

Registered Apprenticeships in Michigan:

New Research from LMISI

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Bureau of Labor Market Information and Strategic Initiatives



Today's Presentation

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- The Importance of Apprenticeships in Michigan
- The Data: Notes about Methodology
- New Insights from the Report
 - ▣ Demographics
 - ▣ Occupations
 - ▣ Wages
 - ▣ Industries
 - ▣ Programs
- Conclusion

The Bureau of Labor Market Information and Strategic Initiatives

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- We are the official source for high-quality demographic and labor market information for the state of Michigan and its regions.
- We administer the state's federal-state cooperative programs with the Bureau of Labor Statistics (BLS) and the Census Bureau and produce high-quality information and analysis through grants from the U.S. Department of Labor and from partner agencies in the state of Michigan.
- We provide our national, state, and local partners and customers with accurate, objective, reliable, timely, accessible, and transparent information and insights.

Background

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- **Registered Apprenticeship in Michigan**
 - Michigan as a *federal* apprenticeship state
 - All registered apprenticeship information resides in RAPIDS
 - Apprenticeship data is not linked to any longitudinal system

- Requirements for Registered Apprenticeship
 - On-The-Job Training
 - Apprentice Supervision by Mentor
 - Plan for Related Instruction
 - Wage Progression
 - Equal Employment Opportunity Pledge

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- **Why Apprenticeship?**
 - Importance in Michigan
 - Access to RAPIDS Data
 - Descriptive Knowledge
 - Estimating Labor Supply

- Data and Methodology
 - Eight Fiscal Years of Data (2008-2015)
 - Not All Apprenticeships are Registered
 - Maintaining Consistent Measurement with USDOL
 - Missing Data

Looking Ahead: Estimating Labor Supply

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- Apprenticeship plays a crucial role in talent development
 - ▣ Completer information is needed to estimate potential gaps
 - ▣ Many apprentices not picked up by traditional sources
 - ▣ Integration with state longitudinal data systems

- Plumbers, Pipefitters, and Steamfitters (2014)
 - ▣ IPEDS Completers: 33
 - ▣ Registered Apprenticeship Completers: 108
 - ▣ Projected Annual Openings: 279

Background

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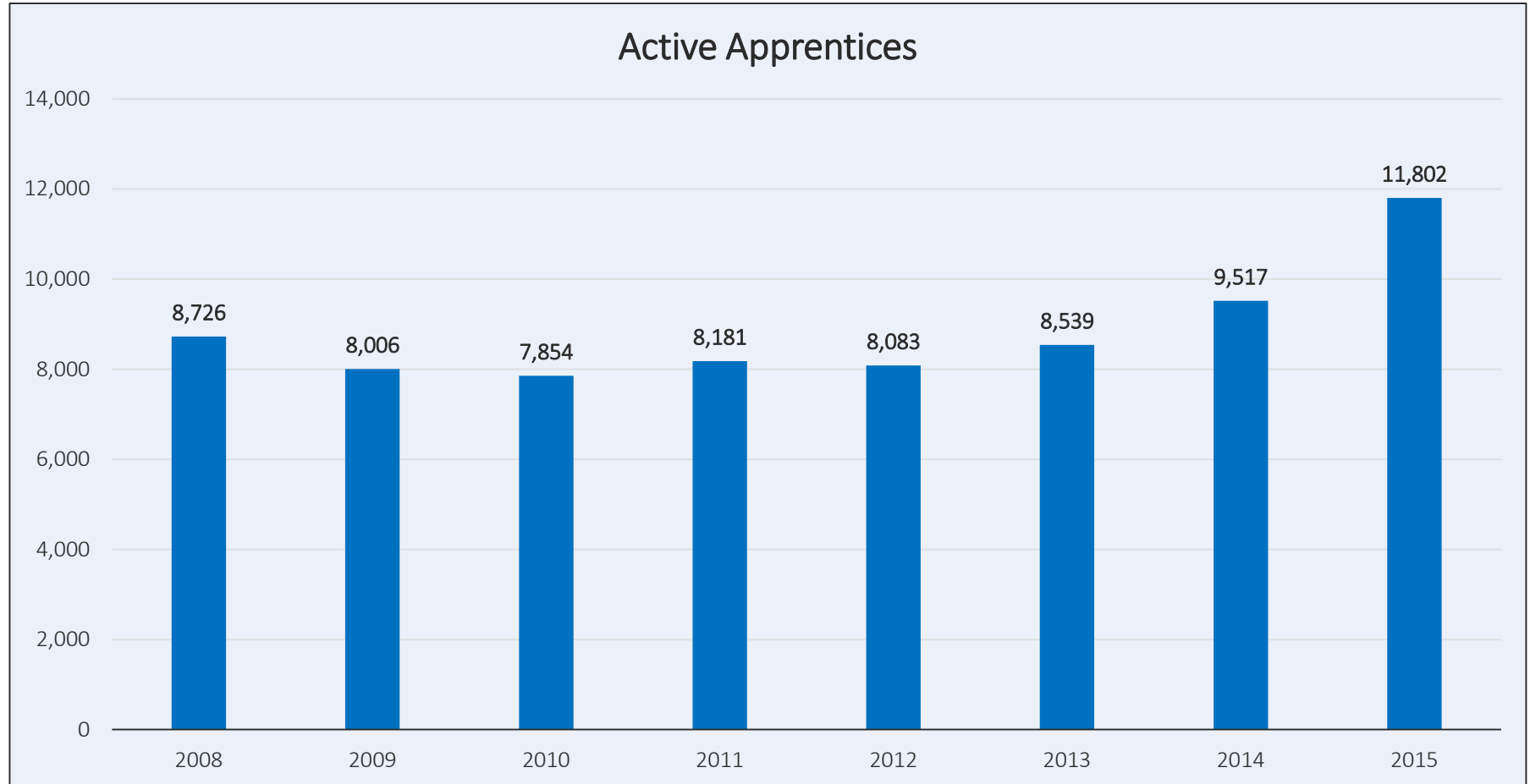
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An Analysis of Registered Apprenticeships in Michigan

