

Albuquerque, NM Metropolitan Statistical Area

Entrepreneurial Ecosystem Metrics: Summary

We apply metrics from publicly available data sources to the entrepreneurial ecosystems indicators suggested by Stangler & Bell-Masterson (2015) for the Albuquerque, NM metropolitan statistical area (MSA). We assess the metro's entrepreneurial vibrancy based on its Density, Fluidity, Connectivity, and Diversity of entrepreneurship and preview the results below.

Density: The Albuquerque, NM MSA's entrepreneurial ecosystem density is low relative to the national average and has declined since 2009. Concomitantly, the metro's density of high-tech activity has also decreased as more high-tech firms have exited the metro than entered since 2009.

Fluidity: The Albuquerque metro's gross job creation and job destruction rates declined between 2009 and 2013; however, the churn of workers across jobs has increased over the same period. The metro's gross migration flows have remained relatively stable since 2009.

Connectivity: Entrepreneurship in the Albuquerque metro is under-networked in its ecosystem connectivity. The metro has a relatively low representation on the CrunchBase network, but also lags other metros in terms of professional associations.

Diversity: The Albuquerque, NM MSA is economically specialized across 16 4-digit NAICS sectors. The metro also has a higher proportion of female and immigrant self-employment relative to the other metros in this study, but still ranks a low 74th amongst US metropolitans in terms of economic mobility.

Introduction

We are interested in seeing how well a metropolitan's entrepreneurial ecosystem sustains opportunity for individuals as well as firms. Entrepreneurship occurs across all sectors of the economy and the four indicators discussed in this report capture various dimensions of entrepreneurial activity. We consider regional industrial and occupational compositions, population and labor flows, and regional networks to assess entrepreneurial opportunity. We also consider entrepreneurial outcome-based measures of self-employment rates, firm entry and exit dynamics, and socio-economic opportunity to assess metropolitan entrepreneurial vibrancy.

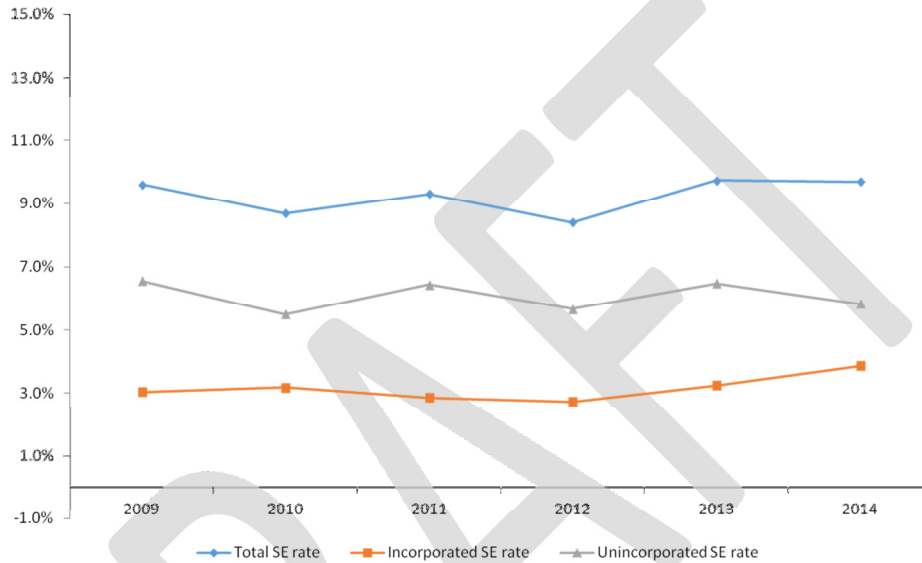
We assessed Albuquerque, NM MSAs entrepreneurial activity using both, self-employment rates¹, as well as the share of new and young firms² normalized by the resident population. Both measures of self-employment and new and young firms are suggestive that Albuquerque, NM metro's entrepreneurial vibrancy has room for improvement, particularly in employer-related entrepreneurial activity.

¹ The self-employment rate provides a broader measure of entrepreneurial activity as it is estimated by surveying individuals. It includes both incorporated as well as unincorporated self-employment.

² A region's share of new and young firms per 1,000 residents is more adequate for assessing entrepreneurial activity at the firm-level and is representative of employer-type entrepreneurship.

