

Cities with Strong Commercial Real Estate Demand Boast More Diverse Job Markets

The diversity of job listings in an area can provide insights into the health of the job market, indicate employment trends, demonstrate the strength of the local economy, and more. In LinkUp's Q3 Job Market Diversification Report (JMDR), we continued our quarterly analysis of the distribution of job listings from LinkUp's extensive database of 5 million jobs indexed from 50,000 company websites, by occupation, company, and industry.

In addition to analyzing job market diversification, we dug deeper to explore the relationship between job market diversification and real estate. We compared our job market diversification scores with the Q3 results of the U.S. Downtown Office Report, published by Colliers International Group Inc., a top tier global real estate service and investment management company.

HIGHLIGHTS

Markets in Utah and California continued to show some of the highest job market diversification scores driven by consistent distribution of job openings across industries, companies, and occupations.

Former "Rust Belt" markets in the Midwest and East Coast had some of the lowest job market diversification scores as these markets continue to rely on a few industries such as transportation and manufacturing for the majority of their job openings.

Two-thirds of the markets analyzed have decreased their job market diversification scores from Q2 to Q3. As the U.S. economy gets closer to full employment, the depth and variety of job openings has decreased.

The comparison between LinkUp's Job Market Diversification Report and Colliers' Q3 U.S. Downtown Office Report by Market showed a strong relationship between how diverse a market is and its absorption and vacancy rate.

DIGGING DEEPER



In this report, we partnered with Colliers International to investigate our job market data relative to the commercial real estate market trends. (See page 5)

OVERALL TRENDS

Most Diversified Job Markets:

Large: Salt Lake City, UT
Mid: Spokane, WA
Small: Vallejo, CA

Least Diversified Job Markets:

Large: Detroit, MI
Mid: Worcester, MA
Small: Fayetteville, AR

% of markets with declining job diversification



Colliers Vacancy Rates (average):

All Markets Analyzed: 11%
Most Diversified Job Markets: 7%
Least Diversified Job Markets: 12%

Colliers Net Absorption (avg sq feet):

All Markets Analyzed: 104,000
Most Diversified Job Markets: 173,000
Least Diversified Job Markets: 7,000

RESULTS: LARGE MARKETS (POPULATION > 1,100,000)

Among the large markets, Salt Lake City, UT; Buffalo, NY; Jacksonville, FL; Raleigh, NC; and Austin, TX are the most diversified while Cleveland, OH; Atlanta, GA; New York, NY; Chicago, IL; and Detroit, MI are the least diversified.

MOST DIVERSIFIED JOB MARKETS

MSA	2018 Q3 SCORE
1 Salt Lake City, UT	47.1
2 Buffalo, NY	46.5
3 Jacksonville, FL	45.5
4 Raleigh, NC	44.7
5 Austin, TX	44.7

LEAST DIVERSIFIED JOB MARKETS

MSA	2018 Q3 SCORE
46 Cleveland, OH	33.8
47 Atlanta, GA	33.8
48 New York, NY	33.3
49 Chicago, IL	31.8
50 Detroit, MI	28.7

The ranking of markets is based on the variance of job openings across occupations, industries, and companies. The smaller the variance across these groups, the higher the diversification score. Markets like Salt Lake City and Buffalo have consistently been among the top 5 in all three quarters this year because they are able to maintain an even distribution regardless of whether job openings are increasing or decreasing in their markets. Salt Lake City, for example, maintained its #1 rank in Q3 despite Intermountain Healthcare (Utah's largest employer) significantly reducing its job openings this year,¹ because grocery retailer, Kroger, announced plans to hire 1,000 new employees in Utah and three other mountain states.²

In addition to reviewing the most and least diversified markets, we also looked at which markets had the biggest change in rank from Q2 to Q3.

Sacramento, CA went from #20 in Q2 to #10 in Q3 due to a sharp drop in job openings at the various Applebee's locations in Sacramento.³ While this might seem counter-intuitive, it is

actually better when job openings are spread across many companies instead of just one or two large ones. Applebee's previously accounted for a large portion of job openings in the Sacramento market, but now that several Applebee's have closed in Sacramento, job openings have become more evenly distributed across several companies instead of just one.

The opposite has occurred in Philadelphia, PA, where manufacturers such as Lockheed Martin⁴ and Johnson & Johnson⁵ increased their share of job openings from 8% in Q2 to 15% in Q3. This heavy reliance on manufacturing jobs drove Philadelphia's rank down from #24 in Q2 to #34 in Q3.

CHANGE IN JMDR RANK (Q2 TO Q3 2018)

Sacramento, CA	↑	+10
Seattle, WA	↑	+8
Philadelphia, PA	↓	-10
Dallas, TX	↓	-12

RESULTS: MID-MARKETS (POPULATION: 542,000 - 1,100,000)

For the mid-markets, the most diversified are Spokane, WA; Provo, UT; Oxnard, CA; Bridgeport, CT; and Boise, ID and the least diversified are Allentown, PA; Springfield, MA; Harrisburg, PA; Columbia, SC; and Worcester, MA.