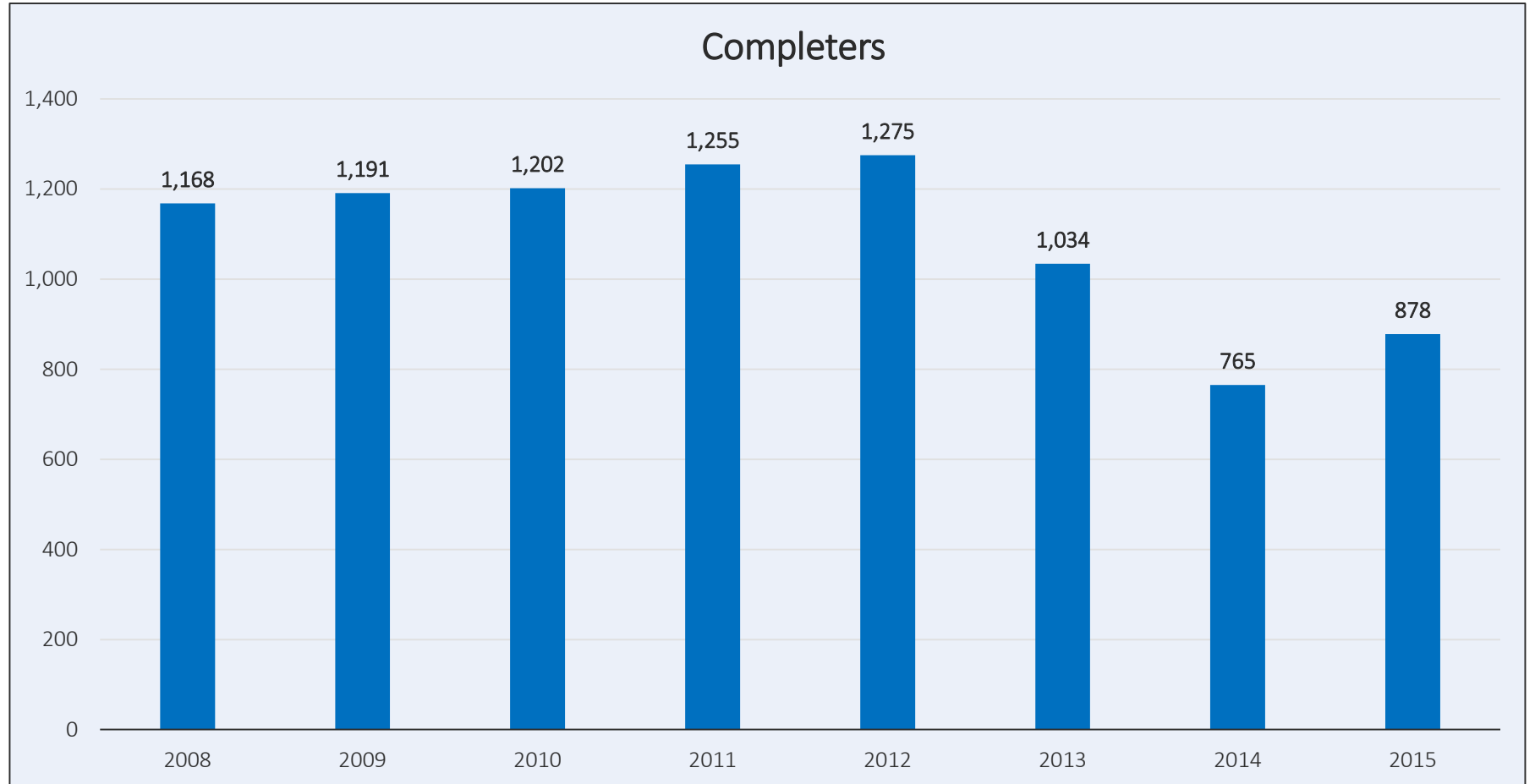
Michigan Registered Apprentices Over Time

