



WORKFORCE INTELLIGENCE NETWORK

QUARTERLY REPORT · **LIVINGSTON COUNTY**

Q4 2015 & 2015 Annual Summary



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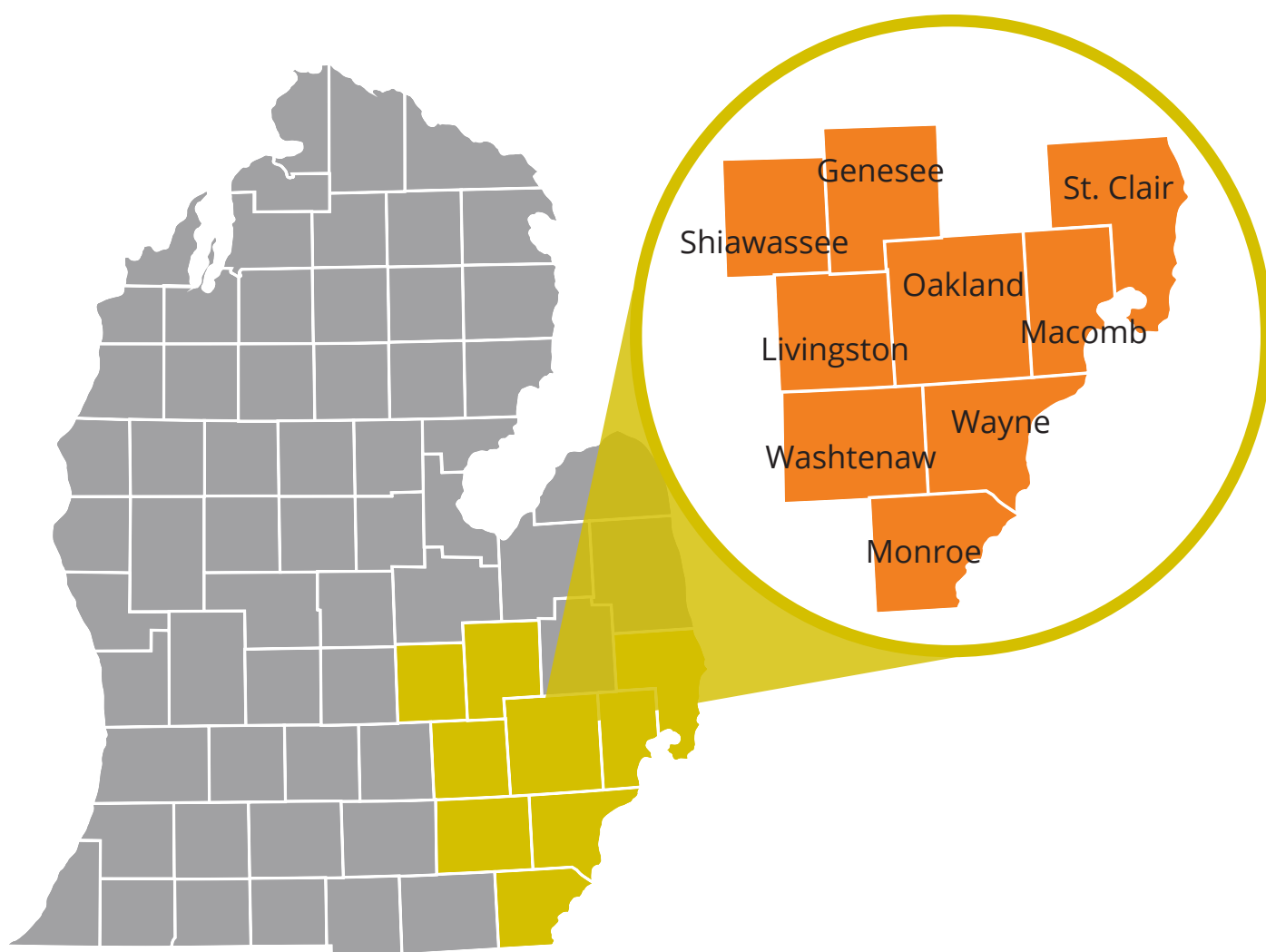
Data Notes and Sources



Southeast Michigan WIN region includes
9 counties:

**Genesee, Livingston, Monroe, Macomb, Oakland,
Shiawassee, St. Clair, Washtenaw, and Wayne.***

This report focuses on Livingston County.



* The original WIN partnership included the 9 counties in this report . The WIN partnership expanded to include 16 counties as of late 2015. Hillsdale, Huron, Jackson, Lapeer, Lenawee, Sanilac, and Tuscola counties were added. While this report is still focused on the original 9-county labor shed, much of the analysis (wages, location quotients, recent graduates, and educational attainment requirements), are shown in all reports for the new broader 16-county area.

SECTION ONE

EXECUTIVE SUMMARY

Bucking historical trends, online job postings for IT increased from Q3 to Q4 2015

Online job postings for Information Technology occupations increased just over 10% from 68 in Q3 to 75 in Q4 2015. The rise in Q4 2015 online job postings are over 340% higher compared to the low of 17 in Q4 2012. See page 33 for more details.

Production workers remain the most in-demand Skilled Trades occupation in Livingston for three consecutive quarters in 2015

Postings for production workers remained at number one in the Skilled Trades cluster with an increase of 22.6% from 53 postings in Q3 2015 to 65 postings in Q4 2015. Production workers remain in high demand, representing 39.4% of total Skilled Trade postings during Q4 2015. See page 16 for more details.

Entry-level wages for each of the top 15 Engineer and Designer occupations is above a living wage of \$15/hour

All of the top 15 Engineer and Designer occupations in Livingston County offer a living wage (\$15+ per hour) at entry-level earnings (10th percentile), with the lowest wage being \$15.97 for entry-level drafters. However, at the 90th percentile of earnings, drafters can make annual salaries of over \$60,000. See page 27 for more details.

Registered nurses had the most online job postings for Health Care occupations in Q4 2015 and represent more than three times the second highest online job posting in Health Care

Within the Health Care cluster, registered nurses remained atop the list of online job postings with an increase of 13.3% from 60 postings in Q3 2015 to 68 postings in Q4 2015. This occupation has been in the top spot since Q1 of 2011. See page 40 for more details.

The Retail and Hospitality cluster is the largest of the region, employing 19,446 individuals in 2015

The Retail and Hospitality cluster is of great importance because it tends to be a gauge as to whether the economy is growing or declining. Employment in this cluster recovered and passed 2009 recession levels in just one year and has continued its pattern of growth. See page 50 for more details.





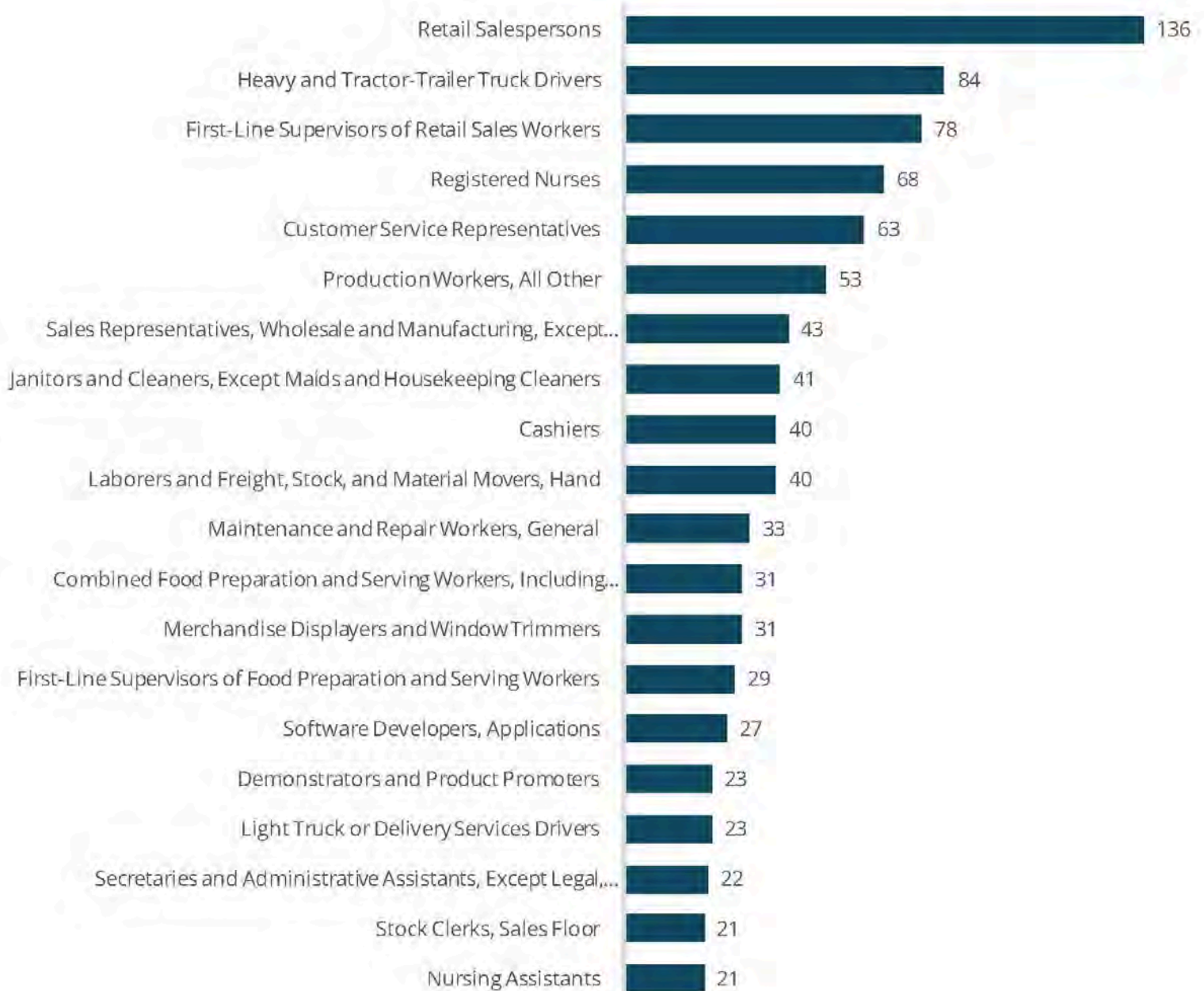
SECTION TWO

LABOR MARKET AND DEMAND OVERVIEW



TOP 20 JOBS IN DEMAND

OCTOBER - DECEMBER 2015



* Data : Burning Glass Technologies

During the fourth quarter of 2015, retail salespersons maintained the top posting position. Meanwhile, heavy and tractor-trailer truck drivers rose to have the second-most postings, moving supervisors of retail workers down to third-most. While retail salespersons was still the top posting job, there was a drop of seven postings (-4.9%) when compared to Q3 2015. Heavy and tractor-trailer truck drivers, on the other hand, increased by seven postings (+9.1%). Demand for customer service representatives dropped 12.5% from 72 in Q3 to 63 in Q4 2015 and fell from fourth to fifth most in-demand. Compared to one year ago (Q4 2014) there has been a shift in top jobs. New to the top occupations in 2015 were demonstrators and product promoters. No longer in the top twenty compared to one year ago were childcare workers. The demand for software developers has increased by well over 440% during 2015 (increase of 22 postings).

EMPLOYER DEMAND

OCTOBER - DECEMBER 2015

Livingston County Online Job Postings

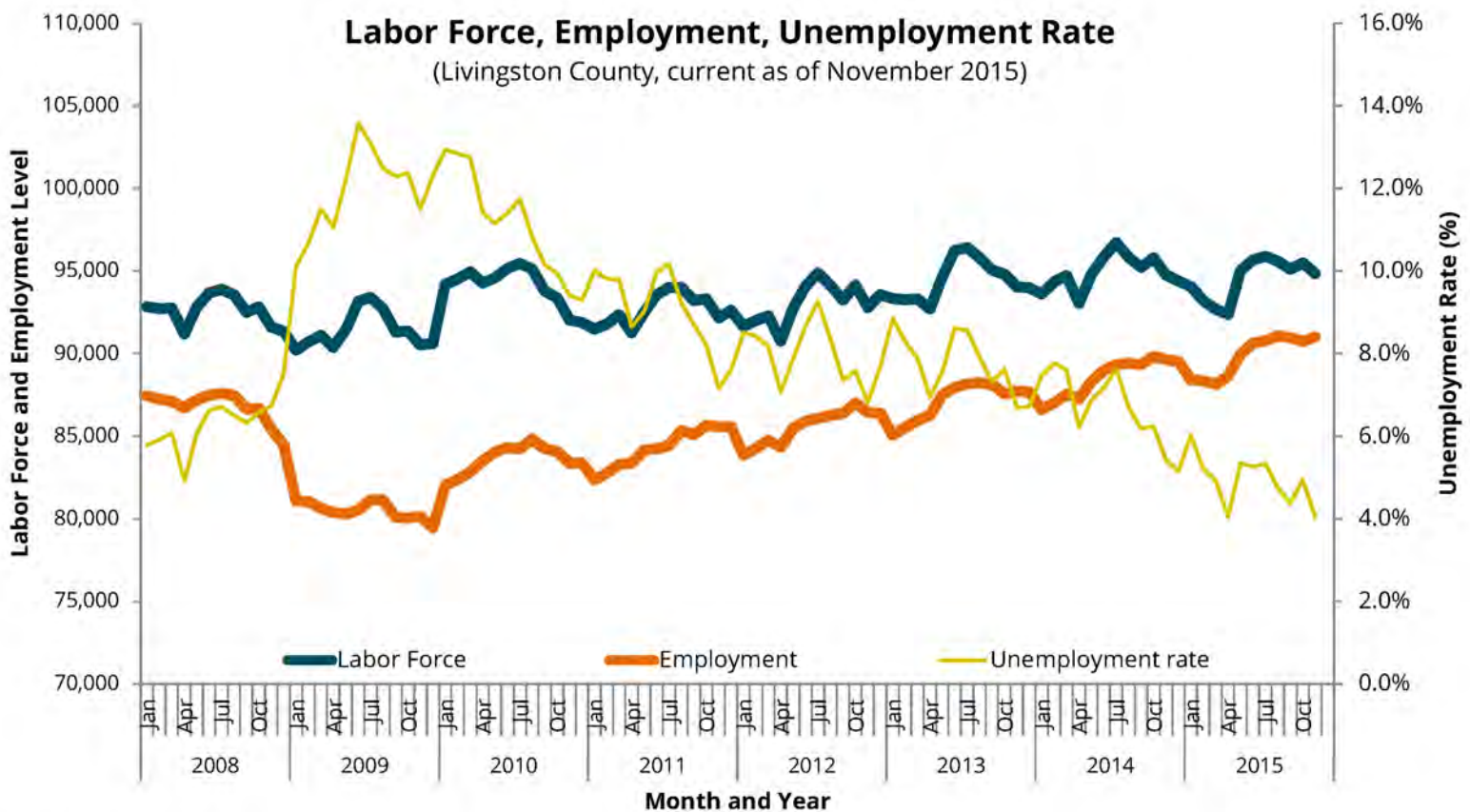


Source: Burning Glass Technologies

Analysis: Workforce Intelligence Network

Online job ads dropped by 218(-9.4%) from 2,318 in Q3 2015 to 2,100 in Q4 2015. Although 2014 saw an increase in postings from Q3 to Q4, historically, Q4 postings drop compared to Q3 each year. This can be seen by the drops from Q3 to Q4 in 2012 as well as 2013. While Q4 2015 may have seen a slight decrease in job postings, the amount sits higher compared to Q4 in 2014 (38.2% increase). In general, postings are on an increasing trend despite the recent drop. Employment also steadily increased highlighting the connection between online job ads and hiring.

EMPLOYMENT AND LABOR FORCE



Source: Bureau of Labor Statistics
Analysis: Workforce Intelligence Network

Employment in Livingston County continues to grow at a slow yet steady pace, due to the recession, as seen by the recurrent annual growth starting in 2011. Other than a dip in 2011, the labor force has also risen slightly and currently is higher than it was in 2010. Unemployment has been decreasing for the last few years, nevertheless, this is most likely due to the shrinking labor force than an increase in employment. The figures from 2015 reflect the historical fluctuations seen in each category mentioned above.