The Albuquerque, NM metropolitan area’s total self-employment rate in 2014 about matched the national rate at 9.7 percent. The metro’s incorporated self-employment rate was 3.9 percent, slightly higher than the national average of 3.4 percent, and the unincorporated rate was 5.8 percent, below the national average of 6.2 percent. As reported in figure 1, Albuquerque’s incorporated self-employment rate increased steadily since 2012, while the unincorporated rate oscillated around 6.0 percent since 2009. This suggests that in terms of self-employment activity, at the individual-level of entrepreneurial activity, the Albuquerque metro does about as well as the national average.³

Figure 1: Albuquerque, NM MSA Self-employment rate 2009 -2014 by type



Source: Author’s estimates of American Community Survey 1-year estimates from 2009 to 2014.

However, in terms of the proportion of new and young firms per 1,000 people the metro lags behind the nation. From 2009 to 2013 the share of new and young firms declined from 5.5 firms per 1,000 residents to 4.4 firms per 1,000 residents. In comparison, the national share of new and young firms declined from 7.2 in 2009 to 6.1 firms per 1,000 residents in 2013. This decline, although comparable in percent change, had a greater impact on the Albuquerque metro’s entrepreneurial ecosystem as the metro already had lower firm-level entrepreneurship rates in 2009.

Metropolitan Comparative Advantages

Nearly 60 percent of Albuquerque metro’s workforce is employed in the five broad sectors of Health care and social assistance (17.6%); Retail trade (14.6%); Professional and technical services (10.1%); Administrative and waste services (8.4%); and, Construction (6.9%). Yet, when considering clusters of establishments by detailed NAICS sector of activity, we find that the Albuquerque metro has comparative advantages⁴ in Mini-warehouse and self-storage units (LQ=3.2); Other physical and biological research (LQ=3.1); and, Consumer lending (LQ=2.6). When considering Albuquerque metro’s

³ The national self-employment rates include self-employment activity in agriculture and natural resource mining, both of which are under-represented in metropolitan areas.

⁴ For this instance, we defined comparative advantage as having an establishment location quotient over 2.5.

workforce, we find that businesses in the metro hire a much larger proportion of Hydrologists (LQ=6.8); Semiconductor processors (LQ=6.1); Electro-mechanical technicians (LQ=5.5); Engineers (LQ=4.7); and, Computer and information research scientists (LQ=4.5).⁵

As such, the Albuquerque, NM metropolitan area has a broadly specialized economy with comparative advantage across 16 4-digit NAICS sectors⁶. But the metro does not boast a heavy specialization with LQ>3.0 in any, even at the 6-digit detailed NAICS level. This is indicative that the metro is broadly diversified presenting ample self-employment opportunity, but the metro underperforms in terms of opportunity for high-growth firms. Excluding the metros of Santa Fe, NM and Burlington, VT that are much smaller in size, the Albuquerque metro has the lowest number of high-growth firms⁷ per 1,000 firms of the metros analyzed in this study. Nonetheless, it is worth noting that since 2009 Albuquerque's concentration of high-growth firms has increased from 4.9 high-growth firms per 1,000 firms to 7.2 high-growth firms per 1,000.

Although the time period analyzed here is relatively short, the indicators assessed in this study are informative of the structure of the metro's entrepreneurial ecosystem and its current trajectory. While we have highlighted some of the key features above, a closer analysis of the each of the metrics in the composite indicators is pursued below.

Ecosystem Density:

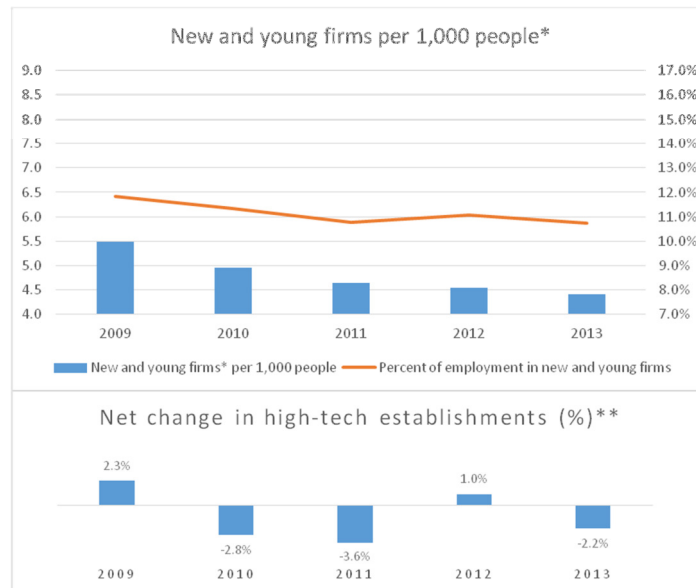
The Albuquerque, NM MSA's entrepreneurial ecosystem density is low relative to the national average and has declined since 2009. Concomitantly, the metro's density of high-tech activity has also decreased as more high-tech firms have exited the metro than entered since 2009.

