Beyond the Big Six: Identifying Alternative US Office Markets Based on Long Term Demand Generators

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US office building sale prices are 3.5% above the November 2007 peak of the last cycle (107.6% Percentage Peak-to-Trough Loss Recovered)[1]. Much of the value increase is associated with major market Central Business District (CBD) office space in Boston, Chicago, Los Angeles, New York, San Francisco, and Washington. The Office-CBD Major Market Index is 27.5% above its previous peak (155.9% Percentage Peak-to-Trough Loss Recovered). The six major markets have experienced significant foreign and domestic investment. These markets mostly benefit from long term growth factors including high education attainment levels, high share of residents with Science, Technology, Engineering, and Math (STEM) degrees, significant high-tech location quotients (LQ), lack of exposure to the more volatile energy sector, and high current office employment.

Boston, Chicago, Los Angeles, New York, San Francisco, and Washington are global cities with strong economic engines. However, since these major markets are priced well beyond previous peak levels, alternatives will be identified. The alternative investment markets either have or are acquiring some of the underlying characteristics of the big six markets. Although they may never achieve the depth and status of the big six markets, they have long term value growth potential. Many of these metros are being transformed and will likely be larger and stronger office markets in 15 to 20 years time.

The metros that seem poised for long-term growth based on the criteria detailed in this report are Austin, Raleigh, Denver, Salt Lake City, Nashville, and Charlotte. These markets excel in several long term growth factors that spawn and sustain office demand. These demand factors include the aforementioned education and high-tech emphasis, but also include characteristics that are attractive to corporations and young college graduates such as affordable housing. Other markets such as Seattle, San Diego, Atlanta, Dallas-Ft. Worth, Portland, Minneapolis, and Indianapolis exhibit long term growth attributes in certain categories that suggest consideration after factoring qualitative factors and overall market position. The markets are selected from a long term investment perspective independent of short term supply considerations. Focus is placed on secular change underlying cyclical rhythms.

Major Markets

The major markets of Boston, Chicago, Los Angeles, New York, San Francisco, and Washington, DC are driving high office building values. Aside from the availability of low cost capital, major market CBD office benefitted from foreign investment. US Gateway cities have attracted investors pursuing stable investments and, in addition in the case of foreign capital, the quest for safety. Additionally, Houston had recently been a magnet for investment; however, high energy prices fueled demand, which might quickly evaporate if the recent decline in energy prices persists. Table 1 details the top metro areas for foreign and domestic investment in office buildings.

Table 1
Top 10 Metros Office Total Volume
Past 24 Months YE November 2014

	Domestic		Crossborder		Grand Total	
RCA Metros	Number	Volume (USD)	Number	Volume (USD)	Number	Volume (USD)
NYC Metro	**749**	$39,811,733,259	**39**	$11,816,929,949	**788**	$51,628,663,208
SF Metro	453	$18,650,172,534	39	$2,732,206,413	492	$21,382,378,946
LA Metro	748	$16,303,501,711	21	$4,671,808,195	769	$20,975,309,907
Boston	256	$9,024,311,600	23	$5,579,122,939	279	$14,603,434,539
DC Metro	306	$9,379,640,363	41	$4,253,456,320	347	$13,633,096,683
Chicago	290	$9,421,330,206	29	$2,570,882,914	319	$11,992,213,120
Houston	211	$6,850,336,426	12	$1,231,900,000	223	$8,082,236,426
Dallas	298	$6,136,565,924	19	$719,713,958	317	$6,856,279,882
Atlanta	241	$6,760,495,508	7	$82,930,797	248	$6,843,426,304
Seattle	150	$4,298,176,401	17	$1,120,865,366	167	$5,419,041,766

Market values in major markets have soared despite lagging market fundamentals. With the exception of San Francisco, real office rents in major markets are between 11.1% and 22.0% below their previous peak. Overall, record office building values notwithstanding, underlying real estate fundamentals have not recovered back to peak levels experienced before the last recession. In order to invest prudently it is important to identify long-term secular trends that underlay the broader real estate cycle being experienced.