EMPLOYMENT AND LABOR FORCE OVERVIEW

Annual Labor Market Data

	2010 Annual	2011 Annual	2012 Annual	2013 Annual	2014 Annual	2015 To-Date	Change from 2014	Percent Change from 2014
Labor Force	94,112	92,687	93,029	94,466	94,929	94,547	-382	-0.4%
Employment	83,600	84,318	85,599	87,144	88,565	89,883	1,318	1.5%
Unemployment	10,512	8,369	7,429	7,322	6,364	4,663	-1,701	-26.7%
Unemployment Rate	11.2%	9.0%	8.0%	7.8%	6.7%	4.9%	-1.8%	na

Data: Bureau of Labor Statistics

Quarterly Labor Market Data

	4th Quarter 2014	1st Quarter 2015	2nd Quarter 2015	3rd Quarter 2015	4th Quarter Estimate	Change from 3rd Quarter 2015	Percent Change from 3rd Quarter 2015
Labor Force	94,986	93,322	94,369	95,536	95,165	-372	-0.4%
Employment	89,662	88,299	89,751	90,935	90,883	-52	-0.1%
Unemployment	5,324	5,023	4,619	4,602	4,282	-320	-7.0%
Unemployment Rate	5.6%	5.4%	4.9%	4.8%	4.5%	0	na

*Note: Monthly data averaged by quarter

Data: Bureau of Labor Statistics

EMPLOYMENT AND LABOR FORCE OVERVIEW

As of November 2015, 91,007 individuals were employed in Livingston County. The fourth quarter average estimate of 90,883 individuals was 0.1% (52 individuals) lower than the third quarter average estimate (90,935). Employment continues to grow slowly, and when compared to November 2014, November 2015 has seen a 1.5% increase (1,384). The labor force, as of November 2015, was at 94,842 individuals in the county. The fourth quarter average estimate of 95,165 individuals was 0.4% (371 individuals) lower than the Q3 2015 average estimate of 95,536 individuals. The unemployment rate has been falling. As of November 2015, the rate was estimated at 4%, which is lower than average unemployment rate for November 2015 across Michigan (5.1%).

Monthly Labor Market Data

	October 2014	November 2014	December 2014	January 2015	February 2015	March 2015	April 2015	May 2015	June 2015	July 2015	August 2015	September 2015	October 2015	November 2015
Labor Force	95,802	94,762	94,394	94,058	93,219	92,689	92,384	95,039	95,685	95,906	95,589	95,114	95,487	94,842
Employment	89,831	89,623	89,531	88,401	88,361	88,134	88,647	89,959	90,646	90,793	91,059	90,952	90,759	91,007
Unemployment	5,971	5,139	4,863	5,657	4,858	4,555	3,737	5,080	5,039	5,113	4,530	4,162	4,728	3,835
Unemployment Rate	6.2%	5.4%	5.2%	6.0%	5.2%	4.9%	4.0%	5.3%	5.3%	5.3%	4.7%	4.4%	5.0%	4.0%

* Note: Data shown for 14 most recently available months

Data: Bureau of Labor Statistics





SECTION THREE

OCCUPATIONAL CLUSTERS

SOUTHEAST MICHIGAN, LIVINGSTON COUNTY OVERVIEW

	Q4 2014	Q1 2015	Q2 2015	Q3 2015	Q4 2015	Change over time	Share of Total Postings Q4 2015
Total	1,519	1,905	2,102	2,318	2,100		
Skilled Trades & Technicians	66	138	142	185	147		7.0%
Engineers & Designers	34	62	87	92	81		3.9%
IT	40	58	57	68	75		3.6%
Health Care	137	247	297	301	254		12.1%
Retail & Hospitality	437	541	547	685	672		32.0%
Agriculture	26	35	55	49	55		2.6%



ADVANCED MANUFACTURING

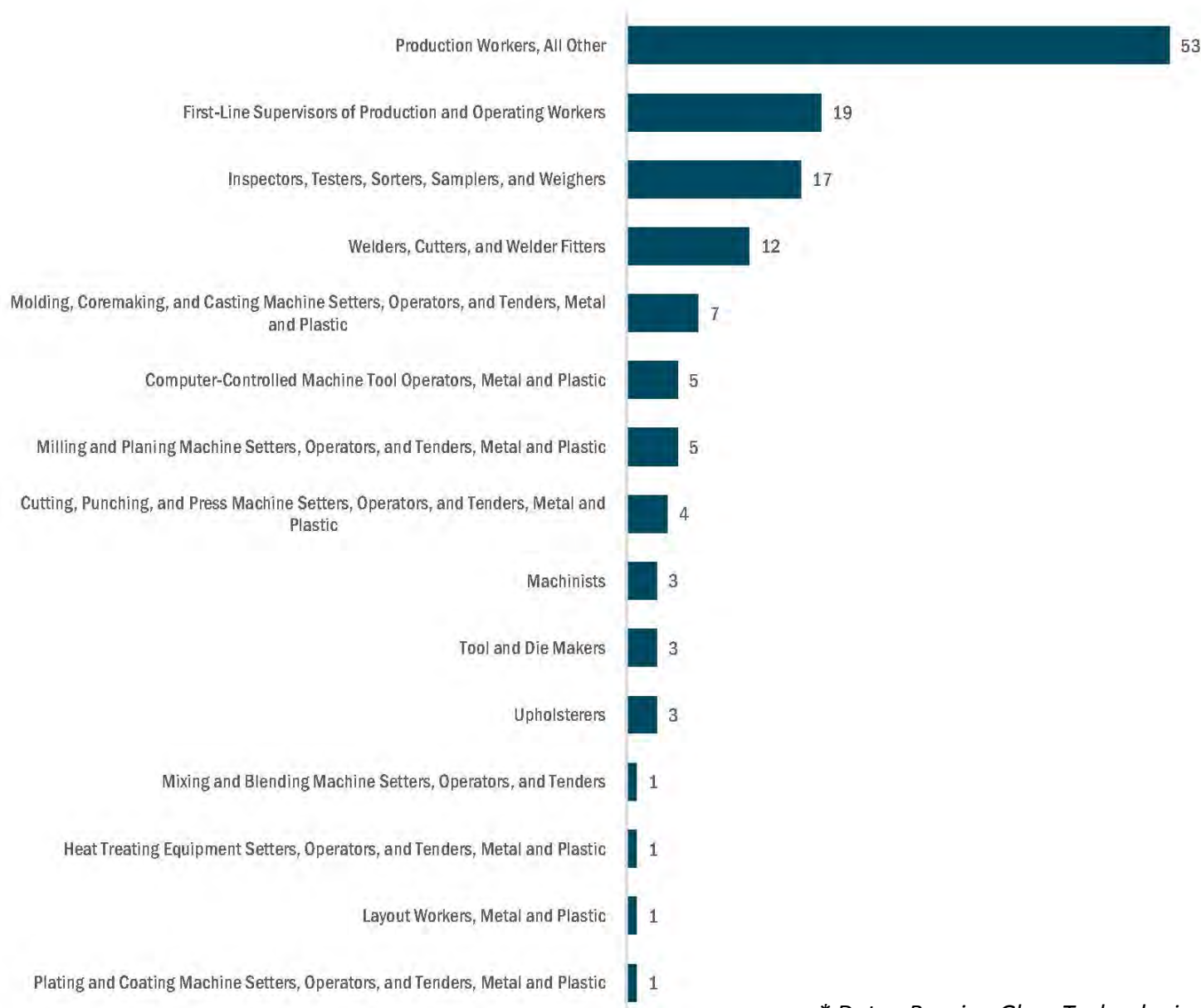
SKILLED TRADES AND TECHNICIANS

WIN's technicians/skilled trades category includes jobs related to advanced manufacturing. Southeast Michigan has more demand for skilled- trades labor, such as CNC machinists and welders, than almost anywhere else in the country. In 2015, skilled trades employment reached 3,106 individuals in Livingston County.

NOTE: Skilled trades related to construction and repair are not included in this cluster, as the focus is on advanced manufacturing.

ADVANCED MANUFACTURING

SKILLED TRADES AND TECHNICIANS: TOP JOBS

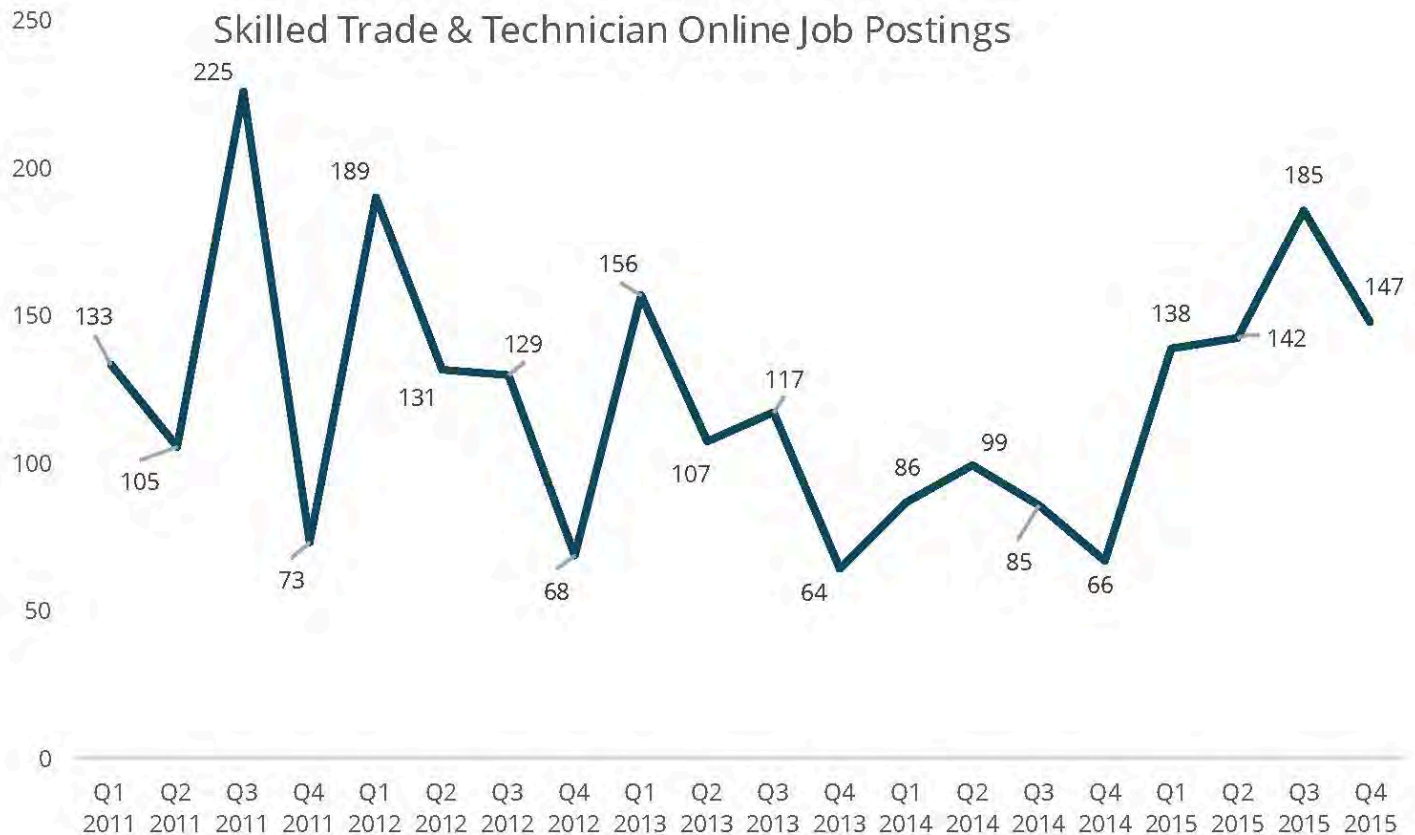


* Data : Burning Glass Technologies

The postings in advanced manufacturing Skilled Trade related jobs during Q4 2015 changed only in their order due to amount of postings, with the same occupations staying in high demand. Postings for production workers remained at number one with an increase of 22.6% from 53 postings in Q3 2015 to 65 postings in Q4 2015. Postings for supervisors of production and operating workers increased substantially moving from 7 postings in Q3 2015 to 25 in Q4 2015 (257% increase). New to the top 15 jobs since Q4 2014 were layout workers, replacing electronics engineering technicians. Production workers remain in high demand, representing 39.4% of total Skilled Trade postings during Q4 2015.

ADVANCED MANUFACTURING

SKILLED TRADES AND TECHNICIANS: ONLINE JOB POSTINGS OVER TIME



Source: Burning Glass Technologies
Analysis: Workforce Intelligence Network

Online job postings for Skilled Trades occupations decreased 20.5% from 185 in Q3 to 147 in Q4 2015. This matches up with historical trends of a Q4 decrease in online ads, as seen in previous years. Despite the drop, Q4 2015 online job postings more than doubled compared to Q4 2014 (+122.7%). While employment dropped slightly between Q4 2014 and Q1 2015, it has been slowly rising, which matches online job posting trends for the same quarters.

ADVANCED MANUFACTURING

SKILLED TRADES AND TECHNICIANS: EMPLOYMENT OVER TIME



Source: EMSI

Analysis: Workforce Intelligence Network

Employment in Livingston County for Skilled Trades occupations increased by 5.5% from 2,945 workers in 2014 to 3,106 workers in 2015. Skilled Trades employment has been growing an average of 7.9% annually since the low of 1,981 workers in 2009. Employment has not yet surpassed 2001 levels, though another 8.5% of growth would see the 2001 and 2016 figures match. During Q4 2015, there was one posting per five workers in Skilled Trades in Livingston County.

ADVANCED MANUFACTURING

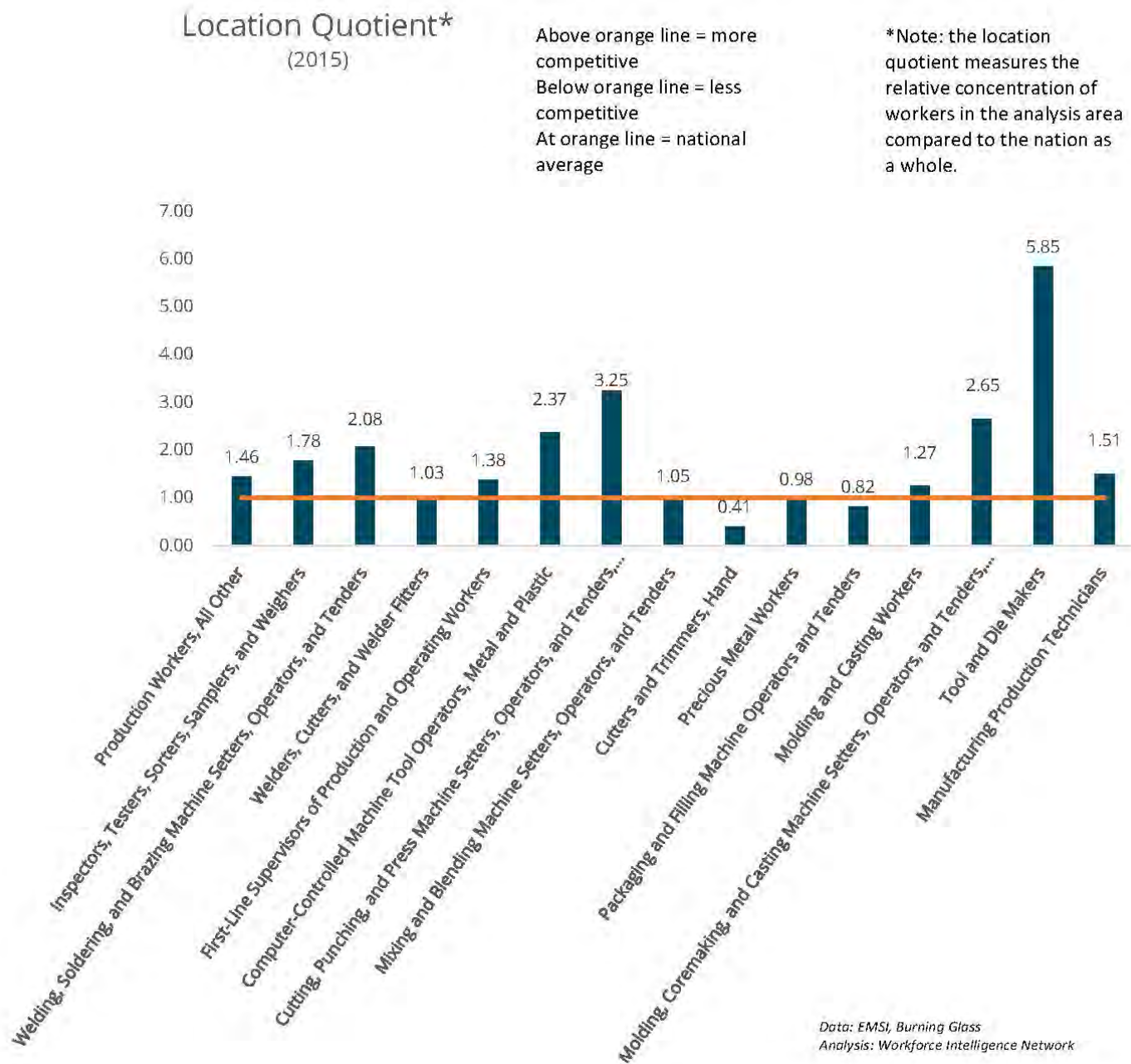
SKILLED TRADES AND TECHNICIANS: TOP 15 JOBS WAGES

