

Introduction

In the late 19th and early 20th centuries, as new inventions like the elevator and skeleton-frame construction enabled vertical development of unprecedented mass and height, office buildings began to be concentrated in the central business districts (CBDs) of major U.S. cities. Many celebrated American office buildings date from this period. After World War II, another building cycle began, in which more construction took place in suburban areas, to accommodate the decentralization of the U.S. population and employment from central cities and CBDs. Office buildings supported business functions and production requirements that changed dramatically from the earlier period of city building to the period of suburban expansion after 1950.

Recent economic changes may be prompting locational shifts within U.S. office markets once again. Office space users seem to be increasingly dissatisfied with overwhelmingly auto-dependent, single-use, low-density suburban office parks, office campuses and similar office environments. Today, many appear to prefer amenity-rich urban places. In fact, most companies experiencing employee attrition due to retirement now consider relocating from suburban to urban office space to attract Gen Y workers (also known as millennials), many of whom prefer places where they can work, dine, shop, recreate, learn, etc. in close proximity.

Attractive office space typically is close to cafes, restaurants, retail shops, personal and business services, hospitality and civic uses. The best locations are compact, walkable places near housing and public transit. Office tenants expect their employees to be more satisfied in places that offer diverse, connected land uses. As a result, these companies anticipate higher productivity, less turnover and, possibly, more innovation. To become more competitive in the emerging knowledge-based economy, many companies are choosing to locate in these types of places.

In this study, we define “vibrant centers” as compact, connected, walkable, relatively dense, mixed-use, employment-oriented places often served by public transit. Metro areas containing these amenity-rich office locations may become more successful by attracting both college-educated talent and companies staffed with these workers. Most CBDs have the scale, density and variety of land uses to be the region’s strongest vibrant center. Well-designed mixed-use infill projects in urban core areas already have attracted talent-seeking companies and young talented workers. Suburban areas, however, remain overwhelmingly single use, whether predominantly residential, retail, office, industrial or institutional. If the return to the city is significant, office space in vibrant CBDs should be more attractive to tenants than suburban office space, and should perform better.

Another trend is gaining momentum to meet the demand for live, work, play (LWP) environments in suburbia, where 77 percent of the nation’s office inventory was located as of the first quarter of 2013. This trend is being realized through the redevelopment of existing retail centers and office parks, some of which have become suburban transit-oriented vibrant centers.

Although suburban redevelopment has received more attention, another emerging type of suburban vibrant center is far more common: the smaller cities and towns contained in many metro areas that have withstood the onslaught of highway-oriented development for over 50 years. The core areas of these cities and towns often have the employment density, design features and mix of land uses that can satisfy the demand for LWP places. Both vibrant town centers and suburban mixed-use developments that have achieved critical mass present many features of small CBDs. The demand for these suburban vibrant centers should grow, compared to the demand for typical single-use suburban locations. The preference for and performance of office space in suburban vibrant centers compared to office space in typical single-use suburban locations, as well as to downtown office space, therefore are of considerable interest.

Purpose of the Research

This study provides findings on both the locational preferences of office tenants and the performance of office properties. The combination of expert opinion, collected through surveys and interviews, and accurate analysis of property-level data offers reliable information about emerging location trends across major U.S. office markets. The objective is to assess whether office tenants leasing space prefer CBDs, suburban vibrant centers or typical single-use suburban areas. Urban vibrant centers near the CBD — places like Midtown Atlanta, Uptown Dallas and Rosslyn, Virginia — are not evaluated.

Methodology and Criteria

We ascertained location preferences by surveying and interviewing real estate brokers leasing office space and their researcher colleagues associated with major firms. These experts offered their opinions about whether locational shifts were underway in markets across the country. We analyzed performance differences using indicators in the CoStar office property database, specifically measures of rents, vacancies and absorption, as well as changes in rents and vacancies over time. We compared the following geographic areas: CBDs to entire suburban areas; suburban vibrant centers to comparable suburban office parks or submarkets; and CBDs to suburban vibrant centers located in selected second- and third-tier markets. In addition, researchers drew from their firms' proprietary databases to corroborate the performance results for specific office markets and offered contextual details that enriched the study. Therefore, the findings in this report are robust and based on evidence rather than anecdotes. The results are relevant for office development and redevelopment, sales and leasing, investment, property management, urban planning and development project review.

The locational preference survey and the performance analysis are complementary in two ways. First, brokers were asked to assess location preferences using a concise and *general definition* of suburban vibrant centers without reference to their size. (See question four in Appendix B.) Prospective suburban vibrant centers were included in the performance analysis only if they met *specific criteria* (listed in Appendix G) and had at least 500,000 square feet of office space within one-half mile from an address at the center's core. These places were qualified by consulting experts familiar with each metro market. Second, the performance analysis included only the largest office markets and other markets of interest to NAIOP. On the other hand, office brokers were surveyed without regard to location, and therefore provided information on markets not included in the performance analysis.

Location Preferences Based on Survey Results

Tenants seek office space that best fulfills their preferences for quality, cost, building features, access and location. This research hones in on tenants' location preferences for CBDs, suburban vibrant centers or typical single-use suburban locations. To gather this information, we interviewed active, experienced brokers and researchers working for major firms. Collectively, these professionals are aware of tenant preferences and how they currently are being realized in specific office markets. Appendix A describes the approach taken to gather and examine information on tenant preferences from office brokers and researchers. It includes the names of the primary contacts and researchers who contributed to the study. Appendix B presents the survey questions about location preferences.

Brokers and researchers with experience in both downtown and suburban areas were asked to compare office tenants' preferences for downtowns or for suburban environments. They selected each location about 50 percent of the time. Respondents indicated that location preferences primarily depend on specific company or market factors. In general, relatively large companies serving external markets tend to prefer suburban locations close to highways, airports, railways or waterways. These companies usually engage in corporate headquarter activities, research and development (R&D), service production or dissemination functions at these locations. Companies linked to local business clusters and government functions tend to favor downtown locations. These companies provide legal, accounting, architecture and engineering, financial, insurance, real estate and a broad range of other professional and consulting services.

However, preferences for central and peripheral locations continue to evolve. Many downtown professional and financial services firms now also have suburban locations. Energy, health and technology companies occupy suburban campuses but also have marketing and technology-

oriented units in locations with urban amenities. Companies that produce computer hardware or software and those that offer telecommunications, data processing and other information services increasingly prefer downtown office space.

Overall, the suburbs provide better access for a suburbanized workforce and convenient free parking, but make workers dependent on their cars for all workday trips and all but the most minimal amenities. Downtowns, on the other hand, offer diverse, amenity-rich, walkable areas but also buildings with dated features, expensive parking, perceived security issues, etc. As a result, most respondents said "it depends" when asked whether prospective tenants prefer to locate in downtown or suburban locations.

Some respondents indicated that office tenants are more likely to prefer suburban vibrant centers to downtowns, while some indicated no clear preference: 48 percent chose suburban vibrant centers, 35 percent selected downtown and 17 percent indicated either location. The tilt favoring suburban vibrant centers does not represent a definitive preference. Whereas suburban vibrant centers are vibrant by definition, CBDs in a respondent's location may or may not be vibrant places. Therefore, suburban vibrant centers may be preferred to non-vibrant CBDs, but more vibrant CBDs, especially ones in larger metro areas, often are preferred to suburban vibrant centers. Furthermore, many Internet-oriented startups run by young entrepreneurs strongly favor urban locations and try to find relatively cheap real estate there, either in older industrial buildings or in Class B or C office space. Because these entrepreneurs rarely engage tenant representatives when looking for rental property, their location preferences are not accounted for in this research.

On the other hand, vibrant suburban centers may have two advantages over vibrant CBDs. Some tenants may be more comfortable in suburban vibrant centers that are sufficiently urban but far less intense and probably less expensive than the CBD. In auto-oriented metro areas, suburban vibrant centers can offer shorter average commute times for the company's workforce as well as free convenient parking, as noted above. Second, suburban vibrant centers could be preferred in some markets simply because, collectively, they offer tenants more choices compared to one CBD.

A large majority of respondents thought office tenants would rather be located in suburban vibrant centers than in suburban office parks (83.5 to 16.5 percent), and said they had detected this preference for the past few years or longer. Companies seeking suburban locations appear to favor amenity-rich places containing space that is close to commercial, residential and civic facilities. The data analysis presented in the next section tests whether this preference for suburban vibrant centers is strong enough to impact their performance and finds that it is.

Research staff provided insights to amplify these results. First, when downtown areas are not vibrant, the suburbs remain the preferred location. Reasons may include the fact that older, larger high-rise buildings are less attractive to current tenants, small downtown inventories relative to the entire office market, concentrated poverty near the CBD, and the absence of public investment spurring downtown redevelopment.

Second, some metro markets are extremely auto-oriented and low density. These office markets are less likely to have vibrant centers, either downtown or in the suburbs. Third, large metro areas with strong rail transit are most likely to have vibrant CBDs and ample suburban vibrant centers in the form of town centers connected by rail. In these markets, the CBD typically is the region's dominant vibrant center.

Finally, any company wanting to attract and retain young educated workers who prefer live, work, play locations needs to locate in a compact, mixed-use, walkable place, either downtown or in the suburbs. Alternatively, some large companies are running charter bus service between their suburban office campuses and urban locations where their employees prefer to live. And some companies with large suburban campuses are adding on-campus amenities such as restaurants, dry cleaning, dental offices, etc., that reduce the need for employees to drive off campus during the workday.

Performance Analysis Using Costar Data

We begin our analysis of office market performance with a descriptive overview of the national office market and an examination of CBDs and associated suburbs in 10 first-tier markets. The statistical analysis follows, in two parts. First, we compare CBDs to their suburbs in the 45 largest office markets in the continental U.S. Second, we compare 42 suburban vibrant centers to nearby typical single-use suburban office environments, either office parks or submarkets.

