WORKFORCE INTELLIGENCE NETWORK

WIN WORKFORCE INTELLIGENCE NETWORK for Southeast Michigan

QUARTERLY REPORT · **MONROE COUNTY**
Q4 2015 & 2015 Annual Summary

MONROE COUNTY COMMUNITY COLLEGE
enriching lives

SEMCA
WAYNE MONROE
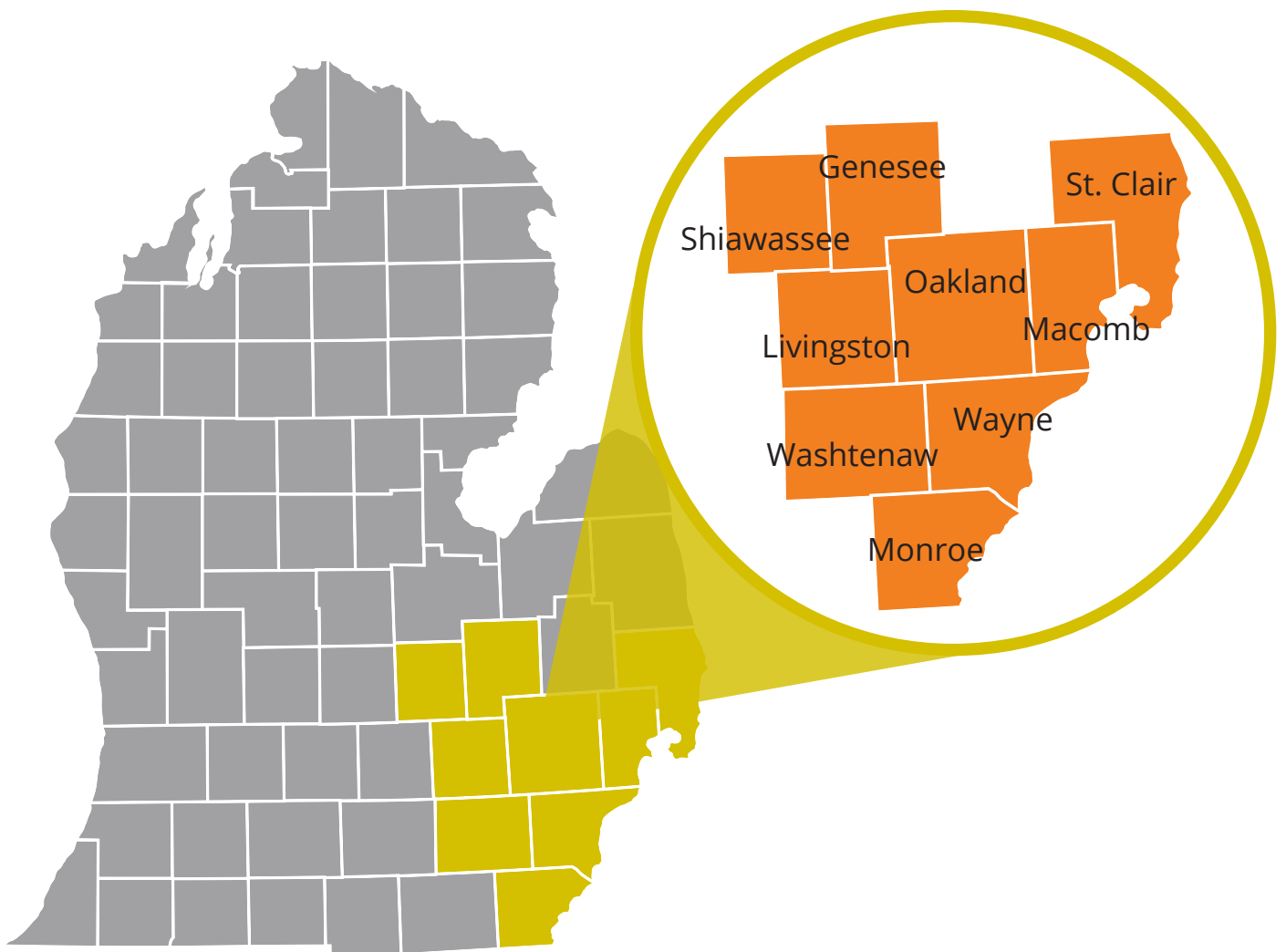
CONTENTS

Southeast Michigan WIN region includes 9 counties:

Genesee, Livingston, Monroe, Macomb, Oakland, Shiawassee, St. Clair, Washtenaw, and Wayne.* This report focuses on Monroe 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 gradutes, and educational attainment requirements), are shown in all reports for the new broader 16-county area.

SECTION ONE
EXECUTIVE SUMMARY

1. **Heavy and tractor-trailer truck drivers remained as the most in-demand occupation in Monroe County during Q4 2015.**

Heavy and tractor-trailer truck drivers was the top posting occupation in Monroe County once again with 153 postings for quarter four, an increase of 53.0% (53 postings) from quarter three. This has been the top job in Monroe County for all of 2015, indicating that local employers are having difficulty finding talent for their open positions. Truck drivers also outpace the next most in-demand occupation in postings by more than two to one.

2. Monroe just one of two counties in WIN region to experience growth in both employment and labor force in 2015.

Employment in Monroe County continued to grow during 2015, climbing 2.4%, adding 1,683 jobs and bringing the total number of employed to 72,754 from 71,071 in 2014. Employment dipped during the beginning of the year but Bureau of Labor Statistics data shows that the county's employment numbers were on the rise through November 2015. The labor force in Monroe County fluctuated during 2015, reaching a peak in May. There was a 0.6% increase overall in the labor force from 2014 to 2015, adding 488 and lifting the total to 76,189. The county's labor force has hovered fairly close to the average of 75,000 since 2010.

3. Monroe County has one of the lowest unemployment rates in southeast Michigan.

Preliminary estimates for Q4 2015 had the unemployment rate at 3.9% in Monroe County, 0.5 percentage points lower than the 4.4% rate in Q3. November estimates were even lower at 3.6%, just one other county in the region had a lower November unemployment rate. Since employment has been growing faster than the labor force, the lowering unemployment rate can be entirely attributed to people gaining jobs.

4. Four of the six occupation clusters analyzed by WIN saw annual improvement in postings.

Compared to Q4 2014, two-thirds of the occupation clusters analyzed by WIN had more online ads in Q4 2015. The Skilled Trades, Engineers & Designers, IT, and Health Care clusters saw improved employer demand while Retail & Hospitality and Agriculture witnessed declines. Engineers had the largest percentage growth (+73.5%).

5. Just 6 of the top 15 in-demand jobs in Monroe County require a Bachelor's degree or higher.

A majority of the top occupations in Monroe County do not require a Bachelor's degree. This means that residents in the region do not necessarily need a lengthy and costly four-year degree in order to work in an in-demand field. Some of the non-Bachelor occupations include supervisorial roles where experience would most likely be more important than education.
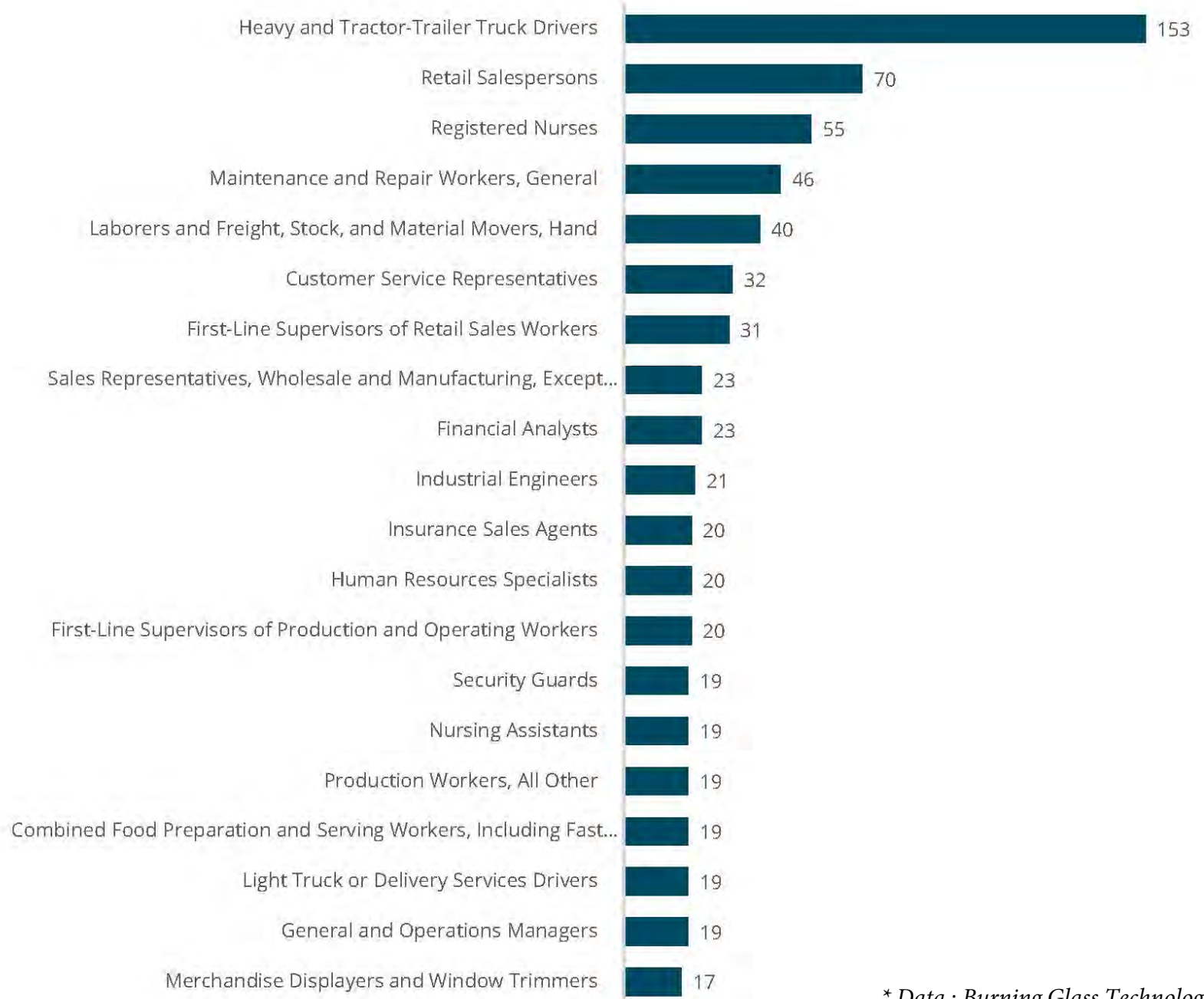
SECTION TWO

LABOR MARKET AND DEMAND OVERVIEW

TOP 20 JOBS IN DEMAND

| Occupation	Postings
Heavy and Tractor-Trailer Truck Drivers	153
Retail Salespersons	70
Registered Nurses	55
Maintenance and Repair Workers, General	46
Laborers and Freight, Stock, and Material Movers, Hand	40
Customer Service Representatives	32
First-Line Supervisors of Retail Sales Workers	31
Sales Representatives, Wholesale and Manufacturing, Except...	23
Financial Analysts	23
Industrial Engineers	21
Insurance Sales Agents	20
Human Resources Specialists	20
First-Line Supervisors of Production and Operating Workers	20
Security Guards	19
Nursing Assistants	19
Production Workers, All Other	19
Combined Food Preparation and Serving Workers, Including Fast...	19
Light Truck or Delivery Services Drivers	19
General and Operations Managers	19
Merchandise Displayers and Window Trimmers	17

* Data : Burning Glass Technologies

Heavy and tractor-trailer truck drivers was the top posting occupation in Monroe County once again with 153 postings for quarter four, an increase of 53 .0% (53 postings) from quarter three. Retail salespersons maintained the second spot for the second straight quarter, though postings have declined by 16.7%, going from a quarter three posting total of 84 to 70 in quarter four. Making a substantial leap in the top jobs category was registered nurses, which have increased by 54 .5%, jumping eleven spots from 14th to 3rd in total postings. The majority of the top 15 postings contain occupations that are under the designation of retail and hospitality, which experience high levels of turnover and generate more postings in search of qualified workers.

Monroe County Online Job Postings
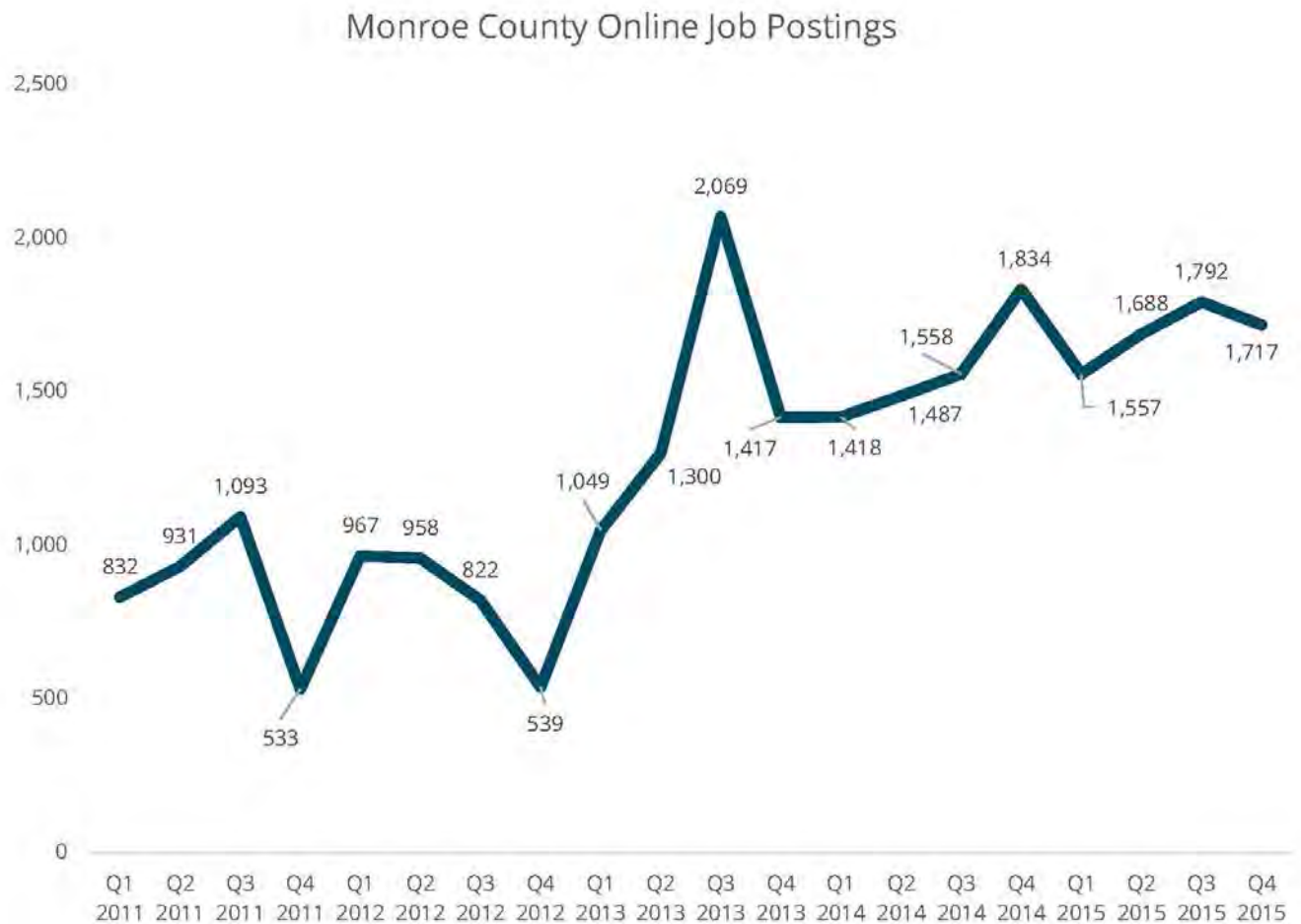
Source: Burning Glass Technologies
Analysis: Workforce Intelligence Network

Mirroring the downward trend in total postings throughout the southeast Michigan region as a whole from Q3 2015 to Q4, total postings in Monroe County have dropped by 4.2%, falling from 1,792 to 1,717. Despite the slight drop in postings from Q3 to Q4 2015, the online job posting trajectory has remained positive over the past eight quarters.

