

# WHERE AMERICA GOES TO WORK

The BOMA International logo is located in the bottom right corner of the title section. It consists of the word "BOMA" in a large, bold, white sans-serif font, with the word "International" in a smaller, white sans-serif font directly beneath it. Both words are set against a dark gray rectangular background.

The Contributions of Office Building Operations to the Economy / 2016

## Acknowledgements

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**CoStar Group Inc.**

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This document was prepared by Dr. Stephen S. Fuller of George Mason University for BOMA International to provide information to those in the commercial real estate industry and other interested parties about the economic impact of office building operations (including management, maintenance and repair, servicing and utilities) in the office markets served by BOMA local associations. Because the market boundaries of BOMA local associations are not always the same as the metro areas that they represent, the data presented in this document may differ according to the geographic areas in question.

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## About BOMA International

The Building Owners and Managers Association (BOMA) International is a federation of 91 BOMA U.S. associations and 18 international affiliates. Founded in 1907, BOMA represents the owners and managers of all commercial property types including 10.5 billion square feet of U.S. office space that supports 1.75 million jobs and contributes \$234.9 billion to the U.S. GDP. Its mission is to advance a vibrant commercial real estate industry through advocacy, influence and knowledge. Learn more at [www.boma.org](http://www.boma.org).

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It's been said that the best place to hide something is in plain sight. There is one U.S. industry that proves the truth of that old maxim: commercial real estate.

And yet, we are surrounded by major clues to the true economic power generated by the massive inventory of U.S. office buildings. Hundreds of millions of people populate our offices virtually every day of the week. Those of us employed therein spend most of our waking hours there.

Despite these clues, the built environment goes mostly unnoticed—until that is, an elevator breaks down, a cafeteria pipe leaks or the heat needs regulating.

This lack of awareness stems largely from the sheer repetition of the act of going to work. It is a ritual, near-to a cliché, so ingrained in the American culture that it far overshadows the fact that our destination—the office—will on this day make a major contribution to the U.S. economy. Given this culture, it's understandable that we also lose sight of the professionals who make it possible for those hundreds of millions to work—those who service the tenants and keep those elevators and those pipes functioning. We walk by them every day.

**The 10.5 billion square feet of office space managed by BOMA local associations produced \$89.1 billion in operational expenditures—\$7 billion more than in 2013.**

Nevertheless, commercial real estate is a huge industry, an industry no less expansive than airlines, insurance or household products. In fact, there are some 1.75 million operational jobs supported by the commercial and government-owned buildings in the 91 local associations of the Building Owners and Managers Association (BOMA) International, which commissioned this study.

Working mostly behind the scenes, those jobs range along the entire lifecycle of the 10.5 million square feet represented in the BOMA portfolio, from pre-construction and construction activities to daily operations and maintenance once the assets are up and running. In all, last year this massive engine generated ongoing operating costs of \$89.1 billion—more than the 2014 GDP of the Hartford, CT Metropolitan Statistical Area (MSA)—and \$7 billion more than when we last published this report.

#### STILL WATERS...

In turn, there is an accruing nature to that \$89.1 billion as it is re-spent and cycles through the local, state and national

economies. It is a ripple effect that generates from the office building out—to everything from the pizza joint and the corner delicatessen to regional, national and even international deliveries of building supplies and equipment.

**One-third of all U.S. workers work in BOMA office space!**

At a 2.64-to-1 multiplier, that ripple effect supports significant job growth, both directly and indirectly, and generates new personal earnings that provide further stimulus to the economy. Ultimately, building operations and maintenance expenditures last year contributed nearly \$235 billion to the national GDP (an increase of nearly \$9 billion over 2013). And while that may not approach the airline industry's \$1.5 trillion, it reveals the major force in U.S. commerce that is this otherwise "hidden" industry.

#### A CROSS-SECTION OF AMERICA

And that doesn't begin to scratch the surface. Those expenditures support the lifeblood of America's stock of office buildings—the tenants, representing every conceivable vertical market, from the two-person tech startup to the national and international corporations with workforces numbering in the thousands.

And while this study focuses on the economic impact of building operations, we can't ignore that critical mission—to support the productivity of the American office. In fact, assuming an occupancy rate of 85 percent, buildings in the BOMA portfolio last year provided work space for an estimated 46.9 million office jobs—meaning one-third of all U.S. workers work in BOMA office space!

Finally then, a clear picture begins to develop of the broad, deep and positive impact this industry has on the local, state and national economies. That contribution is essential also as business and government leaders consider the strategic and competitive positions of their communities in an increasingly competitive global economy.

**Every \$1 million spent in office operations supported 19.6 jobs nationwide.**

In many respects, the commercial real estate business is indeed a "hidden" industry. But it is no less a powerful one, one that represents a major part of the intricate matrix that is the U.S. economy.



## Research Approach

This analysis encompasses all office buildings within the markets served by BOMA International's 91 local associations. It includes tenant-occupied assets, buildings owned by their occupants and government-owned office buildings. There was no limitation by size or ownership.

CoStar office space data were aggregated by groupings of counties most closely reflecting the BOMA local associations' boundaries. At the metropolitan level, boundaries conform to the county boundaries used by the U.S. Census Bureau in defining its Metropolitan Statistical Areas.

The operating cost data for these office buildings were developed from BOMA International's 2015 Office Experience Exchange Report and its annual building income and expense benchmarking report, for private and government-owned office buildings. For office markets where operating cost data were not collected, estimates were made based on similar markets in the same state where these were available or markets in adjacent states. Operating cost data were used and were averaged and weighted in markets including multiple sub-markets.

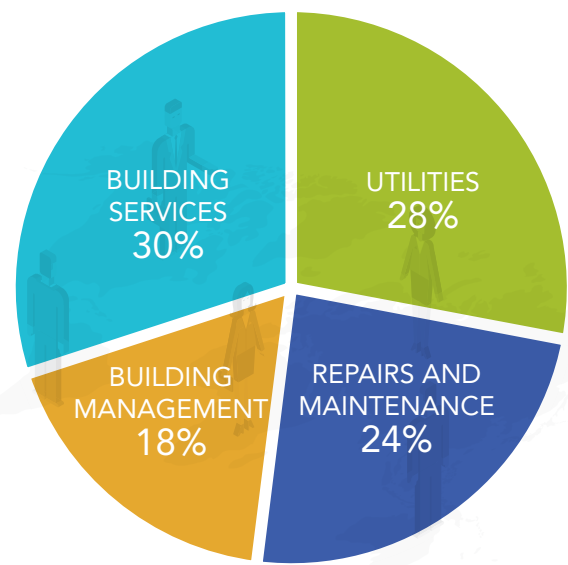
In 31 markets, metropolitan area-level office market data were collected and are reported separately. In 30 cases, these data are reported within their principal host state (e.g., New York for the New York City metro area). For the Washington, D.C., metropolitan area, spanning the District of Columbia and portions of Maryland and Virginia, the data are reported alphabetically under the District of Columbia and not within the two separate states. Minneapolis, Minnesota, is reported as a separate market area and excludes St. Paul, although the multipliers used were for the combined metropolitan area.

The economic impacts of the direct spending for building operations in 2015 using the most recent multipliers (Regional Input-Output Modeling System, RIMS II) was purchased from the Bureau of Economic Analysis of the U.S. Department of Commerce. Multipliers used to calculate the statewide impacts of local office building operating expenditures and metropolitan area level multipliers were used to calculate the economic impacts for the 31 metropolitan areas reported separately.

The state-level economic impacts for all of these metropolitan areas were also calculated and are reported in Table 2 of this report. As the Washington, D.C., metropolitan area spans portions of three states (Maryland, Virginia and West Virginia) and the District of Columbia, these states' multipliers were averaged to establish its aggregate state-level multipliers as presented in Table 2.

The economic impact of office building operating expenditures is a function of what is being purchased, whether or not it is locally supplied, and how labor-intensive these services or products are (i.e., the more labor intensive they are, the greater the payroll effect is and the more likely the benefits will be retained locally; also the broader the impact will be across the retail and consumer services sectors in the local economy). Building operating expenditures were disaggregated into four groups — utilities; building management; repairs and maintenance; and building services.

The total operating expenditures associated with each of these four categories was calculated across the office markets of all 91 BOMA local associations in 2015, yielding the following distribution:



The percentage that each category represented of total expenditures was used to develop aggregate multipliers weighted to reflect this mix of sectors. These aggregate multipliers were then used to calculate the economic impacts of operating expenditures by state and metropolitan area.

These multipliers and the economic impact calculations are discussed in Appendix D and are presented by state and metropolitan area in Appendix E. These multipliers were newly released in 2015.

The results of these analyses—the 2015 economic impacts of office building operating expenditures of their host states' economies and the 31 metropolitan area economies—are presented in the following pages. (For more detail on the research methodologies, please see Appendix D.)

The BOMA portfolio of 10.5 billion square feet in the 91 market areas encompassing the BOMA local associations supports 46.9 million office jobs, 300,000 more than in 2013.

That portfolio represents a massive initiative that last year generated expenditures totaling \$89.1 billion, broken down over four broad categories: utilities (28%); repairs and maintenance (24%); building management (18%); and building services (30%). These operating outlays averaged \$8.49 per square foot across all 91 BOMA office markets, reflecting a wide range of costs among smaller and larger markets.