The first analysis, of the 45 largest markets, is the best assessment of the relative performance of CBDs compared to suburban areas. The second analysis is the best assessment of how well office space in suburban vibrant centers is competing with traditional single-use suburban office space. The office markets included in the performance analyses are listed in Appendix C. Research methods used to analyze office performance are described in Appendix D. Appendix E lists the CBDs defined in terms of CoStar submarkets and submarket clusters. Appendix F presents the comparisons of vibrant centers to suburban areas and to CBDs for selected second-tier and third-tier office markets. Comparisons between vibrant centers and smaller CBDs are more appropriate than comparisons between vibrant centers and larger CBDs.

Overview of U.S. Office Markets

CoStar tracks rentable building area (RBA) in 142 office markets for Class A, B and C buildings. We used this data set to represent the total U.S. office inventory. These markets were assigned to one of three tiers. The first tier includes 10 areas with RBA of at least 250 million square feet. The two largest markets, New York and Los Angeles, are defined by combining several CoStar market areas.

The New York area consists of four CoStar markets: Long Island, New York City, Northern New Jersey, and Westchester/Southwestern Connecticut. The Los Angeles area includes three CoStar markets: the Inland Empire, Los Angeles and Orange County. Eight other markets complete the first tier, as shown in Figure 5.

The first column of Figure 5 shows the RBA in each large market and the total national RBA of 10.3 billion square feet in the first quarter of 2013. The New York area contains the largest concentration of office space, with 1.23 billion square feet or 11.9 percent of the total national inventory. The LA area is about half as large, with 647.3 million square feet. The other eight first-tier areas are listed in size order, from Washington to Houston. First-tier markets account for 47.2 percent of total inventory in the first quarter of 2013. No other office market in the country currently has over 200 million square feet, except South Florida, with 224.9 million square feet. The South Florida area contains three relatively distinct office markets on Florida's east coast: Palm Beach County, Broward County and Dade County (Miami).

Figure 5

First-tier Office Markets: Size, Rent and Vacancy, Q1 2013

Market	RBA (in millions of sq. ft.)	Asking Rent (per sq. ft. per year)	Vacancy Rate
New York Area	1,230.6		
Long Island	164.3	\$26.27	7.9%
New York City	546.0	49.78	7.2
Northern NJ	354.4	22.94	15.0
Westchester/SW CT	165.9	27.38	13.6
Los Angeles Area	647.3		
Inland Empire	70.4	18.00	13.3
Los Angeles	424.5	27.72	12.6
Orange County	152.4	22.23	12.5
Washington	461.8	34.45	13.8
Chicago	460.2	22.66	14.0
Philadelphia	395.9	20.87	11.7
Bay Area (San Francisco)	382.3	31.44	10.7
Boston	376.5	20.20	10.1
Dallas/Fort Worth	340.6	19.72	15.4
Atlanta	299.0	18.43	15.6
Houston	269.8	24.14	11.8
Subtotal for Eight Areas	2,986.1		
Total First-tier Inventory	4,864.0		
Total National Inventory	10,305.9	\$21.36	11.8%
CBD vs. Suburbs			
All U.S. CBDs	2,400.7	\$26.94	10.8%
All U.S. Suburban Markets	7,905.2	\$20.10	12.0%

Source: CoStar Q1 2013 National Office Report

The next two columns report first-quarter 2013 average rents and vacancy rates for the existing office inventory in these 10 markets, all U.S. CBDs, and all U.S. suburban areas. CBDs account for 23.3 percent of the total office inventory. For the entire U.S. inventory, rents were higher and vacancies were lower in CBDs in the first quarter of 2013. The spread for rents increased and the spread for vacancy rates decreased over the next three quarters of 2013. With all CoStar markets combined into one national market, CBDs performed better than suburban areas in 2013.

Second-tier markets have at least 100 million square feet of office space. The 10 largest ones we examined are Detroit (with 195.4 square feet), Denver (185.7), Minneapolis (183.5), Seattle (182.6), Phoenix (159.5), Cleveland (145.5), Tampa, Florida (144.3), Baltimore (134.9),

St. Louis (132) and Pittsburgh (122.2). The remaining six are San Diego (112.7), Kansas City, Kansas and Missouri (111.3), Sacramento, California (105.7), Miami (102), Orlando, Florida (101.1), and Charlotte, North Carolina (100). San Francisco (161.8), East Bay/Oakland (113.8), and South Bay/San Jose (106.7) are second-tier markets separately, but are combined to form the first-tier Bay Area market (382.3). Miami is a second-tier market on its own but part of the South Florida market when Broward County and Palm Beach County are added.

The third tier consists of markets with less than 100 million square feet of RBA in the first quarter of 2013. The analysis accounts for 53 CoStar markets in all, as shown in Appendix C.

CBD-Suburban Area Comparisons for First-tier Office Markets

Comparisons for New York and Los Angeles are shown in Figure 6. The results for the New York markets are consistent with the proposition that CBD office space is performing better than suburban office space. Compared to the suburban portion of the Northern New Jersey market and the entire Westchester/Southwestern Connecticut market, the New York City market (Manhattan) has higher rents, lower vacancies and greater absorption. The urban portion of Long Island (Brooklyn, Queens and Staten Island) outperforms the suburban portion (Nassau and Suffolk counties) for these three measures.

The same analysis conducted for Los Angeles yields mixed results. The measures for all Los Angeles suburbs combine the three measures for the suburban portion of the LA market, the Inland

Empire and Orange County. Rents in downtown LA are higher than suburban rents. However, vacancy rates are slightly higher in downtown LA, and the suburban area outperforms downtown LA in terms of relative absorption of space.

The superior performance of New York City compared to downtown Los Angeles may be partly related to the difference in the sizes of these two downtowns compared to their suburban counterparts. New York City, which is about eight times larger than downtown LA, is more dominant within its area, representing 44 percent of the entire New York area office market. Downtown LA accounts for 16 percent of the office space in Los Angeles County and just 10 percent in its more extensive market area.

Figure 6

CBD-Suburban Area Comparisons in New York and Los Angeles Office Markets

Market	RBA (in millions of sq. ft.)	Asking Rent (per sq. ft. per year)	Vacancy Rate	Absorption Rate*
New York Area				
New York City	546.7	\$49.46	7.1%	1.0353
Northern NJ	297.5	22.84	15.8	0.9992
Westchester/SW CT	166.8	27.09	13.5	1.0203
Long Island-Urban	73.4	27.22	5.4	1.0989
Long Island-Suburban	87.8	25.22	10.1	1.0383
Los Angeles Area				
Downtown LA	68.5	\$30.19	12.8%	1.0060
Suburban LA	351.5	27.28	12.4	1.0131
Inland Empire	71.6	17.70	13.4	1.2050
Orange County	152.5	22.19	12.2	1.0423
All Los Angeles Suburbs	575.6	24.74	12.5	1.0447

Source: CoStar Q1 2013 National Office Report

*The absorption rate is the amount of occupied space in Q1 2013 divided by the amount of occupied space in Q1 2005.

Figure 7 presents rents, vacancy rates and relative absorption for the existing office market inventory in the remaining eight first-tier markets. The analysis compares these CBDs to their suburbs in the first quarter of 2013. The results show that rents are consistently higher in first-tier CBDs than in their respective suburbs in all markets except Atlanta.

Vacancy rates are lower in CBDs, with three exceptions. In the Bay Area and Houston, vacancy rates are about the same in the CBDs and suburban areas. Vacancy rates are much higher in the Dallas and Fort Worth CBDs than in their suburbs.

Generally, the absorption rate is higher in first-tier suburbs, which are capturing relatively more demand than CBDs.

Figure 7
CBD-Suburban Area Comparisons in Other First-tier Office Markets
 (By Size of Market in Q1 2013)

Market	RBA (in millions of sq. ft.)	Asking Rent (per sq. ft. per year)	Vacancy Rate	Absorption Rate*
Washington Downtown	96.2	\$50.74	10.0%	1.0596
Washington Suburbs	393.0	29.62	14.7	1.0842
Chicago CBD	133.4	28.92	12.8	1.0588
Chicago Suburbs	334.2	18.96	14.5	1.0674
Philadelphia Downtown	63.9	24.62	9.8	1.0256
Philadelphia Suburbs	339.5	19.93	12.1	1.0103
Bay Area CBDs	87.0	32.19	10.9	1.0486
Bay Area Suburbs	273.6	30.39	10.3	1.1079
Boston Downtown	99.5	30.72	7.8	1.0642
Boston Suburbs	275.7	19.04	10.6	1.0808
Dallas-Fort Worth CBDs	46.8	20.56	22.6	0.9683
Dallas-Fort Worth Suburbs	340.7	19.53	15.2	1.1329
Atlanta CBD	38.2	17.96	14.3	0.9927
Atlanta Suburbs	268.3	18.25	15.8	1.3137
Houston CBD	48.6	32.84	11.7	1.1539
Houston Suburbs	232.7	21.76	11.9	1.1780

Source: CoStar Submarket database

Note: "Downtowns" are CoStar clusters that include two or more submarkets; CBDs are single CoStar submarkets.

*The absorption rate is the amount of occupied space in Q1 2013 divided by the amount of occupied space in Q1 2005.

The bottom line for first-tier markets is that CBDs are outperforming the suburbs with higher rents and generally lower vacancy rates. However, more regional demand for office space was absorbed in the suburbs during the 2005 to 2013 period, both absolutely and relative to their respective space inventories. Mixed results for first-tier office markets underscore the need to use statistical tests to qualify the results for individual office markets throughout the country.