EMPLOYMENT AND LABOR FORCE

Labor Force, Employment, Unemployment Rate
(Monroe County, current as of December 2015)
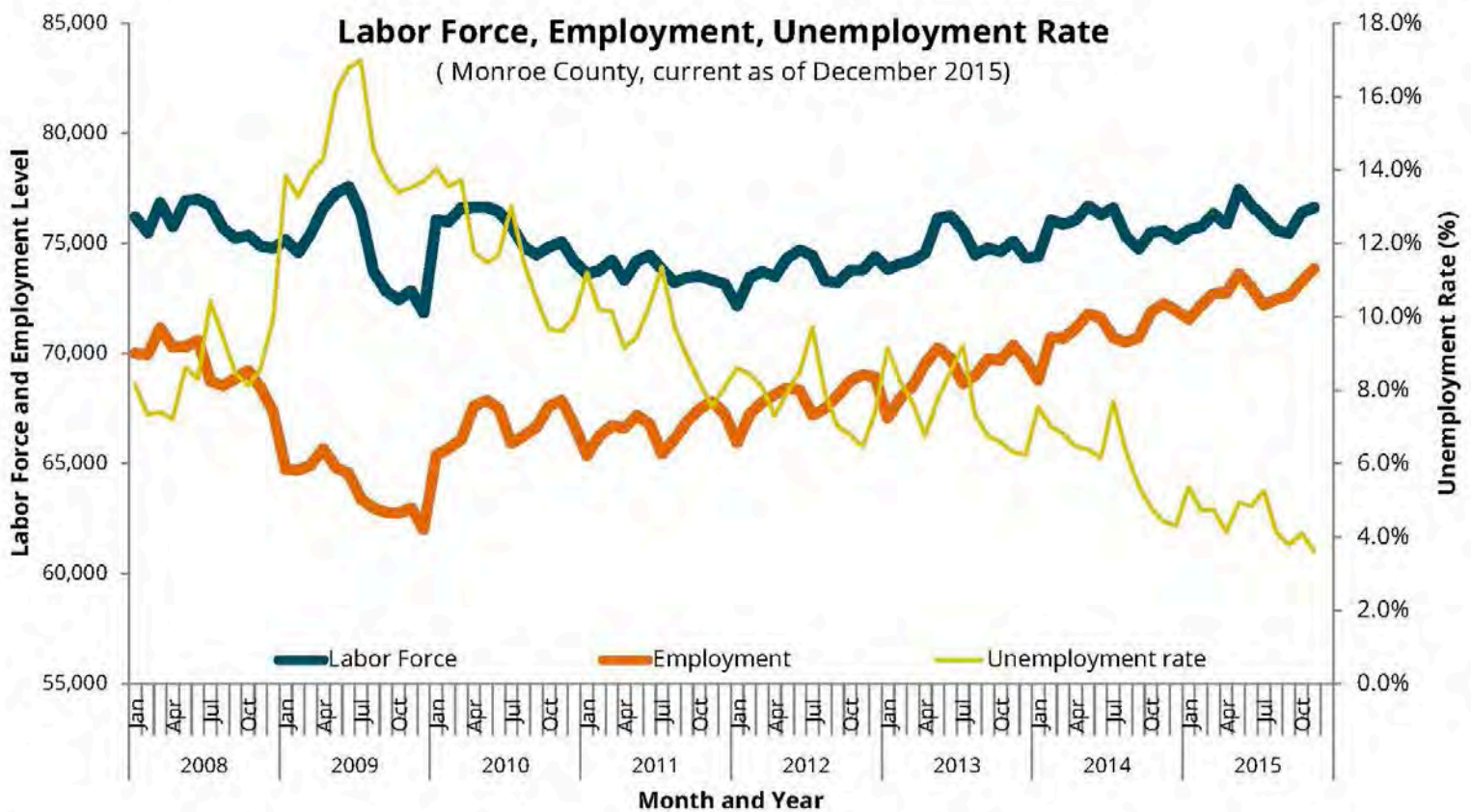
Source: Bureau of Labor Statistics
Analysis: Workforce Intelligence Network

Employment in Monroe County continued to grow during 2015, climbing 2.4%, adding 1,683 jobs and bringing the total number of employed to 72,754 from 71,071 in 2014. Employment dipped during the beginning of the year but Bureau of Labor Statistics data shows that the county's employment numbers were on the rise through November 2015. The labor force in Monroe County fluctuated during 2015, reaching a peak in May. There was a 0.6% increase overall in the labor force from 2014 to 2015, adding 488 and lifting the total to 76,189. The county's labor force has hovered fairly close to the average of 75,000 since 2010. Unemployment rates in Monroe County have been decreasing overall from the high peak in early 2009.

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	75,641	73,683	73,739	74,837	75,701	**76,189**	488	0.6%
Employment	66,771	66,661	67,954	69,194	71,071	**72,754**	1,683	2.4%
Unemployment	8,869	7,022	5,786	5,642	4,630	**3,436**	-1,195	-25.8%
Unemployment Rate	11.7%	9.5%	7.8%	7.5%	6.1%	**4.5%**	-1.6%	na

Data: Bureau of Labor Statistics

Quarterly Labor Market Data

	4th Quarter 2014	1st Quarter 2015	2nd Quarter 2015	3rd Quarter 2015	**4th Quarter Esimate**	Change from 3rd Quarter 2015	Percent Change from 3rd Quarter 2015
Labor Force	75,433	75,914	76,681	75,756	**76,515**	759	1.0%
Employment	72,034	72,163	73,126	72,431	**73,566**	1,135	1.6%
Unemployment	3,399	3,751	3,555	3,325	**2,949**	-376	-11.3%
Unemployment Rate	4.5%	4.9%	4.6%	4.4%	**3.9%**	0	na

Note: Monthly data averaged by quarter

Data: Bureau of Labor Statistics

EMPLOYMENT AND LABOR FORCE OVERVIEW

During November 2015, Monroe County had 73,861 employed workers, with an available labor force of 76,625. Monroe County employment numbers climbed by 0.8% (73,271 to 73,861) between Q3 and Q4 2015. Labor force also increased (0.3%), adding 220 workers. The unemployment rate in Monroe County during November 2015 was estimated at 3.6%, a 1.8 percentage point-change from January 2015 (5.4% unemployment rate).

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	75,511	75,587	75,200	75,622	75,764	76,357	75,875	77,466	76,702	76,205	75,597	75,466	76,405	76,625
Employment	71,887	72,252	71,962	71,564	72,189	72,736	72,753	73,640	72,985	72,194	72,480	72,620	73,271	73,861
Unemployment	3,624	3,335	3,238	4,058	3,575	3,621	3,122	3,826	3,717	4,011	3,117	2,846	3,134	2,764
Unemployment Rate	4.8%	4.4%	4.3%	5.4%	4.7%	4.7%	4.1%	4.9%	4.8%	5.3%	4.1%	3.8%	4.1%	3.6%

* Note: Data shown for 14 most recently available months
Data: Bureau of Labor Statistics
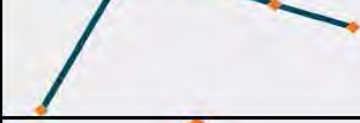
SECTION THREE
OCCUPATIONAL CLUSTERS

SOUTHEAST MICHIGAN, MONROE COUNTY REGION DEMAND OVERVIEW

	Q4 2014	Q1 2015	Q2 2015	Q3 2015	Q4 2015	Change over time	Share of Total Postings Q4 2015
Total	1,834	1,557	1,688	1,792	1,717		
Skilled Trades & Technicians	90	94	94	112	93		5.4%
Engineers & Designers	49	106	106	95	85		5.0%
IT	64	90	119	90	80		4.7%
Health Care	127	105	176	195	182		10.6%
Retail & Hospitality	504	352	344	417	363		21.1%
Agriculture	22	24	36	32	27		1.6%

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 106,745 individuals in southeast Michigan.

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

Job	Postings
First-Line Supervisors of Production and Operating Workers	20
Production Workers, All Other	19
Inspectors, Testers, Sorters, Samplers, and Weighers	8
Welders, Cutters, and Welder Fitters	6
Machinists	6
Electronics Engineering Technicians	4
Packaging and Filling Machine Operators and Tenders	4
Tool and Die Makers	4
Manufacturing Engineering Technologists	3
Cutting, Punching, and Press Machine Setters, Operators, and Tenders, Metal and Plastic	3
Nuclear Power Reactor Operators	3
Metal Workers and Plastic Workers, All Other	2
Prepress Technicians and Workers	2
Extruding and Drawing Machine Setters, Operators, and Tenders, Metal and Plastic	2
Milling and Planing Machine Setters, Operators, and Tenders, Metal and Plastic	1

* Data : Burning Glass Technologies

The most in-demand job for the Skilled Trades & Technicians cluster in Monroe County during Q4 2015 was first-line supervisors of production workers, with 20 online job postings. Online ads have increased by 25.0% since the 15 postings in Q4 2014, where it was also the top job. Production workers fell from first in Q3 2015 with 25 postings to second in Q4 2015 with 19 postings, a decrease of 24.0%.

SKILLED TRADES AND TECHNICIANS: ONLINE JOB POSTINGS OVER TIME

Skilled Trade & Technician Online Job Postings

Source: Burning Glass Technologies
Analysis: Workforce Intelligence Network

The total number of job postings for the skilled trade and technician cluster has declined by 16.9% from Q3 2015 to Q4 2015 going from 112 to 93. Although numbers have dipped slightly, they are higher than at the same point last year (Q4 2014: 90 total postings) and have continued to stay relatively stable since the large gains seen between Q4 2012 and Q3 2013 (postings increased 174.4%from 43 to 118 in that time span). Employment numbers echo the trend in postings and continue an upward trajectory. The skilled trade cluster accounted for 3.1% of total postings in the WIN region for Q4 2015.

ADVANCED MANUFACTURING

SKILLED TRADES AND TECHNICIANS: EMPLOYMENT OVER TIME
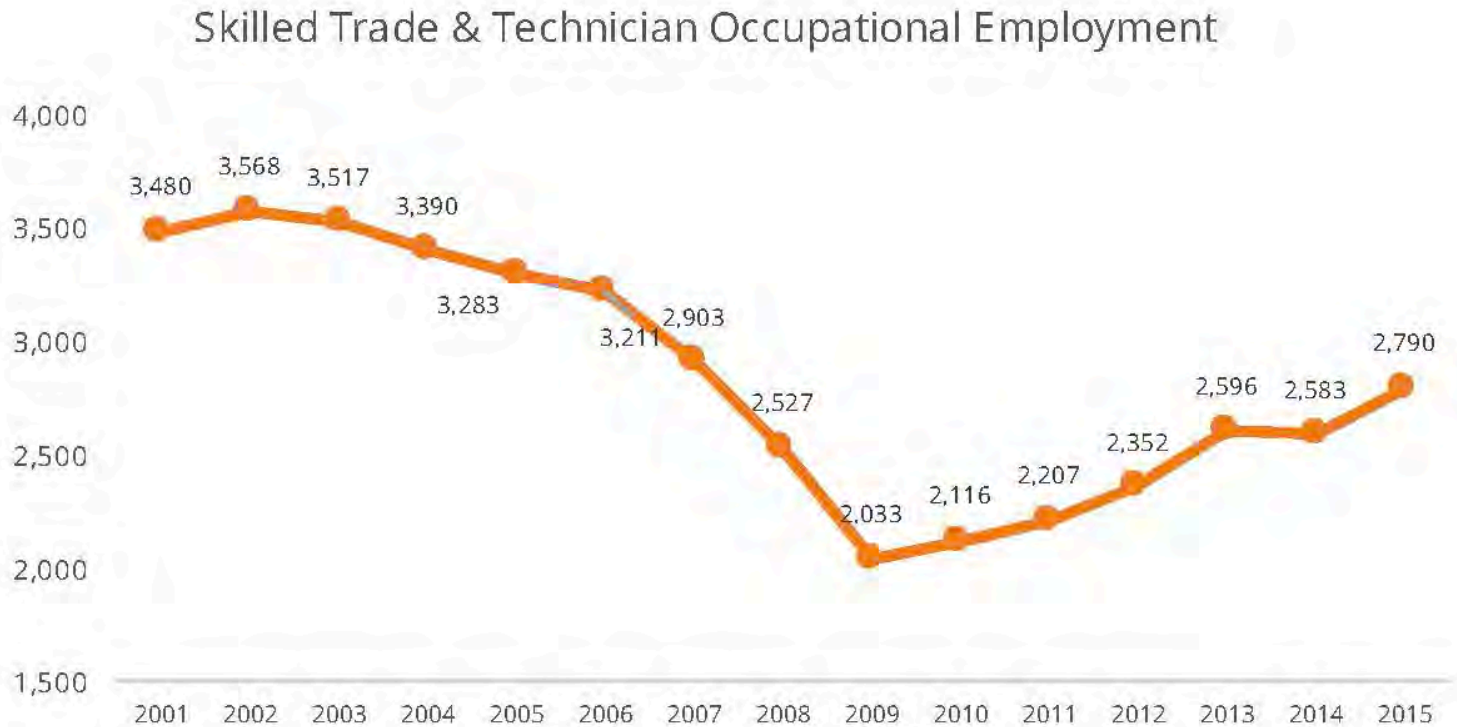
Skilled Trade & Technician Occupational Employment