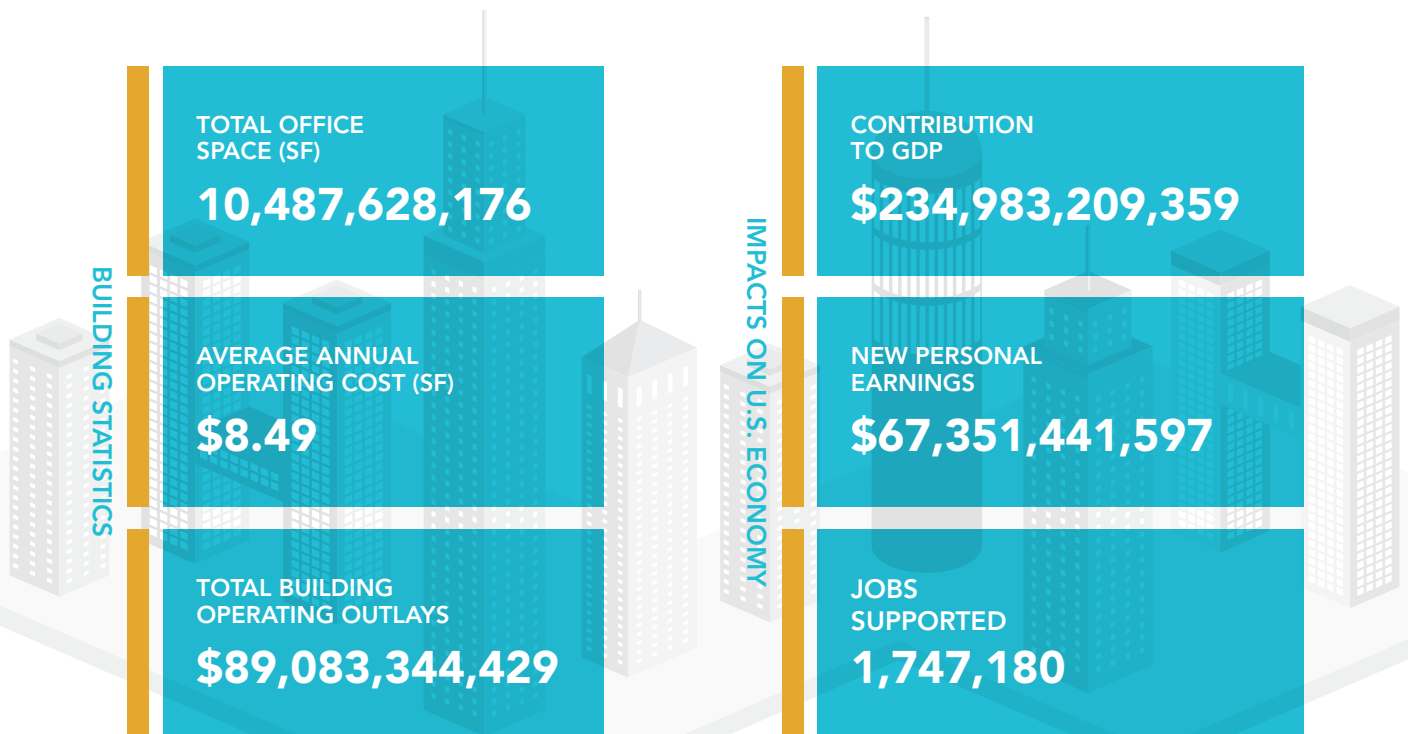
It is important to note that, while operating expenses also include taxes, fees, insurance and other fixed expenditures, these are not included in this analysis, as they do not generate direct, local economic benefits. (See Table 1 for a summary of the economic impacts generated by office-building operational expenditures.)

#### OFFICE BUILDINGS AND THE GDP

The \$89.1 billion contributed a total of \$235 billion to the U.S. gross domestic product. In addition to those direct outlays, this also includes their indirect economic impacts totaling \$145.9 billion. This contribution to the GDP reflected an aggregate multiplier (calculated from data provided by the U.S. Bureau of Economic Analysis) of 2.638. In short, for each dollar laid out in building operating expenditures, the U.S. economy gained \$2.64.

In addition, this \$89.1 billion generated a total of \$67.4 billion in new personal earnings (labor income) as a result of both the jobs supported directly by this spending and the jobs supported indirectly--by the re-spending of these dollars for consumer goods and services. At the national level, where these annual office building operating expenditures have their greatest cumulative impact, for each \$1 in direct operating outlays, \$0.76 of new personal earnings were generated. These new personal earnings will directly contribute to the tax bases in the local and state jurisdictions served by these 91 office markets.

**TABLE 1**  
**OPERATIONAL EXPENDITURES: THE ECONOMIC IMPACT**



Sources: BOMA International, CoStar Group, Inc., GMU Center for Regional Analysis Economic Impact Highlights  
Note: Figures drawn from 91 Markets Served by BOMA Local Associations

## National Economic Impacts

### WORKING BEHIND THE SCENES...

This annual operational expenditure supported a total of 1.75 million jobs in 2015. This does not include tenants, but rather, those who are charged with the productive operation of the asset. Workers employed by building owners and management firms totaled 445,846. Each one of these direct jobs supported 2.92 additional indirect and induced jobs across the breadth of the local, state and national economies. These indirect jobs (vendors and suppliers) and induced jobs (supported by the re-spending of the payroll of the direct workers and their suppliers) totaled 1.3 million jobs—74.5 percent of the total supported by annual office building operating expenditures. At the national level, the aggregate jobs multiplier for office building operations was 19.6 jobs per \$1 million in outlays for building operations.

### GETTING DOWN TO BUSINESS

It is appropriate that this study is titled “Where America Goes to Work.” Because, in fact, the 10.5 billion square feet of office space located within the 91 BOMA local associations provides the “factory floor” for today’s economy; this is where much of the nation’s gross regional product is generated each day. Assuming an 85 percent occupancy rate and an average of 190 square feet per office worker, this office space would accommodate 46.9 million workers, each of whom produces an average \$109,332 in annual GDP value for a total GRP contribution of \$5.13 trillion, which in turn accounted for 28.9 percent of the U.S. economy in 2015.

**These operating outlays averaged \$8.49 per square foot across all 91 BOMA office markets.**

**The \$89.1 billion spent on building operations supported a total of 1.75 million jobs in 2015.**





Not surprisingly, the impressive impacts of expenditures for office building operations is no less impressive on the state level than it is nationally, as Table 2 demonstrates. The Table shows the total operating expenditures and associated economic impacts specified for each state's local associations. Associations representing metropolitan-wide office markets are identified separately (\*). There are no data provided for states not represented by a BOMA local association.

### UNDERSTANDING TABLE 2

Table 2 reports the economic impacts for each market area and consists of four data columns. The first column—Total Outlay/Expenditures—is the total annual operational expenditures for all commercial and government office buildings within the market area (statewide or metropolitan). The square footage of this office space, provided by the CoStar Group, Inc., was multiplied by the average 2015 operating cost in its respective market area, as reported by BOMA International.

The second column—Total Output—represents the total contribution of the annual office building operating expenditures in each of BOMA's 91 local markets to their respective state's economy, its gross state product. In the cases of the 31 metropolitan areas (\*) reported separately, the Total Output value represents the contribution of operating expenditures to the respective state's economy.

These metropolitan-level economic impacts are calculated separately and presented in Table 3.

The third column—Earnings—represents the new personal earnings (wages and salaries) generated as a result of the office building operating expenditures. These personal earnings represent new income that accrued to workers residing in the state or metropolitan area within which the local associations are located. This is new labor income earned by workers in businesses that benefit from the payroll spending of employees involved in office building operations and the re-spending of these expenditures across all sectors of the respective state or metropolitan area economies.

The fourth column—Jobs—represents the full-time, year-round direct, indirect and induced employment impact of total office building operating expenditures shown in column one. The jobs supported directly by these expenditures include those working for the building owners and management firms. The indirect jobs include vendors and suppliers to the building management companies. Finally, induced jobs include those in businesses benefiting from payroll spending. These jobs tend to be locally focused on consumer goods and services and are generated throughout the breadth of the local, state and national economies as a result of the office building operating outlays. (More on this in the next section.)



# 91 Office Markets —State-by-State

Table 2 : Economic Impacts of Office Building Operations By State and Metropolitan Area

STATE	TOTAL EXPENDITURE	TOTAL OUTPUT	PER EARNINGS	JOBS
<b>Alabama</b>				
Alabama	612,140,111	1,138,604,609	354,767,734	10,713
North Alabama	116,203,929	216,143,864	67,346,354	2,034
<b>Alaska</b>				
Anchorage	149,101,396	248,516,981	78,895,800	2,002
<b>Arizona</b>				
Greater Tucson	172,463,707	329,204,489	105,106,362	2,906
Greater Phoenix*	1,145,013,473	2,185,639,999	697,817,544	19,295
<b>Arkansas</b>				
Greater Little Rock	185,138,569	326,094,781	100,194,861	3,049
Northwest Arkansas	66,736,748	117,547,117	36,117,159	1,099
<b>California</b>				
Greater Los Angeles*	4,034,224,820	8,179,999,067	2,555,405,207	60,682
Inland Empire	592,933,091	1,202,261,240	375,582,516	8,919
Oakland-East Bay	1,095,921,449	2,222,145,971	694,191,202	16,485
Orange County	1,290,415,503	2,616,511,990	817,389,869	19,410
Sacramento*	1,270,128,690	2,575,377,417	804,539,561	19,105
San Diego*	967,924,094	1,962,612,035	613,113,641	14,559
San Francisco*	2,254,257,724	4,570,847,412	1,427,917,923	33,908
Silicon Valley	1,468,617,686	2,977,843,784	930,268,751	22,091
<b>Colorado</b>				
Denver Metro*	1,258,633,594	2,607,035,465	819,769,281	21,812
Southern Colorado	273,095,661	565,669,054	177,871,809	4,733
<b>Connecticut</b>				
Greater Hartford	518,785,345	900,992,898	271,479,910	6,431
Southern Connecticut	1,429,922,915	2,483,397,812	748,277,390	17,726
<b>District of Columbia</b>				
Washington, DC*	4,593,163,945	8,284,603,734	2,436,464,001	61,316
<b>Florida</b>				
Ft. Lauderdale and the Palm Beaches	997,586,532	1,910,596,664	611,468,885	17,699
Jacksonville	561,624,037	1,075,633,018	344,246,452	9,964
Miami-Dade*	957,869,798	1,834,530,422	587,124,584	16,994
Orlando*	793,557,790	1,519,836,944	486,409,831	14,079
Southwest Florida	226,229,091	433,278,251	138,666,718	4,014