CBD-Suburban Area Comparisons for the 45 Largest Office Markets

One important objective of this research was to compare directly the two major locational categories of office space, CBDs and suburban areas. Have CBDs made a comeback? Are they now outperforming suburban areas, or are suburban areas still performing better? Figures 8 through 14 present the results for the CBD-suburban comparisons, using seven performance measures for the 45 largest office markets in the continental U.S. with RBA over 60 million square feet. (The first-tier markets are listed first and ordered by size. Baltimore begins the alphabetical listing of second-tier markets (in green box); Austin, Texas, begins the alphabetical listing of third-tier markets.)

Figures 8, 9 and 10 look at asking rents for CBDs and suburbs in three ways. First, we present a snapshot of the first quarter of 2013. Figure 8 indicates that in most markets, rents in the first quarter of 2013 were higher in CBDs than in suburban areas, which is consistent with the results for first-tier markets. The \$4.48 difference is statistically significant at the 1 percent level. (There is one chance in 100 that no rent differences exist.)

Second, Figure 9 shows the change in rents from the first quarter of 2009 to the first quarter of 2013. This addresses the question of how well CBDs and the suburbs have rebounded since the Great Recession. Rents have declined in both areas but more so in the suburbs. CBD rents declined almost 4 percent less than suburban rents. The difference is statistically significant at the 5 percent level. (There are five chances in 100 that no difference in rent changes exists.)

Third, Figure 10 looks at the change in rents between 2005 and 2013 and indicates that rents have increased since the first quarter of 2005 by almost 12 percent in CBDs and 5.4 percent in suburban areas. This stronger CBD performance is not statistically significant, however.

Figure 8

Average Asking Rents in Largest Office Markets
(By Size of Market in Q1 2013)

CoStar Office Market	CBD	Suburb	CBD-Suburban Rent Difference
NYC and Southwest CT	\$49.46	\$27.10	\$22.36
Los Angeles	30.18	25.40	4.78
Washington	50.74	27.19	23.55
Chicago	28.99	18.15	10.84
Philadelphia	24.62	19.76	4.86
Boston	30.72	17.69	13.03
Dallas/Fort Worth	20.56	18.81	1.75
Atlanta	18.04	16.38	1.66
Houston	32.84	21.13	11.71
Long Island, NY	27.07	25.28	1.79
Northern NJ	23.71	22.38	1.33
East Bay/Oakland, CA	24.26	21.50	2.76
San Francisco	43.12	39.84	3.28
South Bay/San Jose, CA	24.09	28.02	-3.93
South FL-Miami	31.84	25.14	6.70
Baltimore	20.47	21.44	-0.97
Charlotte, NC	23.78	17.95	5.83
Cleveland	17.84	15.23	2.61
Denver	26.80	19.71	7.09
Detroit	18.60	16.69	1.91
Kansas City, KS and MO	15.69	16.75	-1.06
Minneapolis/St. Paul	16.32	15.70	0.62
Orlando, FL	21.24	17.27	3.97
Phoenix	22.93	19.14	3.79
Pittsburgh	20.25	17.51	2.74
Sacramento, CA	24.11	18.67	5.44
St. Louis	15.62	17.81	-2.19
San Diego	25.23	25.43	-0.20
Seattle	30.91	24.35	6.56
Tampa, FL	19.84	17.49	2.35
Austin, TX	36.45	24.28	12.17
Cincinnati/Dayton	15.92	14.60	1.32
Columbus, OH	16.84	15.16	1.68
Hartford, CT	19.48	17.28	2.20
Indianapolis	18.07	15.54	2.53
Jacksonville, FL	18.52	16.46	2.06
Las Vegas	23.46	18.47	4.99
Milwaukee/Madison	17.30	14.96	2.34
Nashville, TN	18.71	18.37	0.34
Portland, OR	22.78	17.67	5.11
Raleigh/Durham, NC	19.39	17.92	1.47
Richmond, VA	19.43	15.85	3.58
Salt Lake City	20.07	16.35	3.72
San Antonio	19.05	19.03	0.02
Western MI	25.23	12.04	13.19
Average	\$24.23	\$19.75	
Average Difference			\$4.48

Figure 9

Change in Rents in Largest Office Markets, 2009-2013
(By Size of Market in Q1 2013)

CoStar Office Market	CBD	Suburb	CBD-Suburban Rent Difference
NYC and Southwest Connecticut	-8.64%	-3.35%	-5.29%
Los Angeles	-1.15	-9.70	8.55
Washington	3.45	-1.91	5.36
Chicago	-2.82	-8.61	5.79
Philadelphia	-0.24	-5.73	5.49
Boston	-7.27	-13.67	6.40
Dallas/Fort Worth	3.16	-4.18	7.34
Atlanta	-11.48	-7.93	-3.55
Houston	3.08	-3.56	6.64
Long Island, NY	-4.04	-5.11	1.07
Northern NJ	-5.54	-8.95	3.41
East Bay/Oakland, CA	-7.26	-10.38	3.12
San Francisco	31.50	18.25	13.25
South Bay/San Jose, CA	-9.47	-1.86	-7.61
South FL-Miami	-7.84	-10.21	2.37
Baltimore	-7.67	-3.29	-4.38
Charlotte, NC	-16.62	0.96	-17.58
Cleveland	5.00	-5.64	10.64
Denver	0.34	-1.45	1.79
Detroit	1.20	-13.70	14.90
Kansas City, KS and MO	-2.67	-4.67	2.00
Minneapolis/St. Paul	7.44	-6.10	13.54
Orlando, FL	-12.41	-16.89	4.48
Phoenix	-23.59	-20.88	-2.71
Pittsburgh	0.95	-1.19	2.14
Sacramento, CA	-12.48	-17.32	4.84
St. Louis	-5.85	-4.86	-0.99
San Diego	-15.70	-15.29	-0.41
Seattle	1.18	-6.60	7.78
Tampa, FL	-5.75	-19.44	13.69
Austin, TX	16.94	-0.12	17.06
Cincinnati/Dayton	9.34	-3.88	13.22
Columbus, OH	6.38	-2.00	8.38
Hartford, CT	0.36	-3.79	4.15
Indianapolis	2.09	-7.61	9.70
Jacksonville, FL	-3.19	-9.11	5.92
Las Vegas	-19.74	-21.87	2.13
Milwaukee/Madison	4.59	-0.66	5.25
Nashville, TN	-0.32	-3.37	3.05
Portland, OR	4.40	-5.46	9.86
Raleigh/Durham, NC	-5.69	-6.67	0.98
Richmond, VA	0.00	-3.94	3.94
Salt Lake City	-3.65	0.30	-3.95
San Antonio	3.59	2.64	0.95
Western MI	-15.70	-6.52	-9.18
Average	-2.48%	-6.34%	
Average Difference			3.86%

Figure 10

Change in Rents in Largest Office Markets, 2005-2013
(By Size of Market in Q1 2013)

CoStar Office Market	CBD	Suburb	CBD-Suburban Rent Difference
NYC and Southwest Connecticut	19.04%	7.24%	11.80%
Los Angeles	27.56	9.11	18.45
Washington	22.74	6.89	15.85
Chicago	2.87	-8.56	11.43
Philadelphia	11.15	-6.84	17.99
Boston	-7.05	-1.34	-5.71
Dallas/Fort Worth	10.01	10.19	-0.18
Atlanta	-7.11	1.36	-8.47
Houston	58.49	29.55	28.94
Long Island, NY	17.44	4.03	13.41
Northern NJ	-5.69	-7.52	1.83
East Bay/Oakland, CA	12.06	-2.63	14.69
San Francisco	62.47	64.56	-2.09
South Bay/San Jose, CA	-1.03	31.30	-32.33
South FL-Miami	28.03	9.78	18.25
Baltimore	-6.87	8.61	-15.48
Charlotte, NC	22.33	11.49	10.84
Cleveland	-3.93	-7.81	3.88
Denver	48.89	20.48	28.41
Detroit	-1.95	-19.53	17.58
Kansas City, KS and MO	3.22	-1.59	4.81
Minneapolis/St. Paul	21.25	7.31	13.94
Orlando, FL	-6.56	-2.26	-4.30
Phoenix	15.98	-3.53	19.51
Pittsburgh	3.32	6.70	-3.38
Sacramento, CA	-9.19	-4.40	-4.79
St. Louis	7.80	-3.73	11.53
San Diego	-9.08	-4.47	-4.61
Seattle	28.74	16.40	12.34
Tampa, FL	6.55	-1.52	8.07
Austin, TX	74.24	37.88	36.36
Cincinnati/Dayton	-4.56	1.39	-5.95
Columbus, OH	-3.55	-6.30	2.75
Hartford, CT	-1.32	-0.86	-0.46
Indianapolis	11.82	-4.72	16.54
Jacksonville, FL	-0.91	2.05	-2.96
Las Vegas	-23.91	-14.88	-9.03
Milwaukee/Madison	13.52	6.86	6.66
Nashville, TN	11.30	13.54	-2.24
Portland, OR	29.73	7.03	22.70
Raleigh/Durham, NC	7.78	4.86	2.92
Richmond, VA	20.98	9.24	11.74
Salt Lake City	26.94	12.37	14.57
San Antonio	9.67	19.99	-10.32
Western MI	-9.08	-14.0	4.92
Average	11.87%	5.42%	
Average Difference			6.45%

Figures 11, 12 and 13 examine vacancy rates for CBD and suburban markets in three ways. First, Figure 11 looks at vacancy rates in the first quarter of 2013. The data indicate that average vacancy rates for the 45 largest office markets in the first quarter of 2013 are almost equal in CBDs and suburban areas, at slightly over 12 percent. Thus, no significant difference exists.

Second, Figure 12 shows that, since the Great Recession, suburban areas are doing much better than CBDs. Vacancy rates have declined by 1.2

percent in the suburbs but have increased by almost 10 percent in downtowns. The test statistic is significant at the 1 percent level.