MOST DIVERSIFIED JOB MARKETS

MSA	2018 Q3 SCORE
1 Spokane, WA	55.9
2 Provo, UT	53.3
3 Oxnard, CA	51.5
4 Bridgeport, CT	50.1
5 Boise, ID	49.7

LEAST DIVERSIFIED JOB MARKETS

MSA	2018 Q3 SCORE
46 Allentown, PA	32.5
47 Springfield, MA	31.6
48 Harrisburg, PA	31.0
49 Columbia, SC	27.7
50 Worcester, MA	26.7

Among the mid-markets, 4 of the top 5 markets have consistently ranked among the top 5 throughout 2018 because of the consistency of job openings spread across industries, companies, and occupations.

Oxnard increased its total job openings by 23% between Q2 and Q3. However, the share of job openings for the largest companies has remained around 68%.

Springfield and Worcester on the other hand, increased their job openings by over 50% from Q2 to Q3 and the largest companies in both markets went from 45% share of job openings in Q2 to 55% in Q3. Taco Bell put a heavy focus on new store openings in Massachusetts, so their job openings have skyrocketed in these two markets.⁶

As for the markets with the highest increase or decrease in ranking, Boise went from #28 in Q2 to #5 in Q3 due to a sharp drop in job openings

among employers in the Administrative and Support Services industry. The companies in this industry previously accounted for nearly 10% of all job openings in Q2. In Q3, that share dropped to 2% driven by job reductions at Volt Information Sciences⁷ and Trinity Health Corporation.⁸

In Lancaster, PA, job openings in the trucking industry increased by 45% between Q2 and Q3, far outpacing the 8% increase in all job openings in Lancaster.⁹

CHANGE IN JMDR RANK (Q2 TO Q3 2018)

El Paso, TX	↑	+13
Boise, ID	↑	+23
Lancaster, PA	↓	-12
Scranton, PA	↓	-17

RESULTS: SMALL MARKETS (POPULATION: 338,000 - 541,000)

For the small markets, Vallejo, CA; Santa Rosa, CA; Beaumont, TX; Santa Barbara, CA; and Salisbury, MD were the most diversified while Lexington, KY; Youngstown, OH; Peoria, IL; Springfield, MO; and Fayetteville, AR were the least diversified.

MOST DIVERSIFIED JOB MARKETS

MSA	2018 Q3 SCORE
1 Vallejo, CA	57.5
2 Santa Rosa, CA	56.3
3 Beaumont, TX	56.0
4 Santa Barbara, CA	55.8
5 Salisbury, MD	55.5

LEAST DIVERSIFIED JOB MARKETS

MSA	2018 Q3 SCORE
46 Lexington, KY	38.6
47 Youngstown, OH	38.1
48 Peoria, IL	36.7
49 Springfield, MO	36.7
50 Fayetteville, AR	35.4

In small markets, the diversification score was heavily influenced by a reduction in job openings by one or two of the largest employers in the market. In Vallejo for example, Kaiser Permanente announced in early 2018 that it would start outsourcing hundreds of jobs.¹⁰ Kaiser Permanente used to account for 12% of job openings in Q2 but in Q3 it only accounted for 3% of job openings. Vallejo was more diverse in Q3 because the city no longer had one large employer dominating the available job openings.

As for the markets with the highest increase or decrease in ranking, Salisbury increased its rank so much it landed in the top 5 for the first time in Q3. Davenport, IA and Reading, PA ranked among the top 15 markets in Q2, but in Q3, they dropped to #36 and #38 respectively.

In Salisbury, one of the biggest employers, Perdue Farms, announced in August it is moving their AgriBusiness unit from Salisbury to Sussex County, DE.¹¹ Perdue has reduced its number of job openings in the Salisbury market perhaps in

anticipation of this major move. Similar to Vallejo with the reduction in job openings by one major employer, job openings are now spread across more companies which drives Salisbury's job market diversification score higher.

In Reading, the increase in health care jobs has far outpaced the growth of all job openings. Overall job openings in this market increased by 11% from Q2 to Q3, but health care related job openings increased by 75% driven by some of the larger firms such as Tower Health,¹² Reading Health, and Healthcare Services Group.

CHANGE IN JMDR RANK (Q2 TO Q3 2018)

Visalia, CA	↑	+22
Salisbury, MD	↑	+34
Davenport, IA	↓	-23
Reading, PA	↓	-32

REAL ESTATE DEMAND RELATED TO JOB MARKET DIVERSITY

Each quarter LinkUp compares job market diversification results with another economic metric, such as unemployment or salary, to understand where relationships exist. For the Q3 Job Market Diversification Report, we explored our diversification scores in relation to real estate measures from Colliers International’s Q3 U.S. Downtown Office Report. The Colliers report examines key trends influencing metro office markets across the U.S.