Factors for Evaluating Long-Term Trends in Metro Areas

College educated people tend to self-sort into metro areas in which there are opportunities. In turn companies locate in places where they can hire educated employees. This circle of opportunity becomes self-perpetuating as jobs are created in these metros. Accordingly, metros with high education attainment rates are favored. We also examined and prioritized markets in which young college educated persons[2] (YCE) live and are relocating to. Similarly markets with a high degree of STEM graduates attract employment growth. Technology jobs have a disproportionate impact on local economies. Markets with tech job growth and high location quotients in tech using office jobs are identified.

The primary manifestation of office demand is office-using jobs (OUJ). Markets in which office-using jobs have grown over the past five years and are projected to grow over the next five years will be highlighted later in this report. Young workers are attracted to metro areas with job opportunities and affordable housing. Metro areas with affordable housing include some of the highest population growth markets in the nation. Markets with high growth in the number of children between the ages of 5 and 14 are noted later in this report. In addition to these children representing future demographic growth, the parents of this age group have usually set down roots at this point[3], establishing a demographic base.

Considered individually, the factors may not establish future demand growth. However, the confluence of several of these attributes point to long-term economic expansion.

Once the markets are identified using the aforementioned criteria, metros that benefit from those factors, but are major markets are not included. Markets with demand generators that include technology and energy are performing better than others. It remains to be seen what effect plummeting oil prices will have on energy dependent sectors. Accordingly, we did not including any energy centric markets on our list[4]. Since there are few barriers to entry in most American metro areas on the supply side, focus is placed on long term sustainable demand.

Educational Attainment

Metro areas with high education attainment levels have experienced much more economic growth than those with significantly below average education rates. This trend will likely continue and reinforce itself as college graduates self-sort to places with other college graduates. This takes the form of a persistent cycle in which "knowledge breeds knowledge"[5]. As the overall American population grew more educated between 1970 and 2010, metro areas became less alike in their rates of college degree attainment[6]. "A 10% increase in the percentage of an area's adult population with a degree in 1980 predicts six percent more income growth between 1980 and 2000"[7]. "Differences in adults' rate of bachelor's degree attainment are associated with nearly three-quarters of the variation in per capita income among metro areas in 2010"[8]. "Metro areas where more than 33% of adults were college-educated had an average unemployment rate of 7.5 percent in early 2012, compared with 10.5 percent for cities where less than 17% of adults had a college degree", according to Edward Glaeser[9]. Aside from serving as a proxy for the overall economic health of a metro area, education attainment rates point to more office-using jobs.

Some of the nation's highest educational attainment levels are in the major market metro areas. The highest is Washington, DC with 46.8% of residents having achieved a Bachelors Degree or higher. The top 10 are rounded out by San Jose 45.3%, Stamford, CT 44%, San Francisco 43.4%, Madison, WI 43.3%, Boston 43.0%, Raleigh 41%, Austin 39.4%, Denver 38.2% and Minneapolis 37.9%[10]. The national metro average is 32%.

Demographic Trends

A young growing population is important, as overall long-term demographic trends are cause for concern for office space demand. Once baby boomers leave the workforce in growing numbers between 2015 and 2030, there will be fewer workers to fill office buildings. Metros with a growing college educated millennial population (born between 1980 and 2000) will have a higher demand for office space.

Population growth alone is not sufficient to fill office buildings. The focus needs to be on college educated population growth. College educated millennials will occupy office buildings well in to 2030 and will not begin retiring until 2045 and beyond. Employers favor locating and expanding operations in metro areas that have a young, highly educated, and growing workforce. Accordingly, we considered which metro areas have an increasing level of educated young people.

The number of YCEs has increased 25.2% from 2000 to 2012 in the 51 largest metro areas[11]. The share of the YCE population with a 4yr degree in 2012 was 37.5% in the 51 largest metro areas. Markets that exceed the top metro average growth of 25.2% between 2000 and 2012 portend future economic growth and demand for office space relative to other markets. Seventeen metro areas experienced growth of 30% or more and have an existing share of YCEs equal to or greater than 30%. This is highlighted in Table 2[12].