⁵ A list of the top 10 occupations by location quotient and employment at the detailed SOC level is provided in the appendix.

⁶ Economic specialization was estimated based on sectors having at least 10 establishments and establishment location quotients ≥ 2.0 at the 4-Digit NAICS level.

⁷ We assessed the number of high-growth firms based on the Inc. 5000 annual lists of high-growth firms. Admittedly, businesses self-report to Inc. 5000 and our estimates may not capture all of the high-growth activity in the metros.

Figure 2: Albuquerque, NM MSA Entrepreneurial Ecosystem Density



*Firms 5 years of age or less.
 ** High-technology NAICS sector definition follows Hecker (2005) with updated definitions.
 Source: Author's estimates based on the BDS and QCEW 2009 – 2013.

The entrepreneurial density of the Albuquerque, NM MSA was below the national level between 2009 and 2013 and has declined in recent years. In 2013, the metro's concentration of new and young firms per 1,000 people was 4.4 firms, a decrease from 5.5 firms in 2009 (figure 2). The difference between the number of new and young firms per 1,000 residents nationally and in the Albuquerque metro remained steady at 1.7 firms per 1,000 people. As of 2013, the Albuquerque metro had the lowest level of new and young firms in the six metropolitans studied.

This decline in entrepreneurial density coincided with a decrease in the employment share of new and young firms. From 2009 to 2013, the share of employment in new and young firms decreased from 11.8 percent to 10.7 percent. However, the more recent cohorts of new and young firms were larger by average employment size. For instance, the number of new and young firms declined 17 percent from 2009 to 2013 which was faster than the decline in employment in new and young firms which fell 13 percent. These differing rates accounted for a 6 percent increase in the average employment size, suggestive of increased productivity of these more recent cohorts.

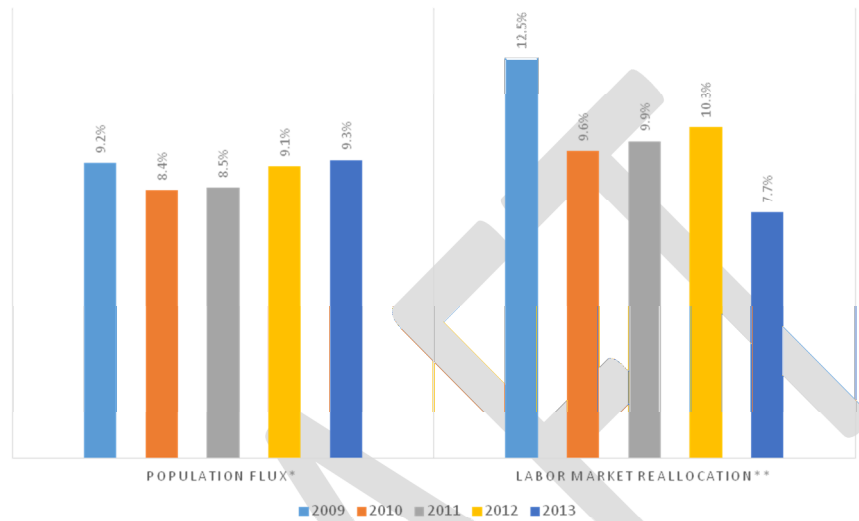
High-tech establishments⁸ in the Albuquerque metro have had a hard time growing since the Great Recession. While the metro saw two years of positive establishment growth in the high-tech sector in 2009 and 2012, the average change in high-tech establishments over the period from 2009 to 2013 was -1.1 percent.

⁸ High-technology NAICS sector definition follows Hecker (2005) but were updated for most recent NAICS codes.

Ecosystem Fluidity:

The Albuquerque metro’s gross job creation and job destruction rates declined between 2009 and 2013; however, the churn of workers across jobs has increased over the same period. The metro’s gross migration flows have remained relatively stable since 2009.