Source: EMSI
Analysis: Workforce Intelligence Network

Employment in the skilled trade cluster of Monroe County has seen an increase 8.0%, from 2,583 employed in Q3 2015, to 2,790 employed in Q4. Monroe County has experienced a consistent upward trend regarding employment in the skilled trades cluster following the losses experienced following the dot com bust and the great-recession, though employment in the skilled trades has still not returned to pre-recession numbers. There was an average of 30 postings per net new job in the skills trade cluster.
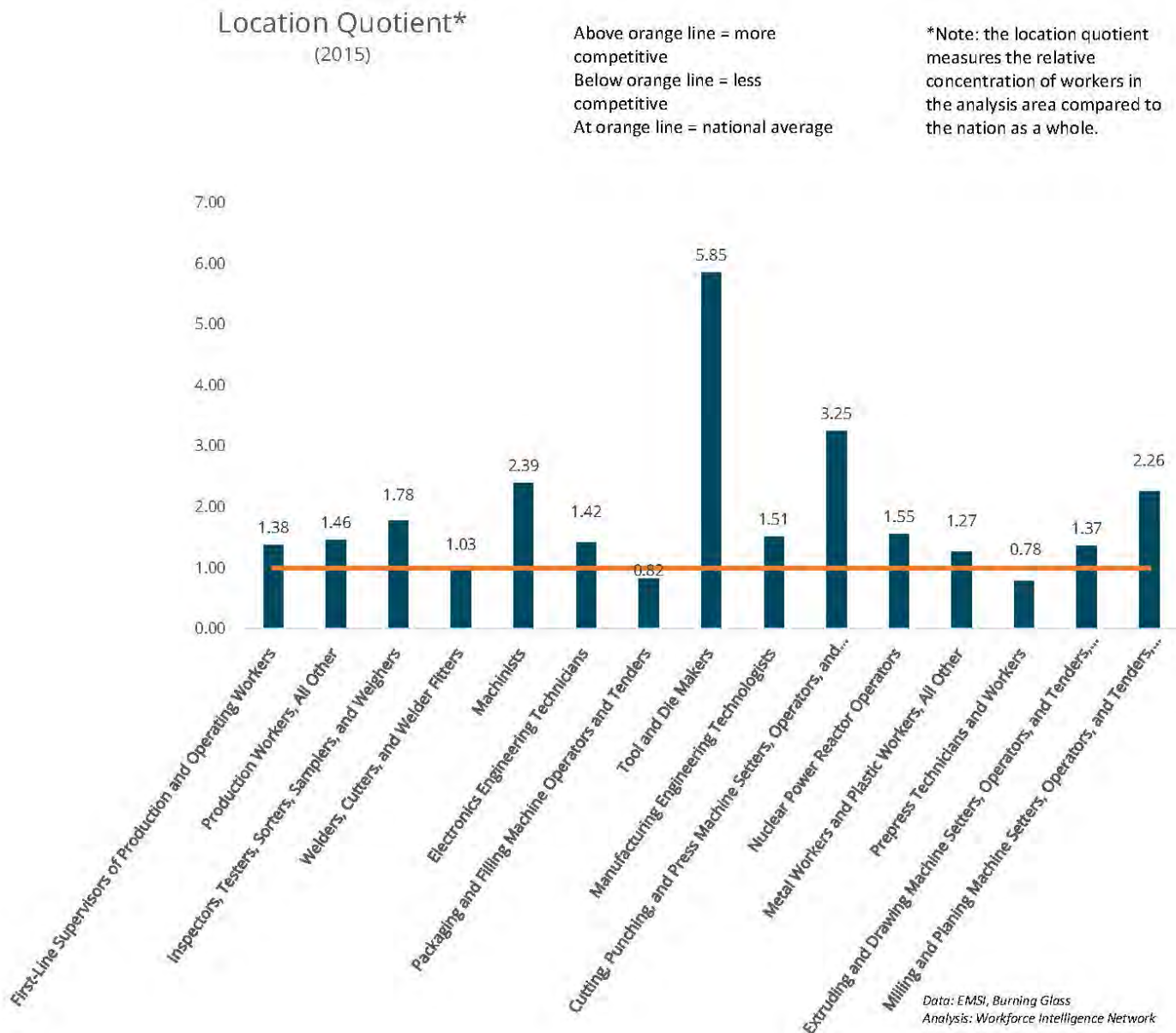
ADVANCED MANUFACTURING

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
51-1011	First-Line Supervisors of Production and Operating Workers	$17.29	$21.96	$29.26	$38.23	$46.05
51-9199	Production Workers, All Other	$10.31	$13.11	$15.94	$18.96	$23.51
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
51-4041	Machinists	$12.13	$15.41	$19.60	$25.32	$30.41
17-3023	Electronics Engineering Technicians	$15.41	$19.53	$24.81	$31.27	$36.14
51-9111	Packaging and Filling Machine Operators and Tenders	$8.37	$9.43	$12.49	$16.11	$19.67
51-4111	Tool and Die Makers	$16.71	$20.94	$26.86	$32.63	$35.60
17-3029	Manufacturing Engineering Technologists	$16.14	$21.60	$29.62	$36.20	$45.68
51-4031	Cutting, Punching, and Press Machine Setters, Operators, and Tenders, Metal and Plastic	$10.26	$12.24	$16.09	$22.54	$28.04
51-8011	Nuclear Power Reactor Operators	$29.34	$35.22	$42.40	$49.51	$51.76
51-4199	Metal Workers and Plastic Workers, All Other	$9.62	$11.15	$13.96	$19.70	$24.17
51-5111	Prepress Technicians and Workers	$9.53	$14.21	$17.91	$21.48	$25.30
51-4021	Extruding and Drawing Machine Setters, Operators, and Tenders, Metal and Plastic	$10.05	$12.30	$14.82	$19.18	$22.89
51-4035	Milling and Planing Machine Setters, Operators, and Tenders, Metal and Plastic	$12.32	$13.99	$17.56	$20.92	$24.08

Of the top 15 skilled trades occupation in Monroe County, 5 offer a living wage ($15+ per hour) at entry-level earnings (10th percentileAt the median, 86.7% of occupations in skilled trades offer a living wage, with four offering over $25 hourly. Five of the top occupations offer annual salaries greater than $50,000 per year ($24.04 hourly). Some of the highest earners in the skilled trades at the median include nuclear power reactor operators ($88,192 annually), manufacturing engineering technologists ($61,610 annually), first-line supervisors ($60,860 annually), tool and die makers ($55,869 annually), and electronics engineering technicians ($51,604 annually). Wages for the skilled trades are modestly higher than the U.S. on average.

ADVANCED MANUFACTURING

SKILLED TRADES AND TECHNICIANS:
TOP 15 JOBS LOCATION QUOTIENT

Location Quotient*
(2015)

Above orange line = more competitive
Below orange line = less competitive
At orange line = national average

*Note: the location quotient measures the relative concentration of workers in the analysis area compared to the nation as a whole.

First-Line Supervisors of Production and Operating Workers: 1.38
Production Workers, All Other: 1.46
Inspectors, Testers, Sorters, Samplers, and Weighers: 1.78
Welders, Cutters, and Welder Fitters: 1.03
Machinists: 2.39
Electronics Engineering Technicians: 1.42
Packaging and Filling Machine Operators and Tenders: 0.82
Tool and Die Makers: 5.85
Manufacturing Engineering Technologists: 1.51
Cutting, Punching, and Press Machine Setters, Operators, and...: 3.25
Nuclear Power Reactor Operators: 1.55
Metal Workers and Plastic Workers, All Other: 1.27
Prepress Technicians and Workers: 0.78
Extruding and Drawing Machine Setters, Operators, and Tenders,...: 1.37
Milling and Planing Machine Setters, Operators, and Tenders,...: 2.26

Data: EMSI, Burning Glass
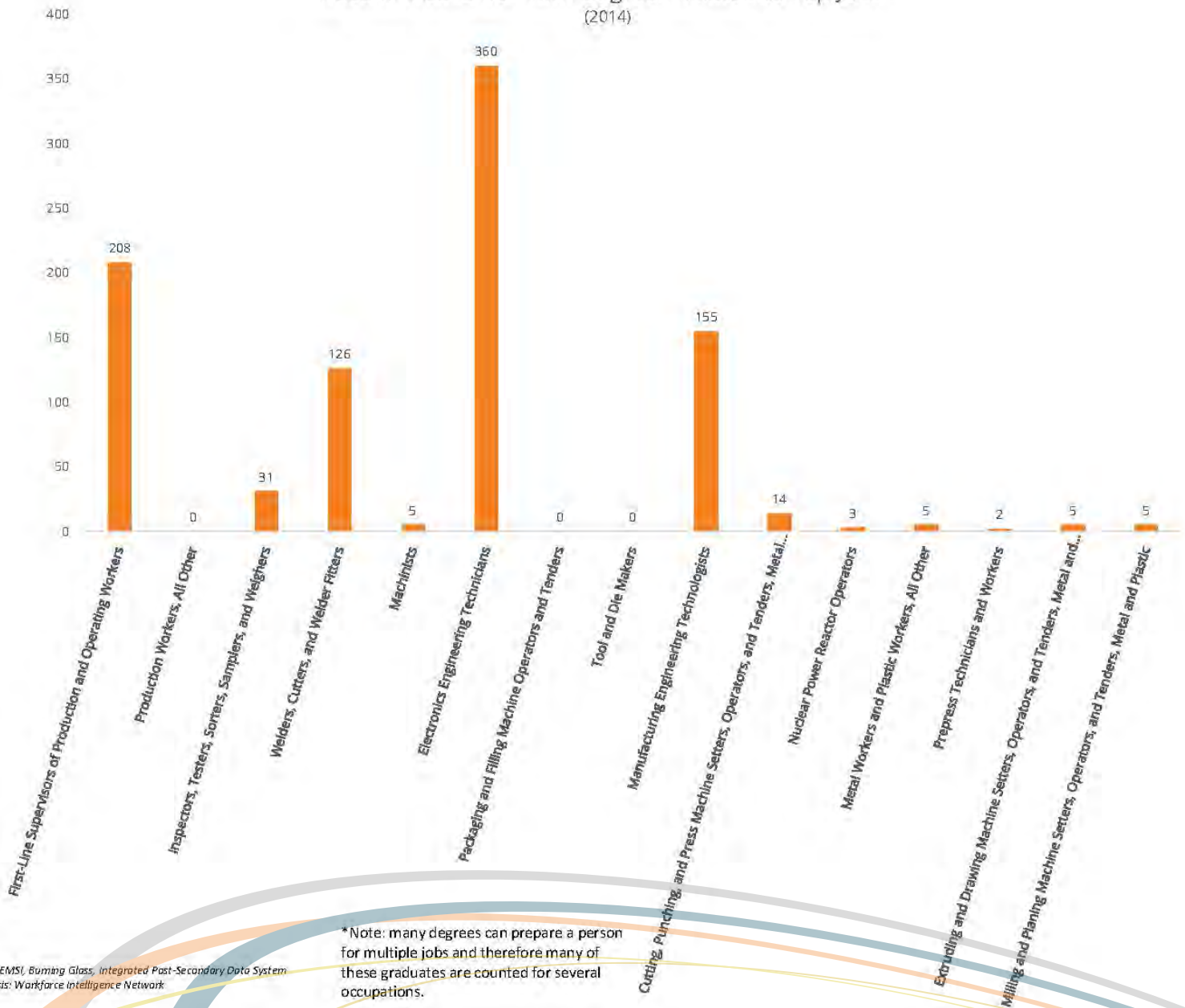Analysis: Workforce Intelligence Network

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 skill trades cluster as a whole in the southeast Michigan region is above the national average regarding the top in-demand jobs in skilled trades at 1.87, with tool and die makers with the highest concentration at 5.85 (+485.0% above the national average). Prepress technicians and workers offer the most potential for growth as the LQ is 0.78, 22.0% below the national average. A lower LQ means that employers might struggle to fill positions, but consistently high demand will likely attract workers to the area and field.

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. Occupations in the skilled trades cluster often require training, especially as the equipment and tools necessitate advanced specialization. Electronics engineering technicians boast the highest number of graduates in related fields relative to other skilled trades occupations, despite having only four total job postings in Q4 2015 for Monroe County.

WIN WORKFORCE INTELLIGENCE NETWORK
for Southeast Michigan

ADVANCED MANUFACTURING

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

Occupation	Typical Entry Level Education	Work Experience Required	Typical On-The-Job Training
First-Line Supervisors of Production and Operating Workers	Postsecondary non-degree award	Less than 5 years	None
Production Workers, All Other	High school diploma or equivalent	None	Moderate-term on-the-job training
Inspectors, Testers, Sorters, Samplers, and Weighers	High school diploma or equivalent	None	Moderate-term on-the-job training
Welders, Cutters, and Welder Fitters	High school diploma or equivalent	None	Moderate-term on-the-job training
Machinists	High school diploma or equivalent	None	Long-term on-the-job training
Electronics Engineering Technicians	Associate's degree	None	None
Packaging and Filling Machine Operators and Tenders	High school diploma or equivalent	None	Moderate-term on-the-job training
Tool and Die Makers	High school diploma or equivalent	None	Long-term on-the-job training
Manufacturing Engineering Technologists	Associate's degree	None	None
Cutting, Punching, and Press Machine Setters, Operators, and Tenders, Metal	High school diploma or equivalent	None	Moderate-term on-the-job training
Nuclear Power Reactor Operators	High school diploma or equivalent	None	Long-term on-the-job training
Metal Workers and Plastic Workers, All Other	High school diploma or equivalent	None	Moderate-term on-the-job training
Prepress Technicians and Workers	Postsecondary non-degree award	None	None
Extruding and Drawing Machine Setters, Operators, and Tenders, Metal and	High school diploma or equivalent	None	Moderate-term on-the-job training
Milling and Planing Machine Setters, Operators, and Tenders, Metal and	High school diploma or equivalent	None	Moderate-term on-the-job training

The majority of the most in-demand skilled trades occupations in Monroe County require only a high school degree. Though, in reality, employers prefer candidates with experience or specialized training in these fields. The 11 occupations that require just a high school degree also require moderate to long-term training. The technician occupations typically require an Associate's Degree while supervisors need a post-secondary award. As a result of the higher necessary education, these occupations typically lead the skilled trades in wages offered.

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 83,643 employed individuals in southeast Michigan during 2015. Demand for engineers in the region has been consistent, and employment has been growing quickly.

ADVANCED MANUFACTURING

ENGINEERS AND DESIGNERS : TOP JOBS

Occupation	Count
Industrial Engineers	21
Mechanical Engineers	16
Electrical Engineers	14
Chemical Engineers	6
Manufacturing Engineers	6
Civil Engineers	4
Environmental Engineers	4
Nuclear Engineers	3
Engineers, All Other	2
Materials Engineers	2
Drafters, All Other	2
Commercial and Industrial Designers	1
Architects, Except Landscape and Naval	1
Civil Drafters	1
Electronic Drafters	1

Data : Burning Glass Technologies

Retaining the top spot in postings in the engineer and designers cluster were industrial engineers with 21 postings in Q4 2015, despite dropping 22.2% from its Q3 2015 27 postings. Other top posting occupations were mechanical engineers (16 online ads) and electrical engineers (14 online ads). These three occupations represent 61% of the total postings for engineer and designers cluster for Q4 2015.