Table 2
College Graduates Aged 25 to 34

	Pct. Chg. 2000-2012	25-34 population with 4yr degree/ Total 25-34 population - 2012
Oklahoma City, OK Metro Area	56.8%	31.9%
Salt Lake City, UT Metro Area	50.1%	31.6%
Houston-Sugar Land-Baytown, TX Metro Area	49.8%	29.7%
Nashville-Davidson--Murfreesboro--Franklin, TN Metro Area	47.6%	38.8%
Denver CSA	46.6%	38.9%
Austin-Round Rock-San Marcos, TX Metro Area	44.3%	40.8%
Orlando-Kissimmee-Sanford, FL Metro Area	43.3%	30.7%
San Diego-Carlsbad-San Marcos, CA Metro Area	42.6%	36.0%
Tampa-St. Petersburg-Clearwater, FL Metro Area	40.6%	29.7%
Portland-Vancouver-Hillsboro, OR-WA Metro Area	37.3%	37.1%
Washington-Arlington-Alexandria, DC-VA-MD-WV Metro	36.3%	51.9%
Sacramento--Arden-Arcade--Roseville, CA Metro Area	35.7%	29.5%
Buffalo-Niagara Falls, NY Metro Area	33.5%	42.1%
Baltimore-Towson, MD Metro Area	32.0%	41.8%
Indianapolis-Carmel, IN Metro Area	30.5%	37.4%
Los Angeles-Long Beach-Santa Ana, CA Metro Area	30.4%	34.3%
Charlotte-Gastonia-Rock Hill, NC-SC Metro Area	30.4%	38.7%
top 51 metropolitan areas	25.2%	37.5%

Source: Joe Cortright, City Observatory

This list generally follows a pattern of self sorting in which college educated Americans migrate to metros with economic growth opportunities. This is causing certain metros to diverge significantly from others. Oklahoma City and Houston benefited from a growing energy sector. Greater Salt Lake City benefits from internal population growth, in-migration, and a healthy high-tech sector. Nashville has benefitted from a growing healthcare sector, successful entertainment industry, relatively low cost housing, and no state income tax. Charlotte is a banking center and together with Nashville has developed into a southern alternative to Atlanta with less congestion and more growth. Denver, Austin, and Portland have performed well and have developed urban life that draws young people. San Diego is a long time favorite destination and Indianapolis has done better than average in drawing YCEs to its low cost environment.

Aside from the major and energy sector dependent markets, the list favors Salt Lake City, Nashville, Denver, Austin, Orlando, San Diego, Tampa, Portland and to a lesser extent Sacramento, Baltimore, Buffalo, Indianapolis and Charlotte.

Stem Education and Hi Tech Employment Growth

High-Tech employment growth is directly correlated with the share of residents with a Bachelor's Degree in science, computer science (Technology), engineering, or math (STEM)[13]. Markets with a considerable amount of residents with STEM degrees combined with a high growth rate of high-tech employment should portend solid future growth. The chart below presents markets with a strong pool of residents with a Bachelor's Degree in STEM[14].

Table 3

Metro	Residents w/S, CS, E, M Degree	High Tech Employment Growth 2003-2014
San Jose	20.44%	21.34%
San Francisco	13.73%	60.72%
Washington - NoVA - MD	13.13%	8.27%
Boston	12.34%	17.54%
Nashville	12.03%	48.97%
Raleigh	12.03%	36.88%
Austin	11.80%	24.81%
Seattle	11.66%	35.82%
San Diego	10.66%	13.40%
Orange County	10.64%	3.37%
Denver	10.46%	8.67%
Minneapolis	10.44%	9.46%
Baltimore	10.29%	22.33%
Chicago	10.21%	1.82%
Hartford	9.83%	7.58%
Stamford	9.65%	-11.50%
Houston	9.64%	13.20%
Portland, OR	9.28%	15.40%
Northern New Jersey	9.24%	-21.99%
Atlanta	9.07%	14.07%
Columbus OH	8.92%	15.88%
Indianapolis	8.92%	12.60%
Kansas City	8.89%	0.61%
Milwaukee	8.85%	-2.28%
Philadelphia	8.84%	-0.25%
Dallas - Fort Worth	8.83%	4.88%
Salt Lake City	8.67%	38.51%
Sacramento	8.66%	-4.84%

Source: U.S. Census; CoStar Portfolio Strategy

The above data concerning high-tech employment growth and STEM education mostly favors the metros detailed in the upper half of the charts. San Francisco, Nashville, and Salt Lake City exhibited the strongest growth. With the exception of the major markets, the list favors Nashville, Raleigh, Austin, Seattle, San Diego, Denver, Salt Lake City, Minneapolis, Portland, Indianapolis, and Columbus.