COLLIERS DEFINITIONS

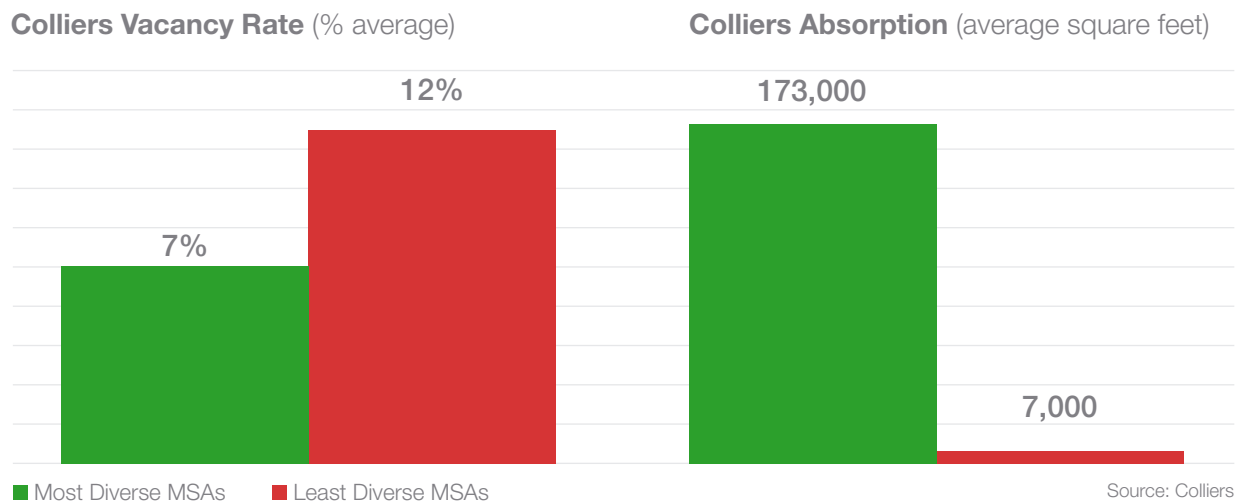
Absorption (Net): The net change in occupied space over a given period of time, by square foot. High absorption indicates strong demand.

Vacancy Rate: A percentage of the total amount of physically vacant space, including direct vacant and sublease space, divided by the total amount of existing inventory. Low vacancy indicates strong demand.

We identified and analyzed the diversification scores of 42 Metropolitan Statistical Areas (MSAs) that had a corresponding city present in the Colliers’ report, and found that our Q3 scores have a strong relationship to Colliers metrics, especially in regards to **Vacancy Rates** and **Absorption**.

“Jobs are the single greatest driver of office space absorption” according to Colliers International.¹³ When a market has a large number of incremental new job openings, the hiring employers must make room for these new employees. Employers will take up more office space driving up the absorption square footage in that market.

The average net absorption is 104,000 square feet among the 42 MSAs to which we compared our JMDR score. This graphic shows the relationship between LinkUp’s JMDR scores and Colliers Q3 absorption. The most diverse MSAs have an average net absorption of just over 173,000 square feet in Q3, while the least diverse MSAs only show a net absorption of 7,000 square feet.



REAL ESTATE DEMAND RELATED TO JOB MARKET DIVERSITY (CONT.)

Not all of the least diverse MSAs had a negative absorption in Q3 though. Chicago and Atlanta both came in with an absorption of just over 200,000 square feet.

While LinkUp did not compare trends to Colliers metrics, a deeper dive into Chicago and Atlanta shows that these two markets are actually seeing a decline in net absorption as their vacancy rates increase.

The job market in Chicago is booming and companies keep taking over office space downtown, but it's not enough to keep the vacancy rate from ticking up.

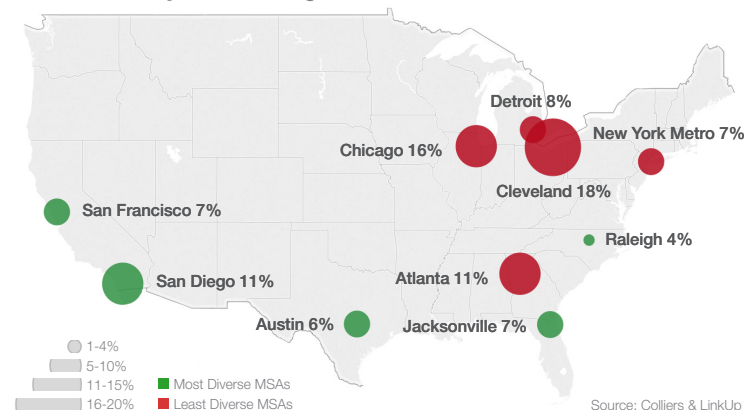
The numbers reflect the rampant demand for office space downtown, but also the lingering impact of companies becoming more efficient with their space, as well as the addition of new inventory over the past 18 months.¹⁴

Vacancy and job market diversification go hand in hand.

The most diversified MSAs based on Q3 JMDR scores, such as Jacksonville, FL and Raleigh, NC, have fairly low vacancy rates at 7% and 4% respectively. Whereas, the least diversified ranking MSAs have much higher vacancy rates, such as Chicago at 14% and Cleveland at 18%.