ADVANCED MANUFACTURING

ENGINEERS AND DESIGNERS : ONLINE JOB POSTINGS OVER TIME

Engineer & Designer Online Job Postings
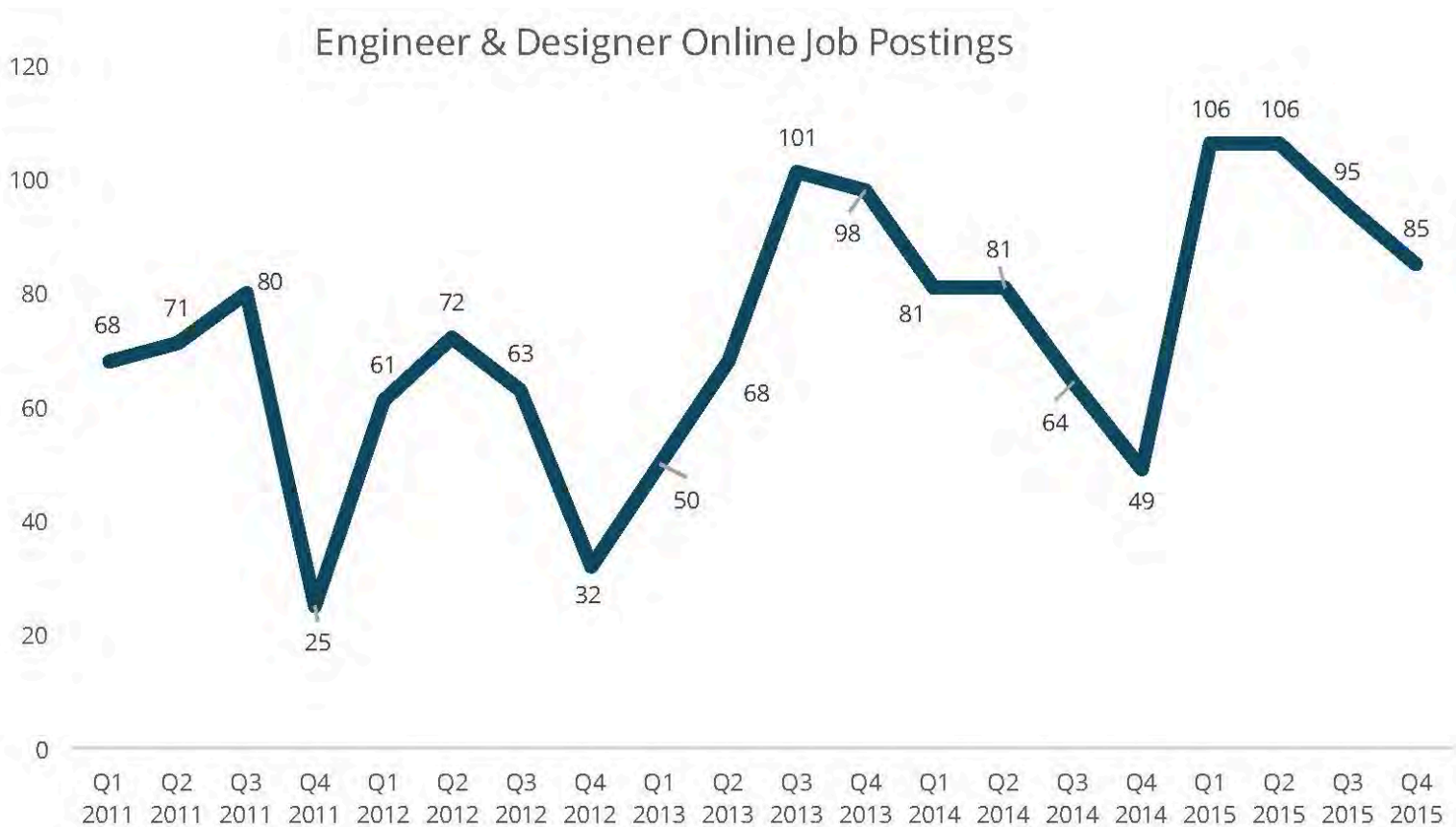
Source: Burning Glass Technologies
Analysis: Workforce Intelligence Network

Postings for the engineering and design cluster have continued to drop, declining 10.5% from 95 postings in Q3 2015 to 85 postings in Q4 2015. Though Monroe County has seen a decline in postings for two straight quarters, postings were up 73.5% from Q4 2014's49 online ads. The engineering and design cluster accounted for 8.2% of total postings in the WIN region for Q4 2015.

ADVANCED MANUFACTURING

ENGINEERS AND DESIGNERS: EMPLOYMENT OVER TIME

Engineering & Design Occupational Employment

Source: EMSI
Analysis: Workforce Intelligence Network

Employment in the engineering and designers cluster of Monroe County has consistently increased following the losses of the most recent recession. From 2009 to 2015 there has been an increase of over 55.2% climbing from 973 in 2009 to 1,510 through 2015. The increase from 2014 to 2015 was four percentage points, climbing from 1,449 in Q3 2015, to 1,510 employed in Q4. There was an average of 1.4 postings per net new job in the engineering and designers cluster.
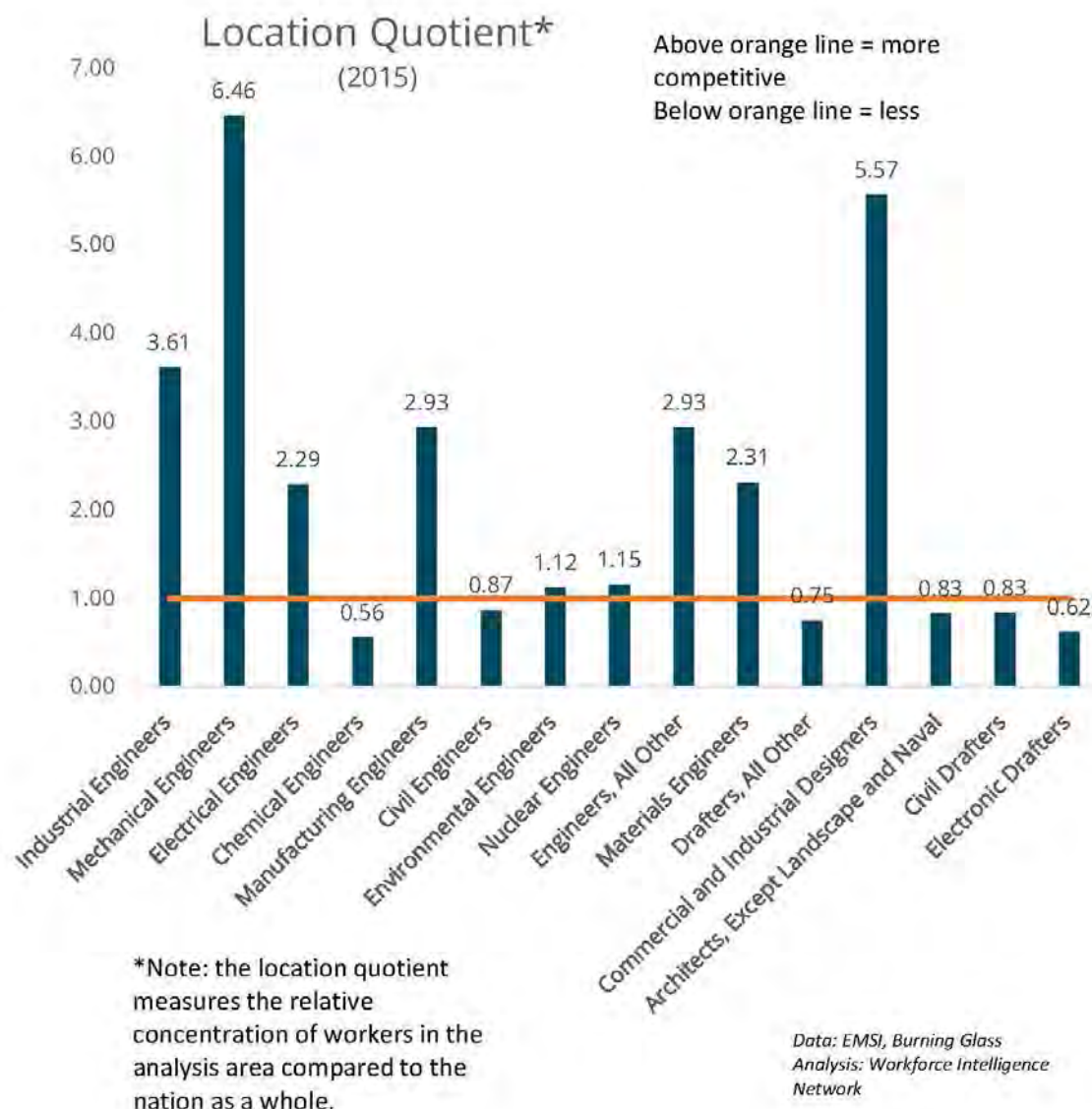
ADVANCED MANUFACTURING

ENGINEERS AND DESIGNERS :
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
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
17-2071	Electrical Engineers	$28.63	$34.35	$41.89	$49.10	$57.09
17-2041	Chemical Engineers	$27.53	$31.53	$37.82	$45.31	$54.09
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
17-2081	Environmental Engineers	$25.94	$35.07	$42.71	$50.88	$58.52
17-2161	Nuclear Engineers	$35.45	$42.94	$50.18	$56.14	$63.16
17-2199	Engineers, All Other	$24.18	$35.80	$44.80	$54.72	$65.93
17-2131	Materials Engineers	$25.60	$31.02	$38.44	$48.01	$58.55
17-3019	Drafters, All Other	$15.97	$17.50	$19.97	$25.42	$31.05
27-1021	Commercial and Industrial Designers	$25.72	$31.72	$37.52	$43.28	$48.42
17-1011	Architects, Except Landscape and Naval	$20.30	$25.98	$32.97	$40.22	$49.53
17-3011	Civil Drafters	$16.30	$18.81	$22.64	$27.70	$36.39
17-3012	Electronic Drafters	$18.90	$24.01	$29.20	$37.07	$43.14

Most occupations within the engineering and designers cluster in Monroe County offer upward mobility in wages, and all offer wages over $15 per hour at the entry-level. At the median, 14 of the top 15 occupations in the cluster offer wages over $20 per hour with 12 of 15 offering over $30 per hour, meaning that after several years of experience nearly all of these jobs will pay over $62,000 annually. Some of the highest earners in the engineering and designers at the median include nuclear engineers ($104,374 annually), manufacturing engineers ($93,184 annually), mechanical engineers ($92,476 annually), and environmental engineers ($88,837 annually). Wages for engineers in southeast Michigan are modestly higher than the U.S. on average.

ENGINEERS AND DESIGNERS :
TOP 15 JOBS LOCATION QUOTIENT

Location Quotient*
(2015)

Above orange line = more competitive
Below orange line = less

*Note: the location quotient measures the relative concentration of workers in the analysis area compared to the nation as a whole.

Data: EMSI, Burning Glass
Analysis: Workforce Intelligence Network

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. Most of the top in-demand jobs within the engineering and design cluster have worker concentrations in the southeast Michigan region well above the national average. Mechanical engineers have the highest concentration at 6.46 (+546.0% above the national average). Chemical engineers offer the most potential for growth as the LQ is 0.56, 44.0% below the national average. A lower LQ means that employers might struggle to fill positions, but consistent high demand will likely attract workers to the area and field.

ENGINEERS AND DESIGNERS :
TOP 15 JOBS RECENT REGIONAL GRADUATES
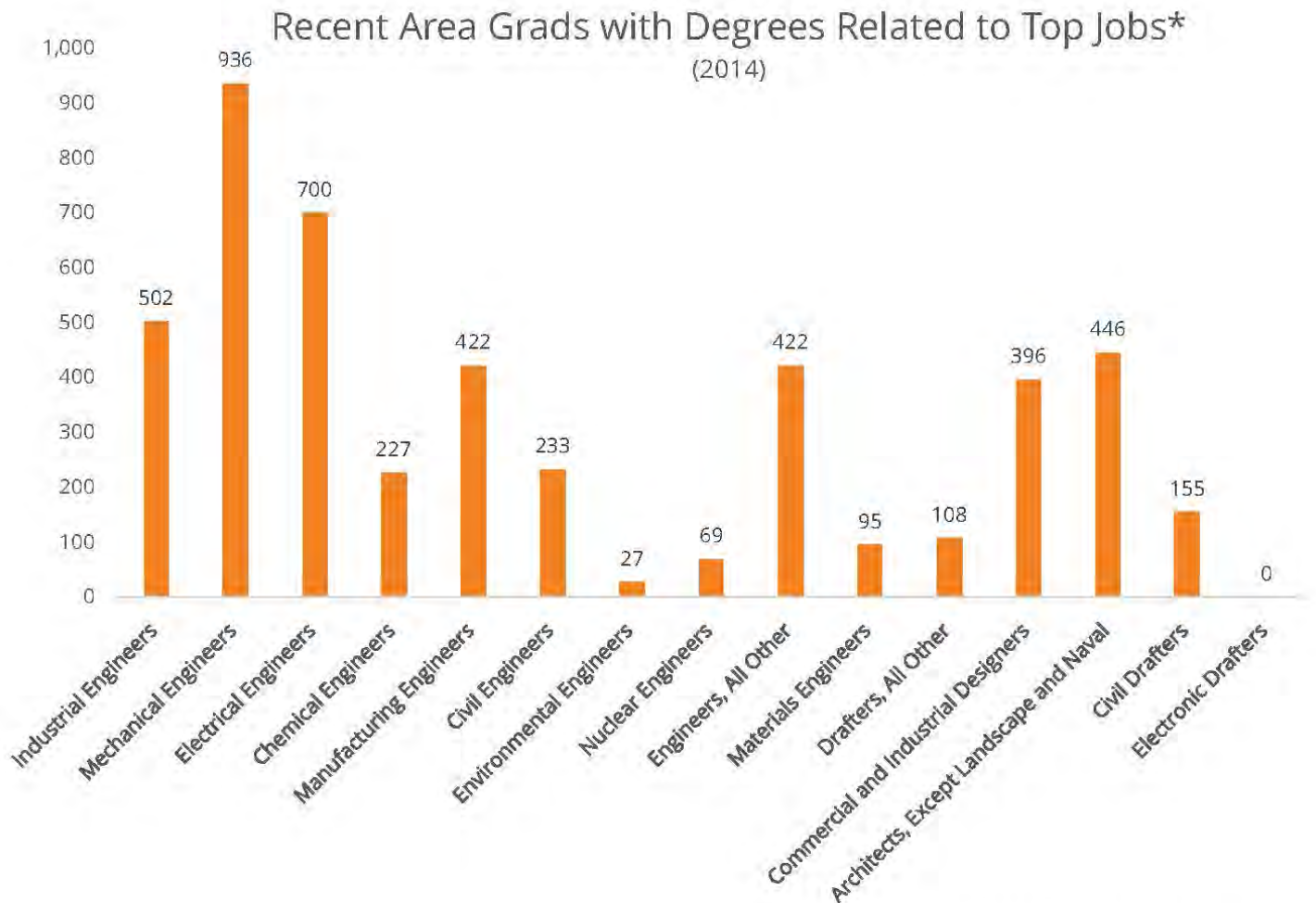
Recent Area Grads with Degrees Related to Top Jobs*
(2014)

Occupation	Graduates
Industrial Engineers	502
Mechanical Engineers	936
Electrical Engineers	700
Chemical Engineers	227
Manufacturing Engineers	422
Civil Engineers	233
Environmental Engineers	27
Nuclear Engineers	69
Engineers, All Other	422
Materials Engineers	95
Drafters, All Other	108
Commercial and Industrial Designers	396
Architects, Except Landscape and Naval	446
Civil Drafters	155
Electronic Drafters	0

*Note: many degrees can prepare a person for mutliple 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 engineer and designer cluster typically requires students from four-year universities with highly specialized STEM skills. While mechanical engineers seem to have a high number of graduates relative to other engineering occupations, the number of postings in the region for this occupation during Q4 2015 more than doubled the number of graduates in all of 2014.