ONET Code	Occupation	10th Percentile Hourly Earnings	25th Percentile Hourly Earnings	Median Hourly Earnings	75th Percentile Hourly Earnings	90th Percentile Hourly Earnings
51-9199	Production Workers, All Other	\$10.31	\$13.11	\$15.94	\$18.96	\$23.51
51-1011	First-Line Supervisors of Production and Operating Workers	\$17.29	\$21.96	\$29.26	\$38.23	\$46.05
51-9061	Inspectors, Testers, Sorters, Samplers, and Weighers	\$9.81	\$11.83	\$15.89	\$22.92	\$28.71
51-4121	Welders, Cutters, and Welder Fitters	\$12.37	\$14.81	\$17.64	\$22.22	\$27.73
51-4072	Molding, Coremaking, and Casting Machine Setters, Operators, and Tenders, Metal and Plastic	\$9.23	\$11.04	\$13.62	\$16.62	\$19.22
51-4011	Computer-Controlled Machine Tool Operators, Metal and Plastic	\$10.63	\$12.79	\$17.88	\$22.00	\$27.37
51-4035	Milling and Planing Machine Setters, Operators, and Tenders, Metal and Plastic	\$12.32	\$13.99	\$17.56	\$20.92	\$24.08
51-4031	Cutting, Punching, and Press Machine Setters, Operators, and Tenders, Metal and Plastic	\$10.26	\$12.24	\$16.09	\$22.54	\$28.04
51-4041	Machinists	\$12.13	\$15.41	\$19.60	\$25.32	\$30.41
51-4111	Tool and Die Makers	\$16.71	\$20.94	\$26.86	\$32.63	\$35.60
51-6093	Upholsterers	\$10.59	\$11.94	\$14.08	\$16.00	\$17.13
51-9023	Mixing and Blending Machine Setters, Operators, and Tenders	\$9.80	\$12.30	\$16.12	\$20.51	\$24.06
51-4191	Heat Treating Equipment Setters, Operators, and Tenders, Metal and Plastic	\$11.35	\$12.86	\$16.16	\$19.38	\$22.43
51-4192	Layout Workers, Metal and Plastic	\$14.76	\$16.70	\$22.52	\$28.17	\$32.82
51-4193	Plating and Coating Machine Setters, Operators, and Tenders, Metal and Plastic	\$8.92	\$10.33	\$12.53	\$15.81	\$19.68

Only two of the top fifteen Skilled Trades occupations in Livingston County offer a living wage (\$15+ per hour) at entry-level earnings (10th percentile). This figure improves at median-level earnings for all of the top 15 Skilled Trades occupations but 3. Out of the top 15 occupations listed, 10 offer the possibility of earning annual salaries greater than \$50,000 per year (\$24.04 hourly). The occupation with the most upward mobility is supervisors of production and operating workers with an annual salary of over \$95,000, followed by tool and die makers earning an annual salary of over \$74,000. Compared to national averages, wages in the region are slightly higher (\$1.67) for Skilled Trade workers.

ADVANCED MANUFACTURING

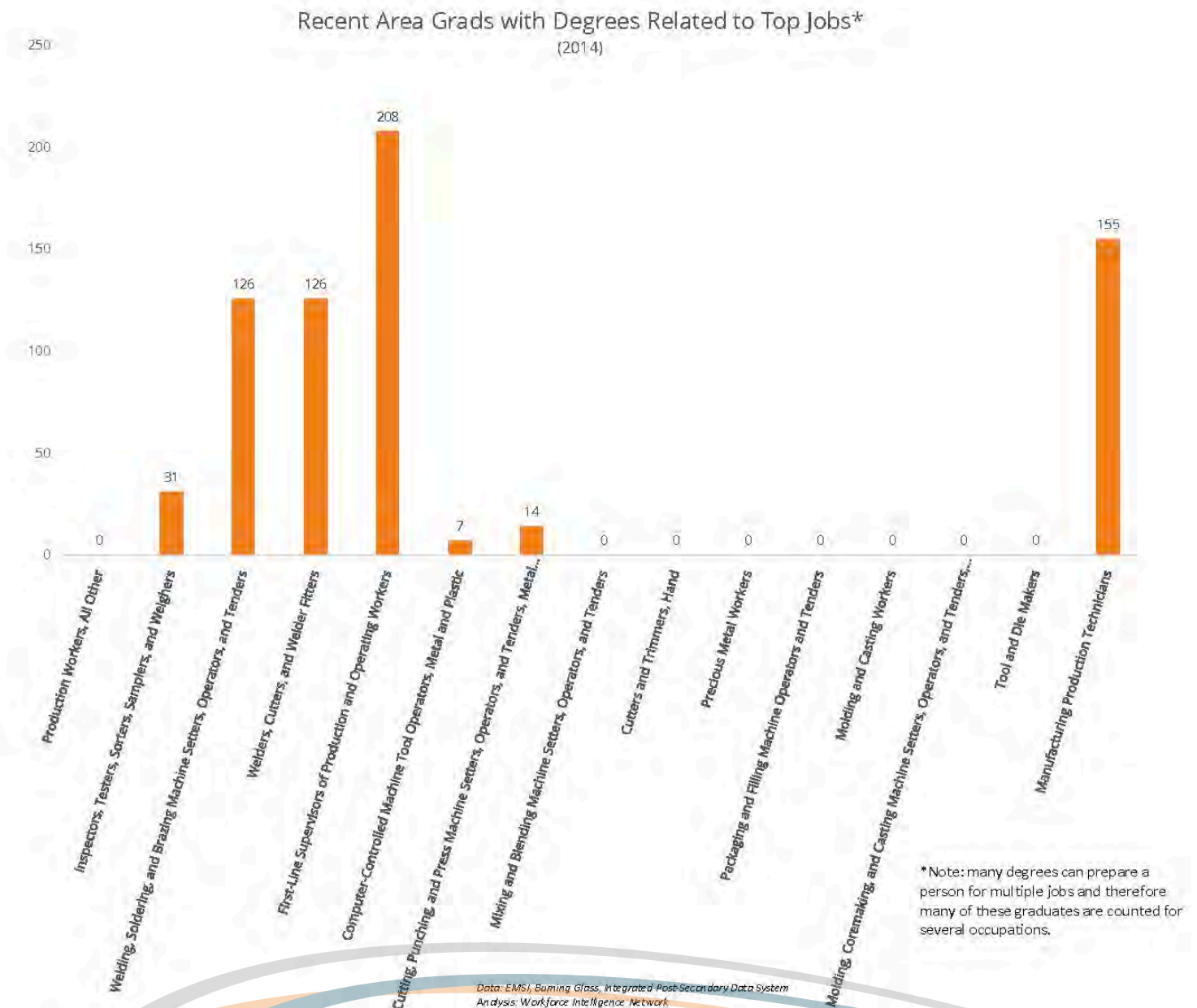
SKILLED TRADES AND TECHNICIANS: TOP 15 JOBS LOCATION QUOTIENT



The location quotient (LQ) is a measure of relative concentration. In this case, it measures the relative concentration of workers in an occupation in a specific geography compared to the U.S. on average. Higher LQ's typically indicate that employers will have an easier time finding talent because those workers are more concentrated in the area; lower LQ's will make filling open positions more difficult. The most concentrated Skilled Trade job in the region, with an LQ of 5.85, is tool and die makers. This means that on average, this occupation is comprised of 485% more workers in the region than in the U.S. Following tool and die makers, machine setters, operators, and tenders have the second highest LQ at 3.25 (225% higher than the U.S. on average). Cutters and trimmers are the least competitive occupation, with 59% less concentration than the U.S. on average.

ADVANCED MANUFACTURING

SKILLED TRADES AND TECHNICIANS: TOP 15 JOBS RECENT REGIONAL GRADUATES




Due to the regional nature of the labor force in Southeast Michigan data is shown for degree and certificate completions awarded by colleges and universities from all 16-counties in the WIN partnership. The largest amount of graduates with a degree related to a top occupation in 2014 was supervisors of production and operating workers with 208 graduates. This occupation had the second most postings for Q4 of 2015 at 19 postings. Production workers, however, had no graduates with related degrees even though it was the number one posting job in Q4 2015 with 53 postings. This occupation may not require advanced education with a degree but likely requires some post-secondary training.

ADVANCED MANUFACTURING

SKILLED TRADES AND TECHNICIANS: TOP 15 JOBS EDUCATION & TRAINING REQUIREMENTS

ONET Code	Occupation	Typical Entry Level Education	Work Experience Required	Typical On-The-job Training
51-9199	Production Workers, All Other	High school diploma or equivalent	None	Moderate-term on-the-job training
51-1011	First-Line Supervisors of Production and Operating Workers	Postsecondary non-degree award	Less than 5 years	None
51-9061	Inspectors, Testers, Sorters, Samplers, and Weighers	High school diploma or equivalent	None	Moderate-term on-the-job training
51-4121	Welders, Cutters, and Welder Fitters	High school diploma or equivalent	None	Moderate-term on-the-job training
51-4072	Molding, Coremaking, and Casting Machine Setters, Operators, and Tenders, Metal and Plastic	High school diploma or equivalent	None	Moderate-term on-the-job training
51-4011	Computer-Controlled Machine Tool Operators, Metal and Plastic	High school diploma or equivalent	None	Moderate-term on-the-job training
51-4035	Milling and Planing Machine Setters, Operators, and Tenders, Metal and Plastic	High school diploma or equivalent	None	Moderate-term on-the-job training
51-4031	Cutting, Punching, and Press Machine Setters, Operators, and Tenders, Metal and Plastic	High school diploma or equivalent	None	Moderate-term on-the-job training
51-4041	Machinists	High school diploma or equivalent	None	Long-term on-the-job training
51-4111	Tool and Die Makers	High school diploma or equivalent	None	Long-term on-the-job training
51-6093	Upholsterers	High school diploma or equivalent	None	Moderate-term on-the-job training
51-9023	Mixing and Blending Machine Setters, Operators, and Tenders	High school diploma or equivalent	None	Moderate-term on-the-job training
51-4191	Heat Treating Equipment Setters, Operators, and Tenders, Metal and Plastic	High school diploma or equivalent	None	Moderate-term on-the-job training
51-4192	Layout Workers, Metal and Plastic	High school diploma or equivalent	None	Moderate-term on-the-job training
51-4193	Plating and Coating Machine Setters, Operators, and Tenders, Metal and Plastic	High school diploma or equivalent	None	Moderate-term on-the-job training

Many Skilled Trade occupations do not require a formal degree, but most employers like to see training outside of a high school diploma. Out of the top 15 occupations for Skilled Trades in Livingston County, only supervisors of production and operating workers require a post-secondary non-degree award. This means less than five years of experience and training. The other 14 top occupations in this category can be acquired at entry-level with a high school diploma or its equivalent along with some post-secondary training. All but one of the top jobs look for moderate to long-term on-the job training, and many of these occupations will offer higher wages to go along with a higher level of education and training. This can be seen with supervisors of production and operating workers. Becoming a supervisor typically requires more experience and training and also pays a higher starting wage with more upward mobility.

A group of four professionals, three men and one woman, are wearing blue hard hats and business attire. They are looking at a document together, with one woman on the right smiling at the camera. The background is a bright, out-of-focus industrial setting.

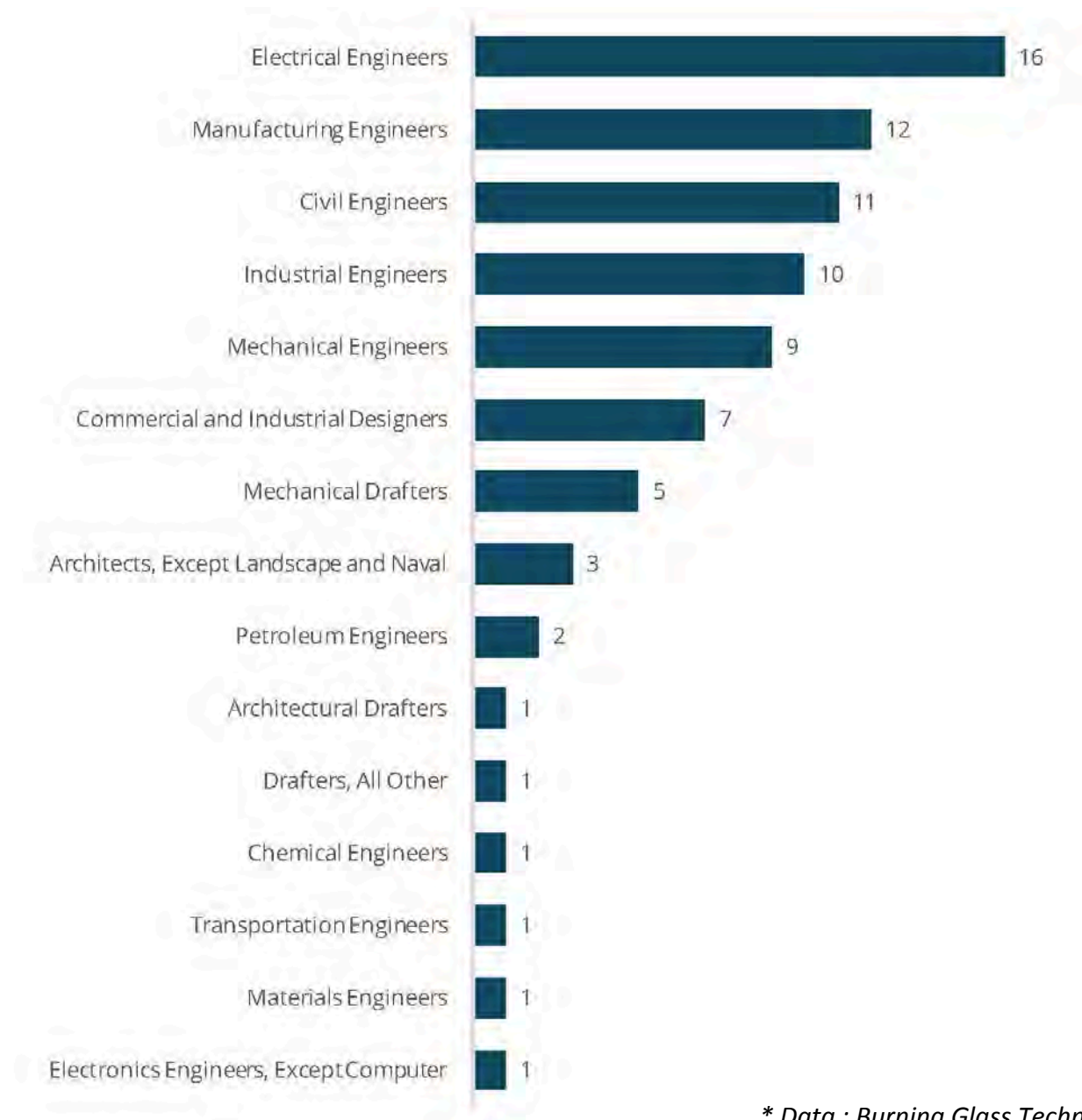
ADVANCED MANUFACTURING

ENGINEERS AND DESIGNERS

Jobs in the manufacturing industry can range from assembly and production, to skilled trades and technicians, designers and engineers, and even computer-related occupations such as software development. This section focuses on engineers & designers, which represent 1,429 employed individuals in Livingston County during 2015. Demand for engineers in the region has been consistent, and employment has been growing quickly.