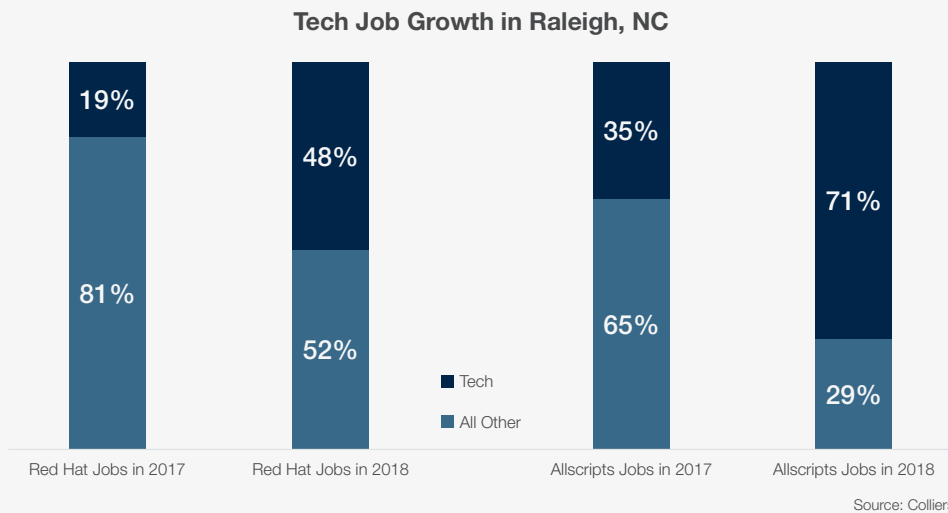
Colliers Vacancy Rates Among the Most and Least Diversified MSAs



REAL ESTATE DEMAND RELATED TO JOB MARKET DIVERSITY (CONT.)

Fueled by the unrelenting growth of the tech industry, San Francisco, Austin, and Raleigh enjoy some of the lowest vacancy rates in the nation.

Raleigh, for example, is seeing significant leasing by tech tenants such as Red Hat and Allscripts. At the same time, these two companies also show an increase in job openings for tech-related positions in Raleigh.



On the other hand, Cleveland and Atlanta have some of the highest vacancy rates in the U.S. In Cleveland, the office market has been downsizing, with largely vacant office buildings being snapped up for residential and mixed-use projects.

In Atlanta, the amount of new office space being delivered is outpacing demand. Large, anticipated move-outs were plentiful this quarter which tempered positive occupancy gains in the market. AT&T's consolidation continues to be the largest of these. To date, the company has put 500,000 square feet of space back on the market with even more expected in Q4.¹⁵

SUMMARY

More than two-thirds of the 150 job markets we measured are seeing a decrease in the diversification of their job listings, likely a result of the U.S. reaching full employment. As of March 2018, there were officially more job openings than workers to fill them, causing a workforce shortage, and inhibiting employer growth.¹⁶ This workforce shortage has caused two of the three metrics measured (occupation and industry) in the LinkUp Job Market Diversification Report to decrease, resulting in less depth and variety in job openings.

Additionally, declining job growth is primed to impact real estate. Early in 2018, Colliers anticipated that key indicators such as sales transactions and office absorption would moderate in the second half of 2018.¹⁷ As hiring slows, so does the need for additional commercial real estate space.

To further explore this, we compared our job market diversification scores to key Colliers' real estate measures, and found a strong relationship between how diverse a market is and demand for commercial space as measured by absorption and vacancy rate. Our most diverse markets had both higher net absorption and lower vacancy rates than our least diverse markets.

APPENDIX A: METHODOLOGY

OVERVIEW

LinkUp has created a proprietary metric that calculates the diversity of job openings in a given geographic region. The Job Market Diversification Report does not measure diversity in terms of demographics of the population, but rather the diversification of the job openings within the geography. The Report provides a composite score for each geography using the following parameters:

- Distribution of industries with job openings (based on 3-digit NAICS codes)
- Distribution of companies with job openings (based on companies in the LinkUp Index)
- Distribution of occupations with job openings (based on the U.S. Bureau of Labor Statistics' Standard Occupation Classification)

MARKET BREAKDOWN

LinkUp has calculated our Q3 2018 Job Market Diversification Report for the top 150 markets (i.e. Metropolitan Statistical Areas as defined by the U.S. Office of Management and Budget) based on population in the United States. The 150 markets have been grouped into large markets (population > 1,100,000), mid markets (population 542,000-1,100,000), and small markets (population 338,000-541,000). We have also compared the Job Market Diversification scores from Q3 to Q2 2018 for all 150 markets.

METHODOLOGY

The diversification of a metropolitan statistical area (MSA) is calculated by adding the number of rows (i.e. industries, companies, or occupations) with >0 job openings and then breaking that count into quintiles. The number of job openings are then summed within each quintile and divided by the total number of job openings to determine the percent of job openings in each quintile (Figure 1). The quintile percentages are then compared to the variance from “perfect distribution” (i.e. 20% Ex. 1 in Figure 1) for each quintile. Finally, the sum of the variance is subtracted from 160 to invert the final score so the higher number indicates a better score (Figure 2).