WORKFORCE INTELLIGENCE NETWORK
for Southeast Michigan

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
17-2112	Industrial Engineers	Bachelor's degree	None	None
17-2141	Mechanical Engineers	Bachelor's degree	None	None
17-2071	Electrical Engineers	Bachelor's degree	None	None
17-2041	Chemical Engineers	Bachelor's degree	None	None
17-2199	Manufacturing Engineers	Bachelor's degree	None	None
17-2051	Civil Engineers	Bachelor's degree	None	None
17-2081	Environmental Engineers	Bachelor's degree	None	None
17-2161	Nuclear Engineers	Bachelor's degree	None	None
17-2199	Engineers, All Other	Bachelor's degree	None	None
17-2131	Materials Engineers	Bachelor's degree	None	None
17-3019	Drafters, All Other	Associate's degree	None	None
27-1021	Commercial and Industrial Designers	Bachelor's degree	None	None
17-1011	Architects, Except Landscape and Naval	Bachelor's degree	None	Internship/residency
17-3011	Civil Drafters	Associate's degree	None	None
17-3012	Electronic Drafters	Associate's degree	None	None

With exception to drafters all of the most in-demand jobs for this cluster require a Bachelor's Degree for entry-level openings. The highly advanced mathematical skills required to complete degrees for these occupations and their high demand help explain the high wages offered.

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 343 workers in Monroe County. Top jobs in this cluster include computer support specialists, computer systems analysts, and software developers for applications.

INFORMATION TECHNOLOGY

Job	Postings
Business Intelligence Analysts	15
Computer Systems Engineers/Architects	10
Software Developers, Applications	9
Computer Systems Analysts	8
Information Security Analysts	6
Software Developers, Systems Software	6
Software Quality Assurance Engineers and Testers	6
Network and Computer Systems Administrators	5
Information Technology Project Managers	5
Computer User Support Specialists	3
Database Administrators	3
Computer Programmers	2
Computer Network Support Specialists	1
Computer and Information Research Scientists	1

* Data : Burning Glass Technologies

Taking over the top spot for Q4 2015 in total IT postings for Monroe County, and continuing its upward trend, were business intelligence analyst with an increase of 46.6%, jumping from 7 online ads in Q3 to 15 inQ4 2015. While remaining in the top five, postings for both software developers and computer systems analysts experienced sharp declines in total postings, dropping 64% (16 postings) and 43% (6 postings) from Q3 to Q4 2015, respectively. Database administrators have seen a 56.7% decrease in postings from Q4 2014, declining to three postings in Q4 2015.

INFORMATION TECHNOLOGY

ONLINE JOB POSTINGS OVER TIME

Information Technology Online Job Postings

Source: Burning Glass Technologies
Analysis: Workforce Intelligence Network

Jobs postings continue to decline in the IT sector for the second quarter in a row dropping 11.1% from 90 postings in Q3 2015 to 80 in Q4. This follows a surge in postings beginning in Q3 2014 capped by 119 postings in Q2 2015.   However, the 80 postings this past quarter surpass all posting totals with the exception of one quarter (Q4 2013: 81 postings) from 2011 through Q4 of 2014. The IT cluster has the second highest share of total postings in the WIN region at 14.2%, for Q4 2015.

INFORMATION TECHNOLOGY

EMPLOYMENT OVER TIME

IT Monroe Occupational Employment 2001-2015

Source: EMSI
Analysis: Workforce Intelligence Network

Employment in the IT cluster of Monroe County has seen a slight increase of 5.9%, from 324 employed in Q3 2015, to 343 employed in Q4 2015. While the county is still above the low of 300 in 2011, the number is still lower than the pre-great recession high of 395. For Monroe County, there was an average of seven postings per net new job in the IT cluster.

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
15-1199	Business Intelligence Analysts	$23.42	$30.58	$38.80	$48.99	$57.12
15-1199	Computer Systems Engineers/Architects	$23.42	$30.58	$38.80	$48.99	$57.12
15-1132	Software Developers, Applications	$25.18	$31.35	$39.38	$49.47	$58.83
15-1121	Computer Systems Analysts	$25.22	$32.05	$39.84	$49.08	$58.30
15-1122	Information Security Analysts	$24.03	$28.45	$39.29	$48.80	$57.24
15-1133	Software Developers, Systems Software	$26.94	$33.62	$42.38	$51.79	$60.54
15-1199	Software Quality Assurance Engineers and Testers	$23.42	$30.58	$38.80	$48.99	$57.12
15-1142	Network and Computer Systems Administrators	$21.59	$27.21	$35.57	$43.28	$51.30
15-1199	Information Technology Project Managers	$23.42	$30.58	$38.80	$48.99	$57.12
15-1151	Computer User Support Specialists	$12.38	$15.95	$21.56	$29.06	$36.96
15-1141	Database Administrators	$23.80	$31.38	$41.07	$50.08	$58.17
15-1131	Computer Programmers	$23.77	$28.94	$34.77	$43.65	$51.99
15-1152	Computer Network Support Specialists	$16.14	$20.71	$28.41	$38.49	$48.90
15-1111	Computer and Information Research Scientists	$32.58	$39.75	$47.41	$54.67	$63.97

Most occupations within the IT cluster offer upward mobility in wages; several offer wages over $20 per hour to start. Many of these are commensurate with experience and skill. At the median, 86.6% of the top 15 occupations in the cluster offer wages over $20 per hour with 13 of 15 offering over $25 per hour, meaning that after several years of experience nearly all of these jobs will pay over $50,000 annually. Wages for the IT cluster in Monroe County are lower than the U.S. on average.

INFORMATION TECHNOLOGY

TOP 15 JOBS LOCATION QUOTIENT

Location Quotient*
(2015)

Above orange line = more competitive
Below orange line = less competitive
At orange line = national average

*Note: the location quotient measures the relative concentration of workers in the analysis area compared to the nation as a whole.

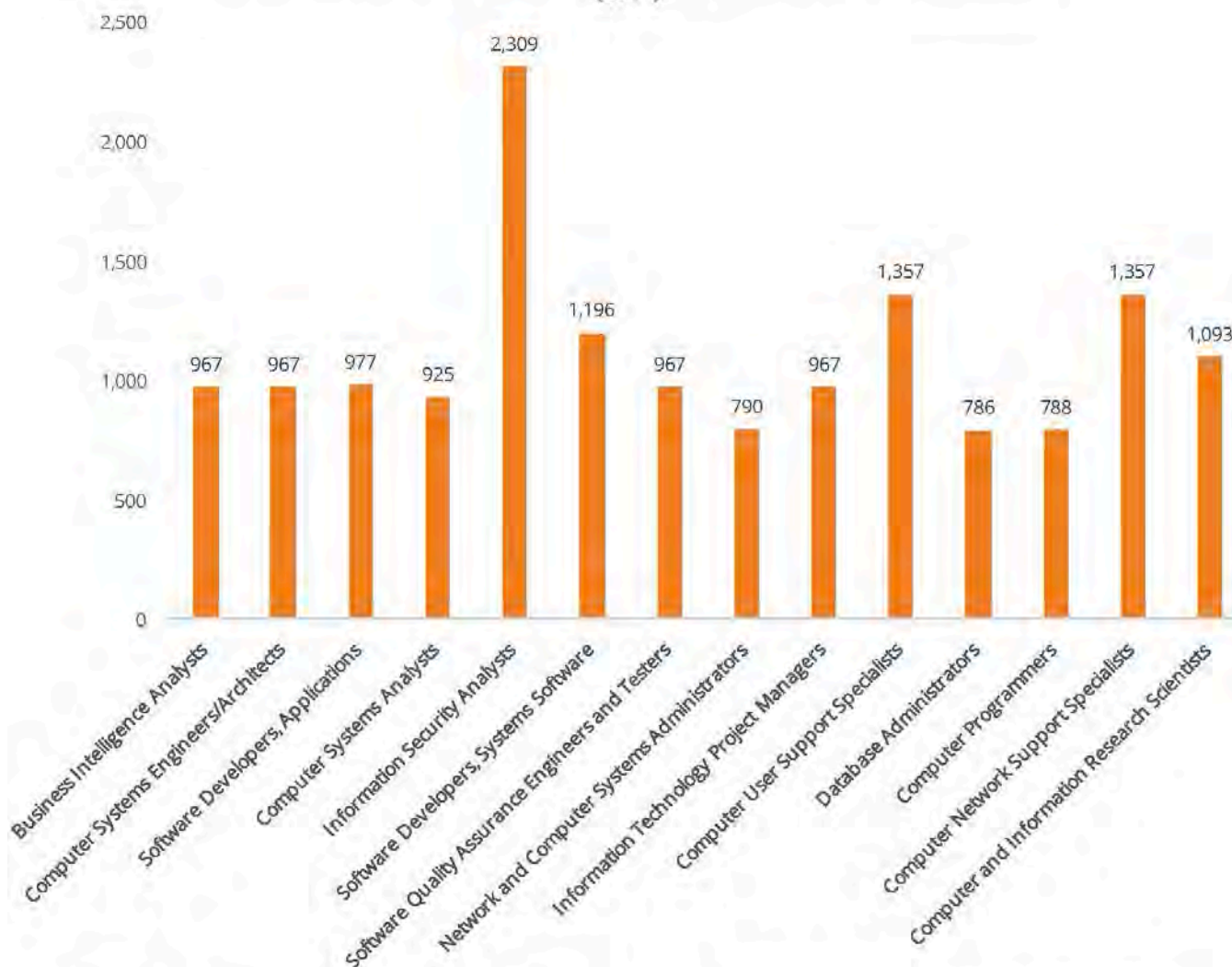| Occupation	LQ
Business Intelligence Analysts	1.12
Computer Systems Engineers/Architects	1.12
Software Developers, Applications	0.90
Computer Systems Analysts	1.13
Information Security Analysts	1.10
Software Developers, Systems Software	1.32
Software Quality Assurance Engineers and Testers	1.12
Network and Computer Systems Administrators	1.00
Information Technology Project Managers	1.12
Computer User Support Specialists	1.34
Database Administrators	0.93
Computer Programmers	0.80
Computer Network Support Specialists	1.25
Computer and Information Research Scientists	0.81

Data: EMSI, Burning Glass
Analysis: Workforce Intelligence Network

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 southeast Michigan region is slightly above the national average overall regarding the top in-demand IT jobs, with computer user support specialist being the occupation with the highest concentration at 1.34 (+34.0% above the national average). Computer programmers offer the most potential for growth as the LQ is 0.80, 20.0% below the national average. A lower LQ means that employers might struggle to fill positions, but consistently high demand will likely attract workers to the area and field.

INFORMATION TECHNOLOGY

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

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

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

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 IT occupation cluster typically requires workers with four-year degrees specializing in STEM-related areas of study. Over 2,300 students graduated with a degree in southeast Michigan in an area of study related to web development. Meanwhile, less than 1,000 students earned a degree suitable for a software development job.

INFORMATION TECHNOLOGY
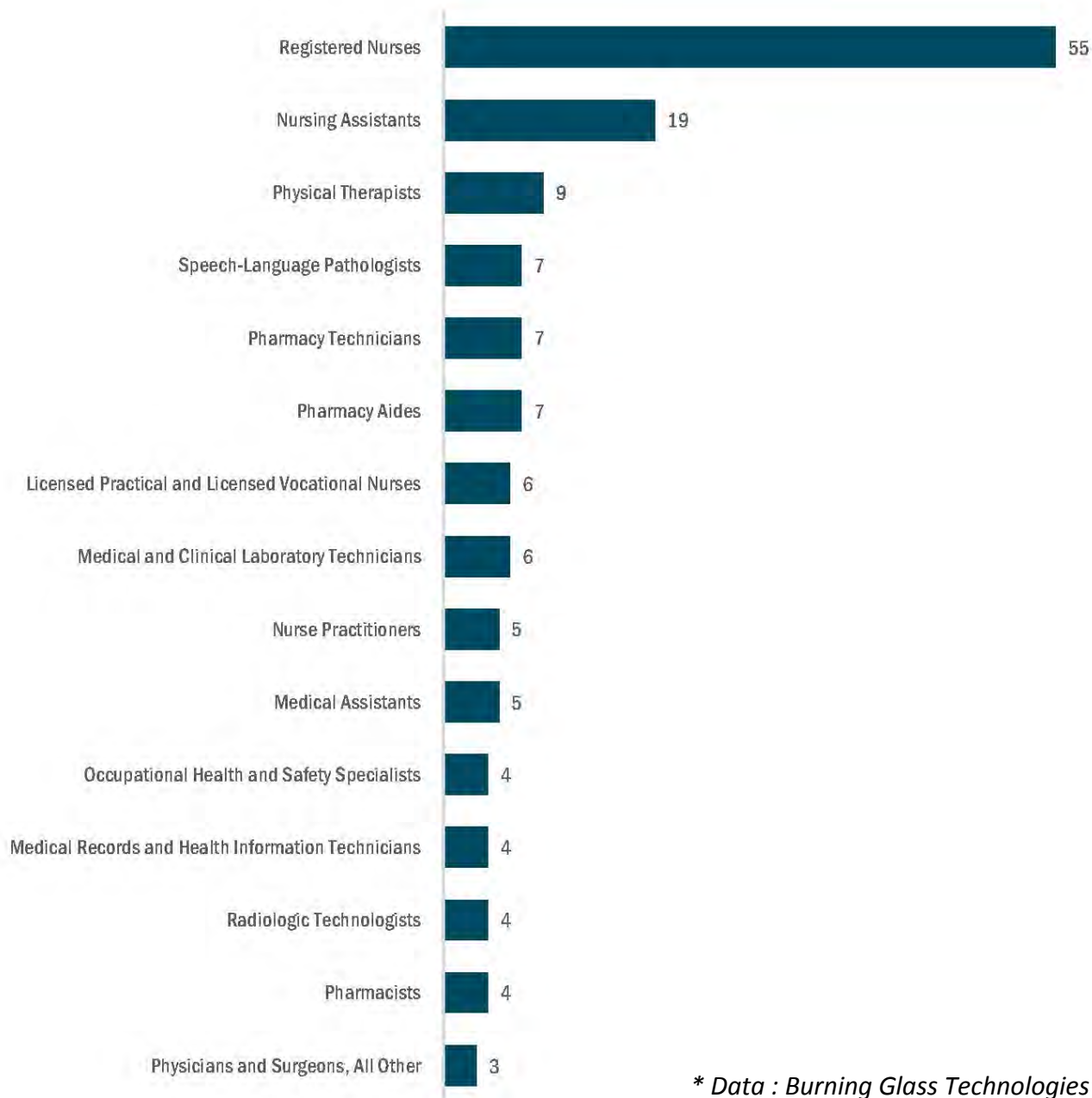
TOP 15 JOBS EDUCATION & TRAINING REQUIREMENTS

Occupation	Typical Entry Level Education	Work Experience Required	Typical On-The-Job Training
Business Intelligence Analysts	Bachelor's degree	None	None
Computer Systems Engineers/Architects	Bachelor's degree	None	None
Software Developers, Applications	Bachelor's degree	None	None
Computer Systems Analysts	Bachelor's degree	None	None
Information Security Analysts	Bachelor's degree	Less than 5 years	None
Software Developers, Systems Software	Bachelor's degree	None	None
Software Quality Assurance Engineers and Testers	Bachelor's degree	None	None
Network and Computer Systems Administrators	Bachelor's degree	None	None
Information Technology Project Managers	Bachelor's degree	None	None
Computer User Support Specialists	Some college, no degree	None	Moderate-term on-the-job training
Database Administrators	Bachelor's degree	Less than 5 years	None
Computer Programmers	Bachelor's degree	None	None
Computer Network Support Specialists	Associate's degree	None	None
Computer and Information Research Scientists	Doctoral or professional degree	None	None

Of the 15 most in-demand IT occupations in Monroe County, 13 require a Bachelor's Degree for entry-level openings. Computer user support specialists, while requiring less than a Bachelor's, does require moderate-term training. The increasing demand for workers in this field, the low supply of graduates relative to demand and the required STEM degrees necessitate the high wages for IT occupations.

