or offshored job category.

Exposure to this type of machinery risk is greatest in certain smaller, low-cost metros, such as Tampa, Orlando and Jacksonville, Fla., and Phoenix, as well as other locations that have attracted back-office jobs and call centers. This risk is lower in metros with a greater share of office-using jobs that are not exposed. The financial services industry technology, or FinTech, for example, which remains concentrated in New York City and Boston, is essential. The technology of automation must be maintained and, therefore, the need for those types of jobs grows as mechanization expands. State capitals also are more secure because of government jobs that are not easily automated. Areas with high advanced-technology-job location quotients and strong education-attainment rates also are more resistant to machinery risk.

Occupation by type



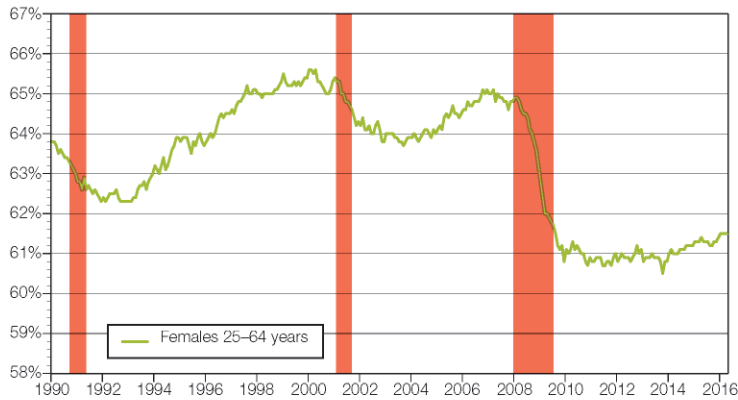
Sources: U.S. Census, Bureau of Labor Statistics, Federal Reserve Bank of St. Louis, New York Life

Fewer workers available

One of the conundrums of the economic recovery is the decline in the number of employed persons. Despite the fact the unemployment rate has declined from 10.0 percent in 2009 to 4.9 percent in 2016, the labor force participation rate has declined from 65.8 percent in 2009 to 62.8 percent in 2016 (compared with 67.3 percent in 2000).

The employment-to-population ratio declined from 64.7 percent in April 2000 to 59.6 percent in 2016. It declined from 65.6 percent in April 2000 to 61.5 percent in 2016 for those aged 25–64. For

Employment-to-population ratio for those aged 25–64 years



Sources: Bureau of Labor Statistics, Deutsche Bank Global Markets Research

the prime working years of ages 25–54, it declined from 81.9 percent in April 2000 to 77.7 percent in 2016 (see “Employment-to-population ratio for those aged 25–64 years,” above).

The growth rate of the working-age U.S. population is expected to slow to nearly a halt. In 2022, the number of working-age adults is projected to decrease, and it is anticipated to be most pronounced in the 45–64 age bracket.

An analysis by the White House Council of Economic Advisers (CEA) in 2014 estimated about half of the decline in labor force participation since 2009 was due to the aging of the U.S. population. Labor force participation rates decline as workers enter their sixth decade of life. The CEA further estimated about 17 percent of the decline was the result of a cyclical decline consistent with historical patterns in previous recessions. The CEA estimated the remaining one-third of the decline was the result of long-term unemployment among a wide range of age groups, including younger people. Some have dropped out of the labor force because their skills have atrophied. It also may be the result of a lack of good-paying jobs or contact with the criminal justice system.

Non-employed workers tend to be those who have been left behind by generational economic changes. Their jobs have been replaced by technology or have gone overseas, and they can no longer find work that pays as well. Although this historically has been applicable to manual workers, it is increasingly applicable to cognitive and office workers. The number of workers on disability has increased significantly over the past 15 years. Although slowing recently, its rise has been a significant contributor to the declining labor force. Recent Federal Reserve research indicates those who left the workforce are not coming back.

The above notwithstanding, the impact on various office markets will be uneven. Established

office markets such as San Francisco, Boston, New York City, Chicago, Los Angeles, Seattle, and Washington, D.C., should continue to be upper-tier. Other markets that outperform will have several of the following characteristics: (1) above-average growth in office-using jobs, (2) office-using jobs growing at a faster rate than office inventory, (3) fast-growing working-age population, (4) above-average education-attainment rate, (5) high tech-job location quotients and/or fast growing number of tech jobs, and (6) lower-cost commercial and residential real estate. Metros that include several of these characteristics are markets that should be on the winning side, despite the negative trends detailed above.

In addition to top-tier metros, two types of office markets are experiencing above-average demand growth: tech hubs and lower-cost office markets. One should not be distracted by the headlines of headquarter transfers because they frequently involve relatively few employees, with the majority of workers located in low-cost cities and suburbs in the United States and abroad.