Figure 3: Albuquerque, NM MSA Entrepreneurial Ecosystem Fluidity



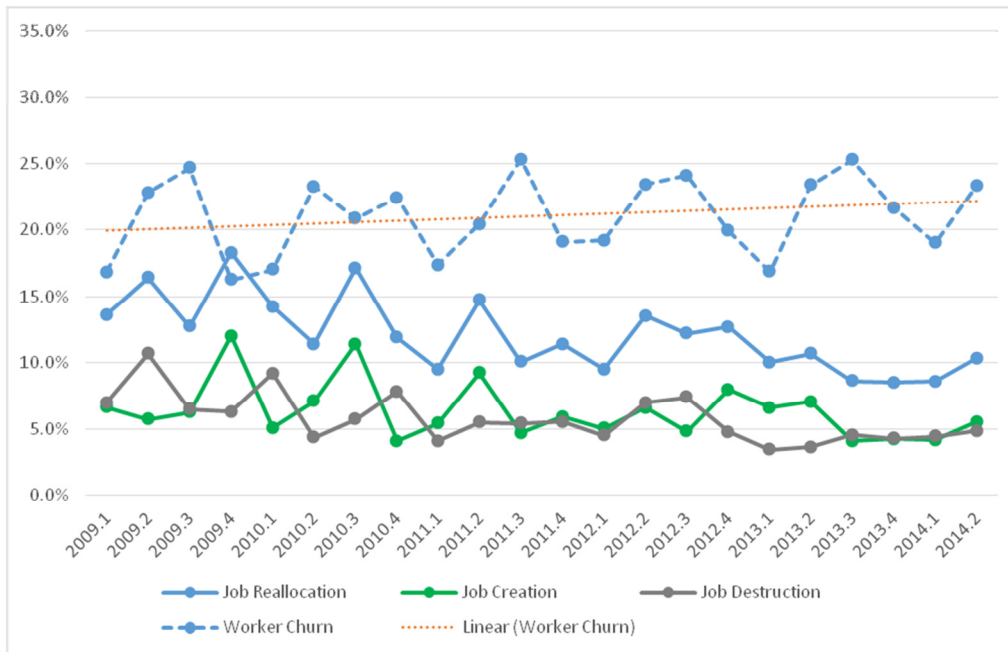
* Gross Migration as percent of population.

** Annual averages of excess job reallocation.

Source: Author’s estimates from IRS SOT data and Quarterly Workforce Indicators.

Gross migration flows in the Albuquerque metro declined between 2009 and 2010 by about 0.8 percentage points but returned to a rate of 9.3 percent in 2013 (figure 3). The largest metro-to-metro flows originate from the nearby cities in New Mexico, Arizona and Colorado, including the Santa Fe, NM; Phoenix-Mesa-Scottsdale, AZ; and Farmington, NM metro areas. The Albuquerque metro also showed high international migration flows from Central America and Asia.

Figure 4: Albuquerque, NM MSA Labor Market Reallocation



Source: Author's estimates from Quarterly Workforce Indicators.

Labor market reallocation declined between 2009 and 2013 in the Albuquerque metro. Declines were driven by decreases in both annual average job creation and job destruction rates (figure 4). Furthermore, based on unadjusted quarterly estimates, gross job reallocation in the Albuquerque metro was more volatile in 2009 and 2010 with quarters of greater job creation than job destruction, followed by quarters of greater job destruction than job creation. Comparatively, more recent quarters starting in the second half of 2013 saw job creation and destruction rates that paralleled one another. This pattern in job reallocation rates may be suggestive of a shift in the underlying entrepreneurial structure towards more productive cohorts of entrepreneurial firms.

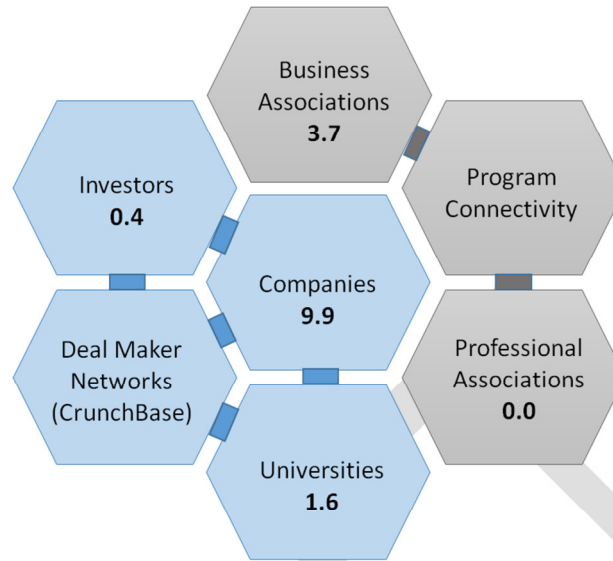
Similar to the other metro areas in the study, worker churn⁹ has been increasing. While highly cyclical, churn has increased since the start of 2009. Worker churn averaged 21 percent across all quarters from the start of 2009 to the end of 2013, the third highest average among the cities in the study.