STATE	TOTAL EXPENDITURE	TOTAL OUTPUT	PER EARNINGS	JOBS
Greater Tampa Bay*	1,108,968,319	2,123,917,178	679,740,153	19,675
Tallahassee	250,238,120	479,260,799	153,383,009	4,440
Georgia				
Georgia*	2,628,661,522	5,463,774,292	1,698,748,201	45,641
Hawaii				
Hawaii	273,465,684	478,174,333	152,573,251	4,145
Idaho				
Idaho	148,486,581	246,728,668	78,318,671	2,427
Illinois				
Chicago*	2,181,579,936	4,618,643,412	1,393,674,213	34,135
Peoria	226,565,508	479,663,970	144,738,454	3,545
Suburban Chicago	2,242,980,305	4,748,634,712	1,432,899,048	35,096
Indiana				
Indianapolis*	689,025,130	1,327,515,399	400,094,320	11,114
Michiana	149,898,333	288,802,740	87,041,051	2,418
Iowa				
Iowa	498,881,204	851,563,787	259,629,642	7,587
Kansas				
Wichita	273,889,374	498,164,812	139,355,669	3,855
Kentucky				
Kentucky	566,341,346	1,065,577,878	309,427,397	9,096
Louisiana				
Shreveport	62,769,164	117,054,718	36,667,271	1,023
Maryland				
Baltimore*	1,174,585,861	2,114,719,073	631,797,169	15,555
Massachusetts				
Boston*	3,350,442,179	6,083,702,561	1,826,753,256	42,899
Michigan				
Metro Detroit*	1,580,682,965	3,009,890,482	952,449,983	25,777
Mid-Michigan	183,306,898	349,047,658	110,452,669	2,989
West Michigan	340,885,541	649,104,323	205,402,623	5,559
Minnesota				
Duluth	46,837,491	93,260,169	28,430,824	740

# 91 Office Markets —State-by-State

STATE	TOTAL EXPENDITURE	TOTAL OUTPUT	PER EARNINGS	JOBS
Greater Minneapolis*	924,871,426	1,841,551,792	561,406,173	14,619
St. Paul	361,617,328	712,113,341	210,266,904	4,571
Mississippi				
Mississippi	295,270,093	522,265,113	159,586,396	4,872
Missouri				
Kansas City*	881,634,235	1,680,918,473	480,213,619	13,599
St. Louis*	972,164,717	1,853,523,342	529,524,284	14,995
Nebraska				
Omaha	276,302,253	473,013,654	145,956,837	4,236
Nevada				
Nevada	656,391,987	1,124,678,884	353,206,145	9,678
New Jersey				
New Jersey	3,616,083,597	7,013,107,746	2,038,420,046	49,506
New Mexico				
New Mexico	339,049,892	578,334,954	180,862,655	5,529
New York				
Capital Region-Albany	544,048,740	959,615,783	273,051,485	6,513
Greater Buffalo	241,430,084	425,844,418	121,170,840	2,890
Central New York	196,475,080	346,550,913	98,608,467	2,352
New York*	8,013,330,716	14,134,245,828	4,021,793,806	95,933
Greater Rochester	249,741,379	440,504,226	125,342,179	2,990
Long Island	1,057,340,187	1,864,980,575	530,666,257	12,658
Westchester	1,245,833,472	2,197,452,866	625,268,757	14,915
North Carolina				
Raleigh-Durham*	1,016,868,323	1,976,647,837	613,321,199	17,966
Greater Charlotte*	2,144,498,187	4,168,600,404	1,293,447,901	37,888
Ohio				
Akron	316,040,610	643,066,829	195,058,059	5,020
Greater Cincinnati	567,176,536	1,154,068,194	350,057,399	9,010
Greater Cleveland*	704,000,967	1,432,473,090	434,504,483	11,183
Columbus	898,735,520	1,828,711,191	554,693,290	14,277
Dayton	240,025,994	488,395,319	148,142,368	3,813
Toledo	200,215,689	407,390,898	123,571,726	3,180

STATE	TOTAL EXPENDITURE	TOTAL OUTPUT	PER EARNINGS	JOBS
<b>Oklahoma</b>				
Oklahoma City	301,314,930	581,462,266	181,523,933	5,076
Tulsa	352,202,345	679,662,217	212,180,507	5,933
<b>Oregon</b>				
Oregon*	1,131,319,836	2,050,085,680	619,628,199	17,536
<b>Pennsylvania</b>				
Central Pennsylvania	448,649,058	906,445,847	269,611,236	6,540
Philadelphia*	2,797,375,136	5,651,787,364	1,681,055,056	40,776
Pittsburgh*	1,290,285,893	2,606,880,076	775,384,608	18,808
<b>Tennessee</b>				
Chattanooga	133,031,263	265,752,479	80,050,941	2,099
Knoxville	236,114,732	471,679,167	142,080,937	3,725
Memphis	317,447,284	634,154,713	191,022,420	5,008
Nashville*	523,396,837	1,045,573,826	314,951,601	8,257
<b>Texas</b>				
Austin	634,594,077	1,408,496,832	434,934,408	11,114
Corpus Christi	84,289,253	187,082,026	57,769,679	1,476
Dallas*	1,776,798,334	3,943,646,679	1,217,771,736	31,117
Fort Worth	724,003,069	1,606,942,242	496,213,024	12,680
Houston*	2,428,839,772	5,390,868,348	1,664,664,114	42,537
San Antonio	562,863,637	1,249,289,394	385,772,215	9,858
<b>Utah</b>				
Utah	633,232,144	1,305,704,073	407,357,357	11,822
<b>Virginia</b>				
Virginia	1,285,292,055	2,322,480,385	672,232,792	17,295
<b>Washington</b>				
Seattle*	1,117,692,292	2,100,101,226	653,389,299	16,555
Spokane	157,654,580	296,226,948	92,162,947	2,335
South Puget Sound	240,137,082	451,208,426	140,381,213	3,557
<b>Wisconsin</b>				
Wisconsin*	1,299,099,984	2,368,875,583	745,454,040	21,038
State Total	89,083,344,429	172,652,474,105	52,395,476,848	1,341,505
Spill Over		62,330,735,254	14,955,964,749	405,675
US Total	89,083,344,429	234,983,209,359	67,351,441,597	1,747,180



## City-by-City—The 31 Largest Metropolitan Areas (Local Impacts)

The state-level economic impacts of office operating expenditures in all 91 BOMA markets are reported in Table 2 also includes the impacts of 31 metropolitan areas (\*). This spending also has economic impacts that are captured within their respective metropolitan area economies. These metropolitan-level economic impacts are reported in Table 3.

**Table 3: BOMA Metropolitan Area Office Markets' Economic Impacts, 2015 (\$ in billions)**

METROPOLITAN AREA	TOTAL EXPENDITURE	OUTPUT	EARNINGS	EMPLOYMENT
Atlanta	2,628,661,522	5,113,941,624	1,548,693,885	34,172
Baltimore	1,174,585,861	2,170,500,537	649,641,830	12,252
Boston	3,350,442,179	5,993,058,609	1,633,254,274	29,248
Charlotte	2,144,498,187	3,972,703,780	1,127,257,416	25,244
Chicago	4,424,560,241	9,261,517,210	2,776,245,543	56,561
Cleveland	704,000,967	1,268,310,551	341,734,263	7,199
Dallas	1,776,798,334	3,753,189,947	1,118,092,317	22,675
Denver	1,258,633,594	2,553,577,884	738,110,153	14,549
Detroit	1,580,682,965	2,931,617,794	864,032,968	19,049
Houston	2,428,839,772	4,855,655,346	1,456,252,320	28,837
Indianapolis	689,025,130	1,297,892,484	431,659,242	12,605
Kansas City	881,634,235	1,775,723,008	505,203,870	11,345
Los Angeles	4,034,224,820	7,958,746,485	2,193,658,683	40,489
Miami	957,869,798	1,733,952,760	535,658,060	11,916
Milwaukee	1,299,099,984	2,281,168,769	603,218,841	12,907
Minneapolis	924,871,426	1,821,299,010	537,778,022	11,692
Nashville	523,396,837	1,010,666,819	302,784,434	6,394
New York	8,013,330,716	14,656,812,502	4,234,875,540	79,017
Orlando	793,557,790	1,425,859,234	415,259,254	9,216
Philadelphia	2,797,375,136	5,731,420,125	1,700,542,153	32,419
Phoenix	1,145,013,473	2,178,996,210	673,199,075	14,247
Pittsburgh	1,290,285,893	2,457,456,166	679,931,287	13,029
Portland	1,131,319,836	2,142,294,770	642,766,492	12,996
Raleigh-Durham	1,016,868,323	1,330,958,994	390,374,490	7,848
Sacramento	1,270,128,690	2,099,461,309	570,361,796	10,335
San Diego	967,924,094	1,695,314,489	507,640,348	9,396
San Francisco	2,254,257,724	4,224,435,269	1,149,088,175	20,767
Seattle	1,117,692,292	2,084,011,827	617,921,445	12,033
St. Louis	972,164,717	1,943,333,728	585,266,909	11,276
Tampa	1,108,968,319	2,044,901,491	621,348,644	13,659
Washington, DC	4,593,163,945	7,202,663,390	1,914,492,236	36,851
<b>Metro Total</b>	<b>59,598,116,607</b>	<b>111,651,443,795</b>	<b>32,266,999,686</b>	<b>644,613</b>

Note: Calculated using metro multipliers

Note: Local associations are defined by counties and the metropolitan areas conform to the U.S. Census definitions

Note: Chicago includes suburbs

Among the most important benefits of the annual spending for office building operations are the jobs this spending supports within the national economy. As explained in the previous section, these jobs fall into three categories. First there are the workers supported directly by the spending for office building operations, largely employees of the building ownership and management firms or contractors providing services directly to them. These direct jobs totaled 445,846 in 2015.