Figure 1

Job Openings in Each Quintile as % of Total Job Openings						
Quintiles	Ex 1	Ex 2	Ex 3	Ex 4	Ex 5	Ex 6
Top Quintile	20%	30%	40%	60%	80%	100%
2 nd Quintile	20	25	30	15	10	0
3 rd Quintile	20	20	15	15	6	0
4 th Quintile	20	15	10	5	3	0
Bottom Quintile	20	10	5	5	1	0
Total	100	100	100	100	100	100

Figure 2

Absolute Difference from “Perfect Distribution”						
Quintiles	Ex 1	Ex 2	Ex 3	Ex 4	Ex 5	Ex 6
Top Quintile	0pp	10pp	20pp	40pp	60pp	80pp
2 nd Quintile	0	5	10	5	10	20
3 rd Quintile	0	0	5	5	14	20
4 th Quintile	0	5	10	15	17	20
Bottom Quintile	0	10	15	15	19	20
Total	0	30	60	80	120	160
SCORE:	160	130	100	80	40	0

APPENDIX A: METHODOLOGY (CONT.)

Figure 3 shows an example of how the composite score for the San Francisco MSA is calculated. A diversification score is calculated for each parameter and then those three scores are averaged for a composite diversification score of 50 for San Francisco.

Figure 3

Example Calculation For San Francisco						
Parameters	Occupations		Industries		Companies	
	% of Job Openings in each Quintile	Variance from 20%	% of Job Openings in each Quintile	Variance from 20%	% of Job Openings in each Quintile	Variance from 20%
Top 20%	76%	56pp	70%	50pp	79%	59pp
21-40%	15	5	19	1	12	8
41-60%	6	14	8	12	6	14
61-80%	2	18	3	17	2	18
81-100%	1	19	0	20	1	19
Sum of Variances:		112		99		118
Parameter Scores (160-Sum of Variances):		48		61		42
DIVERSIFICATION SCORE: 50						

APPENDIX B: LARGE MARKET JOB MARKET DIVERSIFICATION DATA (POPULATION > 1,100,000)

2018 Q3 Rank	MSA	Population Estimate (as of 7/1/2017)	Q2 2018	Q3 2018	Q2 vs. Q3 Score Change
1	Salt Lake City-Ogden, UT	1,203,105	49.2	47.1	-2.1
2	Buffalo-Niagara Falls, NY	1,136,856	46.1	46.5	0.4
3	Jacksonville, FL	1,504,980	44.3	45.5	1.3
4	Raleigh-Durham-Chapel Hill, NC	1,335,079	44.1	44.7	0.6
5	Austin-Round Rock, TX	2,115,827	43.7	44.7	1.0
6	Oklahoma City, OK	1,383,737	45.0	43.8	-1.2
7	New Orleans-Metairie-Kenner, LA	1,275,762	44.2	43.0	-1.1
8	San Diego-Carlsbad-San Marcos, CA	3,337,685	41.4	42.8	1.4
9	San Francisco-Oakland-Fremont, CA	4,727,357	43.2	42.6	-0.7
10	Sacramento-Arden-Arcade-Roseville, CA	2,324,884	40.4	42.5	2.1
11	Denver-Aurora, CO	2,888,227	42.0	42.1	0.1
12	Phoenix-Mesa-Scottsdale, AZ	4,737,270	41.3	41.2	-0.1
13	Louisville/Jefferson County, KY-IN	1,293,953	44.7	41.1	-3.6
14	Memphis, TN-AR-MS	1,348,260	43.9	40.9	-3.0
15	Houston-Sugar Land-Baytown, TX	6,892,427	42.9	40.8	-2.2
16	San Antonio, TX	2,473,974	41.3	40.6	-0.7
17	Portland-Vancouver-Beaverton, OR-WA	2,453,168	42.0	40.4	-1.6
18	Virginia Beach-Norfolk-Newport News, VA	1,725,246	38.8	40.1	1.3
19	Hartford-West Hartford-East Hartford, CT	1,210,259	43.2	39.6	-3.6
20	Milwaukee-Waukesha-West Allis, WI	1,576,236	39.4	39.4	0.0
21	Orlando-Kissimmee, FL	2,509,831	38.4	39.1	0.7
22	Nashville-Davidson-Murfreesboro-Franklin, TN	1,903,045	41.4	38.8	-2.5
23	Boston-Cambridge-Quincy, MA-NH	4,836,531	38.1	38.6	0.4
24	Indianapolis-Carmel, IN	2,028,614	38.2	38.0	-0.2
25	Providence-New Bedford-Fall River, RI-MA	1,621,122	41.3	37.9	-3.4
26	Cincinnati-Middletown, OH-KY-IN	2,179,082	39.5	37.7	-1.8
27	Riverside-San Bernardino-Ontario, CA	4,580,670	37.8	37.7	-0.1
28	Richmond-Petersburg, VA	1,294,204	38.0	37.7	-0.3
29	Birmingham-Hoover, AL	1,149,807	39.6	36.9	-2.7
30	Pittsburgh, PA	2,333,367	36.6	36.6	0.0
31	Kansas City, MO-KS	2,128,912	36.5	36.3	-0.1
32	Minneapolis-St. Paul-Bloomington, MN-WI	3,600,618	37.2	36.3	-0.9
33	Baltimore-Towson, MD	2,808,175	37.2	35.9	-1.3
34	Philadelphia-Camden-Wilmington, PA-NJ-DE	6,096,120	38.8	35.7	-3.1
35	Seattle-Tacoma-Bellevue, WA	3,867,046	35.7	35.4	-0.2
36	Los Angeles-Long Beach-Santa Ana, CA	13,353,907	37.2	35.4	-1.8
37	Charlotte-Gastonia-Concord, NC-SC	2,525,305	36.7	35.2	-1.5
38	Tampa-St. Petersburg-Clearwater, FL	3,091,399	36.8	35.1	-1.6
39	Miami-Fort Lauderdale-Pompano Beach, FL	6,158,824	36.3	34.9	-1.4
40	San Jose-Sunnyvale-Santa Clara, CA	1,998,463	33.8	34.8	1.0
41	Columbus, OH	2,078,725	36.2	34.3	-2.0
42	Washington-Arlington-Alexandria, DC-VA	6,216,589	35.1	34.2	-0.8
43	Dallas-Fort Worth-Arlington, TX	7,399,662	37.5	34.0	-3.5
44	St. Louis, MO-IL	2,807,338	35.6	34.0	-1.6
45	Las Vegas-Paradise, NV	2,204,079	30.8	33.8	3.0
46	Cleveland-Elyria-Mentor, OH	2,058,844	36.0	33.8	-2.2
47	Atlanta-Sandy Springs-Marietta, GA	5,884,736	35.8	33.8	-2.1
48	New York-Northern New Jersey-Long Island, NY-NJ	20,320,876	34.6	33.3	-1.2
49	Chicago-Naperville-Joliet, IL-IN-WI	9,533,040	33.6	31.8	-1.8
50	Detroit-Warren-Livonia, MI	4,313,002	31.3	28.7	-2.5