Transcendent markets

Markets that should outperform their peers and prove more resistant to the headwinds detailed earlier in this article include certain top-tier markets, ascendant lower-cost markets, and technology-focused markets. Other less-educated, low-cost markets should continue to exhibit strength but ultimately may be challenged by machinery risk.

Top-tier markets continue to do well, including San Francisco/San Jose, Boston, New York City, Seattle, and Washington, D.C. These world-class metros have high tech-job location quotients, and are professional, business and/or financial service jobs powerhouses. These are global international cities with a significant corporate headquarters presence, and they should continue to transcend headwinds.

Although Los Angeles exhibits weaker education-attainment rates and office-using jobs, it continues to be a center of the entertainment industry, financial services and a growing technology sector. Of interest, Los Angeles is considered a low-cost alternative to the San Francisco Bay Area for technology companies. Its Orange County suburbs are projected to experience above-average growth in office-using jobs. Chicago traditionally has been the mid-America center of commerce and a financial services hub. It now faces competition on both these fronts from Dallas–Fort Worth but is still the undisputed regional capital of the Midwest. San Diego has one of the top technology-job location quotients at 1.81 and, given its relatively

high education-attainment rates, should continue to be an important office market.

Office-using-job migration patterns have traced a route to metros concentrated in, but not limited to, the South and the intermountain West. These markets are categorized by a growing working-age population, and lower costs associated with commercial and residential real estate, labor and taxes. They generally are situated in states with less regulation. These expanding markets are experiencing self-perpetuating growth, as population increases spawn demand for business and professional services, financial services, government, etc., that in turn attract more migration to fill the additional jobs created. Part of the migration trend is explained by the overall U.S. population shift to the South. Many are in states with no income tax, such as Florida,



Nashville

Tennessee and Texas. In addition, companies have relocated jobs from established high-cost metros, such as Chicago, Los Angeles and New York City. These areas also are more attractive to employees because of lower-cost housing and taxes. A middle manager may earn less in Dallas than in Los Angeles, for example, but have more spending power and a more comfortable lifestyle.

In tandem with other office-using jobs, financial activities jobs are migrating toward ascendant and lower-cost cities. According to NewGeography.com, a joint venture of journalist and author Joel Kotkin and Praxis Strategy Group, the top five growing markets for financial activities jobs since 2010 are: Nashville, up 24.5 percent; Dallas, 23.2 percent; Salt Lake City, 19.9 percent; Phoenix, 19.7 percent; and Charlotte, N.C., 14.2 percent. The top five growing markets for professional and business services employment since 2010 are: Nashville, up 47.2 percent; San Francisco, 45.7 percent; Austin, 42.3 percent; San Jose, 36.4 percent; and Dallas, 28.9 percent.

Not all lower-cost markets are equally strong for the long term. Metros with high and/or growing

education-attainment rates and a technology focus may prove more resilient. This includes markets that have high or growing technology-job location quotients and host the types of jobs that are more resistant to the threat of artificial intelligence and automation. In addition, regional economic capitals and state capitals, especially those that domicile a strong university, are less susceptible to machinery risk. These areas have attracted relatively high-paying professional and business and services jobs. This category includes Dallas–Fort Worth; Atlanta; Denver; Nashville; Austin; Raleigh; Columbus; Salt Lake City/Provo/Ogden, Utah; Charlotte; Minneapolis; and Portland.

Other small-size, low-cost markets generally have lower education rates but are nevertheless growing and attracting office-using jobs. These metros include Phoenix; Louisville, Ky.; San Antonio; Orlando; Tampa; and Jacksonville (other small-size, low-cost markets that have experienced a significant increase in office-using jobs, but have less-positive demographics include Kansas City, Mo.; Indianapolis; and Pittsburgh). These metros are experiencing accelerated working-age population growth and are expected to continue to do so over the next decade. Featuring low-cost commercial and residential real estate, they also benefit from lower taxes and less regulation compared with metros in other regions. These cities are particularly vulnerable, however, to the challenges of artificial intelligence, the second machine age and automation. Many of the back-office jobs in these locations are exposed to offshoring as well. These are low-cost places — but locations in India and the Philippines are even more low cost.

Conclusion

The office sector is facing headwinds in the form of densification, teleworking, technological advances, globalization and a very slow-growing working-age population. Top-tier metros should continue to thrive despite their high costs. Ascendant metros that are technology-focused and lower cost, with a growing, educated working-age population are outperforming, despite the aforementioned national trends. Smaller, lower-cost markets with below-average education-attainment rates and growing working-age populations are attracting office-using jobs but are particularly exposed to machinery risk. ❖

Stewart Rubin is senior director at **New York Life Real Estate Investors**, an investment group within NYL Investors, a wholly owned subsidiary of **New York Life Insurance Co.** This article is an abridged version of a white paper published in 2016. The full paper can be accessed at <https://www.newyorklife.com/content/dam/nyl-cms-dotcom/pdfs/rei/Transcendent-metros-tackle-office-market-headwinds.pdf>