Third, Figure 13 shows that vacancy rates have increased in the past eight years by about 7 percent in both CBDs and the suburbs. Vacancies did decline in 18 CBDs and 17 suburban areas over this period, but they increased in more markets. The average difference is not statistically significant.

Figure 11

Vacancy Rates in Largest Office Markets
(By Size of Market in Q1 2013)

CoStar Office Market	CBD	Suburb	CBD-Suburban Difference
NYC and Southwest CT	7.1%	13.5%	-6.40%
Los Angeles	13.0	12.9	0.10
Washington	10.0	15.6	-5.60
Chicago	12.8	16.0	-3.20
Philadelphia	10.1	12.1	-2.00
Boston	8.1	11.2	-3.10
Dallas/Fort Worth	22.0	14.9	7.10
Atlanta	13.3	15.8	-2.50
Houston	11.6	12.2	-0.60
Long Island, NY	5.4	10.2	-4.80
Northern NJ	13.3	15.8	-2.50
East Bay/Oakland, CA	10.9	10.7	0.20
San Francisco	8.7	11.7	-3.00
South Bay/San Jose, CA	15.5	9.8	5.70
South FL-Miami	16.6	14.0	2.60
Baltimore	13.0	11.6	1.40
Charlotte, NC	7.9	13.1	-5.20
Cleveland	19.4	9.6	9.80
Denver	13.8	11.5	2.30
Detroit	19.6	17.2	2.40
Kansas City, KS and MO	16.3	11.3	5.00
Minneapolis/St. Paul	10.5	8.6	1.90
Orlando, FL	14.0	12.3	1.70
Phoenix	14.1	19.8	-5.70
Pittsburgh	10.4	7.2	3.20
Sacramento, CA	11.6	16.5	-4.90
St. Louis	17.4	11.1	6.30
San Diego	15.7	11.3	4.40
Seattle	14.2	9.7	4.50
Tampa, FL	12.4	13.3	-0.90
Austin, TX	8.8	10.5	-1.70
Cincinnati/Dayton	17.5	13.2	4.30
Columbus, OH	9.8	10.0	-0.20
Hartford, CT	14.1	10.2	3.90
Indianapolis	8.6	9.8	-1.20
Jacksonville, FL	14.4	13.0	1.40
Las Vegas	6.7	19.5	-12.80
Milwaukee/Madison	10.3	10.2	0.10
Nashville, TN	12.7	7.4	5.30
Portland, OR	9.4	9.6	-0.20
Raleigh/Durham, NC	4.8	12.3	-7.50
Richmond, VA	14.4	9.4	5.00
Salt Lake City	9.2	6.4	2.80
San Antonio	16.3	10.3	6.00
Western MI	9.5	12.6	-3.10
Average	12.34%	12.11%	
Average Difference			0.23%

Figure 12

Change in Vacancy Rates in Largest Office Markets, 2009-2013
(By Size of Market in Q1 2013)

CoStar Office Market	CBD	Suburb	CBD-Suburban Difference
NYC and Southwest CT	5.97%	29.81%	-23.84%
Los Angeles	21.50	21.70	-0.20
Washington	6.38	12.23	-5.85
Chicago	5.79	-2.44	8.23
Philadelphia	10.99	13.08	-2.09
Boston	3.85	-13.85	17.70
Dallas/Fort Worth	36.89	8.33	28.56
Atlanta	27.88	8.97	18.91
Houston	8.41	-10.29	18.70
Long Island, NY	-28.00	9.68	-37.68
Northern NJ	12.71	17.04	-4.33
East Bay/Oakland, CA	10.10	-6.96	17.06
San Francisco	-17.92	1.74	-19.66
South Bay/San Jose, CA	3.33	-30.99	34.32
South FL-Miami	36.07	6.06	30.01
Baltimore	12.07	-3.33	15.40
Charlotte, NC	29.51	-4.38	33.89
Cleveland	12.79	9.09	3.70
Denver	0.00	-19.01	19.01
Detroit	-6.67	6.17	-12.84
Kansas City, KS and MO	14.79	5.61	9.18
Minneapolis/St. Paul	-2.78	-3.37	0.59
Orlando, FL	35.92	-3.91	39.83
Phoenix	30.56	1.54	29.02
Pittsburgh	-15.45	-27.27	11.82
Sacramento, CA	23.40	3.13	20.27
St. Louis	-0.57	12.12	-12.69
San Diego	8.28	-22.07	30.35
Seattle	19.33	3.19	16.14
Tampa, FL	-5.34	10.83	-16.17
Austin, TX	-12.00	-25.53	13.53
Cincinnati/Dayton	26.91	8.20	18.71
Columbus, OH	8.89	-10.71	19.60
Hartford, CT	15.57	8.51	7.06
Indianapolis	19.44	-18.33	37.77
Jacksonville, FL	-4.00	-12.16	8.16
Las Vegas	26.42	7.14	19.28
Milwaukee/Madison	-3.74	7.37	-11.11
Nashville, TN	-3.05	-12.94	9.89
Portland, OR	8.05	-4.95	13.00
Raleigh/Durham, NC	-28.36	9.82	-38.18
Richmond, VA	10.77	2.17	8.60
Salt Lake City	13.58	-34.02	47.60
San Antonio	61.39	-1.90	63.29
Western MI	-1.04	-6.67	5.63
Average	9.75%	-1.15%	
Average Difference			10.89%

Figure 13

Change in Vacancy Rates in Largest Office Markets, 2005-2013
(By Size of Market in Q1 2013)

CoStar Office Market	CBD	Suburb	CBD-Suburban Difference
NYC and Southwest CT	-14.46%	12.50%	-26.96%
Los Angeles	1.56	44.94	-43.38
Washington	21.95	47.17	-25.22
Chicago	-18.47	8.84	-27.31
Philadelphia	-0.98	18.63	-19.61
Boston	-12.90	-13.85	0.95
Dallas/Fort Worth	28.09	-13.37	41.46
Atlanta	25.47	20.61	4.86
Houston	-41.12	-12.23	-28.89
Long Island, NY	-30.77	8.51	-39.28
Northern NJ	10.83	24.41	-13.58
East Bay/Oakland, CA	6.86	5.94	0.92
San Francisco	-42.38	-33.90	-8.48
South Bay/San Jose, CA	9.15	-40.61	49.76
South FL-Miami	34.96	75.00	-40.04
Baltimore	14.04	10.48	3.56
Charlotte, NC	-7.06	0.76	-7.82
Cleveland	2.11	4.35	-2.24
Denver	-10.39	-24.34	13.95
Detroit	19.51	25.55	-6.04
Kansas City, KS and MO	26.36	-3.42	29.78
Minneapolis/St. Paul	-6.25	-2.27	-3.98
Orlando, FL	35.92	23.00	12.92
Phoenix	27.03	30.26	-3.23
Pittsburgh	-32.03	-47.83	15.80
Sacramento, CA	0.87	21.32	-20.45
St. Louis	27.94	18.09	9.85
San Diego	72.53	18.95	53.58
Seattle	10.08	-11.82	21.90
Tampa, FL	6.90	35.71	-28.81
Austin, TX	-45.34	-21.05	-24.29
Cincinnati/Dayton	62.04	28.16	33.88
Columbus, OH	2.08	-13.04	15.12
Hartford, CT	41.00	-2.86	43.86
Indianapolis	-13.13	-10.91	-2.22
Jacksonville, FL	-2.04	0.78	-2.82
Las Vegas	91.43	105.26	-13.83
Milwaukee/Madison	14.44	20.00	-5.56
Nashville, TN	16.51	-25.25	41.76
Portland, OR	-14.55	0.00	-14.55
Raleigh/Durham, NC	-54.72	-10.22	-44.50
Richmond, VA	39.81	13.25	26.56
Salt Lake City	-12.38	-21.95	9.57
San Antonio	61.39	10.75	50.64
Western MI	-11.21	3.28	-14.49
Average	7.57%	7.28%	
Average Difference			0.29%

Absorption is an important indicator of relative performance, because it shows where tenants are leasing and occupying office space. With only 23 percent of the total office inventory, downtowns are not going to absorb more demand than the suburbs. However, Figure 14 presents the rate of absorption from 2005 to 2013, a relative measure that accounts for differences in inventory size. As noted, this rate is calculated as occupied space in 2013 divided by occupied space in 2005, which gives an eight-year growth rate. The data show that occupancy in suburban areas has increased by 11 percent, compared to less than 5 percent in CBDs. The 6.5 percent difference is significant beyond the 1 percent level.