JOB MARKET DIVERSIFICATION REPORT: Q3 2018

APPENDIX B: MID MARKET JOB MARKET DIVERSIFICATION DATA (POPULATION 542,000 - 1,100,000)

2018 Q3 Rank	MSA	Population Estimate (as of 7/1/2017)	Q2 2018	Q3 2018	Q2 vs. Q3 Score Change
1	Spokane, WA	564,236	56.1	55.9	-0.2
2	Provo-Orem, UT	617,675	55.2	53.3	-2.0
3	Oxnard-Thousand Oaks-Ventura, CA	854,223	51.9	51.5	-0.4
4	Bridgeport-Stamford-Norwalk, CT	949,921	51.4	50.1	-1.3
5	Boise City-Nampa, ID	709,845	46.1	49.7	3.6
6	Lakeland-Winterhaven, FL	686,483	50.7	49.4	-1.3
7	Fresno, CA	989,255	50.3	49.3	-1.0
8	Cape Coral-Fort Myers, FL	739,224	49.8	49.2	-0.6
9	Tulsa, OK	990,706	50.0	49.1	-1.0
10	Colorado Springs, CO	723,878	48.2	48.4	0.2
11	Honolulu, HI	988,650	47.5	48.1	0.6
12	New Haven-Bridgeport-Stamford-Danbury, CT	860,435	50.5	48.0	-2.4
13	Modesto, CA	547,899	49.7	47.8	-1.9
14	Stockton-Lodi, CA	745,424	50.7	47.7	-3.0
15	Charleston-North Charleston, SC	775,831	47.9	47.5	-0.4
16	Baton Rouge, LA	834,159	49.6	47.5	-2.1
17	Omaha-Council Bluffs, NE-IA	933,316	47.3	47.4	0.0
18	Wichita, KS	645,628	46.3	47.3	1.0
19	Augusta-Richmond County, GA-SC	600,151	48.1	46.5	-1.6
20	Bakersfield, CA	893,119	48.1	46.5	-1.6
21	Deltona-Daytona Beach-Ormond Beach, FL	649,202	47.7	46.2	-1.5
22	El Paso, TX	844,818	43.7	46.0	2.3
23	Jackson, MS	578,715	47.5	45.9	-1.6
24	Sarasota-Bradenton-Venice, FL	804,690	47.2	45.7	-1.5
25	Greensboro-High Point, NC	761,184	47.8	45.5	-2.3
26	Scranton--Wilkes-Barre--Hazleton, PA	555,426	50.3	45.1	-5.2
27	Greenville-Mauldin-Easley, SC	895,923	46.4	45.1	-1.4
28	Albuquerque, NM	910,726	44.2	43.3	-0.9
29	Madison, WI	654,230	45.6	43.2	-2.4
30	Chattanooga, TN-GA	556,548	46.3	43.2	-3.1
31	Palm Bay-Melbourne-Titusville, FL	589,162	46.0	43.2	-2.8
32	Syracuse, NY	654,841	45.2	43.0	-2.2
33	Albany-Schenectady-Troy, NY	886,188	43.8	41.8	-2.0
34	Lancaster, PA	542,903	47.4	41.8	-5.6
35	Tucson, AZ	1,022,769	41.8	41.7	0.0
36	Grand Rapids-Wyoming, MI	1,059,113	43.5	41.3	-2.2
37	Knoxville, TN	877,104	42.5	41.1	-1.4
38	Little Rock-North Little Rock-Conway, AR	738,344	39.4	40.8	1.5
39	Mcallen-Edinburg-Mission, TX	860,661	39.6	40.4	0.8
40	Dayton-Springfield, OH	803,416	44.5	40.1	-4.4
41	Winston-Salem, NC	667,733	37.2	40.0	2.8
42	Des Moines-West Des Moines, IA	645,911	40.4	39.2	-1.2
43	Rochester, NY	1,077,948	40.7	39.0	-1.6
44	Toledo, OH	603,668	40.4	37.8	-2.6
45	Akron, OH	703,505	38.8	34.6	-4.2
46	Allentown-Bethlehem-Easton, PA-NJ	840,550	36.6	32.5	-4.2
47	Springfield, MA	631,652	33.6	31.6	-2.1
48	Harrisburg-Carlisle, PA	571,903	32.2	31.0	-1.2
49	Columbia, SC	825,033	26.5	27.7	1.2
50	Worcester, MA	942,475	30.7	26.7	-4.0