Then, there are the indirect jobs. For each job supported by direct building operating expenditures, there are 2.92 indirect jobs supported. These jobs include suppliers and vendors serving the industry.

Also included in the indirect jobs are induced jobs, jobs supported by the payroll spending of the industry's direct employees. These induced jobs are found in all sectors of the local, state and national economies. These indirect and induced jobs generated by the annual spending for office building operations totaled 1.3 million in 2015. Combined, the direct and indirect jobs supported by these expenditures in 2015 totaled 1.75 million (or 19.6 jobs per \$1 million) in operating expenditures.

**Direct and indirect jobs supported by annual office building operating expenditures in 2015 totaled 1,747,180.**

**For every \$1 million spent on office building operations in 2015, 19.6 jobs were supported.**

**For each direct job supported by office building operating expenditures in 2015, 2.92 indirect and induced jobs were supported across the breadth of the state economies.**

**TABLE 4**  
**DIRECT AND INDIRECT JOBS SUPPORTED BY OPERATIONAL EXPENDITURES**

AREA	OFFICE INVENTORY	DIRECT JOBS*	INDIRECT JOBS**	TOTAL JOBS
STATE***	10,487,628,176	385,531	955,973	1,341,505
SPILOVER****		60,315	345,360	405,675
U.S.		445,846	1,301,334	1,747,180

Sources: CoStar Group Inc., GMU Center for Regional Analysis

\*Jobs supported directly by office building operating expenditures

\*\*Jobs supported indirectly—suppliers and other vendors and jobs supported by direct payroll expenditures relating to building operations;

\*\*\*Sum of 91 BOMA local associations in square feet and local jobs supported by expenditures for building operations;

\*\*\*\*Jobs supported outside of the state in which the direct expenditures for office building operations occurred.

## Key Points at a Glance

The operating expenditures for the 10.5 billion square feet of office buildings included in this analysis totaled \$89.1 billion in 2015 or \$8.49 per square foot.

These expenditures added a total of \$235 billion to the national GDP, reflecting a total output multiplier of 2.64.

These expenditures also generated a total of \$67.4 billion in new personal earnings, or 76 cents for each dollar spent on office building operations and accruing to workers residing within states served by the 91 BOMA local association office markets.

The \$89.1 billion in operational expenditures supported 1.75 million jobs directly and indirectly locally, statewide and nationally.

Direct employment by office building managers was estimated at 445,846 workers.

The indirect and induced job impact of this spending and re-spending of payroll dollars in the state and national economies was estimated at 1.3 million jobs across all sectors.

The 10.5 billion square feet of office space benefiting from these operating expenditures have the capacity to provide a productive working environment for more than 46.9 million office workers. (Note: This assumes 190 gross square feet per worker and an 85% building occupancy).

Commercial real estate is a national industry that hides in plain sight. And yet, as this study reveals, a lack of daily awareness cannot hide the role of commercial office buildings as a major source of economic activity, jobs and personal earnings. The \$89.1 billion in operating expenditures in 2015 for office buildings served by the 91 local associations of the Building Owners and Managers Association (BOMA) International expanded the nation's economy by \$235 billion, generating new personal earnings totaling \$67.4 billion and supporting 1.75 million full-time, year-round equivalent jobs.

The contributions these operating expenditures make to the local, state and national economies not only grow even when the economy is contracting, they accelerate in an expanding economy. And while the economic benefits from

construction end when the building is ready for occupancy, the benefits flowing from the annual building operating expenditures extend over the lifespan of the assets and grow as this inventory expands, supporting local vitality through the creation of new jobs, the generation of personal income and the contribution year after year—in good times and bad—to the local tax base.

And the benefits don't end there. As these operating expenditures generate to the local, state and national economies, they simultaneously support the broader economy by maintaining a productive environment for the tens of millions of workers occupying these office buildings in both the private and public sectors.

This is, indeed, where America goes to work.

**TABLE 5**  
**ECONOMIC IMPACTS OF OFFICE BUILDING OPERATING EXPENDITURES, 2015 (\$ IN BILLIONS)**



Source: GMU Center for Regional Analysis

\*Includes office markets for all 91 BOMA local associations reflecting state-level economic multipliers.

\*\*31 metropolitan areas impacts reflecting metro-level multipliers included in respective state-level impacts.

\*\*\*State-level impacts plus spillover impacts generated in one state but accruing to another state but not included in that state's impact totals.

## Glossary of Terms

### **DIRECT OUTLAYS/EXPENDITURES**

The annual spending associated with the operations of office buildings, specifically management, repairs and maintenance, utilities and services to buildings.

### **ECONOMIC IMPACT**

New spending, measured in dollars, generated by the expenditures associated with office building operations. This includes direct expenditures plus the indirect and induced economic activity these direct outlays generate as they are re-cycled through the local, state and U.S. economies.

### **GROSS REGIONAL, STATE AND DOMESTIC PRODUCT (GRP, GSP, GDP, RESPECTIVELY)**

The value of goods and services produced within the economy of the respective geographic area (metropolitan area, state and national).

### **INDIRECT BENEFIT**

The additional economic benefits—measured in dollars or jobs—resulting from the accumulated additional value generated by the direct expenditures as these dollars are re-spent within the metropolitan, state and national economies. Indirect benefits include “induced” benefits, which are generated by the payroll spending associated with building operations. Indirect and induced benefits generally affect the broad base of the local economy as measured by increases in jobs and personal income in retail and consumer services, education and health, transportation, housing, utilities and government.

### **MULTIPLIER**

A number used to calculate the total economic impact of direct spending for office building operations. Types of multipliers include: (1) output multiplier, which measures the contribution or impact of a direct expenditure on the overall economy; (2) personal earnings multiplier, which measures the total personal earnings (wages and salaries) generated within the jurisdiction as a result of the direct expenditures and the jobs they support; (3) employment multiplier, which measures the total number of jobs that can be supported by this direct expenditure (per \$1 million); and (4) direct jobs multiplier, which indicates how many indirect jobs are supported across all sectors of the economy for each direct job generated by office building operations.

### **OFFICE BUILDING INVENTORY**

Square feet of office space in buildings within the service areas of BOMA's 91 local associations including publicly-owned and occupied buildings, owner-occupied buildings and tenant-occupied buildings.

### **OPERATING COSTS**

Expenditures associated with the day-to-day operation of an office building, including repairs and maintenance, utilities, management/administration and services such as cleaning, security and grounds-keeping. Taxes, fixed expenses, direct leasing expenses and parking costs are excluded from this impact study.

### **SPILLOVER IMPACTS**

Economic impacts that are generated by direct spending for office building operations in a given state or metropolitan area and realized by another state. This could be due to workers commuting across state lines and payments to vendors located in another state. These economic impacts are not reflected in the state-by-state data, but are captured in the U.S. multipliers and reported in the U.S. totals.

### **TOTAL OUTPUT**

The sum of the direct, indirect (including induced) expenditures. This is the combination of the initial expenditures and their subsequent accumulated value as these are cycled through the economy, including benefits generated by the re-spending of personal earnings. It represents contributions to GDP, GSP or GRP.



## Office Market Inventory and Annual Operating Costs, By State and Metropolitan Areas, 2015

STATE	COST/SF	SQ.FT.	REAL ESTATE TAXES GENERATED/SQ.FT.
<b>Alabama</b>			
Alabama	6.34	96,552,068	1.62
North Alabama	4.75	24,463,985	1.24
<b>Alaska</b>			
Anchorage	9.05**	16,480,027	***
<b>Arizona</b>			
Greater Tucson	6.86	25,140,482	3.67
Greater Phoenix*	6.95	164,750,140	2.7
<b>Arkansas</b>			
Greater Little Rock	6.39	28,973,172	1.22
Northwest Arkansas	3.52**	18,964,691	0
<b>California</b>			
Greater Los Angeles*	10.00	403,422,482	4.47
Inland Empire	8.18	72,485,708	1.33
Oakland-East Bay	9.33	117,462,106	3.05
Orange County	8.42	153,255,998	2.24
Sacramento*	7.60	167,122,196	2.29
San Diego*	8.45	114,547,230	3.25
San Francisco*	11.59	194,500,235	4.98
Silicon Valley	11.49	127,817,031	3.83
<b>Colorado</b>			
Denver Metro*	7.32	171,944,480	3.93
Southern Colorado	8.50**	32,141,758	***
<b>Connecticut</b>			
Greater Hartford	6.46	80,307,329	***
Southern Connecticut	14.22	100,557,167	4.11
<b>District of Columbia</b>			
Washington, DC*	9.90	463,955,954	6.88
<b>Florida</b>			
Ft. Lauderdale and the Palm Beaches	7.77	128,389,515	3.8
Jacksonville	7.08	79,325,429	1.38
Miami-Dade*	9.58	99,986,409	3.18
Orlando*	6.88	115,342,702	2.19
Southwest Florida	6.96**	32,521,001	***
Greater Tampa Bay*	7.39	150,063,372	2.16

## Appendix B

### Office Market Inventory and Annual Operating Costs, By State and Metropolitan Areas, 2015

STATE	COST/SF	SQ.FT.	REAL ESTATE TAXES GENERATED/SQ.FT.
Tallahassee	11.60**	21,577,088	***
<b>Georgia</b>			
Georgia*	7.25	362,574,003	2.73
<b>Hawaii</b>			
Hawaii	8.06**	33,937,166	***
<b>Idaho</b>			
Idaho	4.93**	30,139,768	***
<b>Illinois</b>			
Chicago*	8.00	272,697,492	7.32
Peoria	6.78**	33,401,962	***
Suburban Chicago	7.92	283,204,584	3.07
<b>Indiana</b>			
Indianapolis*	7.16	96,232,560	2.75
Michiana	6.63**	22,609,100	1.77
<b>Iowa</b>			
Iowa	6.77**	73,659,521	***
<b>Kansas</b>			
Wichita	11.00	24,899,034	0.88
<b>Kentucky</b>			
Kentucky	5.97	94,864,547	1.32
<b>Louisiana</b>			
Shreveport	7.07	8,878,241	1.15
<b>Maryland</b>			
Baltimore*	8.96	131,092,172	2.48
<b>Massachusetts</b>			
Boston*	10.16	329,767,931	6.39
<b>Michigan</b>			
Metro Detroit*	7.83	201,875,219	2.14
Mid-Michigan	7.57**	24,220,033	***
West Michigan	6.94**	49,147,281	0.96
<b>Minnesota</b>			
Duluth	8.01**	5,849,568	***
Greater Minneapolis*	8.32	111,162,431	5.61
St. Paul	8.16	44,315,849	4.82