Figure 14

Absorption Rates in Largest Office Markets, Occupancy 1Q 2013/1Q 2005
(By Size of Market in Q1 2013)

CoStar Office Market	CBD	Suburb	CBD-Suburban Difference
NYC and Southwest CT	1.0356	1.0197	0.0159
Los Angeles	1.0057	1.0100	-0.0043
Washington	1.0595	1.0782	-0.0187
Chicago	1.0597	1.0524	0.0073
Philadelphia	1.0230	1.0111	0.0119
Boston	1.0597	1.0736	-0.0139
Dallas/Fort Worth	0.9679	1.1678	-0.1999
Atlanta	1.0140	1.0706	-0.0566
Houston	1.1514	1.1877	-0.0363
Long Island, NY	1.0949	1.0380	0.0569
Northern NJ	1.0172	0.9964	0.0208
East Bay/Oakland, CA	1.0121	1.0301	-0.0180
San Francisco	1.0983	1.1171	-0.0188
South Bay/San Jose, CA	1.0120	1.1851	-0.1731
South FL-Miami	1.0292	1.0656	-0.0364
Baltimore	0.9844	1.1890	-0.2046
Charlotte, NC	1.1692	1.1909	-0.0217
Cleveland	0.9951	1.0502	-0.0551
Denver	1.0347	1.1490	-0.1143
Detroit	0.9718	1.0021	-0.0303
Kansas City, KS and MO	1.0032	1.0670	-0.0638
Minneapolis/St. Paul	1.0099	1.0875	-0.0776
Orlando, FL	1.0949	1.1717	-0.0768
Phoenix	1.1543	1.1810	-0.0267
Pittsburgh	1.0679	1.1399	-0.0720
Sacramento, CA	1.0863	1.0963	-0.0100
St. Louis	0.9655	1.0703	-0.1048
San Diego	1.0187	1.1340	-0.1153
Seattle	1.0504	1.1687	-0.1183
Tampa, FL	1.0223	1.1074	-0.0851
Austin, TX	1.1050	1.2272	-0.1222
Cincinnati/Dayton	0.9695	1.0386	-0.0691
Columbus, OH	1.0274	1.1117	-0.0843
Hartford, CT	0.9566	1.0500	-0.0934
Indianapolis	1.0303	1.1079	-0.0776
Jacksonville, FL	1.0431	1.1438	-0.1007
Las Vegas	1.1165	1.1468	-0.0303
Milwaukee/Madison	1.0179	1.0318	-0.0139
Nashville, TN	1.0871	1.2267	-0.1396
Portland, OR	1.0659	1.0968	-0.0309
Raleigh/Durham, NC	1.1927	1.2088	-0.0161
Richmond, VA	1.0288	1.0824	-0.0536
Salt Lake City	1.0993	1.2310	-0.1317
San Antonio	0.9392	1.2387	-0.2995
Western MI	1.0589	1.0838	-0.0249
Average	1.0446	1.109653	
Average Difference			-0.06505

What can we conclude from this analysis of rents, vacancies and absorption rates, in which each of the 45 largest office markets is given equal weight? Downtowns perform better on the rent indicators. Vacancy rates and changes in vacancy indicators are at least as good in suburban areas as in CBDs. Tenants are leasing more space, relatively as well as absolutely, in suburban areas. Mark Twain once quipped that rumors of his death were greatly exaggerated. The same can be said about the suburban office market compared to downtowns. Furthermore, CoStar News reports that suburban office markets, with about three quarters of the inventory, have absorbed about 90 percent of demand in 2012 and 2013.¹

¹“For U.S. Office Market, It Was a Very Good Year,” Randy Drummer, CoStar News, Jan. 29, 2014. <http://www.costar.com/News/Article/For-US-Office-Market-It-Was-a-Very-Good-Year/156702>

Suburban Vibrant Center-Suburban Office Park or Submarket Comparisons

With data indicating that the suburbs are absorbing relatively more space than CBDs, it is important to understand which areas in the suburbs are attracting space users. The analysis in this section computes the performance of the best examples of suburban vibrant centers and comparable suburban office parks or their surrounding submarkets. These vibrant centers fall into two categories. The first consists of redevelopment or infill development that revitalized underperforming suburban commercial assets. Examples include the Mueller Redevelopment in Austin, Texas (the redevelopment of the Robert Mueller Municipal Airport) and Santana Row in San Jose, California (the redevelopment of the Town & Country Village Shopping Center). The second group consists of older established town centers located in jurisdictions that have become part of larger metro areas, such as Oak Park and White Plains in the Chicago and New York metro areas, respectively. Either type of vibrant center can be transit oriented.

Potential vibrant centers initially were identified from published work and by area experts who were consulted in the course of the study. The best examples of suburban vibrant centers are presented in Figure 15. Appendix G presents a definition of vibrant centers, 11 key characteristics of vibrant centers, an explanation of how the suburban

vibrant centers in this study were identified and qualified, and the suburban areas to which they were compared. Potential vibrant centers were included in the performance analysis only if they met specific criteria identified in Appendix G and had at least 500,000 square feet of office space within a half mile of an address at the center's core. Area experts who contributed to this study are listed in Appendix H.

Twenty-one redeveloped/infill suburban vibrant centers include all existing office space within a half-mile circle around their cores. Each of these centers was compared to a suburban office park or office corridor with at least 1 million square feet of RBA within a half-mile radius around its center. Another 21 established vibrant town centers were compared to the remainder of the office submarket surrounding their central area. Four of the suburban centers and seven of the town centers also are transit oriented, but these centers were not analyzed as a separate group.

The seven measures for the vibrant center-suburban comparison pairings were computed, and the differences between them were analyzed statistically. The detailed explanation of this analysis is provided in Appendix D.

Figure 15

Suburban Vibrant Centers

Name	CBD ¹	Size (RBA) ²	Type ³
Ballston, VA	Washington, D.C.-1	8,790,318	TC/TOD
Belmar, CO	Denver-2	581,093	SUB
Birmingham, MI	Detroit-2	2,224,524	TC
Blue Back Square, CT	Hartford-3	907,302	SUB
Boulder, CO	Denver-2	2,539,221	TC
Buckhead Station, GA	Atlanta-1	9,915,280	SUB/TOD
CityPlace, FL	South Florida-1	3,169,068	SUB
Clayton, MO	St. Louis-2	7,724,237	TC
Country Club Plaza, MO	Kansas City-2	3,577,923	SUB
Culver City, CA	Los Angeles-1	1,404,413	SUB
Decatur, GA	Atlanta-1	1,641,777	TC/TOD
Evanston, IL	Chicago-1	2,472,051	TC/TOD
Frederick, MD	Washington, D.C.-1	1,586,597	TC
Highland Park, IL	Chicago-1	792,974	TC/TOD
Hillsboro Village, TN	Nashville-3	1,430,717	SUB
Lowell, MA	Boston-1	2,032,642	TC/TOD
Mizner Park, FL	Miami/Dade-2	1,351,436	SUB
Morristown, NJ	New York-1	2,124,093	SUB/TOD
Mueller Redevelopment, TX	Austin-3	516,022	SUB
Oak Park, IL	Chicago-1	1,019,154	TC/TOD
Old Town Alexandria, VA	Washington, D.C.-1	3,939,920	TC
Old Town Pasadena, CA	Los Angeles-1	4,126,784	TC
Princeton, NJ	Philadelphia-1	2,472,051	TC
Red Bank, NJ	New York-1	1,295,065	SUB
Redmond, WA	Seattle-2	1,403,727	TC
Reston Town Center, VA	Washington, D.C.-1	5,394,169	TC
San Mateo, CA	San Francisco-1	1,478,245	SUB/TOD
Santana Row, CA	South Bay/San Jose-1	817,542	SUB
Shirlington, VA	Washington, D.C.-1	801,214	SUB
Silver Spring, MD	Washington, D.C.-1	6,777,305	TC/TOD
Somerville, MA	Boston-1	854,923	TC
South Coast Town Center, CA	Los Angeles-1	3,424,163	SUB
Southlake Town Square, TX	Dallas-Fort Worth-1	541,622	SUB
SouthPark, NC	Charlotte-2	2,099,324	SUB
Stamford, CT	New York-1	8,176,944	TC
The Woodlands Town Center, TX	Houston-1	3,091,928	SUB
Towson Town Center, MD	Baltimore-2	4,101,209	SUB
Walnut Creek, CA	East Bay/Oakland-1	2,953,326	SUB/TOD
Waltham, MA	Boston-1	734,666	TC
Westfield UTC, CA	San Diego-2	3,392,698	SUB
White Plains, NY	New York-1	7,241,728	TC
Winter Park, FL	Orlando-2	1,372,077	TC

¹The numbers below refer to first-, second- and third-tier markets. For definitions, see p. 14.

²Size: rentable building area (RBA) in square feet, as of Q1 2013.

³Types are defined as follows: SUB, suburban redevelopment/infill development; TC, established town center core area; TOD, transit-oriented development.

A list of each suburban vibrant center and its comparable suburban area (office park, office corridor or surrounding submarket) is presented in Figure 16.

Figure 16

Suburban Vibrant Centers and Their Comparable Submarkets or Office Parks

Suburban Vibrant Center	Type*	Comparable Submarket or Office Park
Birmingham, MI	TC	Birmingham Area and Bloomfield submarkets
Boulder, CO	TC	Boulder submarket
Clayton, MO	TC	Creve Coeur/Highway 67, I-270/Maryland Heights and I-270/Olive Boulevard submarkets
Frederick, MD	TC	Frederick submarket
Old Town Alexandria, VA	TC	I-395 Corridor submarket
Old Town Pasadena, CA	TC	Pasadena/Arcadia/Monrovia submarket
Princeton, NJ	TC	Princeton North submarket
Redmond, WA	TC	Redmond submarket
Reston Town Center, VA	TC	Reston submarket
Somerville, MA	TC	Somerville/Everett submarket
Stamford, CT	TC	Stamford submarket
Waltham, MA	TC	Waltham/Watertown submarket
White Plains, NY	TC	East I-287 submarket
Winter Park, FL	TC	Winter Park submarket
Ballston, VA	TC/TOD	Tysons Corner submarket
Decatur, GA	TC/TOD	Northlake/Lavista and Stone Mountain submarkets
Evanston, IL	TC/TOD	Near North submarket
Highland Park, IL	TC/TOD	Central North submarket
Lowell, MA (core)	TC/TOD	Lowell/Chelmsford submarket
Oak Park, IL (core)	TC/TOD	Oak Park Area submarket
Silver Spring, MD	TC/TOD	Greenbelt, N. Silver Spring and Kensington/Wheaton submarkets
Buckhead Station, GA	SUB/TOD	Upper Buckhead submarket
Morristown, NJ (core)	SUB/TOD	Park Avenue at Morris County (office park)
San Mateo, CA (core)	SUB/TOD	Peninsula Office Park
Walnut Creek, CA (core)	SUB/TOD	Camino Ramon Office Park
Belmar, CO	SUB	West Point (office park)
Blue Back Square, CT	SUB	Salmon Brook Office Park
CityPlace, FL	SUB	Centrepark
Country Club Plaza, MO	SUB	Sprint World Headquarters (office park)
Culver City, CA (core)	SUB	Park Place (office park)
Hillsboro Village, TN	SUB	Burton Hills (office park)
Mizner Park, FL	SUB	Boca Corporate Center
Mueller Redevelopment, TX	SUB	Highway 290 East area
Red Bank, NJ (core)	SUB	Middletown area
Santana Row, CA	SUB	West Valley Corporate Center
Shirlington, VA	SUB	Park Center (office park)
South Coast Town Center, CA	SUB	Colton Lake Center (office park)
Southlake Town Square, TX	SUB	Westlake Campus (office park)
SouthPark, NC	SUB	Ballantyne Corporate Park
Towson Town Center, MD	SUB	Hunt Valley Business Park
Westfield UTC, CA	SUB	Mira Mesa area
The Woodlands Town Center, TX	SUB	Greenspoint Mall Area

*Types are defined as follows: SUB, suburban redevelopment/infill development; TC, established town center core area; TOD, transit-oriented development.