Active apprentices are those still actively working toward completion of their programs (can include registered, suspended or reinstated apprentices)



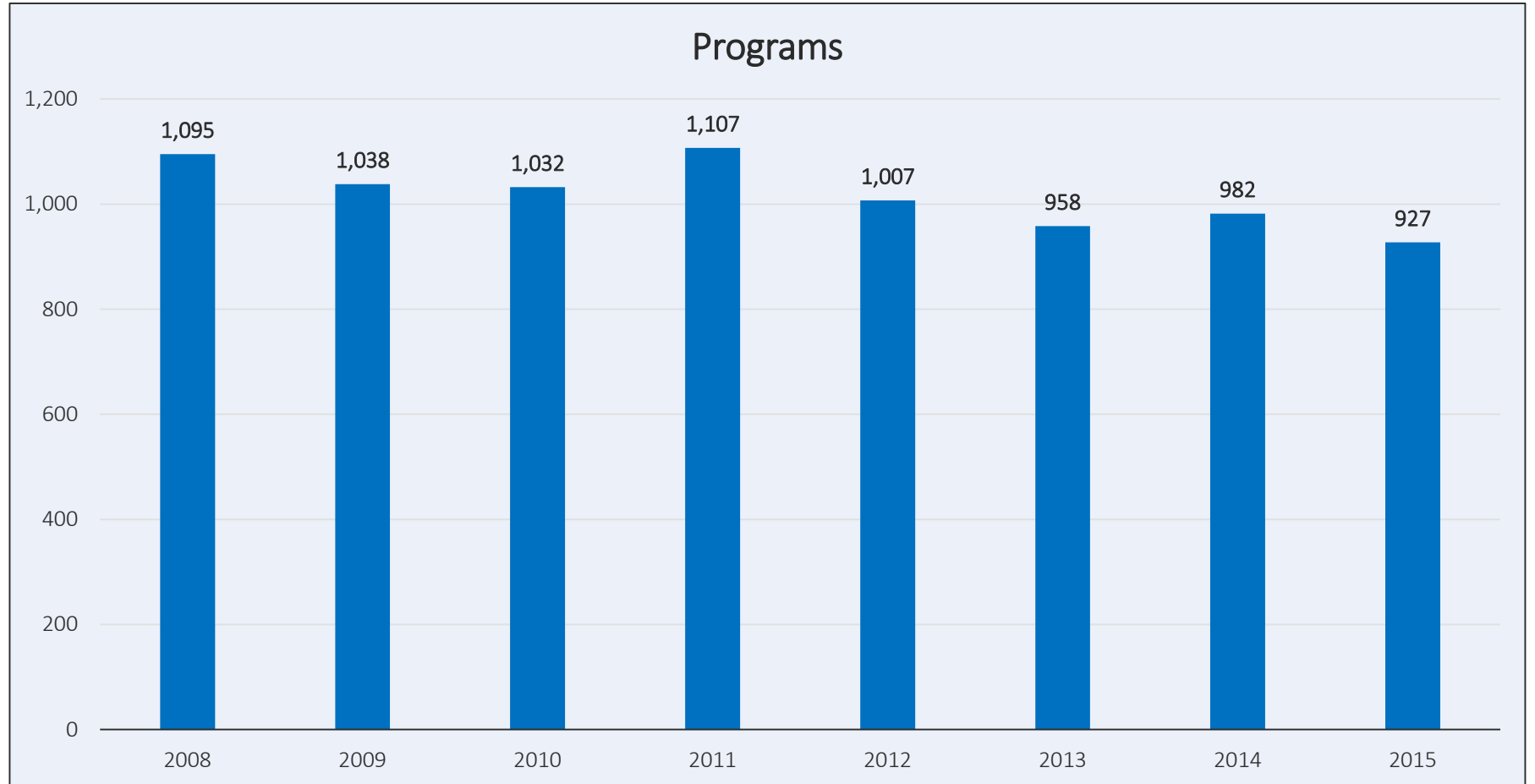
Michigan Registered Apprentices Over Time

Completers are those that have finished.