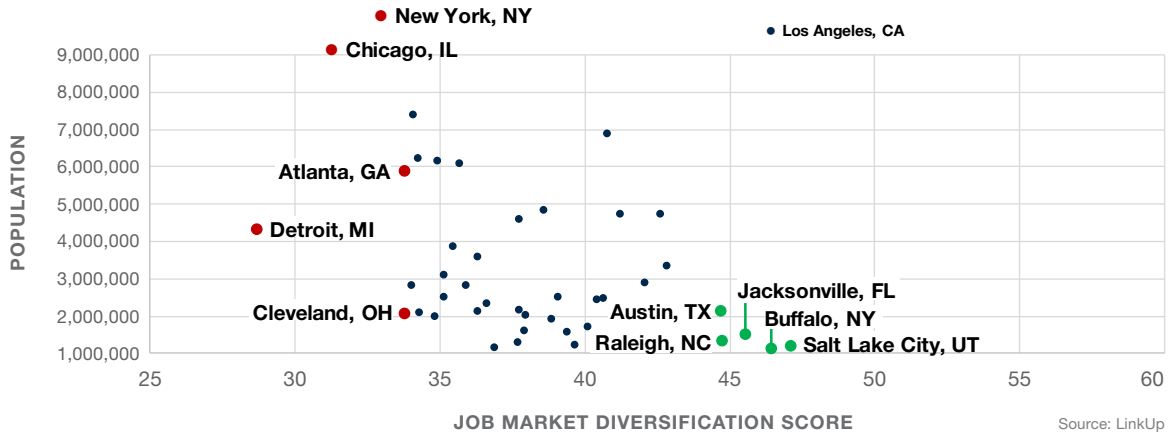
JOB MARKET DIVERSIFICATION REPORT: Q3 2018

APPENDIX B: SMALL MARKET JOB MARKET DIVERSIFICATION DATA (POPULATION 338,000 - 541,000)