ADVANCED MANUFACTURING

ENGINEERS AND DESIGNERS : TOP JOBS

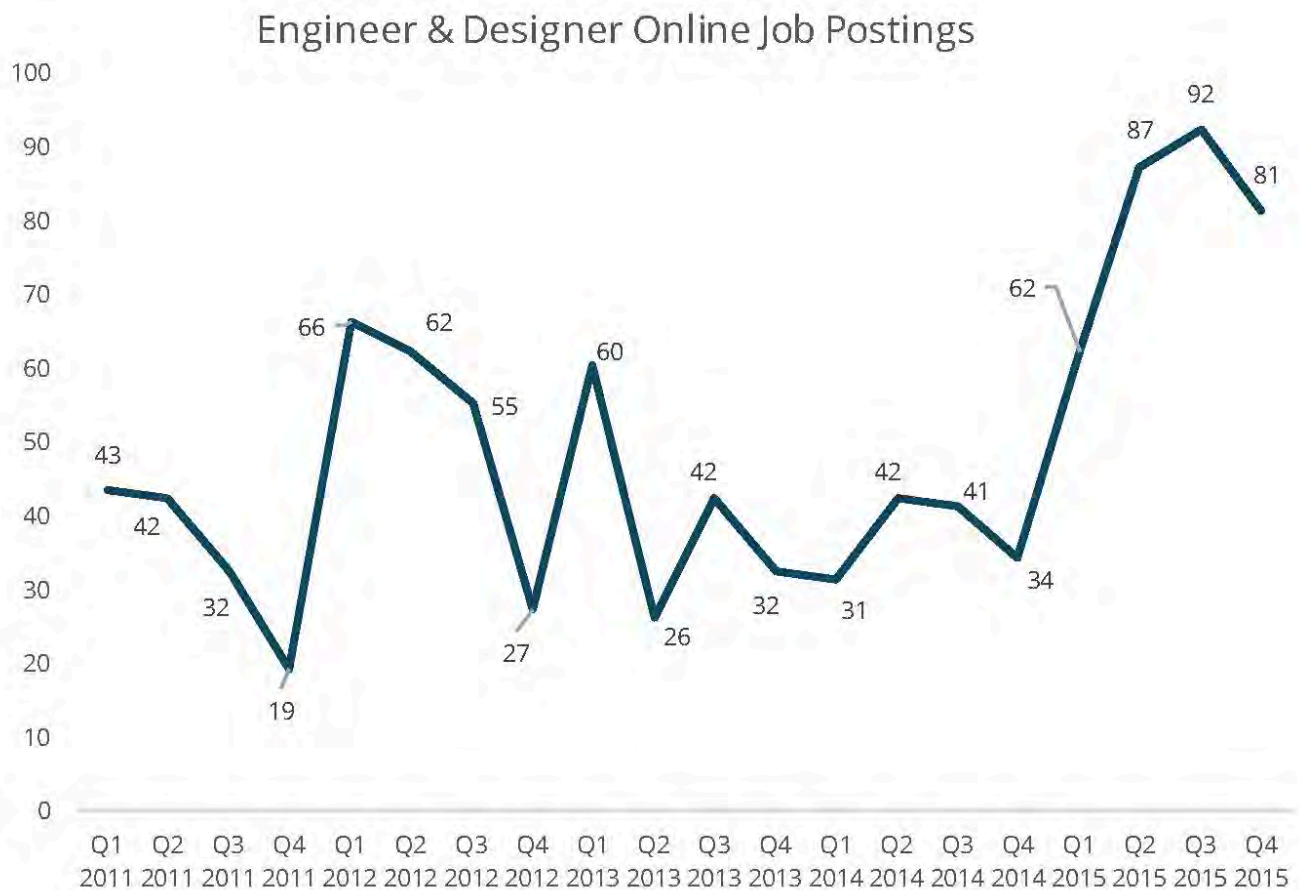


* Data : Burning Glass Technologies

The Q4 2015 postings in advanced manufacturing Engineer and Designer related jobs changed only in their order due to amount of postings, with the same occupations staying in high demand. Postings for electrical engineers moved to number one with an increase of just over 33% from 12 postings in Q3 2015 to 16 postings in Q4 2015. Postings for manufacturing engineers dropped to second with 19 postings in Q3 2015 to 12 in Q4 2015 (37% decrease). New to the top fifteen jobs in Q4 2014 were material engineers, replacing environmental engineers. Electrical engineers remain in high demand, representing just under 20% of total Engineer and Designer postings during Q4 2015.

ADVANCED MANUFACTURING

ENGINEERS AND DESIGNERS : ONLINE JOB POSTINGS OVER TIME



Source: Burning Glass Technologies
Analysis: Workforce Intelligence Network

Online job postings for Engineer and Designer occupations decreased 12% from 92 in Q3 to 81 in Q4 2015. This can be seen in the historical trends of Q3 to Q4 decreases in online ads. Despite the dip, Q4 2015 online job postings more than doubled compared to Q4 2014 (138.2%). While employment dropped slightly between Q4 2014 and Q1 2015, as it has previously, it has now surpassed the Q1 2015 figure, which matches online job posting trends for the same quarters.

ADVANCED MANUFACTURING

ENGINEERS AND DESIGNERS: EMPLOYMENT OVER TIME



Source: EMSI

Analysis: Workforce Intelligence Network

Employment in Livingston County for Engineer and Designer occupations increased by 4.8% from 1,364 workers in 2014 to 1,429 workers in 2015. Engineer and Designers employment has been growing an average of 8.8% annually since the low of 867 workers in 2009. While employment has not yet caught up to its levels in 2001, another 21.4% of growth would see the 2001 and 2016 figures match. During Q4 2015, there was one posting per 4.4 workers in Engineer and Designers in Livingston County.

ADVANCED MANUFACTURING

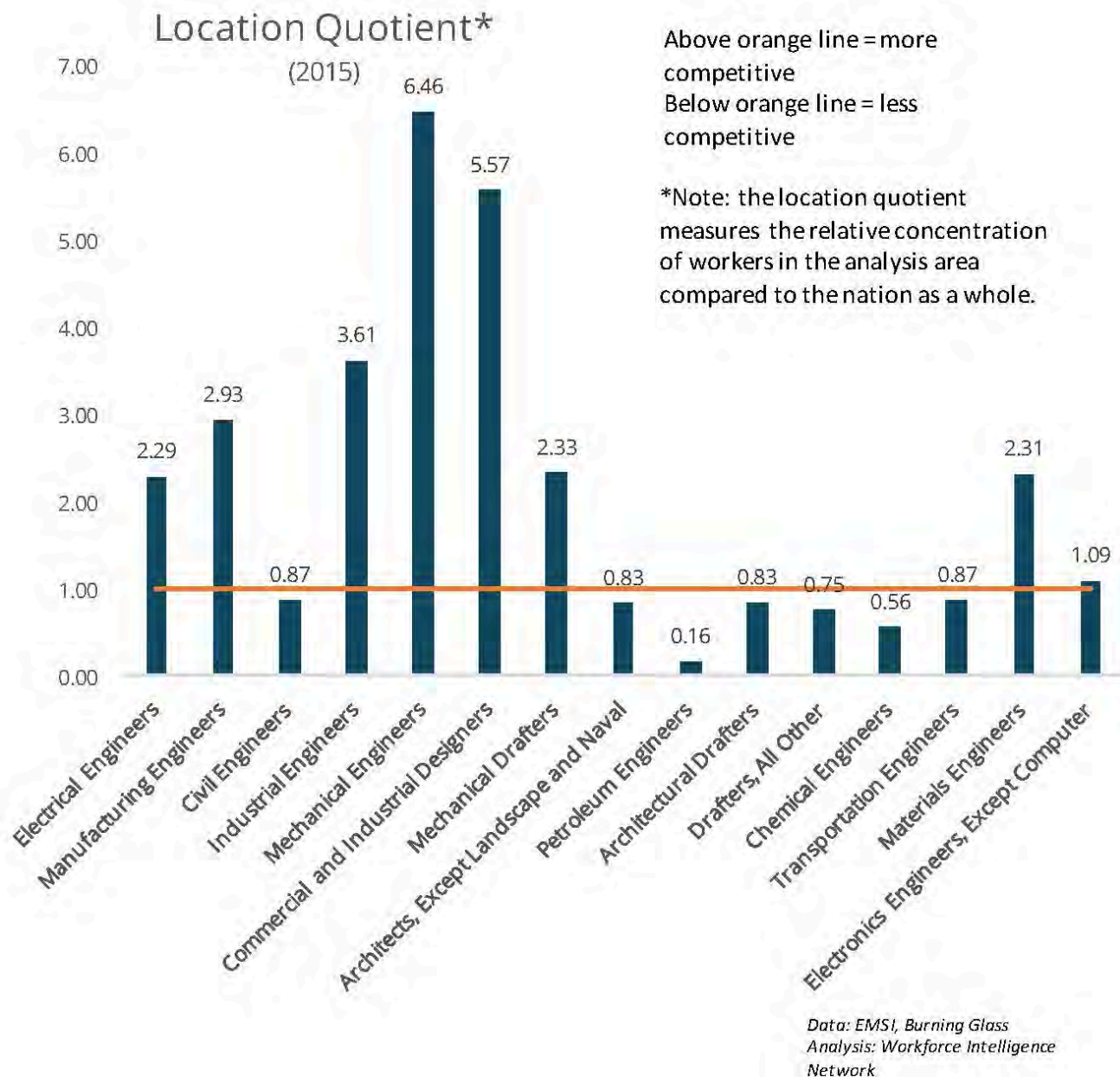
ENGINEERS AND DESIGNERS : TOP 15 JOBS WAGES

p	Occupation	10th Percentile Hourly Earnings	25th Percentile Hourly Earnings	Median Hourly Earnings	75th Percentile Hourly Earnings	90th Percentile Hourly Earnings
17-2071	Electrical Engineers	\$28.63	\$34.35	\$41.89	\$49.10	\$57.09
17-2199	Manufacturing Engineers	\$24.18	\$35.80	\$44.80	\$54.72	\$65.93
17-2051	Civil Engineers	\$23.14	\$27.72	\$33.64	\$39.22	\$46.33
17-2112	Industrial Engineers	\$27.86	\$33.64	\$40.59	\$47.63	\$55.91
17-2141	Mechanical Engineers	\$29.77	\$36.77	\$44.46	\$53.21	\$59.58
27-1021	Commercial and Industrial Designers	\$25.72	\$31.72	\$37.52	\$43.28	\$48.42
17-3013	Mechanical Drafters	\$16.44	\$20.81	\$26.26	\$32.63	\$38.29
17-1011	Architects, Except Landscape and Naval	\$20.30	\$25.98	\$32.97	\$40.22	\$49.53
17-2171	Petroleum Engineers	\$43.38	\$49.75	\$57.86	\$69.83	\$87.27
17-3011	Architectural Drafters	\$16.30	\$18.81	\$22.64	\$27.70	\$36.39
17-3019	Drafters, All Other	\$15.97	\$17.50	\$19.97	\$25.42	\$31.05
17-2041	Chemical Engineers	\$27.53	\$31.53	\$37.82	\$45.31	\$54.09
17-2051	Transportation Engineers	\$23.14	\$27.72	\$33.64	\$39.22	\$46.33
17-2131	Materials Engineers	\$25.60	\$31.02	\$38.44	\$48.01	\$58.55
17-2072	Electronics Engineers, Except Computer	\$26.28	\$31.27	\$39.29	\$46.96	\$55.15

All of the top 15 Engineer and Designer occupations in Livingston County offer a living wage (\$15+ per hour) at entry-level earnings (10th percentile), with the lowest wage being \$15.97 for entry-level drafters. Out of the top 15 occupations listed, all also offer the possibility of earning annual salaries greater than \$50,000 per year (\$24.04 hourly) at the 75th percentile of earnings. The occupation with the most upward mobility is petroleum engineers with a possible annual salary of over \$180,000, followed by manufacturing engineers earning an annual salary of just over \$137,000. Compared to national averages, wages in the region are slightly higher (\$0.67) for engineers and designers.

ADVANCED MANUFACTURING

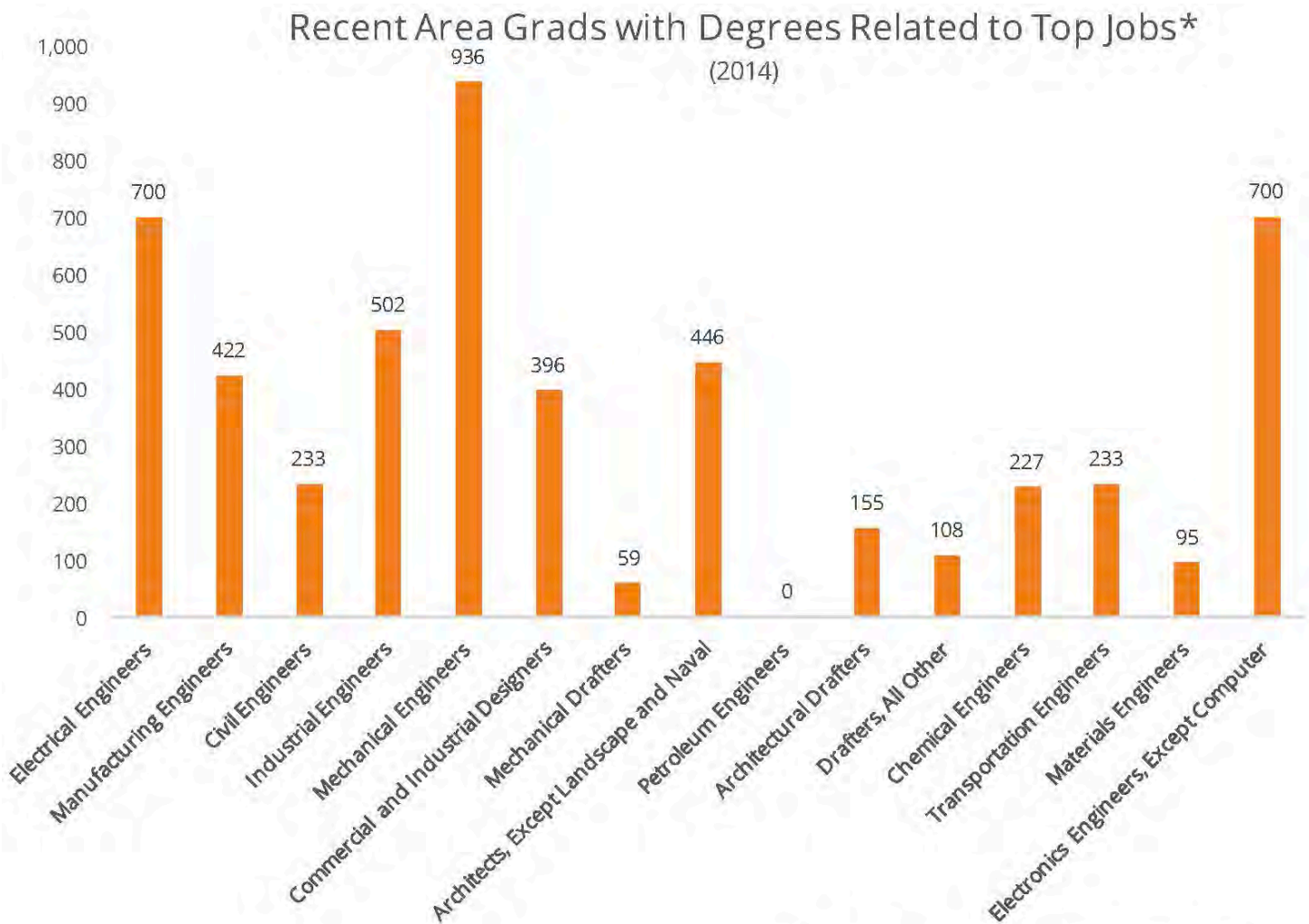
ENGINEERS AND DESIGNERS : TOP 15 JOBS LOCATION QUOTIENT



The location quotient (LQ) is a measure of relative concentration. In this case, it measures the relative concentration of workers in an occupation in a specific geography compared to the U.S. on average. Higher LQ's typically indicate that employers will have an easier time finding talent because those workers are more concentrated in the area; lower LQ's will make filling open positions more difficult. Mechanical engineers are the most concentrated in the region with an LQ of 6.46. This means that on average, this occupation is comprised of 546% more workers in the region than in the U.S. Following mechanical engineers, commercial and industrial designers have the second highest LQ at 5.57 (457% higher than the U.S. on average). Petroleum engineers is the least competitive occupation, with 84% less concentration than the U.S. on average.

ADVANCED MANUFACTURING

ENGINEERS AND DESIGNERS : TOP 15 JOBS RECENT REGIONAL GRADUATES



*Note: many degrees can prepare a person for multiple jobs and therefore many of these graduates are counted for several occupations.

Data: EMSI, Burning Glass, Integrated Post-Secondary Data System
Analysis: Workforce Intelligence Network

Due to the regional nature of the labor force in Southeast Michigan data is shown for degree and certificate completions awarded by colleges and universities from all 16-counties in the WIN partnership. The largest amount of graduates with a degree related to a top occupation in 2014 was mechanical engineers with 936 graduates, followed by electrical engineers and electronics engineers with 700 graduates each. Interestingly, mechanical engineers only had the fifth most postings for Q4 of 2015 with nine postings, while electrical engineers had the most at 16.

ADVANCED MANUFACTURING

ENGINEERS AND DESIGNERS : TOP 15 JOBS EDUCATION & TRAINING REQUIREMENTS

ONET Code	Occupation	Typical Entry Level Education	Work Experience Required	Typical On-The-Job Training
17-2071	Electrical Engineers	Bachelor's degree	None	None
17-2199	Mechanical Engineers	Bachelor's degree	None	None
17-2051	Civil Engineers	Bachelor's degree	None	None
17-2112	Manufacturing Engineers	Bachelor's degree	None	None
17-2141	Industrial Engineers	Bachelor's degree	None	None
27-1021	Commercial and Industrial Designers	Bachelor's degree	None	None
17-3013	Chemical Engineers	Associate's degree	None	None
17-1011	Architects, Except Landscape and Naval	Bachelor's degree	None	Internship/residency
17-2171	Materials Engineers	Bachelor's degree	None	None
17-3011	Mechanical Drafters	Associate's degree	None	None
17-3019	Drafters, All Other	Associate's degree	None	None
17-2041	Electronics Engineers, Except Computer	Bachelor's degree	None	None
17-2051	Environmental Engineers	Bachelor's degree	None	None
17-2131	Industrial Safety and Health Engineers	Bachelor's degree	None	None
17-2072	Automotive Engineers	Bachelor's degree	None	None

Almost all Engineer and Designer occupations require a bachelor's degree, but some will also accept associate's degrees. Employers still like to see training and experience outside of a degree. Out of the top 15 occupations for Skilled Trades in Livingston County, only chemical engineers, mechanical drafters, and all other drafters do not require a bachelor's degree. Many of these occupations will offer higher wages to go along with a higher level of education and training. This can be seen with mechanical drafters, and all other drafters having the two lowest entry-level wages (\$16.44 and \$15.97 respectively). On the other hand, the occupation with the highest upward mobility is petroleum engineers with an entry-level salary of \$43.38, and will most likely require more experience and training.