## Office Market Inventory and Annual Operating Costs, By State and Metropolitan Areas, 2015

STATE	COST/SF	SQ.FT.	REAL ESTATE TAXES GENERATED/SQ.FT.
<b>Mississippi</b>			
Mississippi	6.93	42,607,517	***
<b>Missouri</b>			
Kansas City*	7.56	116,618,285	2.16
St. Louis*	7.19	135,210,670	2.52
<b>Nebraska</b>			
Omaha	6.98	39,584,850	3.77
<b>Nevada</b>			
Nevada	8.07	81,337,297	1.44
<b>New Jersey</b>			
New Jersey	10.26	352,444,795	3.79
<b>New Mexico</b>			
New Mexico	6.39	53,059,451	1.65
<b>New York</b>			
Capital Region-Albany	8.14**	66,839,739	4.82
Greater Buffalo	5.26**	45,871,349	4.42
Central New York	7.04	27,908,392	3.09
New York*	12.39	646,757,927	11.41
Greater Rochester	6.07	41,143,555	3.54
Long Island	11.74**	90,061,514	***
Westchester	16.62	74,959,896	6.21
<b>North Carolina</b>			
Raleigh-Durham*	7.22	140,840,488	2.02
Greater Charlotte*	6.92	309,898,582	2.28
<b>Ohio</b>			
Akron	6.97**	45,365,115	***
Greater Cincinnati	5.82	97,453,013	2.43
Greater Cleveland*	7.27**	96,801,827	3.75
Columbus	8.76	102,595,379	2.33
Dayton	5.26**	45,604,574	1.61
Toledo	7.27**	27,530,139	***
<b>Oklahoma</b>			
Oklahoma City	5.41**	55,737,131	***
Tulsa	6.79	51,870,743	1.31

## Appendix B

### Office Market Inventory and Annual Operating Costs, By State and Metropolitan Areas, 2015

STATE	COST/SF	SQ.FT.	REAL ESTATE TAXES GENERATED/SQ.FT.
<b>Oregon</b>			
Oregon*	8.94	126,545,843	2.48
<b>Pennsylvania</b>			
Central Pennsylvania	7.27**	61,690,325	***
Philadelphia*	8.91	313,959,050	2.29
Pittsburgh*	8.64	149,338,645	3.33
<b>Tennessee</b>			
Chattanooga	7.41	17,952,937	2.08
Knoxville	7.35**	32,106,107	1.78
Memphis	6.54	48,539,340	1.5
Nashville*	6.55	79,907,914	1.95
<b>Texas</b>			
Austin	7.96	79,722,874	5.75
Corpus Christi	8.88	9,492,033	1.38
Dallas*	6.92	256,762,765	3.3
Fort Worth	6.90	104,927,981	2.76
Houston*	7.78	312,190,202	6.16
San Antonio	8.15	69,063,023	2.9
<b>Utah</b>			
Utah	6.47	97,872,047	2.44
<b>Virginia</b>			
Virginia	6.83	188,183,317	1.86
<b>Washington</b>			
Seattle*	7.28	153,529,161	2.9
Spokane	7.31	21,566,974	1.47
South Puget Sound	6.98**	34,419,373	***
<b>Wisconsin</b>			
Wisconsin*	8.69	149,493,669	4.61
<b>US Total</b>	<b>8.49</b>	<b>10,487,628,176</b>	

## Direct and Indirect Jobs, 2015

STATE	TOTAL EXPENDITURE	TOTAL OUTPUT	PER EARNINGS	JOBS
<b>Alabama</b>				
Alabama	96,552,068	10,713	3,208	7,505
North Alabama	24,463,985	2,034	609	1,425
<b>Alaska</b>				
Anchorage	16,480,027	2,002	650	1,352
<b>Arizona</b>				
Greater Tucson	25,140,482	2,906	835	2,071
Greater Phoenix*	164,750,140	19,295	5,543	13,752
<b>Arkansas</b>				
Greater Little Rock	28,973,172	3,049	975	2,074
Northwest Arkansas	18,964,691	1,099	351	747
<b>California</b>				
Greater Los Angeles*	403,422,482	60,682	17,113	43,569
Inland Empire	72,485,708	8,919	2,515	6,404
Oakland-East Bay	117,462,106	16,485	4,649	11,836
Orange County	153,255,998	19,410	5,474	13,936
Sacramento*	167,122,196	19,105	5,388	13,717
San Diego*	114,547,230	14,559	4,106	10,453
San Francisco*	194,500,235	33,908	9,563	24,346
Silicon Valley	127,817,031	22,091	6,230	15,861
<b>Colorado</b>				
Denver Metro*	171,944,480	21,812	5,770	16,042
Southern Colorado	32,141,758	4,733	1,252	3,481
<b>Connecticut</b>				
Greater Hartford	80,307,329	6,431	2,082	4,349
Southern Connecticut	100,557,167	17,726	5,739	11,987
<b>District of Columbia</b>				
Washington, DC*	463,955,954	61,316	18,110	43,206
<b>Florida</b>				
Ft. Lauderdale and the Palm Beaches	128,389,515	17,699	5,073	12,626
Jacksonville	79,325,429	9,964	2,856	7,108
Miami-Dade*	99,986,409	16,994	4,871	12,123
Orlando*	115,342,702	14,079	4,036	10,044
Southwest Florida	32,521,001	4,014	1,150	2,863
Greater Tampa Bay*	150,063,372	19,675	5,640	14,035



## Appendix C

### Direct and Indirect Jobs, 2015

STATE	TOTAL EXPENDITURE	TOTAL OUTPUT	PER EARNINGS	JOBS
Tallahassee	21,577,088	4,440	1,273	3,167
Georgia				
Georgia*	362,574,003	45,641	12,975	32,666
Hawaii				
Hawaii	33,937,166	4,145	1,267	2,877
Idaho				
Idaho	30,139,768	2,427	802	1,625
Illinois				
Chicago*	272,697,492	34,135	9,042	25,094
Peoria	33,401,962	3,545	939	2,606
Suburban Chicago	283,204,584	35,096	9,296	25,800
Indiana				
Indianapolis*	96,232,560	11,114	3,315	7,798
Michiana	22,609,100	2,418	721	1,697
Iowa				
Iowa	73,659,521	7,587	2,468	5,120
Kansas				
Wichita	24,899,034	3,855	1,172	2,683
Kentucky				
Kentucky	94,864,547	9,096	2,763	6,334
Louisiana				
Shreveport	8,878,241	1,023	307	715
Maryland				
Baltimore*	131,092,172	15,555	4,609	10,946
Massachusetts				
Boston*	329,767,931	42,899	13,286	29,613
Michigan				
Metro Detroit*	201,875,219	25,777	7,359	18,418
Mid-Michigan	24,220,033	2,989	853	2,136
West Michigan	49,147,281	5,559	1,587	3,972
Minnesota				
Duluth	5,849,568	740	214	526
Greater Minneapolis*	111,162,431	14,619	4,232	10,387
St. Paul	44,315,849	5,716	1,655	4,061

## Direct and Indirect Jobs, 2015

STATE	TOTAL EXPENDITURE	TOTAL OUTPUT	PER EARNINGS	JOBS
<b>Mississippi</b>				
Mississippi	42,607,517	4,872	1,553	3,319
<b>Missouri</b>				
Kansas City*	116,618,285	13,599	4,040	9,559
St. Louis*	135,210,670	14,995	4,455	10,540
<b>Nebraska</b>				
Omaha	39,584,850	4,236	1,290	2,946
<b>Nevada</b>				
Nevada	81,337,297	9,678	2,991	6,687
<b>New Jersey</b>				
New Jersey	352,444,795	49,506	14,332	35,174
<b>New Mexico</b>				
New Mexico	53,059,451	5,529	1,780	3,748
<b>New York</b>				
Capital Region-Albany	66,839,739	6,513	2,031	4,482
Greater Buffalo	45,871,349	2,890	901	1,989
Central New York	27,908,392	2,352	734	1,619
New York*	646,757,927	95,933	29,921	66,013
Greater Rochester	41,143,555	2,990	933	2,057
Long Island	90,061,514	12,658	3,948	8,710
Westchester	74,959,896	14,915	4,652	10,263
<b>North Carolina</b>				
Raleigh-Durham*	140,840,488	17,966	5,110	12,856
Greater Charlotte*	309,898,582	37,888	10,777	27,112
<b>Ohio</b>				
Akron	45,365,115	5,020	1,416	3,604
Greater Cincinnati	97,453,013	9,010	2,542	6,468
Greater Cleveland*	96,801,827	11,183	3,155	8,028
Columbus	102,595,379	14,277	4,028	10,249
Dayton	45,604,574	3,813	1,076	2,737
Toledo	27,530,139	3,180	897	2,283
<b>Oklahoma</b>				
Oklahoma City	55,737,131	5,076	1,471	3,606
Tulsa	51,870,743	5,933	1,719	4,215