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, 3,514 w employees in 2015 in Monroe 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.

Job	Postings
Registered Nurses	55
Nursing Assistants	19
Physical Therapists	9
Speech-Language Pathologists	7
Pharmacy Technicians	7
Pharmacy Aides	7
Licensed Practical and Licensed Vocational Nurses	6
Medical and Clinical Laboratory Technicians	6
Nurse Practitioners	5
Medical Assistants	5
Occupational Health and Safety Specialists	4
Medical Records and Health Information Technicians	4
Radiologic Technologists	4
Pharmacists	4
Physicians and Surgeons, All Other	3

Data : Burning Glass Technologies

Registered nurses held the top spot again regarding top jobs in the healthcare cluster, with postings increasing from 25 in Q3 to 55 in Q4 2015 (+120.0%) There has also been an increase in postings of 129% (31 postings) for registered nurses this quarter compared to Q4 2014. Nursing assistants held the second spot in Q4 2015; despite postings decrease from 21 in Q3 to 19 in Q4 2015 (-9.5%).

HEALTH CARE

ONLINE JOB POSTINGS OVER TIME

Health Care Online Job Postings

Q1 2011	Q2 2011	Q3 2011	Q4 2011	Q1 2012	Q2 2012	Q3 2012	Q4 2012	Q1 2013	Q2 2013	Q3 2013	Q4 2013	Q1 2014	Q2 2014	Q3 2014	Q4 2014	Q1 2015	Q2 2015	Q3 2015	Q4 2015
92	123	128	83	127	116	93	50	107	121	181	119	138	111	120	127	105	176	195	182
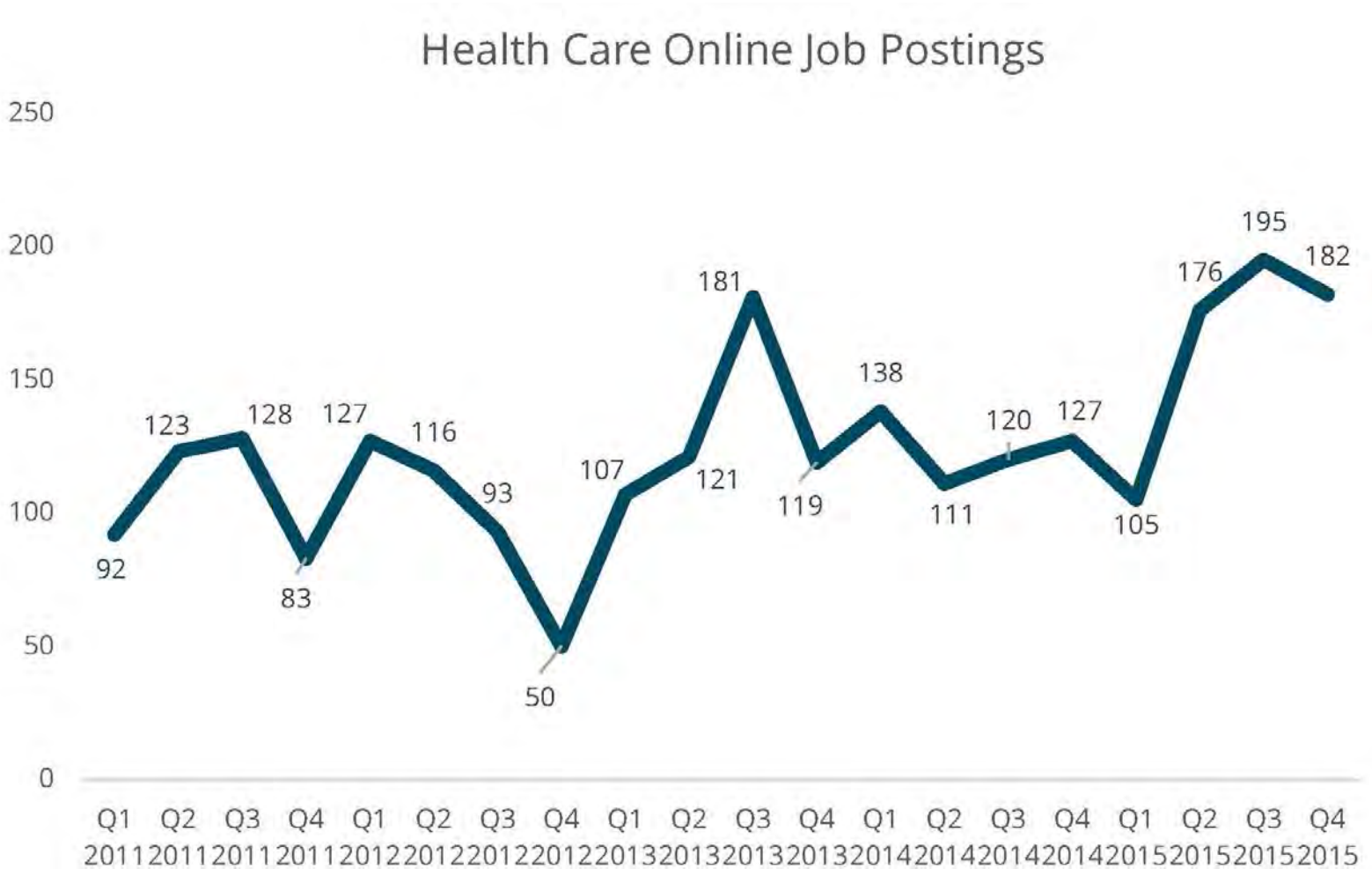
Source: Burning Glass Technologies

There was a 6.7% decline in overall postings for the healthcare cluster from Q3 2015 to Q4 2015, 195 to 182 respectively. However, the 182 postings in Q4 2015 were a second only to the 195 postings in Q3 2015 over the past several years. Healthcare occupational employment numbers also continue to follow a positive trend going from 3,506 in 2014 to 3514 in 2015. The healthcare cluster accounted for 13.1% of total postings in the WIN region for Q4 2015.

HEALTH CARE

EMPLOYMENT OVER TIME

Health Care Occupational Employment
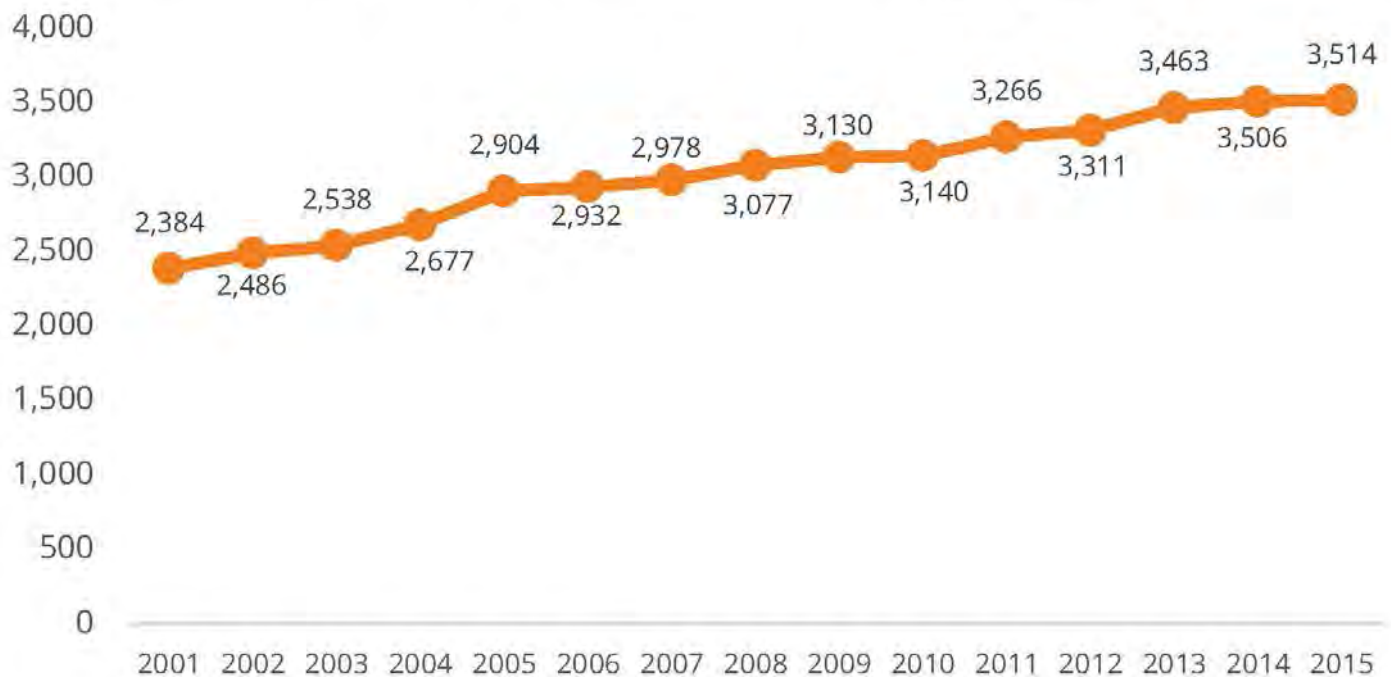
Source: EMSI
Analysis: Workforce Intelligence Network

Employment in the healthcare cluster of Monroe County has seen a slight increase of 0.2%, from 3,506 employed in Q3 2015, to 3,514 employed in Q4. Monroe County has experienced a consistent upward trend regarding employment in the healthcare cluster straight through both the dot com bust as well as the great-recession. There was an average of 22 postings per net new job in the healthcare cluster.
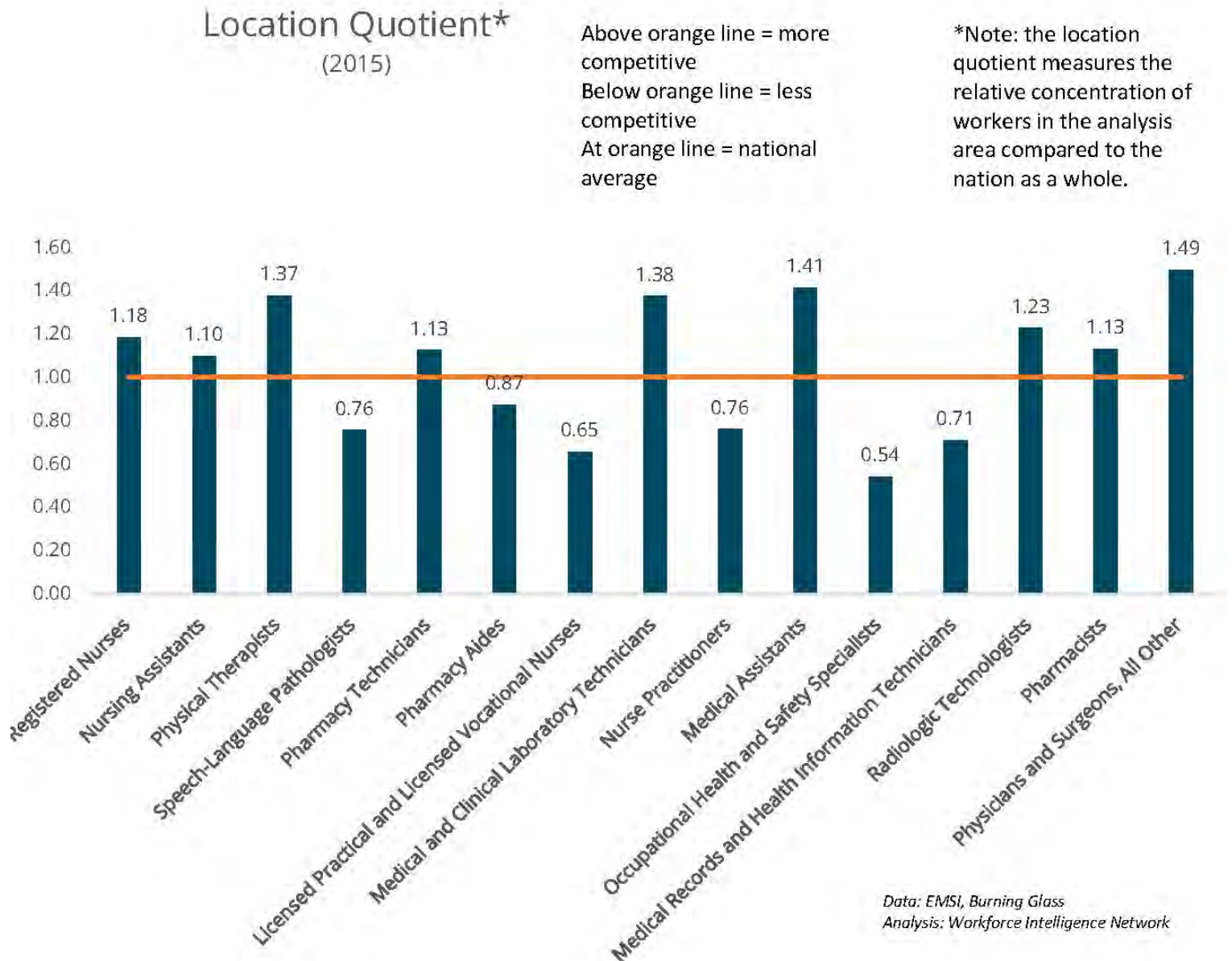
HEALTH CARE