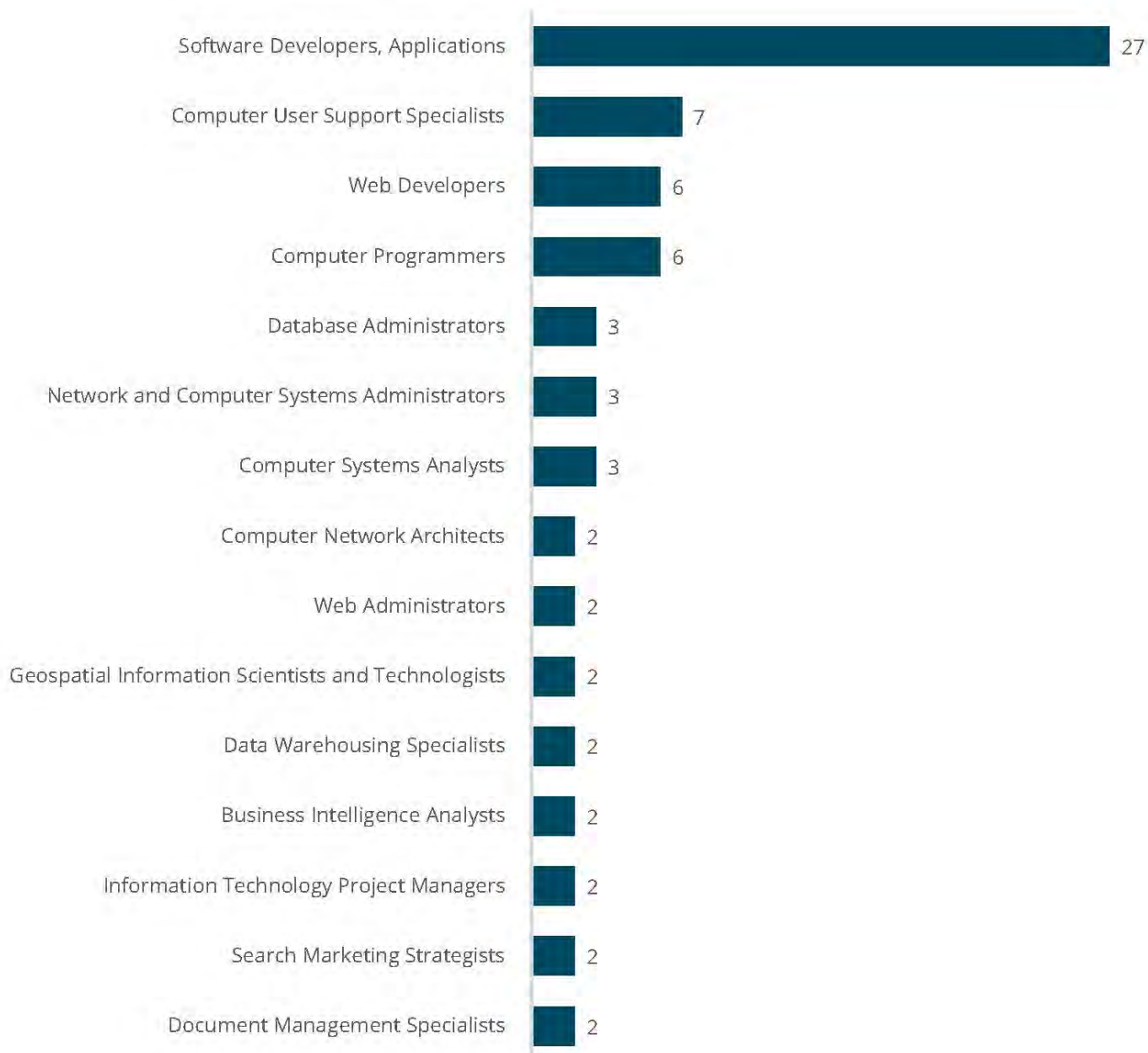


INFORMATION TECHNOLOGY

Information technology jobs include occupations that are associated with entry level, technical, and professional careers related to the design, development, support and management of hardware, software, multimedia, and systems integration services. While the information technology cluster does not currently meet the employment levels of the other clusters, it is quickly growing. In 2015, IT occupational employment was 1,196 in Livingston County. Top jobs in this cluster include computer support specialists, computer systems analysts, and software developers for applications.

INFORMATION TECHNOLOGY

TOP JOBS



** Data : Burning Glass Technologies*

The postings in Information Technology (IT) related jobs during Q4 2015 saw some changes in occupations while the majority only changed in order due to amount of postings. Software development, applications jumped to the top from its second place spot in Q3 2015 with an increase of 80% from 15 postings in Q3 2015 to 27 postings in Q4 2015. Computer user support specialists remained in the top three, jumping up to second with seven postings. It was also in the top three occupations in Q4 of 2014. One of the new jobs to the top 15 since Q4 2014 were business intelligence analysts, replacing video game designers. Software development, applications is now in higher demand, representing 38% of total IT trade postings during Q4 2015.

INFORMATION TECHNOLOGY

ONLINE JOB POSTINGS OVER TIME



Source: Burning Glass Technologies

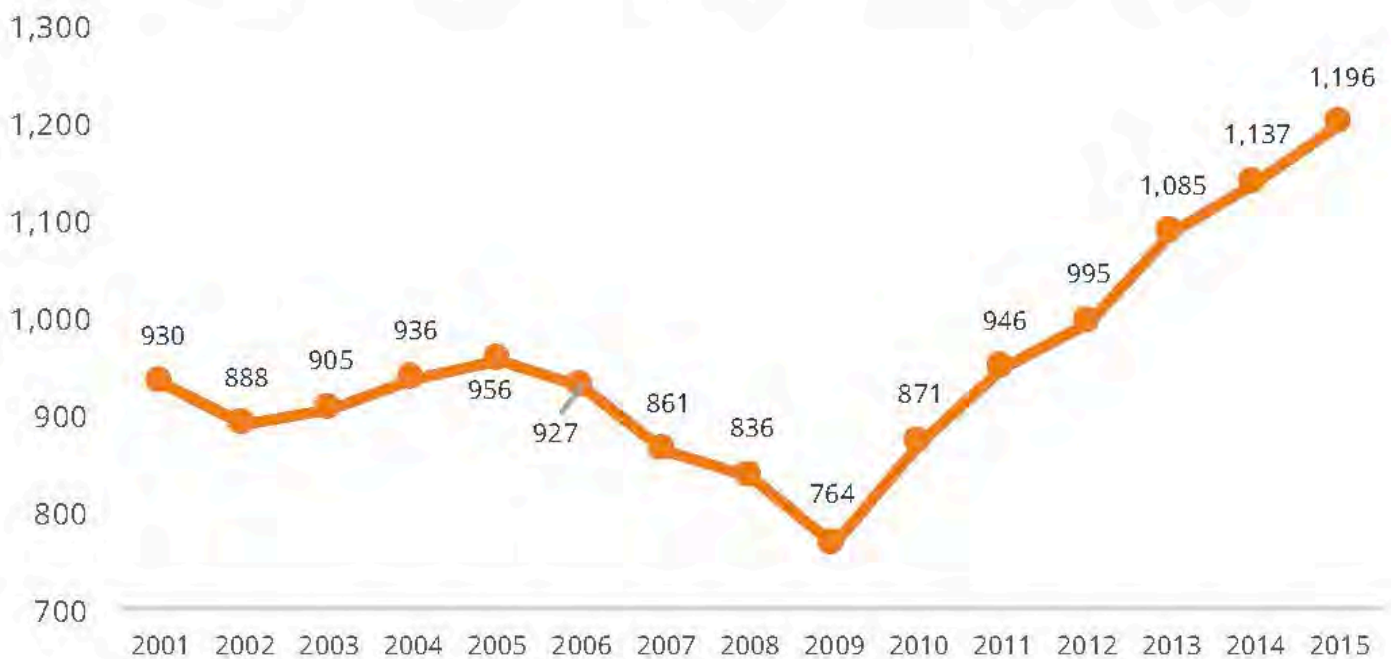
Analysis: Workforce Intelligence Network

Online job postings for Information Technology occupations increased just over 10% from 68 in Q3 to 75 in Q4 2015. This is unlike the quarterly trends of 2011 - 2014 of a Q4 decrease in online ads. The rise in Q4 2015 online job postings were over 340% higher compared to the low of 17 in Q4 2012. While employment dropped slightly between Q4 2014 and Q1 2015, it has been slowly rising, which matches online job posting trends for the same quarters.

INFORMATION TECHNOLOGY

EMPLOYMENT OVER TIME

IT Livingston Occupational Employment 2001-2015



Source: EMSI

Analysis: Workforce Intelligence Network

Employment for Information Technology occupations increased by 5.2% from 1,137 workers in 2014 to 1,196 workers in 2015. IT employment has been growing an average of 7.8% annually since the low of 764 workers in 2009. Employment has surpassed 2001 levels by just over 28% (266 jobs), demonstrating the increasing need for IT workers. During Q4 2015, there was one posting per 4.6 workers in IT in Livingston County.

INFORMATION TECHNOLOGY

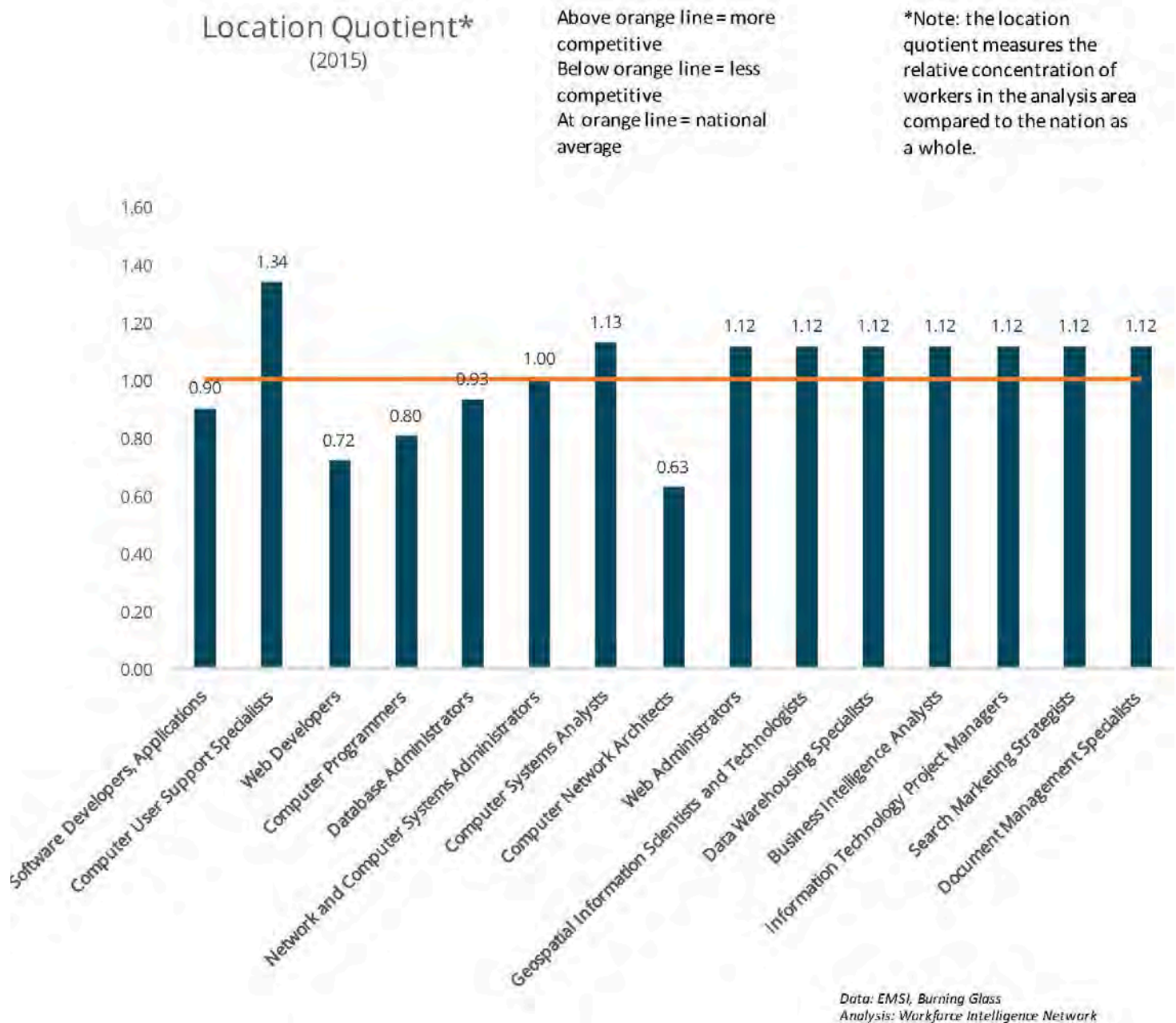
TOP 15 JOBS WAGES

ONET Code	Occupation	10th Percentile Hourly Earnings	25th Percentile Hourly Earnings	Median Hourly Earnings	75th Percentile Hourly Earnings	90th Percentile Hourly Earnings
15-1132	Software Developers, Applications	\$25.18	\$31.35	\$39.38	\$49.47	\$58.83
15-1151	Computer User Support Specialists	\$12.38	\$15.95	\$21.56	\$29.06	\$36.96
15-1134	Web Developers	\$18.03	\$21.59	\$27.32	\$33.96	\$40.35
15-1131	Computer Programmers	\$23.77	\$28.94	\$34.77	\$43.65	\$51.99
15-1141	Database Administrators	\$23.80	\$31.38	\$41.07	\$50.08	\$58.17
15-1142	Network and Computer Systems Administrators	\$21.59	\$27.21	\$35.57	\$43.28	\$51.30
15-1121	Computer Systems Analysts	\$25.22	\$32.05	\$39.84	\$49.08	\$58.30
15-1143	Computer Network Architects	\$29.97	\$38.46	\$48.60	\$57.12	\$67.27
15-1199	Web Administrators	\$23.42	\$30.58	\$38.80	\$48.99	\$57.12
15-1199	Geospatial Information Scientists and Technologists	\$23.42	\$30.58	\$38.80	\$48.99	\$57.12
15-1199	Data Warehousing Specialists	\$23.42	\$30.58	\$38.80	\$48.99	\$57.12
15-1199	Business Intelligence Analysts	\$23.42	\$30.58	\$38.80	\$48.99	\$57.12
15-1199	Information Technology Project Managers	\$23.42	\$30.58	\$38.80	\$48.99	\$57.12
15-1199	Search Marketing Strategists	\$23.42	\$30.58	\$38.80	\$48.99	\$57.12
15-1199	Document Management Specialists	\$23.42	\$30.58	\$38.80	\$48.99	\$57.12

Out of the top 15 Information Technology occupations in Livingston County, only computer user support specialists does not offer a living wage (\$15+ per hour) at entry-level earnings (10th percentile). The wage for this position then improves at the 25th percentile of hourly earnings to \$15.95. Out of the top 15 occupations listed, all offer the possibility of earning annual salaries greater than \$50,000 per year (\$24.04 hourly) at the 75th percentile of earnings. The occupation with the most upward mobility is computer network architects with an annual salary just shy of \$140,000, followed by software developers, application, earning an annual salary of over \$122,000. Compared to national averages, wages in the region are somewhat lower (\$3.03) for IT workers.