## Appendix C

### Direct and Indirect Jobs, 2015

STATE	TOTAL EXPENDITURE	TOTAL OUTPUT	PER EARNINGS	JOBS
<b>Oregon</b>				
Oregon*	126,545,843	17,536	5,125	12,410
<b>Pennsylvania</b>				
Central Pennsylvania	61,690,325	6,540	1,818	4,722
Philadelphia*	313,959,050	40,776	11,333	29,443
Pittsburgh*	149,338,645	18,808	5,227	13,581
<b>Tennessee</b>				
Chattanooga	17,952,937	2,099	611	1,488
Knoxville	32,106,107	3,725	1,084	2,641
Memphis	48,539,340	5,008	1,458	3,550
Nashville*	79,907,914	8,257	2,404	5,853
<b>Texas</b>				
Austin	79,722,874	11,114	2,768	8,346
Corpus Christi	9,492,033	1,476	368	1,109
Dallas*	256,762,765	31,117	7,749	23,369
Fort Worth	104,927,981	12,680	3,157	9,522
Houston*	312,190,202	42,537	10,592	31,944
San Antonio	69,063,023	9,858	2,455	7,403
<b>Utah</b>				
Utah	97,872,047	11,822	3,136	8,686
<b>Virginia</b>				
Virginia	188,183,317	17,295	5,092	12,203
<b>Washington</b>				
Seattle*	153,529,161	16,555	5,081	11,473
Spokane	21,566,974	2,335	717	1,618
South Puget Sound	34,419,373	3,557	1,092	2,465
<b>Wisconsin</b>				
Wisconsin*	149,493,669	21,038	6,245	14,793
State Total	10,487,628,176	1,341,505	385,531	955,973
Spill Over		405,675	60,315	345,360
US Total	10,487,628,176	1,747,180	445,846	1,301,334

## Economic Multipliers and Impact Calculations

The impact of annual expenditures for the operation of office buildings is both direct and indirect. The re-spending of direct expenditures will generate additional economic activity that otherwise would not have occurred. The total value of these combined direct and indirect expenditures was estimated by applying appropriate multipliers calculated for each state and metropolitan area by the Bureau of Economic Analysis of the U.S. Department of Commerce and employing its Regional Input-Output Model System (RIMS II).

These multipliers were revised and updated in 2015 (no updates were available prior due to budget restrictions resulting from the Sequester in FY 2014). Generally, the post-recession multipliers are smaller than the pre-recession multipliers with fewer direct jobs being generated per \$1 million in office building operating expenditures and lower personal earnings being generated as a result of the new direct, indirect and induced jobs supported by these expenditures. These changes suggest increased efficiency in the industry, increased outsourcing of building operations and cost savings achieved through increasing employment of lower-wage workers across the effected sections (this has been a national trend since the recession) by means of outsourcing and in the sectors impacted by the payroll spending of building ownership and management workers (direct jobs).

For this analysis, state and metropolitan area multipliers were purchased for: construction (repair and maintenance); utilities; management; and services to buildings. These multipliers were weighed by their share of operating-cost expenditures (from the income and expense data from BOMA's 2015 Experience Exchange Report) and combined into a single series of multipliers representing operational expenditures. These aggregate multipliers (a different set for each state and

metropolitan area, see Appendix E) were applied to the square feet of office space and average operating cost per square foot for the office buildings in each of BOMA's 91 local associations to calculate the total economic impacts generated by these direct outlays for office building operations in 2015.

The results of these calculations are estimates of: (1) output value: total contribution to the U.S., state and metropolitan area economies; (2) personal earnings: new earnings realized by residents of the state or metropolitan area in which the spending occurs; and (3) the jobs supported by these outlays: full-time, year-round jobs equivalent throughout the state (or metropolitan area) and nation. The key variables governing the magnitude and significance of these economic impacts are their dollar value; the category of expenditure (e.g., repair and maintenance, utilities, management and services); the employment and payroll associated with the direct spending (payroll) for building operations; and the geographic area of analysis and the complexity of the respective state economies.

The size and complexity of the states' or metropolitan areas' economies determine the extent to which they can provide the inputs and retain the outputs of these economic activities; i.e., how self-sufficient the states or metropolitan areas are. Larger states retain a greater share of this direct spending for building operations than smaller states or their constituent metropolitan areas. At the national level, interstate transfers (spillover impacts) add to the magnitude of these secondary economic impacts. The degree to which the direct outlays are retained internally by the state is reflected in the respective state economic multipliers. The aggregate multipliers for office building operations are presented in Appendix E.



## Aggregate Economic Impact Multipliers for Building Operations

STATE	STATE MULTIPLIERS			METRO MULTIPLIERS		
	OUTPUT	EARNINGS	JOBS (PER MILLION)	OUTPUT	EARNINGS	JOBS (PER MILLION)
<b>ALABAMA</b>						
Alabama	1.860039211	0.579553156	17.50051847			
North Alabama	1.860039211	0.579553156	17.50051847			
<b>ALASKA</b>						
Anchorage	1.666764946	0.529141929	13.42996658			
<b>ARIZONA</b>						
Greater Tucson	1.908833434	0.609440465	16.8514362			
Greater Phoenix*	1.908833434	0.609440465	16.8514362	1.903031066	0.587939873	12.44283711
<b>ARKANSAS</b>						
Greater Little Rock	1.761355195	0.541188479	16.46634594			
Northwest Arkansas	1.761355195	0.541188479	16.46634594			
<b>CALIFORNIA</b>						
Greater Los Angeles*	2.027650771	0.633431532	15.0418865	1.972806881	0.54376213	10.03632769
Inland Empire	2.027650771	0.633431532	15.0418865			
Oakland-East Bay	2.027650771	0.633431532	15.0418865			
Orange County	2.027650771	0.633431532	15.0418865			
Sacramento*	2.027650771	0.633431532	15.0418865	1.652951647	0.449058273	8.136608104
San Diego*	2.027650771	0.633431532	15.0418865	1.751495289	0.524462973	9.707013867
San Francisco*	2.027650771	0.633431532	15.0418865	1.873980612	0.509741261	9.212396181
Silicon Valley	2.027650771	0.633431532	15.0418865			
<b>COLORADO</b>						
Denver Metro*	2.07132201	0.651316861	17.3296768	2.028849299	0.586437671	11.55956266
Southern Colorado	2.07132201	0.651316861	17.3296768			
<b>CONNECTICUT</b>						
Greater Hartford	1.736735446	0.523299111	12.3964247			
Southern Connecticut	1.736735446	0.523299111	12.3964247			
<b>DISTRICT OF COLUMBIA</b>						
Washington, DC*	1.803681261	0.530454395	13.34937794	1.568126781	0.41681339	8.022993315
<b>FLORIDA</b>						
Ft. Lauderdale and the Palm Beaches	1.915218984	0.612948216	17.74172342			
Jacksonville	1.915218984	0.612948216	17.74172342			
Miami-Dade*	1.915218984	0.612948216	17.74172342	1.810217593	0.559218028	12.43977943
Orlando*	1.915218984	0.612948216	17.74172342	1.796793192	0.523287982	11.6134879



## Aggregate Economic Impact Multipliers for Building Operations

STATE	STATE MULTIPLIERS			METRO MULTIPLIERS		
	OUTPUT	EARNINGS	JOBS (PER MILLION)	OUTPUT	EARNINGS	JOBS (PER MILLION)
Southwest Florida	1.915218984	0.612948216	17.74172342			
Greater Tampa Bay*	1.915218984	0.612948216	17.74172342	1.843967457	0.560294315	12.31686075
Tallahassee	1.915218984	0.612948216	17.74172342			
<b>GEORGIA</b>						
Georgia*	2.078538544	0.646240753	17.36301003	1.94545459	0.589156829	12.99989256
<b>HAWAII</b>						
Hawaii	1.748571618	0.55792467	15.15593424			
<b>IDAHO</b>						
Idaho	1.661622664	0.527446118	16.34401119			
<b>ILLINOIS</b>						
Chicago*	2.117109411	0.638837106	15.64709189	2.093206263	0.62746248	12.78346976
Peoria	2.117109411	0.638837106	15.64709189			
Suburban Chicago	2.117109411	0.638837106	15.64709189			
<b>INDIANA</b>						
Indianapolis*	1.92665745	0.58066724	16.12932796	1.883664947	0.626478228	18.29421988
Michiana	1.92665745	0.58066724	16.12932796			
<b>IOWA</b>						
Iowa	1.706947027	0.520423781	15.20827562			
<b>KANSAS</b>						
Wichita	1.818854104	0.508802758	14.07367281			
<b>KENTUCKY</b>						
Kentucky	1.881511717	0.546362012	16.06159739			
<b>LOUISIANA</b>						
Shreveport	1.864844308	0.584160574	16.29245868			
<b>MARYLAND</b>						
Baltimore*	1.800395478	0.537889302	13.24298792	1.847885803	0.553081602	10.43126516
<b>MASSACHUSETTS</b>						
Boston*	1.815790942	0.545227513	12.80388787	1.788736617	0.487474246	8.729506097
<b>MICHIGAN</b>						
Metro Detroit*	1.904170886	0.602555986	16.30770492	1.854652615	0.546620029	12.0514258
Mid-Michigan	1.904170886	0.602555986	16.30770492			
West Michigan	1.904170886	0.602555986	16.30770492			