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
29-1123	Physical Therapists	$27.31	$32.99	$39.33	$47.40	$62.90
29-1127	Speech-Language Pathologists	$24.88	$29.69	$35.59	$44.25	$61.80
29-2052	Pharmacy Technicians	$9.48	$11.58	$14.28	$16.91	$19.19
31-9095	Pharmacy Aides	$8.35	$9.14	$10.41	$12.16	$14.46
29-2061	Licensed Practical and Licensed Vocational Nurses	$17.60	$19.89	$22.71	$25.74	$28.08
29-2012	Medical and Clinical Laboratory Technicians	$11.24	$12.90	$15.76	$20.29	$27.64
29-1171	Nurse Practitioners	$33.61	$39.39	$44.63	$51.83	$58.61
31-9092	Medical Assistants	$10.65	$12.19	$13.94	$16.27	$18.70
29-9011	Occupational Health and Safety Specialists	$20.67	$24.13	$31.95	$37.68	$44.85
29-2071	Medical Records and Health Information Technicians	$11.72	$14.03	$17.80	$21.92	$25.68
29-2034	Radiologic Technologists	$18.86	$22.01	$26.07	$29.84	$34.35
29-1051	Pharmacists	$40.26	$48.78	$54.92	$60.79	$69.34
29-1069	Physicians and Surgeons, All Other	$30.16	$49.14	$81.42	$96.19	$147.67

Six of the top healthcare cluster occupations in Monroe County offer an entry-level wage below the living wage designation $15. At the median, 80.0% of occupations in the healthcare cluster offer a living wage, with nine offering over $20 hourly. Eight of the top occupations in the healthcare cluster offer annual salaries greater than $50,000 per year ($24.04 hourly) at the median. Some of the highest earners in healthcare at the median include physicians and surgeons ($170,000 annually), pharmacists ($114,000 annually), nurse practitioners ($92,800 annually), and speech-language patholigists ($74,000 annually). Wages for the healthcare cluster in Monroe County are lower than the U.S. on average.
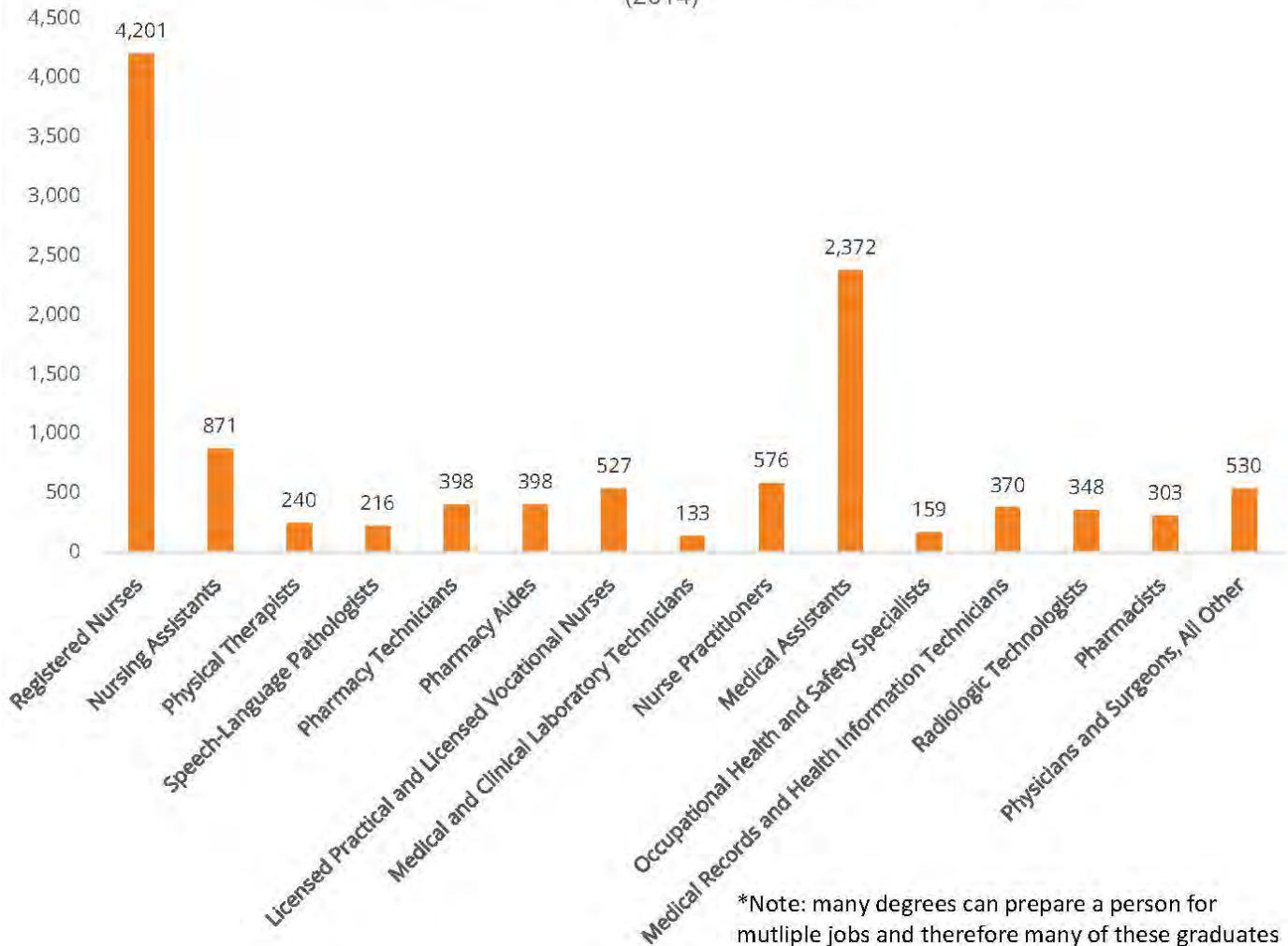
TOP 15 JOBS LOCATION QUOTIENT

Location Quotient*
(2015)

Above orange line = more competitive
Below orange line = less competitive
At orange line = national average

*Note: the location quotient measures the relative concentration of workers in the analysis area compared to the nation as a whole.

Job	LQ
Registered Nurses	1.18
Nursing Assistants	1.10
Physical Therapists	1.37
Speech-Language Pathologists	0.76
Pharmacy Technicians	1.13
Pharmacy Aides	0.87
Licensed Practical and Licensed Vocational Nurses	0.65
Medical and Clinical Laboratory Technicians	1.38
Nurse Practitioners	0.76
Medical Assistants	1.41
Occupational Health and Safety Specialists	0.54
Medical Records and Health Information Technicians	0.71
Radiologic Technologists	1.23
Pharmacists	1.13
Physicians and Surgeons, All Other	1.49

Data: EMSI, Burning Glass
Analysis: Workforce Intelligence Network

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 healthcare cluster as a whole in the southeast Michigan region is above the national average regarding the top in-demand healthcare jobs at 1.05, with physicians and surgeons with the highest concentration at 1.49 (+49.0% above the national average). Occupational health and safety specialists offer the most potential for growth as the LQ is 0.54, 46.0% below the national average. A lower LQ means that employers might struggle to fill positions, but consistently high demand will likely attract workers to the area and field.

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

Chart data (values by occupation):

Occupation	Graduates
Registered Nurses	4,201
Nursing Assistants	871
Physical Therapists	240
Speech-Language Pathologists	216
Pharmacy Technicians	398
Pharmacy Aides	398
Licensed Practical and Licensed Vocational Nurses	527
Medical and Clinical Laboratory Technicians	133
Nurse Practitioners	576
Medical Assistants	2,372
Occupational Health and Safety Specialists	159
Medical Records and Health Information Technicians	370
Radiologic Technologists	348
Pharmacists	303
Physicians and Surgeons, All Other	530

*Note: many degrees can prepare a person for mutliple 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. Certificate and degree completions data for 2014 show that many southeast Michigan students completed programs related to Monroe County's most in-demand Health Care occupations. The region had 4,201 graduates qualified to become registered nurses, but the sustained high demand for these workers indicates that employers are not satisfied with the training students receive in the program or that graduates are not taking nursing jobs.

WIN WORKFORCE INTELLIGENCE NETWORK for Southeast Michigan

HEALTH CARE

TOP 15 JOBS EDUCATION & TRAINING REQUIREMENTS

Occupation	Typical Entry Level Education	Work Experience Required	Typical On-The-Job Training
Registered Nurses	Associate's degree	None	None
Nursing Assistants	Postsecondary non-degree award	None	None
Physical Therapists	Doctoral or professional degree	None	None
Speech-Language Pathologists	Master's degree	None	None
Pharmacy Technicians	High school diploma or equivalent	None	Moderate-term on-the-job training
Pharmacy Aides	High school diploma or equivalent	None	Short-term on-the-job training
Licensed Practical and Licensed Vocational Nurses	Postsecondary non-degree award	None	None
Medical and Clinical Laboratory Technicians	Associate's degree	None	None
Nurse Practitioners	Master's degree	None	None
Medical Assistants	Postsecondary non-degree award	None	None
Occupational Health and Safety Specialists	Bachelor's degree	None	Short-term on-the-job training
Medical Records and Health Information Technicians	Postsecondary non-degree award	None	None
Radiologic Technologists	Associate's degree	None	None
Pharmacists	Doctoral or professional degree	None	None
Physicians and Surgeons, All Other	Doctoral or professional degree	None	Internship/residency

Nearly all of Monroe County's top 15 in-demand health care jobs require at least a post-secondary certificate or an associate's degree. High paying health care careers like physical therapists, pharmacists, and physicians and surgeons require advanced degrees explaining the high starting wages.
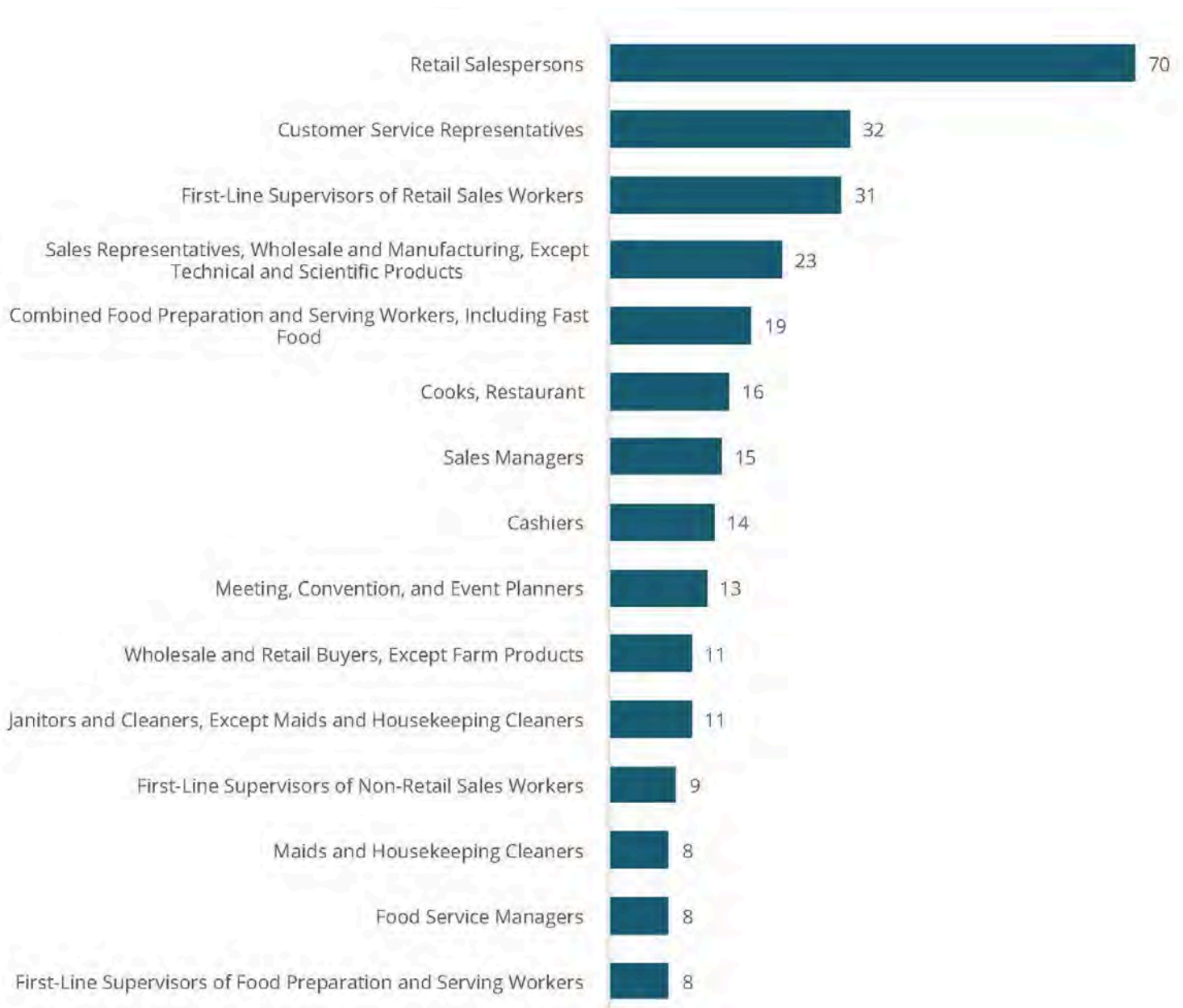
RETAIL AND HOSPITALITY

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 transferrable across the retail sector, the hotel industry, food and beverage service industry, call centers, and other areas. In 2015, 13,194 individuals were employment in retail and hospitality related occupations in Monroe County.

Job	Postings
Retail Salespersons	70
Customer Service Representatives	32
First-Line Supervisors of Retail Sales Workers	31
Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products	23
Combined Food Preparation and Serving Workers, Including Fast Food	19
Cooks, Restaurant	16
Sales Managers	15
Cashiers	14
Meeting, Convention, and Event Planners	13
Wholesale and Retail Buyers, Except Farm Products	11
Janitors and Cleaners, Except Maids and Housekeeping Cleaners	11
First-Line Supervisors of Non-Retail Sales Workers	9
Maids and Housekeeping Cleaners	8
Food Service Managers	8
First-Line Supervisors of Food Preparation and Serving Workers	8

* Data : Burning Glass Technologies

Retail and hospitality represents the largest of the five occupation groups analyzed by WIN, and Monroe County follows that trend. Occupations in this cluster experience high levels of turnover and generate more postings than other clusters in search of qualified workers. Despite postings declining from 84 in Q3 to 70 in Q4 (-16.7%), retail salespersons maintained the top spot as the most in-demand R&H occupation. Customer service representatives and first-line supervisors of retail sales workers followed the top job with 32 and 31 postings, respectively. Maids and housekeeping cleaners saw a sharp decrease in postings from this same quarter last year, dropping 74.2% (23 postings).