The comparative results for rents and vacancy rates in the first quarter of 2013 are presented in Figures 17 and 18. Suburban vibrant centers are performing significantly better than typical suburban office space for these two important measures. Rents are higher by \$3.39 and vacancy rates are lower by 4.5 percent in suburban vibrant centers, findings that are significant at the 1 percent level.

Figure 17

**Average Asking Rents, Q1 2013, in Suburban Vibrant Centers and
Their Comparable Suburban Submarket or Office Park**

Suburban Vibrant Center	Average Asking Rent, SVC ¹	Average Asking Rent, COMP ²	SVC-COMP Rent Difference
Birmingham, MI	\$27.24	\$22.57	\$4.67
Boulder, CO	30.70	17.77	12.93
Clayton, MO	22.49	18.13	4.36
Frederick, MD	18.09	20.77	-2.68
Old Town Alexandria, VA	30.06	31.12	-1.06
Old Town Pasadena, CA	29.41	28.85	0.56
Princeton, NJ	26.19	23.47	2.72
Redmond, WA	26.03	23.28	2.75
Reston Town Center, VA	32.94	26.01	6.93
Somerville, MA	27.47	18.73	8.74
Stamford, CT	37.58	34.32	3.26
Waltham, MA	17.60	26.63	-9.03
White Plains, NY	30.49	26.96	3.53
Winter Park, FL	26.93	17.84	9.09
Ballston, VA	40.70	29.76	10.94
Decatur, GA	20.78	16.33	4.45
Evanston, IL	26.19	18.62	7.57
Highland Park, IL	25.58	18.79	6.79
Lowell, MA	14.88	17.03	-2.15
Oak Park, IL	22.32	18.62	3.70
Silver Spring, MD	27.64	22.50	5.14
Buckhead Station, GA	25.64	24.26	1.38
Morristown, NJ	26.61	20.76	5.85
San Mateo, CA	33.74	37.54	-3.80
Walnut Creek, CA	28.35	23.53	4.82
Belmar, CO	14.20	15.88	-1.68
Blue Back Square, CT	25.84	19.39	6.45
CityPlace FL	34.03	22.88	11.15
Country Club Plaza, MO	22.76	17.20	5.56
Culver City, CA	32.60	28.41	4.19
Hillsboro Village, TN	18.31	26.43	-8.12
Mizner Park, FL	30.16	22.19	7.97
Mueller Redevelopment, TX	22.98	16.63	6.35
Red Bank, NJ	23.66	29.31	-5.65
Santana Row, CA	31.44	25.26	6.18
Shirlington, VA	23.24	29.63	-6.39
South Coast Town Center, CA	23.13	18.43	4.70
Southlake Town Square, TX	26.00	22.67	3.33
SouthPark, NC	21.76	23.22	-1.46
Towson Town Center, MD	18.99	20.99	-2.00
Westfield UTC, CA	33.47	26.96	6.51
The Woodlands Town Center, TX	37.12	23.32	13.80
Average	\$26.56	\$23.17	
Average Difference			\$3.39

¹Suburban vibrant center.

²Comparable traditional single-use suburban submarket or office park; see Figure 16 and Appendix G for descriptions and definitions.

Figure 18

**Vacancy Rates, Q1 2013, in Suburban Vibrant Centers and
Their Comparable Suburban Submarket or Office Park**

Suburban Vibrant Center	Vacancy Rate, SVC ¹	Vacancy Rate, COMP ²	SVC-COMP Vacancy Rate Difference
Birmingham, MI	9.4%	13.7%	-4.3%
Boulder, CO	5.0	7.0	-2.0
Clayton, MO	10.2	15.7	-5.5
Frederick, MD	10.3	20.8	-10.5
Old Town Alexandria, VA	8.5	29.3	-20.8
Old Town Pasadena, CA	5.4	21.0	-15.6
Princeton, NJ	10.4	17.1	-6.7
Redmond, WA	5.1	9.3	-4.2
Reston Town Center, VA	13.4	21.9	-8.5
Somerville, MA	1.3	8.1	-6.8
Stamford, CT	21.3	19.7	1.6
Waltham, MA	1.9	13.1	-11.2
White Plains, NY	17.1	17.7	-0.6
Winter Park, FL	10.4	6.8	3.6
Ballston, VA	14.8	16.1	-1.3
Decatur, GA	9.0	19.0	-10.0
Evanston, IL	10.4	9.3	1.1
Highland Park, IL	9.0	12.9	-3.9
Lowell, MA	13.3	15.4	-2.1
Oak Park, IL	15.6	9.3	6.3
Silver Spring, MD	12.0	19.0	-7.0
Buckhead Station, GA	16.9	18.1	-1.2
Morristown, NJ	13.1	12.7	0.4
San Mateo, CA	4.8	9.6	-4.8
Walnut Creek, CA	11.2	1.9	9.3
Belmar, CO	4.2	27.6	-23.4
Blue Back Square, CT	4.2	12.6	-8.4
CityPlace, FL	14.1	20.9	-6.8
Country Club Plaza, MO	12.1	8.2	3.9
Culver City, CA	8.6	17.7	-9.1
Hillsboro Village, TN	1.5	2.1	-0.6
Mizner Park, FL	11.9	29.5	-17.6
Mueller Redevelopment, TX	0.0	8.5	-8.5
Red Bank, NJ	9.5	15.8	-6.3
Santana Row, CA	4.1	4.5	-0.4
Shirlington, VA	14.1	34.8	-20.7
South Coast Town Center, CA	20.9	3.1	17.8
Southlake Town Square, TX	5.6	17.0	-11.4
SouthPark, NC	8.2	11.7	-3.5
Towson Town Center, MD	14.5	6.9	7.6
Westfield UTC, CA	9.1	6.9	2.2
The Woodlands Town Center, TX	0.4	1.1	-0.7
Average	9.59%	14.13%	
Average Difference			-4.5%

¹Suburban vibrant center.

²Comparable traditional single-use suburban submarket or office park; see Figure 16 and Appendix G for descriptions and definitions.

From 2005 to 2013, relative absorption is 6.27 percent greater in suburban vibrant centers, as shown in Figure 19. The result is not statistically significant, however, because the differences from place to place are quite variable.

Figure 19

**Absorption Rates in Suburban Vibrant Centers and Their Comparable
Suburban Submarket or Office Park, Occupancy 1Q 2013/1Q 2005**

Suburban Vibrant Center	Absorption Rate, SVC ¹	Absorption Rate, COMP ²	SVC-COMP Absorption Rate Difference
Birmingham, MI	1.0768	1.0082	6.86%
Boulder, CO	1.1597	1.1547	0.50
Clayton, MO	1.1168	1.0230	9.38
Frederick, MD	1.0965	1.1659	-6.94
Old Town Alexandria, VA	0.9906	0.8324	15.82
Old Town Pasadena, CA	0.9816	1.0317	-5.01
Princeton, NJ	1.0390	0.9762	6.28
Redmond, WA	1.2040	1.0910	11.30
Reston Town Center, VA	1.1013	0.9890	11.23
Somerville, MA	1.1395	1.1478	-0.83
Stamford, CT	0.9475	0.9840	-3.65
Waltham, MA	1.0660	1.1836	-11.76
White Plains, NY	0.9596	0.9590	0.06
Winter Park, FL	1.2045	1.0454	15.91
Ballston, VA	1.3131	1.0205	29.26
Decatur, GA	0.9816	0.9424	3.92
Evanston, IL	1.0390	1.0926	-5.36
Highland Park, IL	1.0174	1.0906	-7.32
Lowell, MA	0.9579	1.0692	-11.13
Oak Park, IL	0.9749	0.9389	3.60
Silver Spring, MD	0.9714	0.9185	5.29
Buckhead Station, GA	1.3230	1.0159	30.71
Morristown, NJ	1.0183	1.1264	-10.81
San Mateo, CA	1.0766	1.0282	4.84
Walnut Creek, CA	1.0075	1.0885	-8.10
Belmar, CO	1.4846	0.8019	68.27
Blue Back Square, CT	1.2123	1.0253	18.70
CityPlace, FL	1.2754	1.0381	23.73
Country Club Plaza, MO	0.9527	1.0120	-5.93
Culver City, CA	1.0394	1.2542	-21.48
Hillsboro Village, TN	1.0269	0.9957	3.12
Mizner Park, FL	0.9723	0.8755	9.68
Mueller Redevelopment, TX	1.8220	1.1420	68.00
Red Bank, NJ	1.0434	0.9405	10.29
Santana Row, CA	1.1390	1.0843	5.47
Shirlington, VA	1.2000	0.7382	46.18
South Coast Town Center, CA	0.9295	1.0100	-8.05
Southlake Town Square, TX	1.3153	1.2639	5.14
SouthPark, NC	1.1345	1.6285	-49.40
Towson Town Center, MD	1.0006	1.2187	-21.81
Westfield UTC, CA	1.0899	1.2231	-13.32
The Woodlands Town Center, TX	1.4653	1.0595	40.58
Average	1.115886	1.053214	
Average Difference			6.27%

¹Suburban vibrant center.