Ecosystem Connectivity:

Entrepreneurship in the Albuquerque metro is under-networked in its ecosystem connectivity. The metro has a relatively low representation on the CrunchBase network, but also lags other metros in terms of professional associations.

⁹ Worker churn is the dynamic movement of workers between jobs other than new job creation or job destruction and is used here as a proxy for information spillovers within the metro area.

Figure 5: Albuquerque, NM MSA Entrepreneurial Ecosystem Connectivity



* All estimates normalized per 1,000 firms.
Source: Author's estimates from the CrunchBase database; QCEW 2014 annual averages.

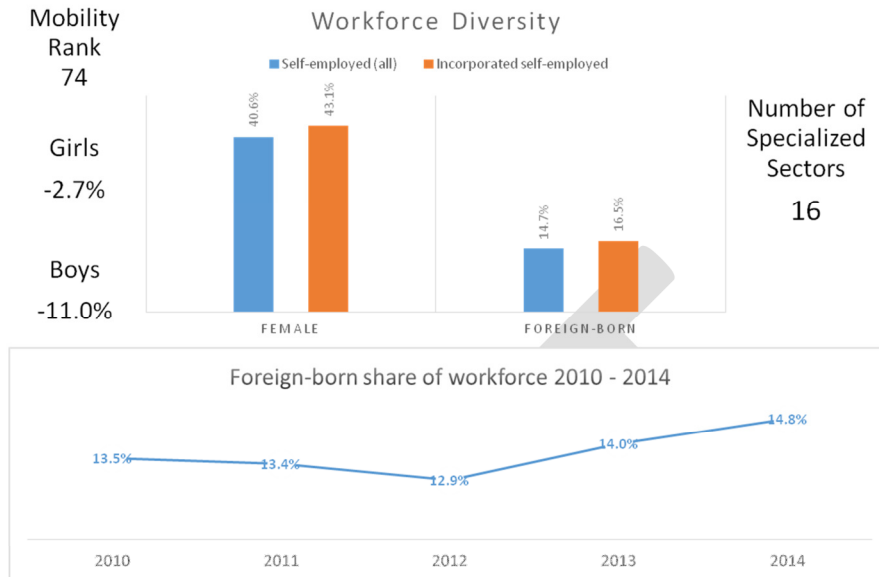
The Albuquerque, NM MSA had 13,820 firms employing 289,347 workers in 2013. These firms and workers had access to 51 businesses associations but no professional associations as reported by data from QCEW. Normalized by the number of firms in region, Albuquerque had 3.7 business associations per 1,000 firms (figure 5). This was tied for the second lowest with Santa Fe, NM MSA, ahead of only Burlington, VT MSA. The Albuquerque metro is the only metro area without a professional association; much smaller Burlington, VT MSA has five and has the second fewest.

Using the national Crunchbase database provides an alternate measure of connectivity in the Albuquerque metro's ecosystem. Of the three categories in the database (companies, investors, and schools), the metro ranks highest in the number of schools represented in the national CrunchBase network. The Albuquerque, NM MSA has 22 schools in the database, which ranks second only to the Santa Fe, NM MSA after being normalized. The members in the school category consist of universities, colleges, and technical centers in the area.

Ecosystem Diversity:

The Albuquerque, NM MSA is economically specialized across 16 4-digit NAICS sectors. The metro also has a higher proportion of female and immigrant self-employed relative to the other metros in this study, but still ranks a low 74th amongst US metropolitans in terms of economic mobility.

Figure 6: Albuquerque, NM MSA Entrepreneurial Ecosystem Diversity



*Specialized sectors have at least 10 establishments and location quotients ≥ 2.0 at the 4-Digit NAICS level.
 **Mobility shows the percent change in income for a child from low-income family growing up to age 26.
 Source: Author's estimates from ACS 2009 – 2014; QCEW 2012 – 2014; and Equality of Opportunity Project.

The Albuquerque metro ranks 74th amongst US metropolitan areas in economic mobility, the lowest of the six metros examined here with data, according to the Equality of Opportunity Project. The metro provides better opportunities of socio-economic mobility for girls in terms of income change than for boys. Additionally, the percent change in income, i.e. economic opportunity, for boys is the worst performance for either sex in the six cities examined.