Markets with Tech Job Growth

Technology is not the largest sector of the labor force, but it represents one of the major growth engines of overall employment. Technology jobs constitute 5% of office-using demand in CBDs and 8% in suburban markets, according to data from CoStar Portfolio Strategy; however, they drive demand for other sectors as well. Innovation technology reflects on the overall vibrancy of the market. Consider that for 2014, net office space absorption as a percentage of total inventory excelled in tech heavy markets (San Jose, Seattle, San Francisco, Austin and Raleigh) (1.9% vs 1.1% for non-tech). The net absorption advantage of tech heavy markets was even more substantial for the prior two year period (3.5% vs 1.8% for non-tech) and the prior five year period (7.9% vs 3.3% for non-tech). Enrico Moretti's research indicates that for each new high-tech job in a metropolitan area, five additional local jobs are created[15]. The areas with strong growth rates, mostly, have strong concentrations of high-tech office jobs. High-tech office jobs are getting more concentrated as opposed to finance jobs that are dispersing[16].

The markets with the highest tech location quotients are as expected in the San Francisco Bay area/Silicon Valley. Other high-tech hubs include Seattle: 2.38, Boston: 1.97, Raleigh: 1.97, Denver: 1.90 and San Diego: 1.62. Other markets with better than average location quotients include regional economic capitals Atlanta: 1.54, Dallas: 1.53, and Chicago: 1.09. Five of the top six US investment markets score well[17].

Office-Using Jobs

Office demand is driven by jobs that require office space. Office-using jobs (OUJ) for the top 54 markets tracked by CoStar increased 2.7% per year over the past five years and are forecast to grow 2.1% over the next five years.

The markets that led growth patterns over the past five years where Raleigh-Cary NC: 6.6%, Austin-Round Rock-San Marcos TX: 6.2%, Nashville-Davidson-Murfreesboro-Franklin TN: 6.2%, San Jose-Sunnyvale-Santa Clara CA: 5.6%, San Francisco-San Mateo-Redwood City CA: 5.4%, Jacksonville FL: 4.3%, Dallas-Fort Worth-Arlington TX: 4.1%, Houston-Sugar Land-Baytown TX: 4.0%, Salt Lake City UT: 3.9% and Miami-Miami Beach-Kendall FL: 3.9%.

The markets projected to lead office-using jobs over the next five years are Phoenix-Mesa-Glendale AZ: 3.5%, Austin-Round Rock-San Marcos TX: 3.5%, West Palm Beach-Boca Raton-Boynton Beach FL: 3.3%, Raleigh-Cary NC: 3.1%, Dallas-Fort Worth-Arlington TX: 3.1%, Miami-Miami Beach-Kendall FL: 3.1%, Atlanta-Sandy Springs-Marietta GA:3.1%, Charlotte-Gastonia-Rock Hill NC-SC: 3.0%, and Nashville-Davidson-Murfreesboro-Franklin TN: 3.0%.

Projected OUJ growth is not by itself an indicator of the long term vibrancy of an office market. For example, high projected job growth may be indicative of a market rebounding from significant great recession and housing bust job losses. These markets may also be fundamentally volatile. Other growth markets may be concentrated in a volatile industry such as energy. Growth markets with very low educational attainment rates may not inspire confidence in long term stability. If we separate out the energy markets, markets rebounding from significant job losses, markets with low education attainment rates, and major markets, the list favors Austin-Round Rock-San Marcos TX, Greater Miami-Southeast Florida[18], Raleigh-Cary NC, Dallas-Fort Worth-Arlington TX, Atlanta-Sandy Springs-Marietta GA, Charlotte-Gastonia-Rock Hill NC-SC, Nashville-Davidson-Murfreesboro-Franklin TN, Salt Lake City UT, and Indianapolis-Carmel IN.