INFORMATION TECHNOLOGY

TOP 15 JOBS LOCATION QUOTIENT

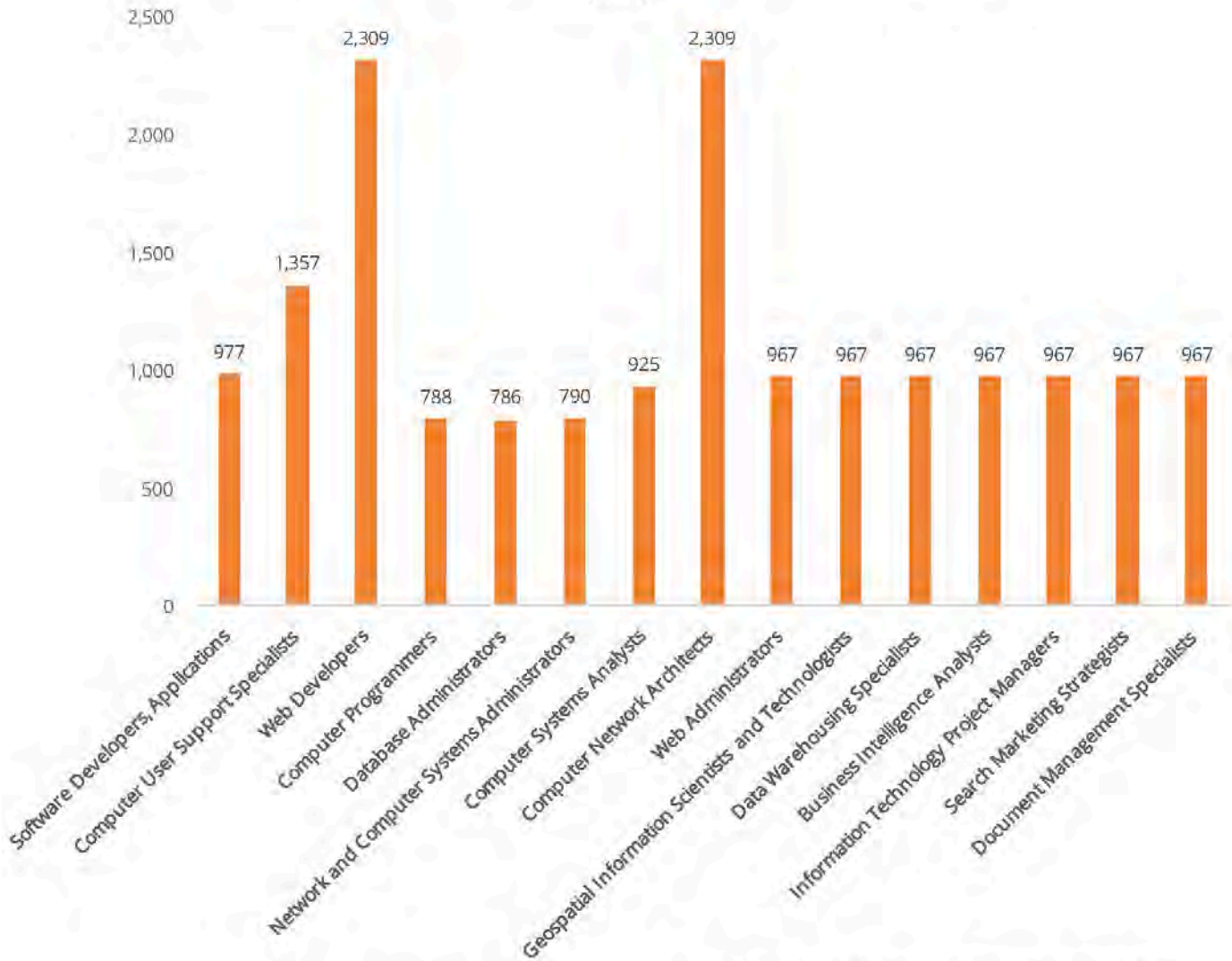


The location quotient (LQ) is a measure of relative concentration. In this case, it measures the relative concentration of workers in an occupation in a specific geography compared to the U.S. on average. Higher LQ's typically indicate that employers will have an easier time finding talent because those workers are more concentrated in the area; lower LQ's will make filling open positions more difficult. The most concentrated Information Technology (IT) job in the region with an LQ of 1.34 is computer user support specialists. This means that on average, this occupation is comprised of 34% more workers in the region than in the U.S. Following that occupation, computer systems analysts have the second highest LQ at 1.13 (13% higher than the U.S. on average). Computer networks and architects are the least competitive occupation, with an LQ of 0.63 (37%) less concentration than the U.S. on average.

INFORMATION TECHNOLOGY

TOP 15 JOBS RECENT REGIONAL GRADUATES

Recent Area Grads with Degrees Related to Top Jobs*
(2014)



*Note: many degrees can prepare a person for multiple jobs and therefore many of these graduates are counted for several occupations.

Data: EMSI, Burning Glass, Integrated Post Secondary Data System
Analysis: Workforce Intelligence Network

Due to the regional nature of the labor force in Southeast Michigan data is shown for degree and certificate completions awarded by colleges and universities from all 16-counties in the WIN partnership. The largest amount of graduates with a degree related to a top occupation in 2014 was a tie between web developers and computer systems architects with 2,309 graduates. However, web developers and computer systems architects were 3rd and 8th, respectively, in terms of postings within the top 15 jobs for IT. On the other hand, computer programmers had the 4th most postings in Q4 2015 yet had the least amount of graduates with related degrees.

INFORMATION TECHNOLOGY

TOP 15 JOBS EDUCATION & TRAINING REQUIREMENTS

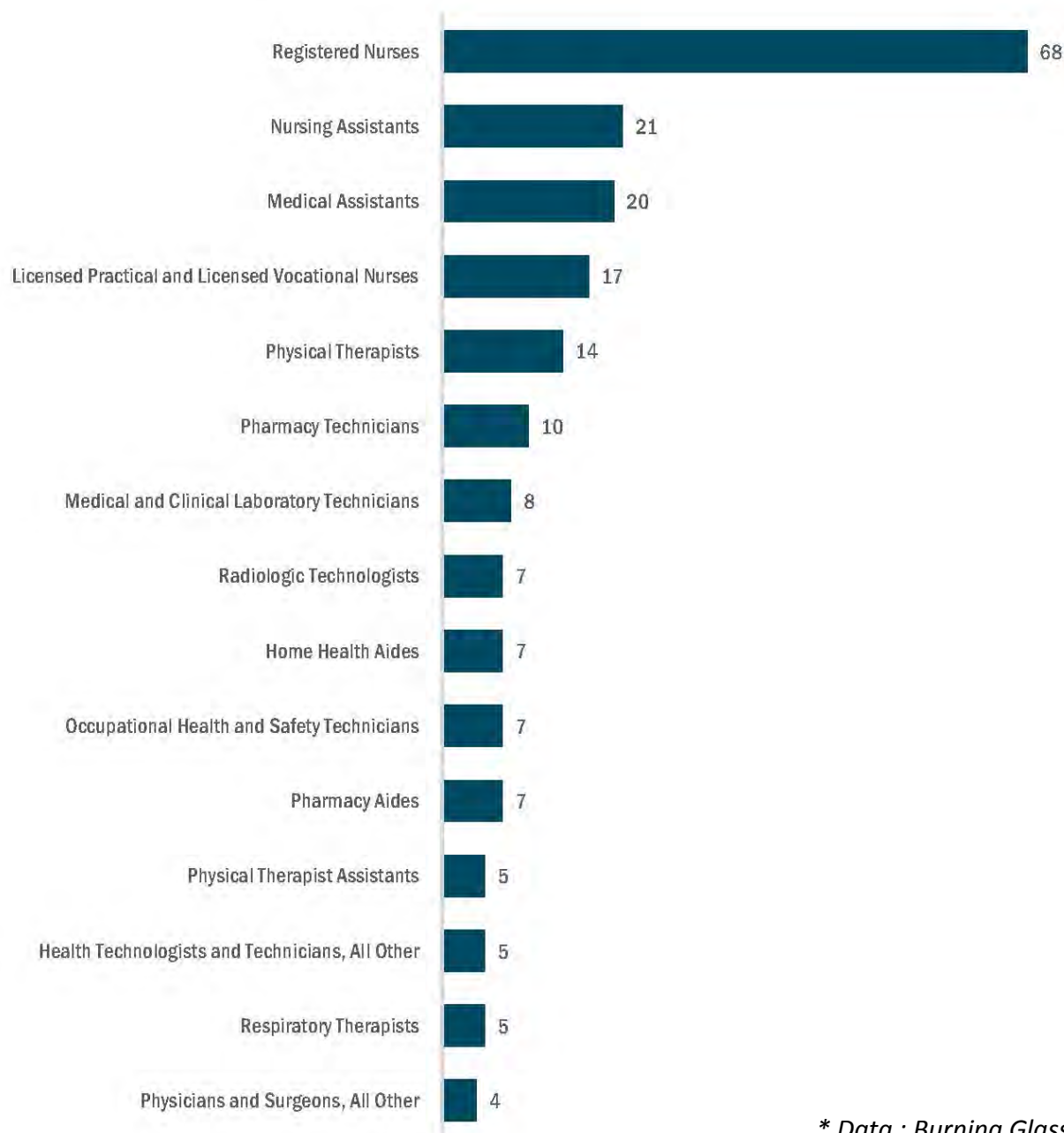
ONET Code	Occupation	Typical Entry Level Education	Work Experience Required	Typical On-The-Job Training
15-1132	Software Developers, Applications	Bachelor's degree	None	None
15-1151	Computer User Support Specialists	Some college, no degree	None	Moderate-term on-the-job training
15-1134	Web Developers	Associate's degree	None	None
15-1131	Computer Programmers	Bachelor's degree	None	None
15-1141	Database Administrators	Bachelor's degree	Less than 5 years	None
15-1142	Network and Computer Systems Administrators	Bachelor's degree	None	None
15-1121	Computer Systems Analysts	Bachelor's degree	None	None
15-1143	Computer Network Architects	Bachelor's degree	5 years or more	None
15-1199	Web Administrators	Bachelor's degree	None	None
15-1199	Geospatial Information Scientists and Technologists	Bachelor's degree	None	None
15-1199	Data Warehousing Specialists	Bachelor's degree	None	None
15-1199	Business Intelligence Analysts	Bachelor's degree	None	None
15-1199	Information Technology Project Managers	Bachelor's degree	None	None
15-1199	Search Marketing Strategists	Bachelor's degree	None	None
15-1199	Document Management Specialists	Bachelor's degree	None	None

Many IT occupations require a formal degree, but most employers also like to see additional training and experience. Out of the top 15 occupations for IT in Livingston County, only computer user and support specialists do not require a post-secondary degree. The other 14 top occupations in this category can be acquired at entry-level with a Bachelor's or Associate's degree. While almost all of the top jobs do not technically look for on-the-job training, employers like to see individual with more experience. Many of these occupations will offer higher wages to go along with a higher level of education and training. This can be seen with computer network architects, which require five or more years of experience and training and have the highest entry-level wage and highest attainable wage.

A photograph of two healthcare workers, a woman and a man, sitting at a desk in a clinical setting. The woman on the left is wearing red scrubs and has a name tag. The man on the right is wearing blue scrubs and is holding a pen. They are both smiling at the camera. The background is slightly blurred, showing office equipment and papers.

HEALTH CARE

WIN's Health Care occupation cluster includes jobs related to health care support and practitioners. This cluster is one of Southeast Michigan's largest with, 4,163 employees in 2015 in Livingston County. Employment in this cluster has been consistently growing, more health care workers needed to care for Michigan's aging population and in response to regulatory and other changes. Registered nurses are routinely the most in-demand job in this cluster.



* Data : Burning Glass Technologies

Postings in Health Care related jobs during Q4 2015 saw a few changes in occupations while the top five occupations remained in the same order of although their posting figures changed. Registered nurses remained atop the list with an increase of 13.3% from 60 postings in Q3 2015 to 68 postings in Q4 2015. Following that, postings for nursing assistants and medical assistants decreased by 43% and 26%, respectively, from Q3 2015 to in Q4 2015. New to the top fifteen jobs since Q4 2014 were pharmacy technicians with the 6th most postings in Q4 2015, replacing dental assistants. Registered nurses remained in high demand, representing 33% of total Health Care postings during Q4 2015.

HEALTH CARE

ONLINE JOB POSTINGS OVER TIME

Health Care Online Job Postings



Source: Burning Glass Technologies

Analysis: Workforce Intelligence Network

Online job postings for Health Care occupations decreased 15.6% from 301 in Q3 to 254 in Q4 2015. This matches up with Q3 to Q4 trends of a decrease in online ads, as seen in previous years. Despite the drop, Q4 2015 online job postings were 85.4% higher compared to Q4 2014, as well as higher than any previous Q4 posting quantity. While employment dropped slightly between Q4 2014 and Q1 2015, it has been slowly rising, which matches online job posting trends for the same quarters.

HEALTH CARE

EMPLOYMENT OVER TIME

Health Care Occupational Employment



Source: EMSI

Analysis: Workforce Intelligence Network

Employment in Livingston County for Health Care occupations increased slightly by 3.4% from 4,025 workers in 2014 to 4,163 workers in 2015. Health Care employment has been growing an average of 4.2% annually since the low of 3,237 workers in 2008. Employment has also surpassed 2001 levels by 70.6% and looks to be continually increasing. During Q4 2015 in Livingston County, there was one posting per 26.4 workers in Health Care.

HEALTH CARE

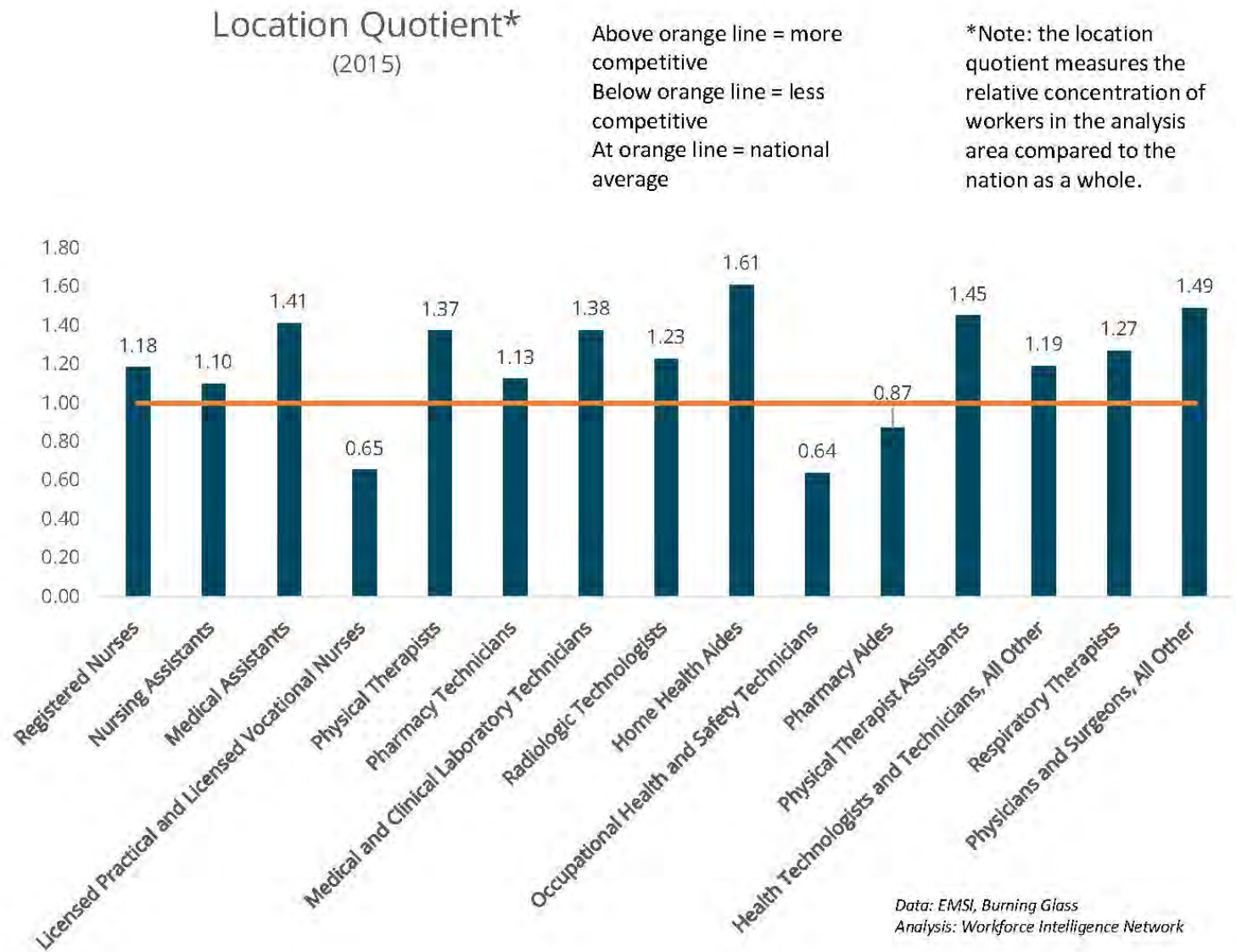
TOP 15 JOBS WAGES

ONET Code	Occupation	10th Percentile Hourly Earnings	25th Percentile Hourly Earnings	Median Hourly Earnings	75th Percentile Hourly Earnings	90th Percentile Hourly Earnings
29-1141	Registered Nurses	\$24.99	\$28.50	\$32.85	\$37.31	\$46.89
31-1014	Nursing Assistants	\$10.13	\$11.69	\$13.42	\$15.30	\$17.31
31-9092	Medical Assistants	\$10.65	\$12.19	\$13.94	\$16.27	\$18.70
29-2061	Licensed Practical and Licensed Vocational Nurses	\$17.60	\$19.89	\$22.71	\$25.74	\$28.08
29-1123	Physical Therapists	\$27.31	\$32.99	\$39.33	\$47.40	\$62.90
29-2052	Pharmacy Technicians	\$9.48	\$11.58	\$14.28	\$16.91	\$19.19
29-2012	Medical and Clinical Laboratory Technicians	\$11.24	\$12.90	\$15.76	\$20.29	\$27.64
29-2034	Radiologic Technologists	\$18.86	\$22.01	\$26.07	\$29.84	\$34.35
31-1011	Home Health Aides	\$8.08	\$8.79	\$9.90	\$11.30	\$13.57
29-9012	Occupational Health and Safety Technicians	\$13.43	\$16.54	\$20.50	\$24.81	\$31.24
31-9095	Pharmacy Aides	\$8.35	\$9.14	\$10.41	\$12.16	\$14.46
31-2021	Physical Therapist Assistants	\$12.46	\$14.35	\$20.58	\$25.07	\$36.52
29-2099	Health Technologists and Technicians, All Other	\$12.55	\$14.57	\$18.42	\$23.57	\$30.00
29-1126	Respiratory Therapists	\$20.26	\$23.20	\$25.88	\$28.33	\$30.25
29-1069	Physicians and Surgeons, All Other	\$30.16	\$49.14	\$81.42	\$96.19	\$147.67

Only 7 of the top 15 Health Care occupations in Livingston County offer a living wage (\$15+ per hour) at entry-level earnings (10th percentile). This figure improves at median-level earnings with only five of the occupations still earning under \$15 per hour. At the highest level of earnings (90th percentile) pharmacy aides and home health aides remain under the livable wage earning \$14.46 and \$13.57, respectively. The occupation with the most upward mobility is physicians and surgeons with an annual salary of over \$300,000, followed by physical therapists earning an annual salary of over \$130,000. Compared to national averages, wages in the region are just slightly higher (\$0.29) for Health Care workers.