## Aggregate Economic Impact Multipliers for Building Operations

STATE	STATE MULTIPLIERS			METRO MULTIPLIERS		
	OUTPUT	EARNINGS	JOBS (PER MILLION)	OUTPUT	EARNINGS	JOBS (PER MILLION)
<b>MINNESOTA</b>						
Duluth	1.991143569	0.607009966	15.80695725			
Greater Minneapolis*	1.991143569	0.607009966	15.80695725	1.969245626	0.581462468	12.64150899
St. Paul	1.991143569	0.60701	15.80695725	1.969245626	0.581462468	12.64150899
<b>MISSISSIPPI</b>						
Mississippi	1.768770782	0.54047599	16.50172738			
<b>MISSOURI</b>						
Kansas City*	1.906593922	0.544685767	15.42470163	2.01412665	0.57303114	12.86834917
St. Louis*	1.906593922	0.544685767	15.42470163	1.998975784	0.602024429	11.59928664
<b>NEBRASKA</b>						
Omaha	1.711942805	0.528250621	15.32977938			
<b>NEVADA</b>						
Nevada	1.713425676	0.538102464	14.74391184			
<b>NEW JERSEY</b>						
New Jersey	1.939420801	0.563709326	13.69052164			
<b>NEW MEXICO</b>						
New Mexico	1.705751771	0.533439648	16.30682181			
<b>NEW YORK</b>						
Capital Region -Albany	1.76384157	0.50188791	11.97172822			
Greater Buffalo	1.76384157	0.50188791	11.97172822			
Central New York	1.76384157	0.50188791	11.97172822			
New York*	1.76384157	0.50188791	11.97172822	1.829053738	0.528478817	9.860737227
Greater Rochester	1.76384157	0.50188791	11.97172822			
Long Island	1.76384157	0.50188791	11.97172822			
Westchester	1.76384157	0.50188791	11.97172822			
<b>NORTH CAROLINA</b>						
Raleigh-Durham*	1.943858208	0.603147118	17.6677504	1.308880377	0.383898761	7.717378205
Greater Charlotte*	1.943858208	0.603147118	17.6677504	1.85250974	0.525650907	11.77143053
<b>OHIO</b>						
Akron	2.034760116	0.617193021	15.88531553			
Greater Cincinnati	2.034760116	0.617193021	15.88531553			
Greater Cleveland*	2.034760116	0.617193021	15.88531553	1.801575012	0.485417321	10.22610974
Columbus	2.034760116	0.617193021	15.88531553			

## Aggregate Economic Impact Multipliers for Building Operations

STATE	STATE MULTIPLIERS			METRO MULTIPLIERS		
	OUTPUT	EARNINGS	JOBS (PER MILLION)	OUTPUT	EARNINGS	JOBS (PER MILLION)
Dayton	2.034760116	0.617193021	15.88531553			
Toledo	2.034760116	0.617193021	15.88531553			
<b>OKLAHOMA</b>						
Oklahoma City	1.929749268	0.602439224	16.84684664			
Tulsa	1.929749268	0.602439224	16.84684664			
<b>OREGON</b>						
Oregon*	1.812118566	0.547703823	15.50022194	1.893624332	0.5681563	11.48776426
<b>PENNSYLVANIA</b>						
Central Pennsylvania	2.020389505	0.600940158	14.57636757			
Philadelphia*	2.020389505	0.600940158	14.57636757	2.048856463	0.607906366	11.588942
Pittsburgh*	2.020389505	0.600940158	14.57636757	1.904582682	0.52696173	10.09780919
<b>TENNESSEE</b>						
Chattanooga	1.997669363	0.601745327	15.77627958			
Knoxville	1.997669363	0.601745327	15.77627958			
Memphis	1.997669363	0.601745327	15.77627958			
Nashville*	1.997669363	0.601745327	15.77627958	1.93097617	0.578498784	12.21580952
<b>TEXAS</b>						
Austin	2.219524075	0.685374199	17.5131509			
Corpus Christi	2.219524075	0.685374199	17.5131509			
Dallas*	2.219524075	0.685374199	17.5131509	2.112333108	0.629273619	12.76157143
Fort Worth	2.219524075	0.685374199	17.5131509			
Houston*	2.219524075	0.685374199	17.5131509	1.999166599	0.599567059	11.87266523
San Antonio	2.219524075	0.685374199	17.5131509			
<b>UTAH</b>						
Utah	2.061967455	0.643298608	18.66898322			
<b>VIRGINIA</b>						
Virginia	1.806967044	0.523019488	13.45576795			
<b>WASHINGTON</b>						
Seattle*	1.878961894	0.584587819	14.81136661	1.864566699	0.552854707	10.76563969
Spokane	1.878961894	0.584587819	14.81136661			
South Puget Sound	1.878961894	0.584587819	14.81136661			
<b>WISCONSIN</b>						
Wisconsin*	1.823474415	0.573823454	16.19445682	1.755960894	0.464335963	9.93531739
<b>US TOTAL</b>	<b>2.637790609</b>	<b>0.756049765</b>	<b>19.61286476</b>			

# Appendix F

## BOMA Local Associations

BOMA LOCAL	PRIMARY MARKET	LOCAL ASSOCIATION TERRITORY
<b>ALABAMA</b>		
BOMA/Alabama	Birmingham	Counties – Autauga, Baldwin, Barbour, Bibb, Blount, Bullock, Butler, Calhoun, Chamber, Chilton, Choctaw, Clarke, Clay, Cleburne, Coffee, Conecuh, Coosa, Covington, Crenshaw, Dale, Dallas, Elmore, Escambia, Fayette, Geneva, Greene, Hale, Henry, Houston, Jefferson, Lamar, Lee, Lowdes, Macon, Marengo, Mobile, Monroe, Montgomery, Perry, Pickens, Pike, Randolph, Shelby, St. Clair, Sumpter, Talledaga, Tuscaloosa, Walker, Washington, Wilcox
BOMA/North Alabama	Huntsville	Alabama Counties – Cherokee, Cullman, Colbert, Dekalb, Franklin, Jackson, Lauderdale, Lawrence, Limestone, Madison, Marion, Marshall, Morgan, Winston Tennessee Counties – Franklin, Giles, Lawrence, Lincoln
<b>ALASKA</b>		
BOMA/Anchorage	Anchorage	Entire State
<b>ARIZONA</b>		
BOMA/Greater Phoenix	Phoenix	Maricopa County
BOMA/Greater Tucson	Tucson	Pima County
<b>ARKANSAS</b>		
BOMA/Greater Little Rock	Little Rock	Pulaski County
BOMA/Northwest Arkansas	Bentonville	Counties – Benton, Boone, Carroll, Washington, Madison, Franklin, Crawford, Sebastian
<b>CALIFORNIA</b>		
BOMA/Greater Los Angeles	Los Angeles	Los Angeles County
BOMA/Inland Empire	Palm Springs	Counties – Riverside, San Bernardino
BOMA/Oakland-East Bay	Oakland	Counties – Alameda, Contra Costa, Solano
BOMA/Orange County	Orange County	Counties – Orange
BOMA/Sacramento	Sacramento	Counties – Alpine, Amador, Butte, Colusa, El Dorado, Fresno, Glenn, Lassen, Madera, Mariposa, Merced, Nevada, Placer, Plumas, Sacramento, San Joaquin, Shasta, Sierra, Stanislaus, Sutter, Tehama, Tuolumne, Yolo, Yuba
BOMA/San Diego	San Diego	San Diego County
BOMA/San Francisco	San Francisco	Counties – San Mateo, Marin, Sonoma, San Francisco
BOMA/Silicon Valley	San Jose	Counties – Santa Clara, Santa Cruz, San Benito, Monterey
<b>COLORADO</b>		
BOMA/Denver Metro	Denver	Counties – Adams, Arapahoe, Boulder, Denver, Douglas, Jefferson
BOMA/Southern Colorado	Colorado Springs	Counties – El Paso, Pueblo, Teller
<b>CONNECTICUT</b>		
BOMA/Greater Hartford	Hartford	Connecticut Counties – Hartford; Tolland; New Haven County municipalities of Meriden, Wallingford, and North Haven; Middlesex County municipality of Cromwell Massachusetts Counties – Hampden
BOMA/Southern Connecticut	Fairfield, New Haven	Counties – Fairfield County; New Haven County municipalities of Milford, West Haven, New Haven, and East Haven
<b>DISTRICT OF COLUMBIA</b>		
BOMA/Metropolitan Washington	Washington, DC	District of Columbia; Maryland Counties – Montgomery, Prince George's; Virginia Counties – Arlington, Fairfax, Loudoun, Prince William, Frederick, Shenandoah, Clarke, Rappahannock, Fauquier, Stafford, Culpepper, and Warren Virginia Independent Cities – Alexandria, Fairfax, Falls Church
<b>FLORIDA</b>		
BOMA/Ft. Lauderdale and the Palm Beaches	Fort Lauderdale	Counties – Broward, Palm Beach, Martin
BOMA/Jacksonville	Jacksonville	Counties – Alachua, Baker, Bradford, Clay, Duval, Flagler, Marion, Nassau, Putnam, St. Johns, Union
BOMA/Miami-Dade	Miami	Counties – Dade, Monroe
BOMA/Orlando	Orlando	Counties – Orange, Osceola, Seminole, Brevard, Lake, Volusia