Housing Affordability And Young Families

Housing affordability is important for employers since wages can be lower and young families can purchase homes for less. According to Jed Kolko, chief economist at the online real estate firm Trulia "Cities with the strongest job markets would grow even faster if more people could afford to live there. The additional population would help spur further job growth, which, in turn, would strengthen the local economy and foster more middle-class jobs"[19]. Housing affordability is a significant draw for YCEs as well as young families with children aged 5-14. This age range is important because it encompasses when parents often move due to the cost of housing, schools and long-term economic security[20].

Domestic migration is increasingly driven by the quest for affordable housing. The country's fastest-growing cities are now those where housing is more affordable than average[21].

Table 4 presents metros that in fact have a growing population of young families as evidenced by the number of children between five and fourteen. The top 12 markets attracting young families with children have housing affordability indexes of 4.0 or less.

Table 4
Rise in Number of Children Aged 5–14

Metro Area	2000-13	Median Multiple
Raleigh, NC	55.7%	3.4
Austin, Tx	49.3%	3.9
Las Vegas, NV	39.0%	3.9
Charlotte, NC	32.9%	3.9
Phoenix, AZ	29.3%	3.8
Dallas-Fort Worth, TX	28.2%	3.3
Atlanta, GA	26.1%	2.9
Houston, TX	25.8%	3.5
Nashville, TN	22.7%	3.6
Orlando, FL	22.6%	3.8
San Antonio, TX	21.5%	3.5
Salt Lake City, UT	20.7%	4.0
Denver, CO	18.0%	4.9
Oklahoma City, OK	17.9%	3.0
Indianapolis, IN	13.4%	2.9
Riverside-San Bernardino, C	11.2%	5.1
Washington, DC-VA-MD-W\	10.0%	4.2
Columbus, OH	10.0%	3.0
Tampa-St. Petersburg, FL	9.6%	3.1
Portland, OR-WA	7.3%	4.8

Source: Joel Kotkin and Wendell Cox for rise in number of children and Wendell Cox and Hugh Pavletich, "11th Annual Demographia International Housing Affordability Survey" (2015 Edition: Data from Third Quarter 2014) for housing affordability

The above chart lists metros attracting families with young children. It includes markets with high growth in YCE, OUJ, and with relative affordable housing such as Raleigh, Austin, Charlotte, Dallas, Houston, and Nashville. The combination of affordable housing and economic growth attract young families, which in turn fosters further growth.[22]

Conclusion

The metros that seem poised for long-term growth based on the criteria detailed in this report are Austin, Raleigh, Denver, Salt Lake City, Nashville, and Charlotte. These markets exhibit fundamental strength in high and/or growing education attainment levels. They have experienced a relatively high rate of growth in the number of college graduates aged 25 to 34, from 2000 to 2012. They have experienced growth and/or forecast to experience growth in office-using jobs. Housing is relatively affordable and young families have migrated to these metros. Most of the aforementioned metros have growing tech sectors. These office markets stand out in several long term growth factor categories that create and sustain office demand.

Other markets such as Seattle, San Diego, Atlanta, Dallas-Ft. Worth, Portland, Minneapolis, and Indianapolis exhibit long term growth attributes in certain categories that suggest consideration after factoring qualitative factors and overall market position. Seattle has the fourth highest technology location quotient in the US, a very high education attainment level, and is considered more affordable than rival California tech cities. San Diego has an above average education attainment level and has experienced a high growth rate in the number of college graduates aged 25 to 34. Portland is well known for being attractive to young people and has attracted YCEs and STEM jobs.

Although Atlanta and Dallas-Ft. Worth have had low growth in the number of college graduates aged 25 to 34, they are affordable housing markets that have attracted young families in great numbers. In addition, they have experienced growth in office-using jobs over the past five years and are expected to do the same over the next five years. Minneapolis and Indianapolis are the only Midwestern cities on our list. Minneapolis is notable for its high educational attainment level and high-tech employment growth. Indianapolis has had a high level of office-using job growth over the past five years and is forecast to have above average growth over the next five years. It is an affordable housing market and has attracted young families over the past decade.