HEALTH CARE

TOP 15 JOBS LOCATION QUOTIENT

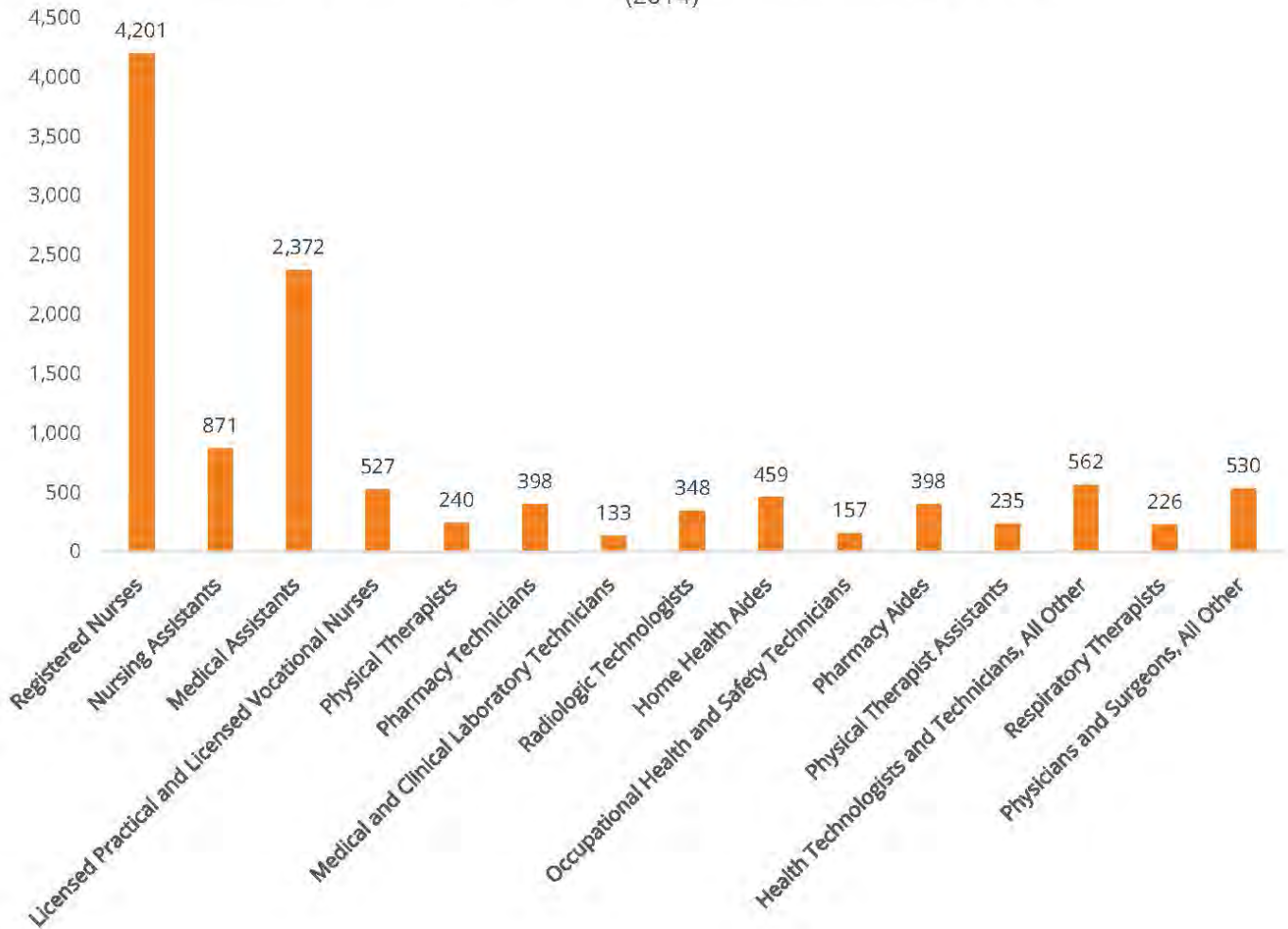


The location quotient (LQ) is a measure of relative concentration. In this case, it measures the relative concentration of workers in an occupation in a specific geography compared to the U.S. on average. Higher LQ's typically indicate that employers will have an easier time finding talent because those workers are more concentrated in the area; lower LQ's will make filling open positions more difficult. Home health aides is the most concentrated Skilled Trade job in the region with an LQ of 1.61. This means that on average, this occupation is comprised of 61% more workers in the region than in the U.S. The second highest LQ for an occupation in this cluster is physicians and surgeons at 1.49 (49% higher than the U.S. on average). Occupational health and safety technicians is the least competitive occupation, with 36% less concentration than the U.S. on average.

TOP 15 JOBS RECENT REGIONAL GRADUATES

Recent Area Grads with Degrees Related to Top Jobs*

(2014)



*Note: many degrees can prepare a person for multiple jobs and therefore many of these graduates are counted for several occupations.

Data: EMSI, Burning Glass, Integrated Post-Secondary Data System
Analysis: Workforce Intelligence Network

Due to the regional nature of the labor force in Southeast Michigan data is shown for degree and certificate completions awarded by colleges and universities from all 16-counties in the WIN partnership. The largest amount of graduates in 2014 with a degree related to a top occupation in Q4 2015 was registered nurses with 4,201 graduates. This coincides with the fact that registered nurses had the most postings for Q4 of 2015 at 68 postings. The second largest group was medical assistants with 2,372 graduates. Interestingly, medical and clinical laboratory technicians had the 7th-most postings in Q4 2015, yet the lowest amount of graduates at 133 in 2014.

HEALTH CARE

TOP 15 JOBS EDUCATION & TRAINING REQUIREMENTS

ONET Code	Occupation	Typical Entry Level Education	Work Experience Required	Typical On-The-Job Training
29-1141	Registered Nurses	Associate's degree	None	None
31-1014	Nursing Assistants	Postsecondary non-degree award	None	None
31-9092	Medical Assistants	Postsecondary non-degree award	None	None
29-2061	Licensed Practical and Licensed Vocational Nurses	Postsecondary non-degree award	None	None
29-1123	Physical Therapists	Doctoral or professional degree	None	None
29-2052	Pharmacy Technicians	High school diploma or equivalent	None	Moderate-term on-the-job training
29-2012	Medical and Clinical Laboratory Technicians	Associate's degree	None	None
29-2034	Radiologic Technologists	Associate's degree	None	None
31-1011	Home Health Aides	Less than high school	None	Short-term on-the-job training
29-9012	Occupational Health and Safety Technicians	High school diploma or equivalent	None	Moderate-term on-the-job training
31-9095	Pharmacy Aides	High school diploma or equivalent	None	Short-term on-the-job training
31-2021	Physical Therapist Assistants	Associate's degree	None	None
29-2099	Health Technologists and Technicians, All Other	High school diploma or equivalent	None	None
29-1126	Respiratory Therapists	Associate's degree	None	None
29-1069	Physicians and Surgeons, All Other	Doctoral or professional degree	None	Internship/residency

The top 15 Health Care require a variety of education levels for entry-level positions. One occupation can have less than a high school education, another four typically look for a high school diploma or its equivalent, three look for postsecondary non-degree awards, five look for Associate's degrees, and the last two look for a Doctoral or professional degree. There is a mix of typical job training depending on the occupation, shown by the request for short to moderate-term training, as well as residency for physicians and surgeons. As seen in most cases, occupations will offer higher wages to go along with a higher level of education and training. This can be seen with physicians and surgeons and with physical therapists, as they each require a doctoral or professional degree, and the upward mobility in terms of wage is the highest of the top 15 occupations.

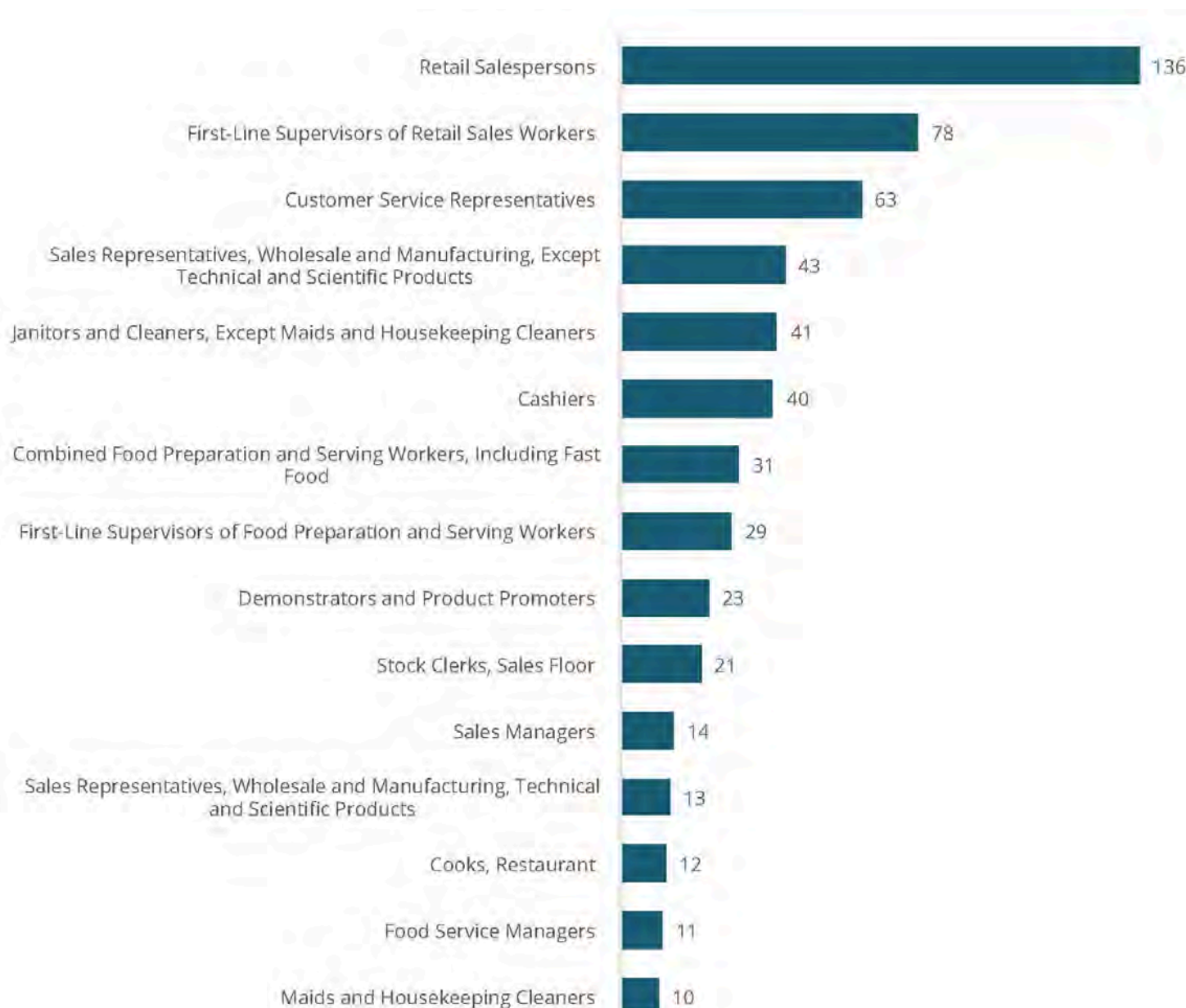


RETAIL AND HOSPITALITY

The Retail and Hospitality cluster is the largest occupational cluster that WIN analyzes, both in terms of employment and online job postings. This cluster is of very high importance to the region because it is the first to grow when the economy expands and the first to contract in a downturn: It is often a leading indicator. As defined by WIN, the retail and hospitality cluster encompasses all customer service occupations, with skills transferable across the retail sector, the hotel industry, food and beverage service industry, call centers, and other areas. In 2015, 19,446 individuals were employed in retail and hospitality related occupations in Livingston County.

RETAIL & HOSPITALITY

TOP JOBS



* Data : Burning Glass Technologies

The top nine postings in Retail and Hospitality related jobs during Q4 2015 changed only in amount of postings, with the rest shifting places. Retail salesperson stayed in its top spot for most postings with a decrease just shy of 5% from 143 postings in Q3 2015 to 136 postings in Q4 2015. Postings for cashiers increased slightly by eight postings from Q3 2015 to Q4 2015 (25% increase). New to the top fifteen jobs since Q4 2014 were cooks and food service managers, replacing drivers/sales workers and waiters and waitresses. Retail salespersons remain in high demand, representing 24% of total Retail and Hospitality postings during Q4 2015.

RETAIL & HOSPITALITY

ONLINE JOB POSTINGS OVER TIME



Source: Burning Glass Technologies
Analysis: Workforce Intelligence Network

Online job postings for Retail and Hospitality occupations decreased from 685 in Q3 to 672 in Q4 2015 (-1.9%). This matches up with historical trends of a Q4 decrease in online ads, as seen in previous years. Despite the drop, Q4 2015 online job postings were almost 54% higher compared to Q4 2014, and still higher than any other fourth quarter since 2011. While employment dropped slightly between Q4 2014 and Q1 2015, it has been slowly rising, which matches online job posting trends for the same quarters.

RETAIL & HOSPITALITY

EMPLOYMENT OVER TIME



Source: EMSI

Analysis: Workforce Intelligence Network

Employment in Livingston County for Retail and Hospitality occupations increased from 18,565 workers in 2014 to 19,446 workers in 2015 (4.7%). Retail and Hospitality employment has been growing an average of about 5.2% annually since the low of 14,433 workers in 2009. Employment exceeded 2009 levels just one year later in 2010, and employment in 2015 has surpassed 2001 levels. During Q4 2015, there was one posting per eight workers in Retail and Hospitality in Livingston County.