## BOMA Local Associations

BOMA LOCAL	PRIMARY MARKET	LOCAL ASSOCIATION TERRITORY
BOMA/Southwest Florida BOMA/Greater Tampa Bay BOMA/Tallahassee	Fort Myers, Naples Tampa Tallahassee	Counties – Charlotte, Collier, Lee Counties – Hillsborough, Polk, Pasco, Pinellas, Manatee, Sarasota Counties – Leon, Gadsen, Wakulla, Jefferson
<b>GEORGIA</b>		
BOMA/Georgia	Atlanta	Entire State
<b>HAWAII</b>		
BOMA/Hawaii	Honolulu	Entire State
<b>IDAHO</b>		
BOMA/Boise	Boise	Counties – Boise, Idaho, Adams, Custer, Blaine, Camas, Elmore, Ada, Gem, Canyon, Payette, Washington
<b>ILLINOIS</b>		
BOMA/Chicago	Chicago – Central Business District	Chicago City (please note that this is just Chicago City— The rest of Cook County is in Suburban Chicago)
BOMA/Peoria	Peoria	Counties – Peoria, Woodford, Marshall, Stark, Fulton, Tazewell, Knox, Sangamon, Logan, McLean, Macon, LaSalle, Henry, Champaign
BOMA/Suburban	Chicago – Suburban	Counties – all of Cook County outside of Chicago City limits, Dupage, Will, Kankakee, Lake, Kane, Kendall, McHenry, DeKalb
<b>INDIANA</b>		
BOMA/Indianapolis	Indianapolis	Counties – Madison, Hamilton, Hancock, Johnson, Marion, Boone, Bartholomew, Brown, Delaware, Grant, Hendricks, Howard, Monroe, Putnam, Shelby, Tippecanoe, Tipton
BOMA/Michiana	South Bend	Indiana Counties – St. Joseph, LaPorte, Porter, Starke, Marshall, Fulton, Kosciusko, Elkhart, LaGrange Michigan Counties – Berrien, Cass, St. Joseph
<b>IOWA</b>		
BOMA/Iowa	Des Moines	Counties – All
<b>KANSAS</b>		
BOMA/Wichita	Wichita	Counties – Cowley, Butler, Sedgwick, Greenwood, Dickinson, Reno, Barber, McPherson, Rice, Harvey, Sumner
<b>KENTUCKY</b>		
BOMA/Kentucky	Louisville	Entire State, with the exception of Boone, Kenton, and Campbell Counties (these are in Cincinnati's territory)
<b>LOUISIANA</b>		
BOMA/Shreveport	Shreveport	Parishes – Caddo
<b>MARYLAND</b>		
BOMA/Baltimore	Baltimore	Counties – Anne Arundel, Baltimore, Carroll, Frederick, Harford, Howard Independent Cities – Baltimore City
<b>MASSACHUSETTS</b>		
BOMA/Boston	Boston	Counties – Suffolk, Middlesex, Norfolk, Worcester, Plymouth, Bristol
<b>MICHIGAN</b>		
BOMA/Metro Detroit	Detroit	Counties – Lapeer, Livingston, Macomb, Monroe, Oakland, St. Clair, Wayne, Washtenaw
BOMA/Mid-Michigan	Lansing	Counties – Clinton, Eaton, Gratiot, Ingham, Ionia, Montcalm, Shiawassee
BOMA/West Michigan	Grand Rapids	Counties – Allegan, Kalamazoo, Kent, Muskegon, Ottawa
<b>MINNESOTA</b>		
BOMA/Duluth	Duluth	Counties – St. Louis
BOMA/Greater Minneapolis	Minneapolis	Counties – Hennepin
BOMA/St. Paul	St. Paul	Counties – Ramsey, Washington
<b>MISSISSIPPI</b>		
BOMA/Mississippi	Jackson	Entire State

## Appendix F

### BOMA Local Associations

BOMA LOCAL	PRIMARY MARKET	LOCAL ASSOCIATION TERRITORY
<b>MISSOURI</b>		
BOMA/Kansas City	Kansas City	Missouri Counties – Cass, Clay, Jackson, Platte, Ray Kansas Counties – Johnson, Leavenworth, Wyandotte
BOMA/St. Louis	St. Louis	Missouri Counties – Pike, Lincoln, Montgomery, Warren, St. Francois, Ste. Genevieve, Madison, St. Louis, St. Charles, Franklin, Jefferson, Gasconade, Crawford, Washington, Iron Independent Cities – St. Louis Illinois Counties – Calhoun, Jersey, Greene, Macoupin, Montgomery, Madison, St. Clair, Monroe, Randolph, Perry, Washington, Clinton, Bond, Fayette, Marion, Jefferson
<b>NEBRASKA</b>		
BOMA/Omaha	Omaha	Counties – Douglas
<b>NEVADA</b>		
BOMA/Nevada	Las Vegas	Entire State
<b>NEW JERSEY</b>		
BOMA/New Jersey	Newark	Counties – Bergen, Essex, Hudson, Somerset, Passaic, Sussex, Hunterdon, Warren, Mercer, Morris, Union, Middlesex, Summit, Monmouth, Ocean
<b>NEW MEXICO</b>		
BOMA/New Mexico	Albuquerque	Entire State
<b>NEW YORK</b>		
BOMA/Capital	Albany	Counties – Albany, Columbia, Fulton, Greene, Montgomery, Rensselaer, Saratoga, Schenectady, Schoharie, Ulster, Warren, Washington
BOMA/Greater Buffalo	Buffalo	Counties – Allegany, Cattaraugus, Chautauqua, Erie, Niagara, Orleans, Wyoming
BOMA/Central New York	Syracuse	Counties – Cayuga, Cortland, Madison, Onondaga, Oswego, Seneca
BOMA/Greater Rochester	Rochester	Counties – Livingston, Monroe, Ontario
BOMA/Long Island	Long Island	Counties – Nassau, Suffolk
BOMA/New York	New York City – All Boroughs	Counties – Bronx, Kings, New York, Queens, Richmond
BOMA/Westchester	White Plains	Counties – Westchester, Putnam, Dutchess, Rockland, Orange
<b>NORTH CAROLINA</b>		
BOMA/Greater Charlotte	Charlotte	North Carolina Counties – Alexander, Alleghany, Ashe, Avery, Buncombe, Burke, Cabarrus, Caldwell, Catawba, Cherokee, Clay, Cleveland, Davie, Davidson, Forsyth, Gaston, Graham, Guilford, Haywood, Henderson, Iredell, Jackson, Lincoln, McDowell, Macon, Madison, Mecklenburg, Mitchell, Polk, Randolph, Rockingham, Rowan, Rutherford, Stanly, Stokes, Surry, Swain, Transylvania, Union, Watauga, Wilkes, Yadkin, Yancy South Carolina Counties – Entire State
BOMA/Raleigh-Durham	Raleigh-Durham	Counties – Alamance, Anson, Beaufort, Bertie, Bladen, Brunswick, Camden, Carteret, Caswell, Chatham, Chowan, Columbus, Craven, Cumberland, Currituck, Dare, Duplin, Durham, Edgecombe, Franklin, Gates, Granville, Greene, Halifax, Harnett, Hertford, Hoke, Hyde, Johnston, Jones, Lee, Lenoir, Martin, Montgomery, Moore, Nash, New Hanover, Northampton, Onslow, Orange, Pamlico, Pasquotank, Pender, Perquimans, Person, Pitt, Richmond, Robeson, Sampson, Scotland, Tyrrell, Vance, Wake, Warren, Washington, Wayne, Wilson
<b>OHIO</b>		
BOMA/Akron	Akron	Counties – Summit, Stark, Portage, Wayne
BOMA/Greater Cincinnati	Cincinnati	Ohio Counties – Hamilton, Clermont, and the southern portions of Butler and Warren Counties in Ohio (the northern portions of both counties are in Dayton's territory, with the north/south boundary being Route 63.) Kentucky Counties – Boone, Kenton, Campbell Indiana Counties – Dearborn, Franklin
BOMA/Greater Cleveland	Cleveland	Counties – Cuyahoga, Geauga, Lake, Lorain
BOMA/Columbus	Columbus	Counties – Champaign, Delaware, Fairfield, Franklin, Licking, Madison, Pickaway, Union



## BOMA Local Associations

BOMA LOCAL	PRIMARY MARKET	LOCAL ASSOCIATION TERRITORY
BOMA/Dayton	Dayton	Counties – Clark, Clinton, Darke, Green, Miami, Montgomery, Preble, and the northern portions of Butler and Warren Counties (the southern portions of each county are in Greater Cincinnati's territory, with the north/south boundary being Route 63)
BOMA/Toledo	Toledo	Counties – Hancock, Lucas, Wood
OKLAHOMA		
BOMA/Oklahoma City	Oklahoma City	Counties – Cleveland, Oklahoma
BOMA/Tulsa	Tulsa	Counties – Cherokee, Craig, Creek, Delaware, Mayes, Muskogee, Nowata, Okmulgee, Osage, Pawnee, Rogers, Tulsa, Wagoner, Washington
OREGON		
BOMA/Oregon	Portland	Entire State
PENNSYLVANIA		
BOMA/Central Pennsylvania	Harrisburg	Counties – Adams, Centre, Cumberland, Dauphin, Franklin, Fulton, Huntington, Juniata, Lancaster, Lebanon, Mifflin, Northumberland, Perry, Schuylkill, Snyder, Union, York
BOMA/Philadelphia	Philadelphia	Pennsylvania Counties – Berks, Bucks, Chester, Delaware, Montgomery, Philadelphia Delaware Counties – New Castle, Kent New Jersey Counties – Atlantic, Burlington, Camden, Gloucester
BOMA/Pittsburgh	Pittsburgh	Counties – Allegheny, Armstrong, Beaver, Bedford, Butler, Cambria, Clarion, Erie, Greene, Fayette, Jefferson, Lawrence, Mercer, Somerset, Washington, Westmoreland West Virginia Counties – Hancock, Brook, Ohio, Marshall
TENNESSEE		
BOMA/Chattanooga	Chattanooga	Counties – Hamilton, Marion
BOMA/Knoxville	Knoxville	Counties – Anderson, Blount, Knox
BOMA/Memphis	Memphis	Counties – Shelby
BOMA/Nashville	Nashville	Counties – Cheatham, Davidson, Dickson, Robertson, Rutherford, Sumner, Williamson, Wilson
TEXAS		
BOMA/Austin	Austin	Counties – Travis
BOMA/Corpus Christi	Corpus Christi	Counties – Nueces
BOMA/Dallas	Dallas	Counties – Dallas, Collin, Grayson, Ellis, Kaufman, Van Zandt
BOMA/Fort Worth	Fort Worth	Counties – Tarrant, Denton, Wise, Lubbock, Wichita
BOMA/Houston	Houston	Counties – Brazoria, Chambers, Fort Bend, Galveston, Harris, Liberty, Montgomery, Waller
BOMA/San Antonio	San Antonio	Counties – Bexar
UTAH		
BOMA/Utah	Salt Lake City	Entire State
VIRGINIA		
BOMA/Virginia	Richmond Hampton Roads	All counties and independent cities excluding the counties of Arlington, Fairfax, Loudoun, Prince William, Frederick, Shenandoah, Clarke, Rappahannock, Fauquier, Stafford, Culpepper, and Warren and these Independent Cities – Alexandria, Fairfax, Falls Church (in DCs area)
WASHINGTON		
BOMA/Seattle -King County	Seattle	Counties – King
BOMA/Spokane	Spokane	Counties – Spokane
BOMA/South Puget Sound	Tacoma	Counties – Pierce, Thurston, Kitsap
WISCONSIN		
BOMA/Wisconsin	Milwaukee	Entire State