The Albuquerque metro also has the lowest median income for employees 16 years of age and above of the metros analyzed in this study. Median self-employment income in Albuquerque is the second lowest, above only nearby Santa Fe, NM MSA, and is below the mean of the six metros for both incorporated (\$36,849) and unincorporated (\$20,252) self-employed, which rank last and fourth respectively.

In terms of workplace diversity, the Albuquerque metro has higher rates of foreign-born self-employment than the other selected metros, but lags in its female self-employment rate. The female share of self-employment activity is fourth among the metros examined in terms of female share of both all and incorporated self-employment at 40.6 percent and 43.1 percent in 2013 (figure 6). The share of foreign-born self-employed, by contrast, is the second highest of the six cities studied, at 14.7 percent for all self-employed and 16.5 percent for incorporated self-employed in 2013.

Conclusion

We apply ecosystem indicators to metropolitan statistics in order to compare the entrepreneurial vibrancy of regions to one another and over time. We find that the Albuquerque, NM MSA's entrepreneurial ecosystem vibrancy is subdued relative to other metros in our analysis and is

following a declining trend. Among certain ecosystem features, the metro's entrepreneurship follows national trends, especially the metro's ecosystem Density. However, the metro lags in terms of its ecosystem Fluidity and Connectivity when compared to other metros. Consequently, the metro also provides less opportunity to its residents for socio-economic mobility, as reflected by the metro's ecosystem Diversity. Entrepreneurship in the region is in relative decline and so are the benefits that regions derive from entrepreneurial opportunity.

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APPENDIX: Albuquerque, NM Metropolitan Statistical Area

Table 1A. Albuquerque, NM MSA Top Five Major Industry Sectors by Employment 2014

Albuquerque, NM	Employment	% of Total	Avg. Wage (\$s)
Health care and social assistance	49,932	17.6%	\$41,970
Retail trade	41,494	14.6%	\$27,743
Professional and technical services*	28,708	10.1%	\$85,419
Administrative and waste services*	23,831	8.4%	\$33,104
Construction	19,681	6.9%	\$43,253
Total Private Employment	284,341	100.0%	\$41,096

*Estimate based on most recent available quarters

Source: Quarterly Census of Employment and Wages 2014

Table 1B. Albuquerque, NM MSA Top 10 Detailed Industries by Establishment LQs 2014

Albuquerque, NM	Establishments	LQ
Commercial building construction	223	2.1
Nonresidential electrical contractors	175	2.2
Other individual and family services	141	2.3
Nonresidential plumbing and HVAC contractors	131	2.0
Other physical and biological research	105	3.1
Mini warehouse and self-storage unit operators	102	3.2
Motion picture and video production	94	2.3
Consumer lending	93	2.6
Offices of miscellaneous health practitioners	91	2.3
All other nonresidential trade contractors	66	2.1
Total Private Establishments	20,555	1.0

*Only establishments with LQ>2.0 included

Source: Quarterly Census of Employment and Wages 2014

Table 1C. Albuquerque, NM MSA Top 5 Major Occupations by Employment 2014

Albuquerque, NM	Employment	% of Total	Median Wage
Office and Administrative Support Occupations	59,070	16.0%	\$30,870
Sales and Related Occupations	38,450	10.4%	\$23,930
Food Preparation and Serving Related Occupations	36,270	9.8%	\$18,660
Healthcare Practitioners and Technical Occupations	24,020	6.5%	\$62,110
Education, Training, and Library Occupations	22,960	6.2%	\$42,230
Total Occupations (All)	370,270	100.0%	\$33,110

Source: Occupational Employment Statistics 2014 Annual Estimates

Table 1D. Albuquerque, NM MSA Top 10 Detailed Occupations by Location Quotients 2014

Albuquerque, NM	LQ	Employment	Median Wage
Hydrologists	6.8	120	\$80,350
Semiconductor Processors*	6.1	400	\$36,770
Electro-Mechanical Technicians	5.5	220	\$73,390
Engineers, All Other*	4.7	1,600	\$96,350
Nurse Midwives	4.6	60	\$99,220
Computer and Information Research Scientists	4.5	300	\$70,310
Reinforcing Iron and Rebar Workers	4.5	230	\$35,110
Gaming Surveillance Officers and Gaming Investigators	4.3	120	\$30,130
Plasterers and Stucco Masons	4.2	240	\$28,330
Anthropologists and Archeologists	4.0	80	\$57,980
Total Occupations (All)	1.0	370,270	\$33,110

Source: Occupational Employment Statistics 2014 Annual Estimates

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