RETAIL & HOSPITALITY

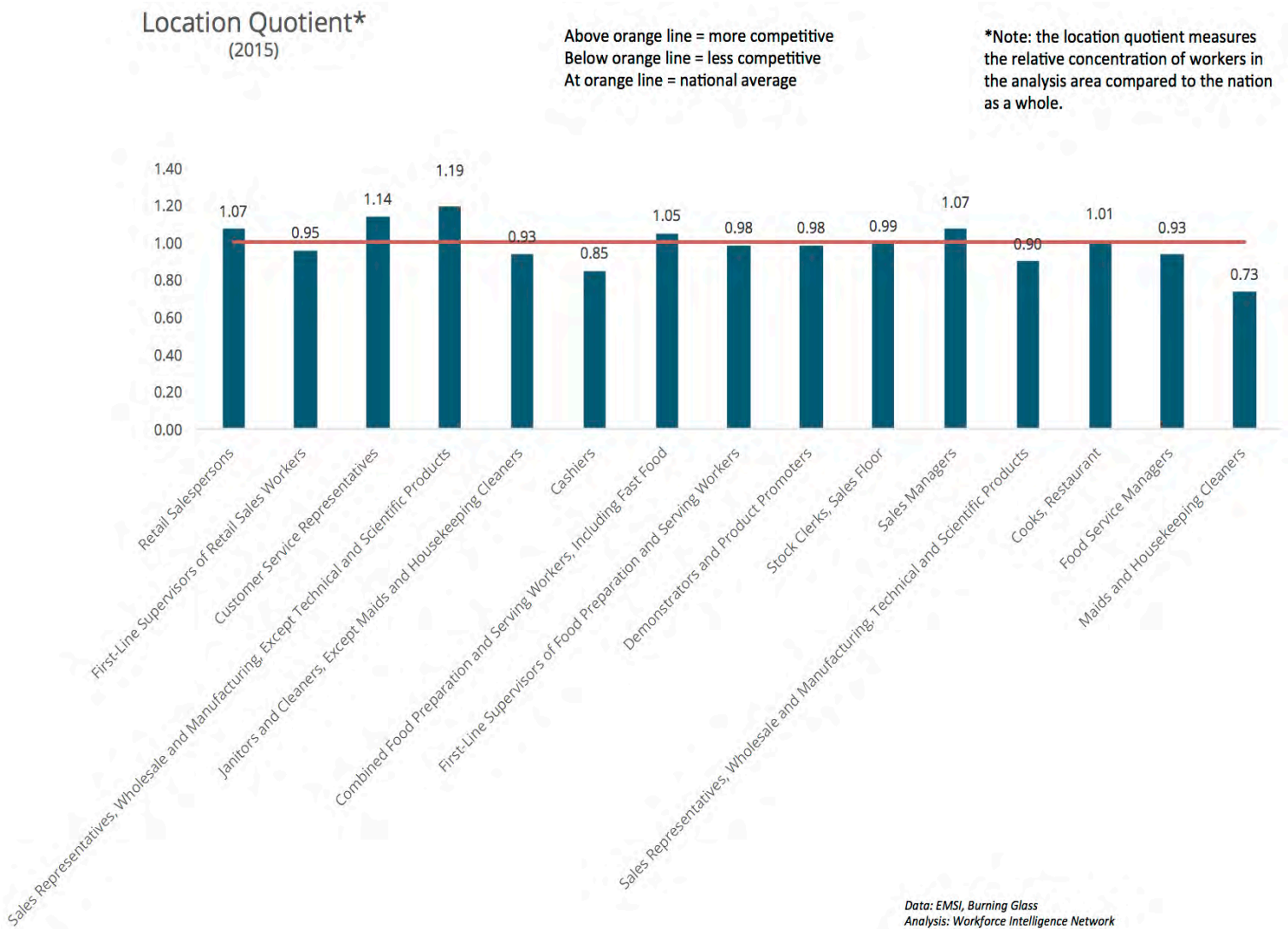
TOP 15 JOBS WAGES

ONET Code	Occupation	10th Percentile Hourly Earnings	25th Percentile Hourly Earnings	Median Hourly Earnings	75th Percentile Hourly Earnings	90th Percentile Hourly Earnings
41-2031	Retail Salespersons	\$8.35	\$8.98	\$10.24	\$13.13	\$19.00
41-1011	First-Line Supervisors of Retail Sales Workers	\$11.18	\$13.60	\$17.23	\$21.87	\$27.40
43-4051	Customer Service Representatives	\$9.36	\$11.52	\$15.01	\$19.07	\$24.48
41-4012	Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products	\$12.94	\$18.83	\$27.15	\$39.50	\$55.51
37-2011	Janitors and Cleaners, Except Maids and Housekeeping Cleaners	\$8.37	\$9.47	\$11.71	\$14.97	\$18.31
41-2011	Cashiers	\$8.21	\$8.72	\$9.61	\$11.65	\$15.09
35-3021	Combined Food Preparation and Serving Workers, Including Fast Food	\$8.15	\$8.52	\$9.14	\$9.92	\$12.12
35-1012	First-Line Supervisors of Food Preparation and Serving Workers	\$8.92	\$10.54	\$14.22	\$19.22	\$23.99
41-9011	Demonstrators and Product Promoters	\$10.48	\$10.95	\$11.74	\$12.54	\$13.37
43-5081	Stock Clerks, Sales Floor	\$8.41	\$9.23	\$11.13	\$14.53	\$18.71
11-2022	Sales Managers	\$28.89	\$38.96	\$52.65	\$70.34	\$106.63
41-4011	Sales Representatives, Wholesale and Manufacturing, Technical and Scientific Products	\$18.93	\$26.15	\$36.68	\$50.95	\$68.91
35-2014	Cooks, Restaurant	\$8.32	\$9.14	\$10.69	\$12.73	\$14.30
11-9051	Food Service Managers	\$12.37	\$15.46	\$19.44	\$26.51	\$35.87
37-2012	Maids and Housekeeping Cleaners	\$8.15	\$9.04	\$10.31	\$11.99	\$13.73

Only 2 of the top 15 Skilled Trades occupations in Livingston County offer a living wage (\$15+ per hour) at entry-level earnings (10th percentile). This figure improves slightly at median-level earnings where six of the occupations offer a living wage. At the 90th percentile of earnings, there are still four occupations that make less than \$15 per hour. Out of the top 15 occupations listed, 6 offer the possibility of earning annual salaries greater than \$50,000 per year (\$24.04 hourly). The occupation with the most upward mobility is sales managers with an annual salary of over \$220,000, followed by sales representatives earning an annual salary of over \$143,000. Compared to national averages, wages in the region are slightly higher (\$0.61) for Retail and Hospitality workers.

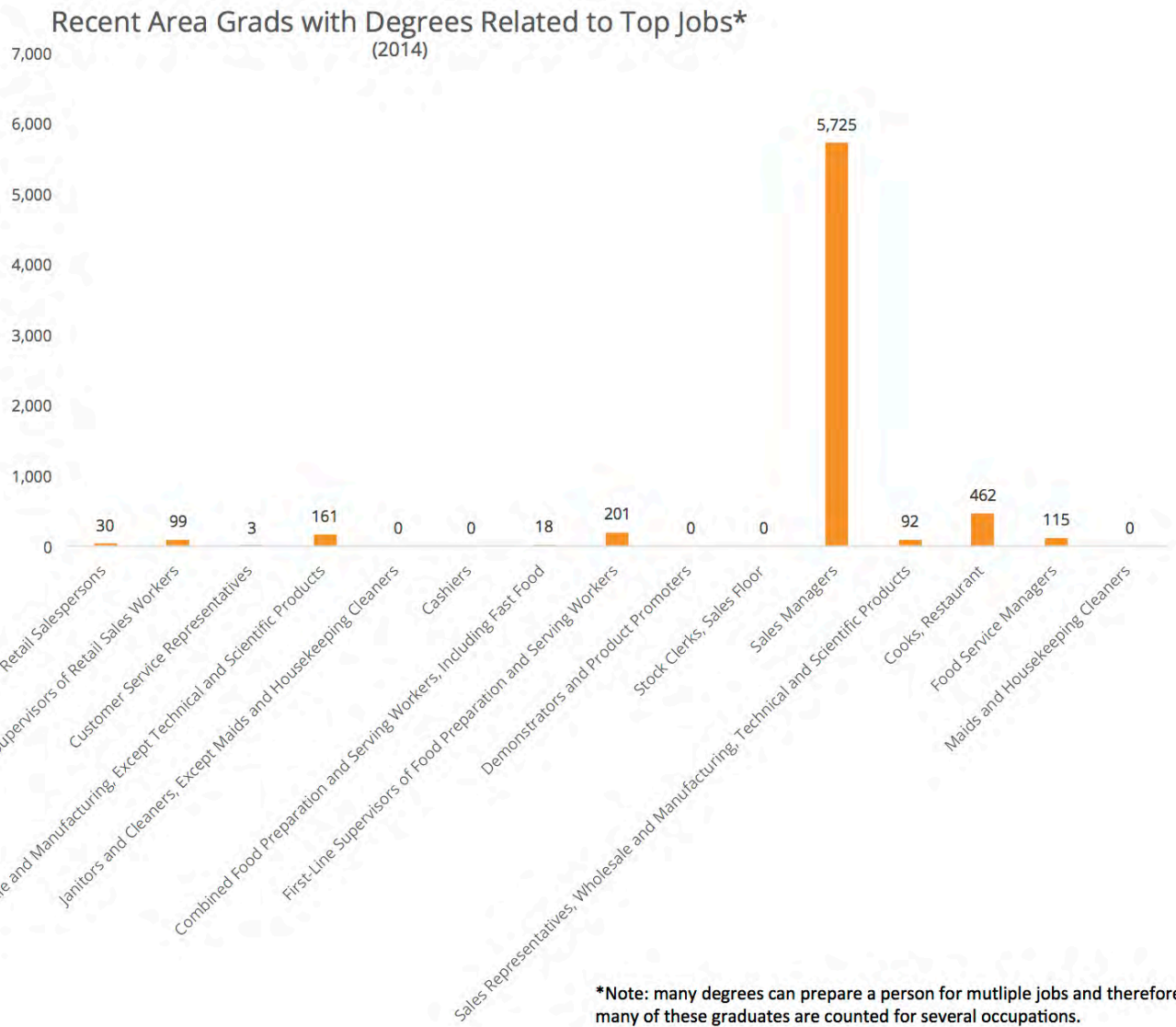
RETAIL & HOSPITALITY

TOP 15 JOBS LOCATION QUOTIENT



The location quotient (LQ) is a measure of relative concentration. In this case, it measures the relative concentration of workers in an occupation in a specific geography compared to the U.S. on average. Higher LQ's typically indicate that employers will have an easier time finding talent because those workers are more concentrated in the area; lower LQ's will make filling open positions more difficult. The most concentrated skilled Retail and Hospitality occupation in the region with an LQ of 1.19 is sales representatives. This means that on average, this occupation is comprised of 19% more workers in the region than in the U.S. Following sales representatives, customer service representatives have the second highest LQ at 1.14 (14% higher than the U.S. on average). Maids and housekeeping cleaners is the least competitive occupation, with 15% less concentration than the U.S. on average.

TOP 15 JOBS RECENT REGIONAL GRADUATES



Data: EMSI, Burning Glass, Integrated Post-Secondary Data System
Analysis: Workforce Intelligence Network

Due to the regional nature of the labor force in Southeast Michigan data is shown for degree and certificate completions awarded by colleges and universities from all 16-counties in the WIN partnership. The largest amount of graduates with a degree related to a top occupation in 2014 was sales managers with 5,725 graduates. However, this occupation had the 11th most postings for Q4 of 2015 at 14 postings, representing only 2.5% of all postings. Comparatively, the top two postings (retail salespersons and first-line supervisors of retail sales workers) in Q4 2015 had 30 graduates and 99 graduates, respectively, with related degrees.

RETAIL & HOSPITALITY

TOP 15 JOBS EDUCATION & TRAINING REQUIREMENTS

ONET Code	Occupation	Typical Entry Level Education	Work Experience Required	Typical On-The-Job Training
41-2031	Retail Salespersons	Less than high school	None	Short-term on-the-job training
41-1011	First-Line Supervisors of Retail Sales Workers	High school diploma or equivalent	Less than 5 years	None
43-4051	Customer Service Representatives	High school diploma or equivalent	None	Short-term on-the-job training
41-4012	Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products	High school diploma or equivalent	None	Moderate-term on-the-job training
37-2011	Janitors and Cleaners, Except Maids and Housekeeping Cleaners	Less than high school	None	Short-term on-the-job training
41-2011	Cashiers	Less than high school	None	Short-term on-the-job training
35-3021	Combined Food Preparation and Serving Workers, Including Fast Food	Less than high school	None	Short-term on-the-job training
35-1012	First-Line Supervisors of Food Preparation and Serving Workers	High school diploma or equivalent	Less than 5 years	None
41-9011	Demonstrators and Product Promoters	High school diploma or equivalent	None	Short-term on-the-job training
43-5081	Stock Clerks, Sales Floor	Less than high school	None	Short-term on-the-job training
11-2022	Sales Managers	Bachelor's degree	Less than 5 years	None
41-4011	Sales Representatives, Wholesale and Manufacturing, Technical and Scientific Products	Bachelor's degree	None	Moderate-term on-the-job training
35-2014	Cooks, Restaurant	Less than high school	Less than 5 years	Moderate-term on-the-job training
11-9051	Food Service Managers	High school diploma or equivalent	Less than 5 years	None
37-2012	Maids and Housekeeping Cleaners	Less than high school	None	Short-term on-the-job training

Many Retail and Hospitality occupations do not require a formal degree, but most employers like to see training outside of a high school diploma. In fact, out of the top 15 occupations for Retail and Hospitality in Livingston County, only sales managers and sales representatives require a bachelor's degree. The other 14 top occupations in this category can be acquired at entry-level with either a high school diploma or its equivalent, or less than high school education. Employers for nearly all of the top jobs look for individuals to have some form of training. As seen in many cases, many of these occupations will offer higher wages to go along with a higher level of education and training. This can be seen with sales managers having the highest annual wage at each level of earnings. Becoming a sales manager typically requires more experience and training so it will have more upward mobility.

The background of the page is a blurred cityscape with warm, golden-yellow and orange tones. Overlaid on the left side are several thick, wavy, semi-transparent lines in orange, dark blue, and yellow, which curve upwards and then downwards, creating a dynamic, flowing effect.

SECTION FOUR

DATA NOTES AND SOURCES

DATA NOTES AND SOURCES

SPECIAL DATA NOTE

- Due to changes in Burning Glass's aggregation, parsing, and deduplication methods implemented in December 2014, data from previously released reports should not be compared to data in reports starting in Q4 2014 and moving forward. For the Q4 2014 report, the WIN team re-gathered and analyzed all of the data (postings from 2011 through 2014) to ensure that all numbers are up-to-date. If you would like information on the differences between the updated data and data from previous reports, please contact WIN's Research Director Colby Spencer Cesaro at colby.cesaro@win-semich.org.
- Wage, location quotient, completion, and education requirement data is shown for the 16 county region that is part of the WIN partnership.
- All numbers included in this report are the correct and updated data.
- Wage and educational attainment data available varies depending on the occupation. All wage and educational attainment data provided is for the 6-digit SOC code. Some 6-digit codes do not have education or wage data available, in this case we leave the information blank.
- Educational attainment data available refers to the share of the current workforce in each bracket, not what is shown in postings. Employers may require different educational attainment than what is in this report.
- Quarterly reports: Due to a data update in Burning Glass Technologies' Labor Insight tool, comparisons should not be made between data from each quarterly report and the annual review data should not be compared to data from previous quarterly reports.
- Adjustments to the labor force information were also made to reflect and incorporate updated inputs, re-estimation, and controlling to new statewide totals. Much of the information related to monthly and quarterly employment is updated several months after the initial release. More information can be found here: <http://www.bls.gov/lau/launews1.htm>
- This report uses \$15 as a "living wage" estimate. Any job paying more than this is considered to pay at least a living wage. Below \$15 is less than a living wage. This definition is based on a median household income in Michigan which is close to \$50,000 per year. If we assume that most homes have two income earners and both earn at least \$15 per hour, then that household's annual income would be at least \$62,000 putting these jobs above the median.

DATA NOTES AND SOURCES

UNDERSTANDING DEMAND VS EMPLOYMENT

- Employment refers to actual employment numbers—the number of people in jobs—in targeted industries or occupations.
- Demand refers to statistics derived from employer job postings, which indicate the potential for employment but may or may not materialize into actual jobs.
- Job posting-related demand, as presented in this report, is measured by online job postings. Employer demand may be larger than what is highlighted in this report if employers find talent by other means.

DATA SOURCES

- Labor market demand data for this report was compiled using Burning Glass Technologies' Labor Insight Tool, and analyzed by the Workforce Intelligence Network. Other data sources include, the Bureau of Labor Statistics, and Economic Modeling Specialists Inc. (EMSI). Check out our website <http://www.win-semich.org> for more data and detailed information about our sources.

UNDERSTANDING CLUSTERS

- Rather than focusing on talent demand within industries (types of firms), WIN generally emphasizes exploring talent demand based on occupations, including the skills, educational credentials, and experience needed to work in them.
- WIN research examines industry data, as the health of companies can be useful for economic development purposes. However, shifting focus from industry to occupation is important as different types of occupations with extremely different skillsets may work within and across industries. For example, accountants, computer specialists, and engineers all may work in the manufacturing industry.
- By clustering occupations, the talent system can identify employer demand for particular skillsets across multiple industry types and develop a response through training and pipeline development to meet that demand.

BOARD ORGANIZATIONS



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