In addition, Greater Miami, which lagged in many of the considerations, was included due to its strong projected growth in office-using jobs and it being a global city with potential for category changing growth.

Many of these metros are being transformed into fundamentally stronger cities and office markets. Seattle and Miami may catapult to tier one status over the next 15 to 20 years. Although most of the smaller markets may remain secondary destinations, they can nevertheless achieve long term growth and be a source of solid office building investment returns.

Selecting the appropriate metro is important, but equally as vital is discerning which CBD or suburban submarket are the most suitable. Similarly, strategically choosing the right office building within the preferred submarket is essential.

The metro area considerations detailed above go beyond cyclical rhythms and do not focus on entry points. We include markets that we consider to have sustainable growth over the long run. This is not a total return play and is not reflective of short term profitability[23]. As is true with all markets, they are subject to cyclicality, overbuilding and supply/demand imbalance.

1 The source for the presented Moody's CPPI data is Tad Philipp, Kevin Fagan, and Keith Leung, "Moody's/RCA CPPI: Industrial Leads Price Gains Over the Last Three and 12 Months I", March 6, 2015. Data is as of January 2015.

2 For the purposes of this report young college educated persons are those between the ages of 25 and 34 as used by City Observatory http://cityobservatory.org/.

3 Joel Kotkin, "Baby Boomtowns: The U.S. Cities Attracting The Most Families", Forbes, September 12 2014.

4 This does not imply that good investments cannot be made in energy centric markets with the right entry and exit points.

5 Alan Berube as quoted by Sabrina Tavernise, "A Gap in College Graduates Leaves Some Cities Behind", New York Times, May 30, 2012.

6 Alan Berube, "Where the Grads Are: Degree Attainment in Metro Areas", Brookings.edu, May 31, 2012.

7 Edward Glaeser, Triumph of the City, Penguin Press, New York, 2013.

8 Alan Berube, "Where the Grads Are: Degree Attainment in Metro Areas of the City", Brookings.edu, May 31, 2012.

9 Edward Glaeser is an economist at Harvard and the author of "Triumph of the City". As quoted by Sabrina Tavernise, "A Gap in College Graduates Leaves Some Cities Behind", New York Times, May 30, 2012.

10 http://www.nytimes.com/interactive/2012/05/31/us/education-in-metro-areas.html. Based on the Brookings Institute's analysis of US Census American Community Survey data.

11 All the data concerning YCEs is from Joe Cortright, "The Young and Restless and the Nation's Cities", CityReport, October 2014.

12 The reason for this screening mechanism is to highlight metro areas that have increases over a substantial base.

13 Source: U.S. Census; CoStar Portfolio Strategy.

14 Source: U.S. Census; CoStar Portfolio Strategy. Residents 25+ as of 2010.

15 Based on his analysis of 11 million American workers in 320 metropolitan areas. See Enrico Moretti, "The New Geography of Jobs", Mariner Books, Houghton Mifflin Harcourt, Boston, New York, 2013

16 e-mail correspondence with Jon Southard of CBRE also see See Moretti

17 Tech location quotient data from CBRE

18 i.e. Miami-Miami Beach-Kendall FL, Fort Lauderdale-Pompano Beach-Deerfield Beach FL, West Palm Beach-Boca Raton-Boynton Beach FL. Although these markets include some of the negative characteristics noted above, the metropolitan area appears poised for long term secular growth. Please see the addendum of the full report for more detail.

19 Josh Boak, "Why areas with good jobs have hard-to-afford homes" Associated Press as presented in the Wall Street Journal, December 9, 2014.

20 Joel Kotkin "Baby Boomtowns: The U.S. Cities Attracting The Most Families", Forbes, September 12, 2014.

21 "See Shaila Dewanaug, "Affordable Housing Draws Middle Class to Inland Cities", New York Times, August 3, 2014.

22 See Joel Kotkin "Baby Boomtowns: The U.S. Cities Attracting The Most Families", Forbes, September 12, 2014.

23 Although there is no guarantee of future returns, we believe that good investment returns can theoretically be made in many markets with the right investment, entry, and exit timing. ■