²Comparable traditional single-use suburban submarket or office park; see Figure 16 and Appendix G for descriptions and definitions.

The change measured for rents from the first quarter of 2009 through the first quarter of 2013 and from the first quarter of 2005 through the first quarter of 2013 are shown in Figures 20 and 21. In both suburban vibrant centers and typical suburban office space, rents decreased since 2009 and increased since 2005. These outcomes are not different enough to be statistically significant.

Figure 20

**Change in Rents, Q1 2009-Q1 2013 in Suburban Vibrant Centers and
Their Comparable Suburban Submarket or Office Park**

Suburban Vibrant Center	Rent Change, SVC ¹	Rent Change, COMP ²	SVC-COMP Rent Change Difference
Birmingham, MI	-7.95%	-10.69%	2.74%
Boulder, CO	14.81	-4.05	18.86
Clayton, MO	-3.10	-4.23	1.13
Frederick, MD	-18.40	-12.33	-6.07
Old Town Alexandria, VA	2.42	10.87	-8.45
Old Town Pasadena, CA	-2.68	-16.93	14.25
Princeton, NJ	2.79	16.53	-13.74
Redmond, WA	-19.19	-9.06	-10.13
Reston Town Center, VA	-1.88	-10.50	8.62
Somerville, MA	-8.00	2.29	-10.29
Stamford, CT	0.56	-16.07	16.63
Waltham, MA	-9.00	-1.15	-7.85
White Plains, NY	-5.52	-10.49	4.97
Winter Park, FL	-14.62	-23.53	8.91
Ballston, VA	10.87	0.54	10.33
Decatur, GA	-8.74	0.06	-8.80
Evanston, IL	2.79	-12.21	15.00
Highland Park, IL	-0.62	-10.69	10.07
Lowell, MA	-0.73	-9.08	8.35
Oak Park, IL	-2.83	-12.21	9.38
Silver Spring, MD	-5.41	2.55	-7.96
Buckhead Station, GA	-14.02	-8.87	-5.15
Morristown, NJ	-6.80	-43.15	36.35
San Mateo, CA	19.01	4.57	14.44
Walnut Creek, CA	-13.75	35.15	-48.90
Belmar, CO	-10.97	-3.47	-7.50
Blue Back Square, CT	-0.69	-11.50	10.81
CityPlace, FL	-14.17	-16.77	2.60
Country Club Plaza, MO	-6.34	-32.23	25.89
Culver City, CA	-7.78	-13.38	5.60
Hillsboro Village, TN	-10.25	11.47	-21.72
Mizner Park, FL	-5.78	-5.21	-0.57
Mueller Redevelopment, TX	0.00	-0.83	0.83
Red Bank, NJ	-21.60	-0.20	-21.40
Santana Row, CA	-8.87	18.81	-27.68
Shirlington, VA	-31.99	9.86	-41.85
South Coast Town Center, CA	-22.87	-11.44	-11.43
Southlake Town Square, TX	-4.80	-21.31	16.51
SouthPark, NC	-1.94	9.12	-11.06
Towson Town Center, MD	-3.60	4.90	-8.50
Westfield UTC, CA	-7.39	9.73	-17.12
The Woodlands Town Center, TX	19.70	8.01	11.69
Average	-5.46%	-4.46%	
Average Difference			-1.01%

¹Suburban vibrant center.

²Comparable traditional single-use suburban submarket or office park; see Figure 16 and Appendix G for descriptions and definitions.

Figure 21

Change in Rents, Q1 2005-Q1 2013 in Suburban Vibrant Centers and
Their Comparable Suburban Submarket or Office Park

Suburban Vibrant Center	Rent Change, SVC ¹	Rent Change, COMP ²	VC-SUB Rent Change Difference
Birmingham, MI	5.38%	-4.40%	9.78%
Boulder, CO	25.87	15.17	10.70
Clayton, MO	-2.64	-3.05	0.41
Frederick, MD	-15.66	11.19	-26.85
Old Town Alexandria, VA	11.13	24.88	-13.75
Old Town Pasadena, CA	8.40	14.21	-5.81
Princeton, NJ	-5.66	0.77	-6.43
Redmond, WA	29.18	33.10	-3.92
Reston Town Center, VA	18.32	4.96	13.36
Somerville, MA	44.35	-49.51	93.86
Stamford, CT	23.33	9.44	13.89
Waltham, MA	-26.30	18.25	-44.55
White Plains, NY	16.06	-1.89	17.95
Winter Park, FL	19.53	11.85	7.68
Ballston, VA	20.20	17.03	3.17
Decatur, GA	8.51	-0.73	9.24
Evanston, IL	-5.66	-17.57	11.91
Highland Park, IL	23.52	-9.79	33.31
Lowell, MA	-4.06	28.14	-32.20
Oak Park, IL	3.86	-17.57	21.43
Silver Spring, MD	17.52	9.17	8.35
Buckhead Station, GA	7.46	1.98	5.48
Morristown, NJ	0.23	-39.81	40.04
San Mateo, CA	37.88	71.18	-33.30
Walnut Creek, CA	-4.13	-6.70	2.57
Belmar, CO	-23.53	-6.64	-16.89
Blue Back Square, CT	-8.43	-4.34	-4.09
CityPlace, FL	25.57	-0.65	26.22
Country Club Plaza, MO	-1.09	14.67	-15.76
Culver City, CA	8.74	19.72	-10.98
Hillsboro Village, TN	12.89	16.28	-3.39
Mizner Park, FL	-5.57	5.82	-11.39
Mueller Redevelopment, TX	39.27	14.85	24.42
Red Bank, NJ	15.02	1.56	13.46
Santana Row, CA	25.01	56.99	-31.98
Shirlington, VA	-10.96	16.70	-27.66
South Coast Town Center, CA	-20.49	6.22	-26.71
Southlake Town Square, TX	1.36	10.96	-9.60
SouthPark, NC	10.34	5.59	4.75
Towson Town Center, MD	0.85	7.37	-6.52
Westfield UTC, CA	-1.79	0.15	-1.94
The Woodlands Town Center, TX	64.98	8.47	56.51
Average	9.26%	7.00%	
Average Difference			2.26%

¹Suburban vibrant center.

²Comparable traditional single-use suburban submarket or office park; see Figure 16 and Appendix G for descriptions and definitions.

Changes in vacancies from the first quarter of 2009 through the first quarter of 2013 and from the first quarters in 2005 and 2013 are shown in Figures 22 and 23. Vacancies have increased much more modestly in suburban vibrant centers, by about 3 percent in each period. Compared to suburban vacancies, the 17.68 percent difference since the recession is not statistically significant, but the 23.67 percent difference since 2005 is significant at the 5 percent level.

Figure 22

**Change in Vacancy Rates, Q1 2009-Q1 2013 in Suburban Vibrant Centers
and Their Comparable Suburban Submarket or Office Park**

Suburban Vibrant Center	Vacancy Change, SVC ¹	Vacancy Change, COMP ²	VC-SUB Vacancy Change Difference
Birmingham, MI	-13.76%	19.13%	-32.89%
Boulder, CO	-48.45	-40.17	-8.28
Clayton, MO	25.93	55.45	-29.52
Frederick, MD	9.57	-12.24	21.81
Old Town Alexandria, VA	14.86	154.78	-139.92
Old Town Pasadena, CA	42.11	7.69	34.42
Princeton, NJ	3.70	-6.04	9.74
Redmond, WA	-48.48	36.76	-85.24
Reston Town Center, VA	-16.25	11.73	-27.98
Somerville, MA	-59.38	-8.99	-50.39
Stamford, CT	97.22	71.30	25.92
Waltham, MA	-54.76	-16.03	-38.73
White Plains, NY	33.59	47.50	-13.91
Winter Park, FL	-25.18	-13.92	-11.26
Ballston, VA	169.09	18.38	150.71
Decatur, GA	-16.67	66.67	-83.34
Evanston, IL	-3.70	-2.11	-1.59
Highland Park, IL	20.00	9.32	10.68
Lowell, MA	46.15	27.27	18.88
Oak Park, IL	75.28	-2.11	77.39
Silver Spring, MD	15.38	43.94	-28.56
Buckhead Station, GA	12.67	30.22	-17.55
Morristown, NJ	45.56	51.19	-5.63
San Mateo, CA	-5.88	-63.08	57.20
Walnut Creek, CA	-20.00	-65.45	45.45
Belmar, CO	-34.38	80.39	-114.77
Blue Back Square, CT	-51.16	-9.35	-41.81
CityPlace, FL	-14.02	-10.68	-3.34
Country Club Plaza, MO	5.22	127.78	-122.56
Culver City, CA	100.00	-21.68	121.68
Hillsboro Village, TN	0.00	-46.15	46.15
Mizner Park, FL	8.18	-14.24	22.42
Mueller Redevelopment, TX	-100.00	-17.48	-82.52
Red Bank, NJ	1.06	327.03	-325.97
Santana Row, CA	-66.94	-40.79	-26.15
Shirlington, VA	200.00	197.44	2.56
South Coast Town Center, CA	22.22	0.00	22.22
Southlake Town Square, TX	-52.54	-7.61	-44.93
SouthPark, NC	-28.70	13.59	-42.29
Towson Town Center, MD	0.69	9.52	-8.83
Westfield UTC, CA	-50.81	-50.00	-0.81
The Woodlands Town Center, TX	-96.55	-75.56	-20.99
Average	3.35%	21.03%	
Average Difference			-17.68%

¹Suburban vibrant center.