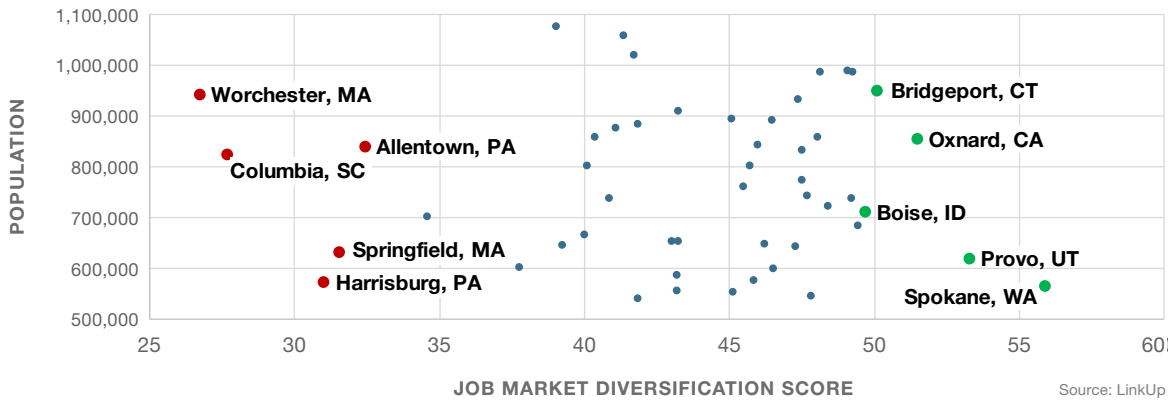
2018 Q3 Rank	MSA	Population Estimate (as of 7/1/2017)	Q2 2018	Q3 2018	Q2 vs. Q3 Score Change
1	Vallejo-Fairfield, CA	445,458	56.2	57.5	1.3
2	Santa Rosa-Petaluma, CA	504,217	52.1	56.3	4.2
3	Beaumont-Port Arthur, TX	412,437	56.6	56.0	-0.6
4	Santa Barbara-Santa Maria-Goleta, CA	448,150	54.9	55.8	0.9
5	Salisbury, MD	405,853	43.6	55.5	11.9
6	Naples-Marco Island, FL	372,880	54.2	54.3	0.2
7	Brownsville-Harlingen, TX	423,725	51.3	53.7	2.4
8	Savannah, GA	387,543	52.3	53.2	0.9
9	Port St. Lucie, FL	473,429	52.0	52.6	0.5
10	Corpus Christi, TX	454,008	53.5	52.2	-1.3
11	Mobile, AL	413,955	51.6	51.3	-0.2
12	Visalia-Porterville, CA	464,493	45.2	51.3	6.1
13	Montgomery, AL	373,903	50.3	50.7	0.4
14	Gulfport-Biloxi, MS	394,232	46.3	50.7	4.3
15	Killeen-Temple-Fort Hood, TX	443,773	52.7	50.4	-2.3
16	Anchorage, AK	400,888	49.7	50.3	0.6
17	Reno-Sparks, NV	464,593	48.9	50.2	1.3
18	Lafayette, LA	491,558	51.3	50.2	-1.1
19	Salinas, CA	437,907	50.8	50.1	-0.7
20	Eugene-Springfield, OR	374,748	53.3	50.0	-3.3
21	Shreveport-Bossier City, LA	440,933	50.6	49.9	-0.7
22	Fort Collins-Loveland, CO	343,976	49.9	49.9	0.0
23	Myrtle Beach-Conway-North Myrtle Beach, SC	464,165	47.5	49.2	1.7
24	Salem, OR	424,982	50.4	48.7	-1.7
25	Ocala, FL	354,353	46.8	48.6	1.8
26	Lansing-East Lansing, MI	477,656	47.2	48.5	1.3
27	Kalamazoo-Portage, MI	338,338	48.5	48.1	-0.5
28	York-Hanover, PA	446,078	51.0	47.5	-3.5
29	Asheville, NC	456,145	48.2	46.8	-1.4
30	Hickory-Lenoir-Morganton, NC	366,534	50.4	46.4	-4.0
31	Fort Wayne, IN	434,617	49.8	46.1	-3.7
32	Pensacola-Ferry Pass-Brent, FL	487,784	47.5	46.1	-1.5
33	Manchester-Nashua, NH	409,697	45.9	46.0	0.1
34	Trenton-Ewing, NJ	374,733	44.9	45.9	1.0
35	Canton-Massillon, OH	399,927	45.2	45.8	0.6
36	Davenport-Moline-Rock Island, IA-IL	382,263	51.4	45.6	-5.8
37	Huntington-Ashland, WV-KY-OH	356,474	45.1	44.9	-0.2
38	Reading, PA	417,854	53.3	43.1	-10.2
39	Fayetteville, NC	386,662	44.8	43.0	-1.8
40	Rockford, IL	338,291	41.3	42.0	0.7
41	Huntsville, AL	455,448	42.7	41.1	-1.6
42	Tallahassee, FL	382,627	42.1	40.8	-1.3
43	Portland-South Portland-Biddeford, ME	532,083	38.3	40.0	1.7
44	Flint, MI	407,385	42.7	39.9	-2.8
45	Ann Arbor, MI	367,627	39.2	39.6	0.5
46	Lexington-Fayette, KY	512,650	37.0	38.6	1.6
47	Youngstown-Warren-Boardman, OH-PA	541,926	40.5	38.1	-2.4
48	Peoria, IL	372,427	39.9	36.7	-3.1
49	Springfield, MO	462,369	34.0	36.7	2.8
50	Fayetteville-Springdale-Rogers, AR-M	537,463	35.5	35.4	-0.1

APPENDIX C: SCATTER PLOTS

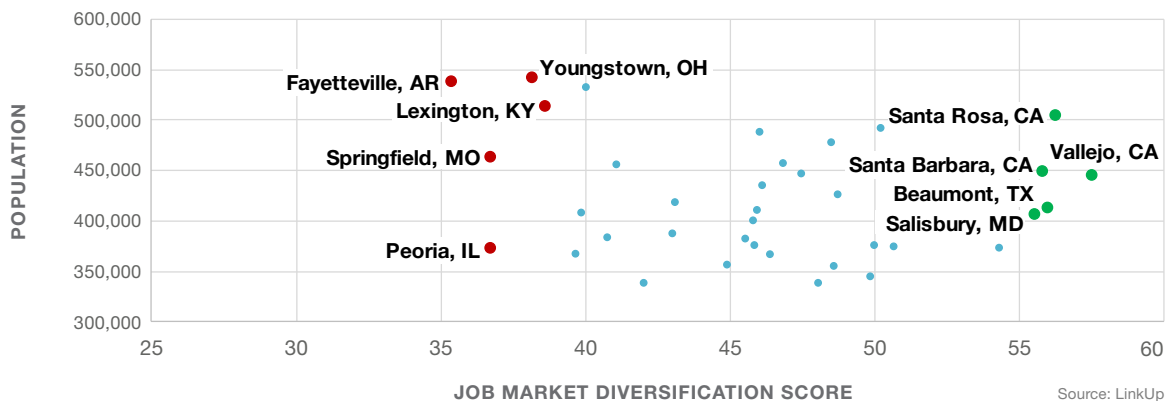
LARGE MARKET JOB MARKET DIVERSIFICATION SCORES VS. POPULATIONS



MID MARKET JOB MARKET DIVERSIFICATION SCORES VS. POPULATIONS



SMALL MARKET JOB MARKET DIVERSIFICATION SCORES VS. POPULATIONS



APPENDIX D: RESOURCES

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