RETAIL & HOSPITALITY

ONLINE JOB POSTINGS OVER TIME

Retail & Hospitality Online Job Postings

Source: Burning Glass Technologies
Analysis: Workforce Intelligence Network

While there has been a 12.9% decline in Retail and Hospitality postings falling from 417 postings in Q3 2015 to 363 postings in Q4, the overall trend in job postings for Monroe County has been positive from Q3 2012 to Q4 of 2015. This trend is mirrored in the occupational employment numbers for Monroe County as well. The retail and hospitality cluster had the highest share of total postings in the WIN region at 20.3%, for Q4 2015.

RETAIL & HOSPITALITY

EMPLOYMENT OVER TIME

Retail & Hospitality Occupational Employment

Source: EMSI
Analysis: Workforce Intelligence Network

Employment in the retail and hospitality cluster in Monroe County continues to climb past the lows experienced post great-recession between 2009-2011. Numbers have increased by 1.1% from 13,044 in Q3 2015 to 13,194 in Q4 2015 as well. There was an average of seven postings per net new job in the retail and hospitality cluster.
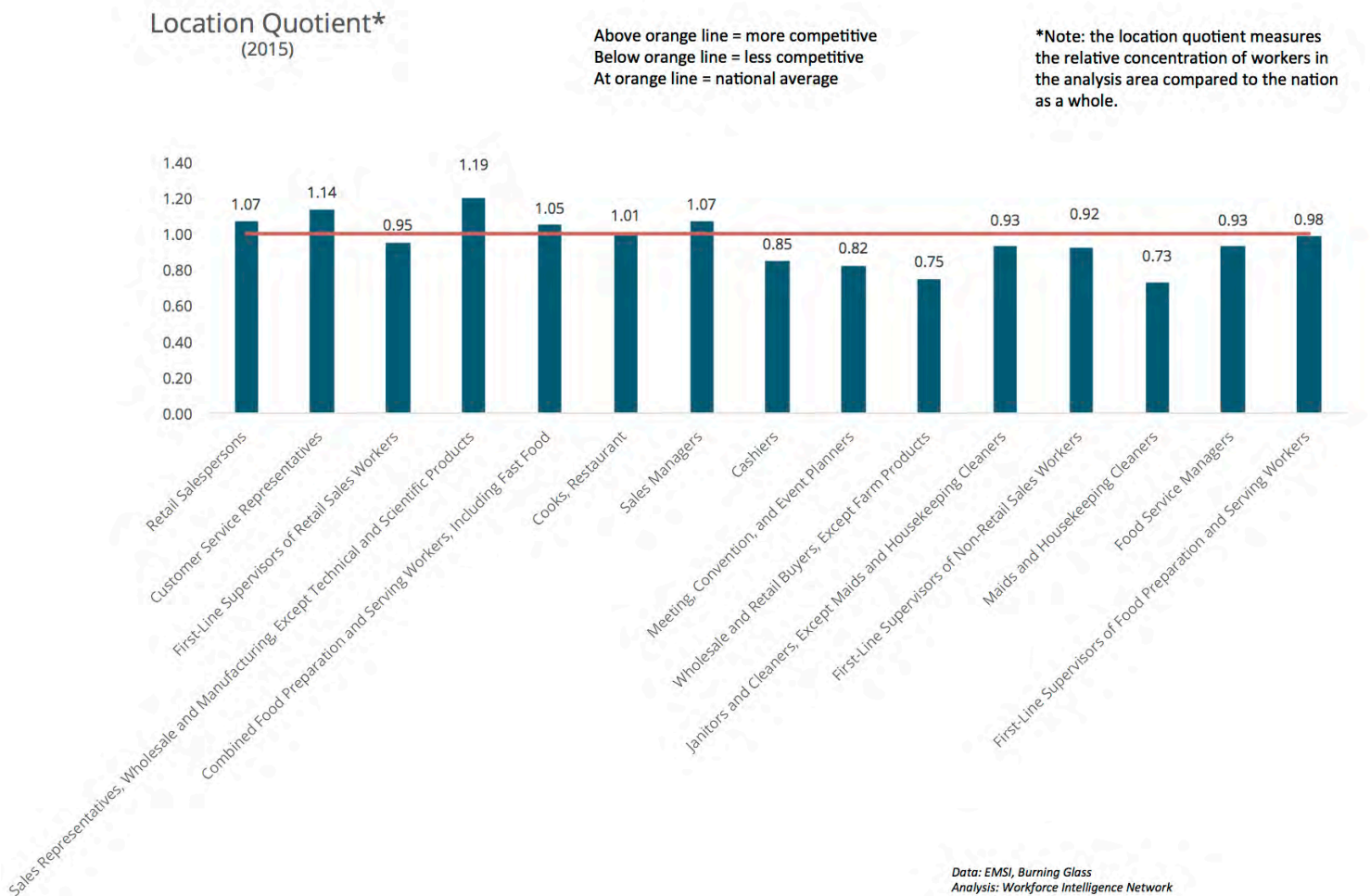
RETAIL & HOSPITALITY

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
43-4051	Customer Service Representatives	$9.36	$11.52	$15.01	$19.07	$24.48
41-1011	First-Line Supervisors of Retail Sales Workers	$11.18	$13.60	$17.23	$21.87	$27.40
41-4012	Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products	$12.94	$18.83	$27.15	$39.50	$55.51
35-3021	Combined Food Preparation and Serving Workers, Including Fast Food	$8.15	$8.52	$9.14	$9.92	$12.12
35-2014	Cooks, Restaurant	$8.32	$9.14	$10.69	$12.73	$14.30
11-2022	Sales Managers	$28.89	$38.96	$52.65	$70.34	$106.63
41-2011	Cashiers	$8.21	$8.72	$9.61	$11.65	$15.09
13-1121	Meeting, Convention, and Event Planners	$12.69	$16.84	$21.99	$27.89	$33.98
13-1022	Wholesale and Retail Buyers, Except Farm Products	$15.28	$19.09	$23.65	$28.65	$34.49
37-2011	Janitors and Cleaners, Except Maids and Housekeeping Cleaners	$8.37	$9.47	$11.71	$14.97	$18.31
41-1012	First-Line Supervisors of Non-Retail Sales Workers	$17.28	$21.90	$28.92	$38.96	$52.97
37-2012	Maids and Housekeeping Cleaners	$8.15	$9.04	$10.31	$11.99	$13.73
11-9051	Food Service Managers	$12.37	$15.46	$19.44	$26.51	$35.87
35-1012	First-Line Supervisors of Food Preparation and Serving Workers	$8.92	$10.54	$14.22	$19.22	$23.99

Most occupations within the retail and hospitality cluster at entry-level offer wages below the living wage designation of $15. Only eight of the top R&H jobs offer a living wage at the median, while only five offering a wage of $20 and above. Some of the highest earners in retail and hospitality at the median include sales managers ($109,500 annually), first-line supervisors (60,153 annually), and sales representatives (56,472 annually). Wages for the retail and hospitality cluster in Monroe County are lower than the U.S. on average.
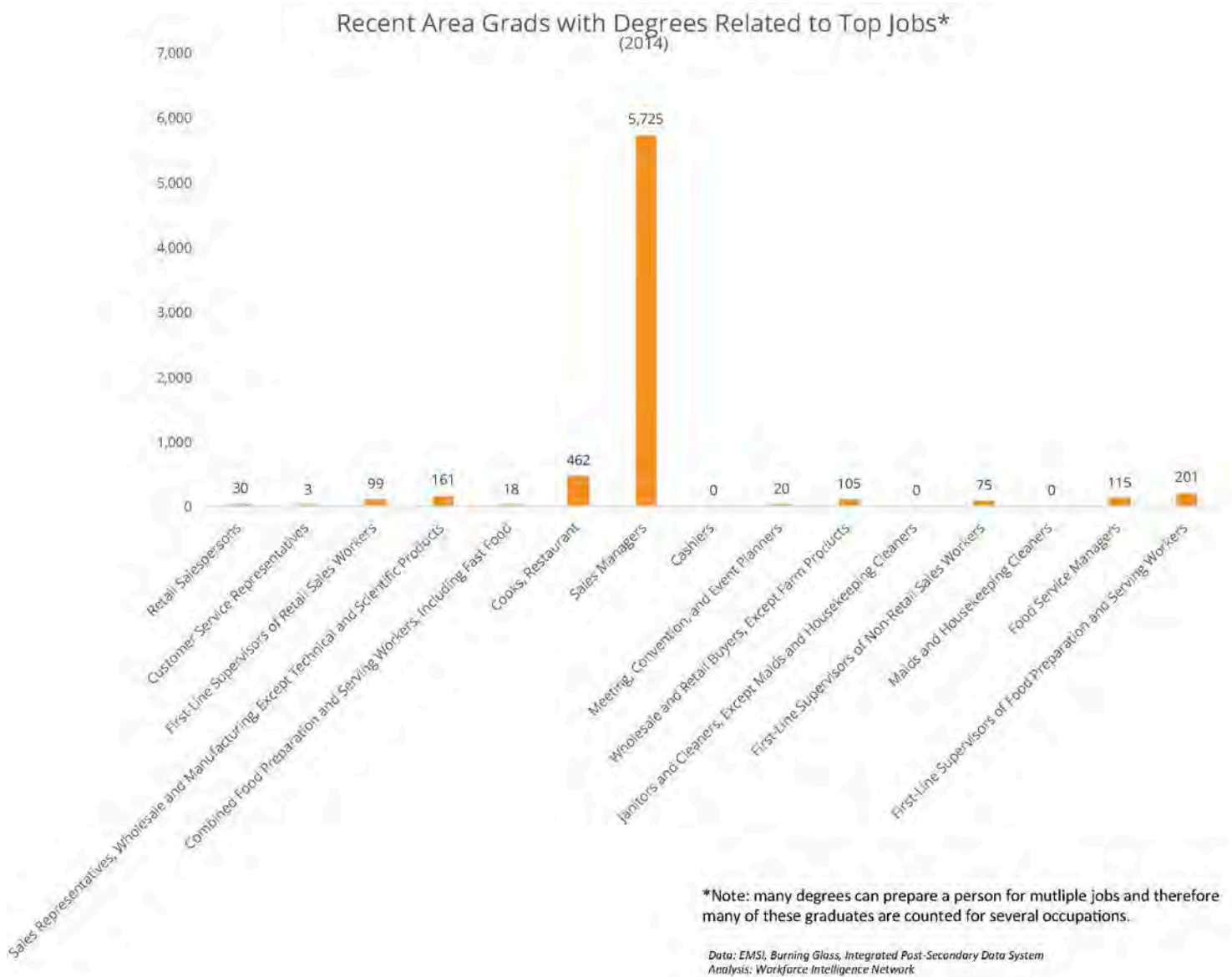
RETAIL & HOSPITALITY

TOP 15 JOBS LOCATION QUOTIENT

Location Quotient*
(2015)

Above orange line = more competitive
Below orange line = less competitive
At orange line = national average

*Note: the location quotient measures the relative concentration of workers in the analysis area compared to the nation as a whole.

Values shown on bars: 1.07, 1.14, 0.95, 1.19, 1.05, 1.01, 1.07, 0.85, 0.82, 0.75, 0.93, 0.92, 0.73, 0.93, 0.98

Categories: Retail Salespersons; Customer Service Representatives; First-Line Supervisors of Retail Sales Workers; Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products; Combined Food Preparation and Serving Workers, Including Fast Food; Cooks, Restaurant; Sales Managers; Cashiers; Meeting, Convention, and Event Planners; Wholesale and Retail Buyers, Except Farm Products; Janitors and Cleaners, Except Maids and Housekeeping Cleaners; First-Line Supervisors of Non-Retail Sales Workers; Maids and Housekeeping Cleaners; Food Service Managers; First-Line Supervisors of Food Preparation and Serving Workers

Data: EMSI, Burning Glass
Analysis: Workforce Intelligence Network

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 retail and hospitality cluster as a whole in the southeast Michigan region is slightly below the national average regarding the top in-demand retail and hospitality jobs at 0.96, with sales representatives, wholesale and manufacturing, except technical and scientific products being the occupation with the highest concentration at 1.19 (+19.0% above the national average). Maids and housekeeping cleaners offer the most potential for growth as the LQ is 0.73, 27.0% below the national average. A lower LQ means that employers might struggle to fill positions, but consistently high demand will likely attract workers to the area and field.

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

*Note: many degrees can prepare a person for mutliple 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. Furthermore, because many degrees can prepare a person for multiple jobs, the completions data for a particular occupation does not indicate that those graduates will necessarily pursue a career in that occupation. Completions data show that 5,725 southeast Michigan students completed a program related to a career as a sales manager, so Monroe County employers should have qualified candidates to choose from, even if not all graduates seek employment as sales managers.

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TOP 15 JOBS EDUCATION & TRAINING REQUIREMENTS

Occupation	Typical Entry Level Education	Work Experience Required	Typical On-The-Job Training
Retail Salespersons	Less than high school	None	Short-term on-the-job training
Customer Service Representatives	High school diploma or equivalent	None	Short-term on-the-job training
First-Line Supervisors of Retail Sales Workers	High school diploma or equivalent	Less than 5 years	None
Sales Representatives, Wholesale and Manufacturing, Except Technical	High school diploma or equivalent	None	Moderate-term on-the-job training
Combined Food Preparation and Serving Workers, Including Fast Food	Less than high school	None	Short-term on-the-job training
Cooks, Restaurant	Less than high school	Less than 5 years	Moderate-term on-the-job training
Sales Managers	Bachelor's degree	Less than 5 years	None
Cashiers	Less than high school	None	Short-term on-the-job training
Meeting, Convention, and Event Planners	Bachelor's degree	None	None
Wholesale and Retail Buyers, Except Farm Products	High school diploma or equivalent	None	Long-term on-the-job training
Janitors and Cleaners, Except Maids and Housekeeping Cleaners	Less than high school	None	Short-term on-the-job training
First-Line Supervisors of Non-Retail Sales Workers	High school diploma or equivalent	Less than 5 years	None
Maids and Housekeeping Cleaners	Less than high school	None	Short-term on-the-job training
Food Service Managers	High school diploma or equivalent	Less than 5 years	None
First-Line Supervisors of Food Preparation and Serving Workers	High school diploma or equivalent	Less than 5 years	None

Retail and hospitality cluster occupations typically do not require any education or training beyond a high school diploma. Employers may like to see some prior work experience. A high paying job as a sales manager is more likely than other cluster occupations to require a bachelor's degree.

SECTION FOUR
DATA NOTES AND SOURCES

DATA NOTES AND SOURCES

- 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 anual 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.

⫶WIN BOARD ORGANIZATIONS
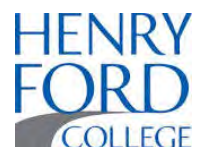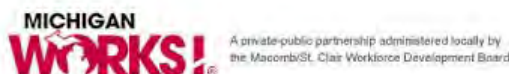
FOR MORE INFORMATION ABOUT RESEARCH AND DATA,
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