²Comparable traditional single-use suburban submarket or office park; see Figure 16 and Appendix G for descriptions and definitions.

Figure 23

Change in Vacancy Rates, Q1 2005-Q1 2013 in Suburban Vibrant Centers
and Their Comparable Suburban Submarket or Office Park

Suburban Vibrant Center	Vacancy Change, SVC ¹	Vacancy Change, COMP ²	VC-COMP Vacancy Rate Difference
Birmingham, MI	17.50%	53.93%	-36.43%
Boulder, CO	-70.41	-58.58	-11.83
Clayton, MO	-20.31	21.71	-42.02
Frederick, MD	-3.74	87.39	-91.13
Old Town Alexandria, VA	26.87	128.91	-102.04
Old Town Pasadena, CA	63.64	45.83	17.81
Princeton, NJ	-24.09	64.42	-88.51
Redmond, WA	-60.77	-14.68	-46.09
Reston Town Center, VA	116.13	50.00	66.13
Somerville, MA	-83.95	-56.22	-27.73
Stamford, CT	26.04	75.89	-49.85
Waltham, MA	-66.67	-29.19	-37.48
White Plains, NY	34.65	27.34	7.31
Winter Park, FL	22.35	19.30	3.05
Ballston, VA	6.47	15.83	-9.36
Decatur, GA	23.29	43.94	-20.65
Evanston, IL	-24.09	-30.08	5.99
Highland Park, IL	15.38	-1.53	16.91
Lowell, MA	51.14	-20.21	71.35
Oak Park, IL	16.42	-30.08	46.50
Silver Spring, MD	42.86	100.00	-57.14
Buckhead Station, GA	24.26	52.10	-27.84
Morristown, NJ	3.97	115.25	-111.28
San Mateo, CA	-57.14	-20.66	-36.48
Walnut Creek, CA	0.90	-80.81	81.71
Belmar, CO	-63.79	181.63	-245.42
Blue Back Square, CT	61.54	23.53	38.01
CityPlace, FL	12.80	154.88	-142.08
Country Club Plaza, MO	61.33	115.79	-54.46
Culver City, CA	22.86	18.79	4.07
Hillsboro Village, TN	-63.41	23.53	-86.94
Mizner Park, FL	35.23	130.47	-95.24
Mueller Redevelopment, TX	-100.00	-57.29	-42.71
Red Bank, NJ	37.68	51.92	-14.24
Santana Row, CA	-30.51	66.67	-97.18
Shirlington, VA	235.71	200.00	35.71
South Coast Town Center, CA	40.27	-22.50	62.77
Southlake Town Square, TX	-18.84	-50.44	31.60
SouthPark, NC	-35.43	-55.34	19.91
Towson Town Center, MD	15.08	-48.89	63.97
Westfield UTC, CA	-45.18	-61.02	15.84
The Woodlands Town Center, TX	-92.31	-83.58	-8.73
Average	3.66%	27.33%	
Average Difference			-23.67%

¹Suburban vibrant center.

²Comparable traditional single-use suburban submarket or office park; see Figure 16 and Appendix G for descriptions and definitions.

In summary, no meaningful difference exists for the two measures of rent changes. For the other five measures, office space in suburban vibrant centers outperforms typical suburban office space; differences in asking rents, vacancy rates and changes in vacancies since 2005 are statistically significant. In suburban vibrant centers, absorption is higher and vacancies from 2009 increased less, but neither difference is statistically significant. Overall, the comparisons indicate much stronger performance for suburban vibrant centers than for typical suburban office environments. These results are consistent with the results for second- and third-tier markets reported in Appendix F.

Conclusions

Summary of Preference and Performance Findings

Central business districts (CBDs) typically feature higher densities, larger and older buildings, fewer vacant parcels and more redeveloped infill sites than suburban areas. The suburbs have lower densities, smaller and newer buildings and ample greenfield sites. Entitlements for new development are more complex and time consuming in CBDs than in suburban settings. Given these inherent differences, one would expect office rents to be higher in CBDs than in their suburbs and absorption rates to be higher in the suburbs than in their CBDs. The performance results support these expectations.

When vacancy rates in CBDs are compared to those in their suburban areas, the results indicate similar performance. Vacancy rates are lower in first-tier CBDs, higher in second-tier CBDs, and about the same in third-tier CBDs compared to their suburbs. The differences are not statistically significant. Therefore, the absence of clear location preferences for either downtowns or suburban areas reported in preference surveys is consistent with these performance results.

The performance analysis supports the strong location preference for suburban vibrant centers. When suburban vibrant centers are paired with comparable suburban submarkets or office parks, rents are found to be significantly higher and vacancy rates significantly lower in the suburban vibrant centers. Suburban vibrant centers also have higher absorption rates than typical single-use suburban office areas, although the difference is not statistically significant.

For the 33 second- and third-tier markets described in Appendix F, vibrant centers perform better than suburban areas for all seven indicators. Vibrant centers perform better than CBDs on five of seven indicators and have about the same value for the other two. (See Figure 3 on page 4.)

In summary, the answers to the five questions addressed in this study are as follow:

1. **Do office tenants prefer CBDs to suburban areas?** Sometimes they do, sometimes they don't. Location preferences primarily depend on company priorities and on the area's economic base and spatial structure.
2. **Do office tenants prefer suburban vibrant centers to typical single-use suburban environments?** Yes, they do.
3. **Are office properties in CBDs performing better than those in suburban office areas?** Yes, for rent level and rent changes; no difference in vacancy rates; no, for absorption (less absorption in CBDs).
4. **Are office properties in suburban vibrant centers outperforming those in typical single-use suburban office areas?** Yes, for almost all metrics.
5. **Are suburban vibrant centers preferred to or performing better than CBDs in their market areas?** Preference depends on the specific area; vibrant center performance is the same as or better than CBD performance.

Appendix A

Research on Location Preferences

In September 2013, the research team contacted commercial brokers John Kerr, Peter Pace and Brian Wallace of York Properties in the Raleigh, North Carolina, area who they knew professionally to pretest the survey, which was revised on the basis of their feedback. Jim Anthony, who directs the Colliers International office in Raleigh, flagged Colliers' upcoming national conference in Atlanta. The research associate went to the conference and completed 40 interviews on-site in two days. The primary investigator (PI) attended a staff meeting at the Colliers Raleigh office and surveyed eight brokers in attendance. We compiled over 50 survey responses in all after making follow-up calls to Colliers brokers and receiving additional responses from other Raleigh-area brokers.

With the list of contacts provided by Margarita Foster from NAIOP, the PI reached out to five major commercial real estate firms. Kevin Thorpe, chief economist, and Anna Taylor at Cassidy Turley devised an intranet version of the survey and sent it to the firm's office brokers several times in October and November 2013. The effort generated 47 responses from Cassidy Turley brokers.

CBRE declined to participate, indicating that the firm was engaged in a similar study.

Two firms, JLL and Cushman & Wakefield (C&W), preferred to involve research staff instead of brokers. The researchers offered information on downtowns, suburban vibrant centers and suburban locations in their market areas.

This alternative created an opportunity not considered in the original research design. These researchers had knowledge of tenant preferences in one or more markets and provided definitive information in response to the survey, as well as contextual insights and internal reports. They also provided performance assessments of their market(s) that the PI compared to the results of the analysis based on CoStar data. This feedback was valuable corroboration, since the researchers' insights were based on their considerable experience in those markets and on their firms' proprietary databases.

John Sikaitis identified the following JLL researchers who participated in the study: Abel Balwierz (Minneapolis/St. Paul), Andrew Batson (Pittsburgh), Walter Bialas (Dallas-Fort Worth), Scott Homa (Washington, D.C.), Graham Hildebrand (Houston), Matt Kolano (Phoenix), Robert Kramp (Chicago), Lori Mabardi (Boston), Devon Parry (LA), Patricia Raicht (Seattle), Amber Schiada (San Francisco, San Jose, Oakland), Amanda Seyfried (Denver), Roberta Steen (Miami), Blaise Tomazic (St. Louis), Elliot Williams (Sacramento) and Geoff Wright (Philadelphia).

Maria Sicola and Faith Ramsour connected the PI to the following C&W researchers: Andrea Arata (Bay Area and Sacramento), Matt Christian (Seattle), Petra Durnin (LA), Pam Flora (San Diego), Robert Hoefer (Houston), Sharon Joyce (Boston), Brian Larson (Denver), Melissa Laneve and Warren Smith (Nashville), Logan Menne (Atlanta), Donald Noland (Northeast), Chris Owen (Orlando) and Lauren Pace (Miami/South Florida).

The research team interviewed 128 brokers and researchers. One or more respondents were located in each of the following 46 areas: Atlanta, Baltimore, Bethesda, Maryland, Boise, Idaho, Boston, Burlingame, California, Charleston, South Carolina, Charlotte, North Carolina, Chatham, New Jersey, Chicago, Columbia, Maryland, Dallas-Fort Worth, Denver, Detroit, Fort Lauderdale, Florida, Hartford, Connecticut, Houston, Indianapolis, Kansas City, Kansas and Missouri, Los Angeles, Memphis, Tennessee, Miami, Minneapolis/St. Paul, Monterey/Santa Cruz, California, Nashville, Tennessee, New York, Oakland/East Bay, California, Omaha, Nebraska, Orlando, Florida, Palo Alto, California, Philadelphia, Phoenix, Pittsburgh, Pleasanton, California, Princeton, New Jersey, Providence, Rhode Island, Raleigh, North Carolina, San Diego, San Francisco, San Jose, California, Seattle, Stamford, Connecticut, St. Louis, Tampa, Florida, Toronto and Washington, D.C.

The number of interviews is sufficiently large for the research team to have confidence in the results. Limiting the length of the survey to about five minutes appears to have increased the response rate.