Michigan Registered Apprentices Over Time

Programs are the number of active programs.



Demographics

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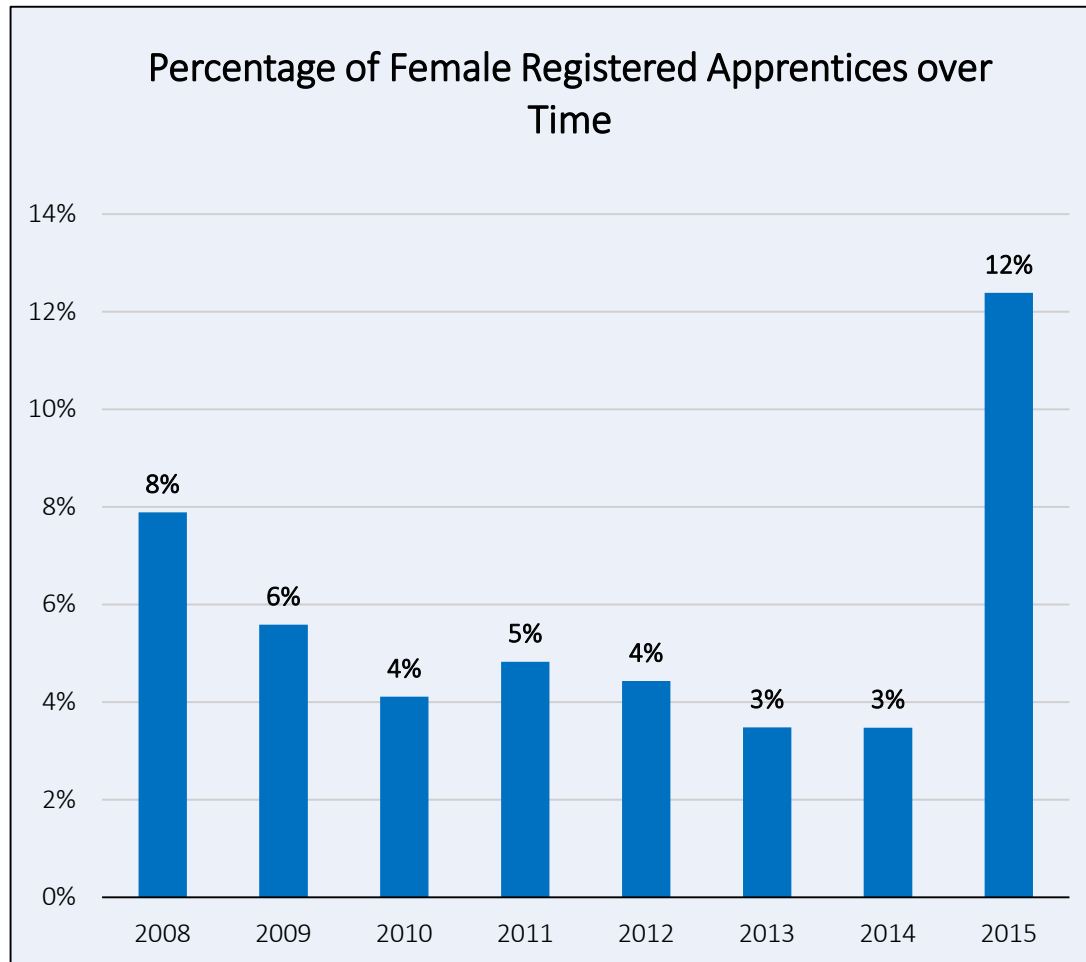
- The typical registered apprentice in Michigan is:
 - ▣ White
 - ▣ Male
 - ▣ Aged 27 years
 - ▣ Has a high school education
 - ▣ Is a union member
 - ▣ Is not a veteran

Fast Facts for FY2008-2015:

- Total Observations: 25,814
- Men: 93.6%
- White: 69.9%
- Union: 64.9%
- Veteran: 6.5%
- High School Graduate: 70.6%
- Top Occupation: Electricians, 24.7%

Demographics: Sex

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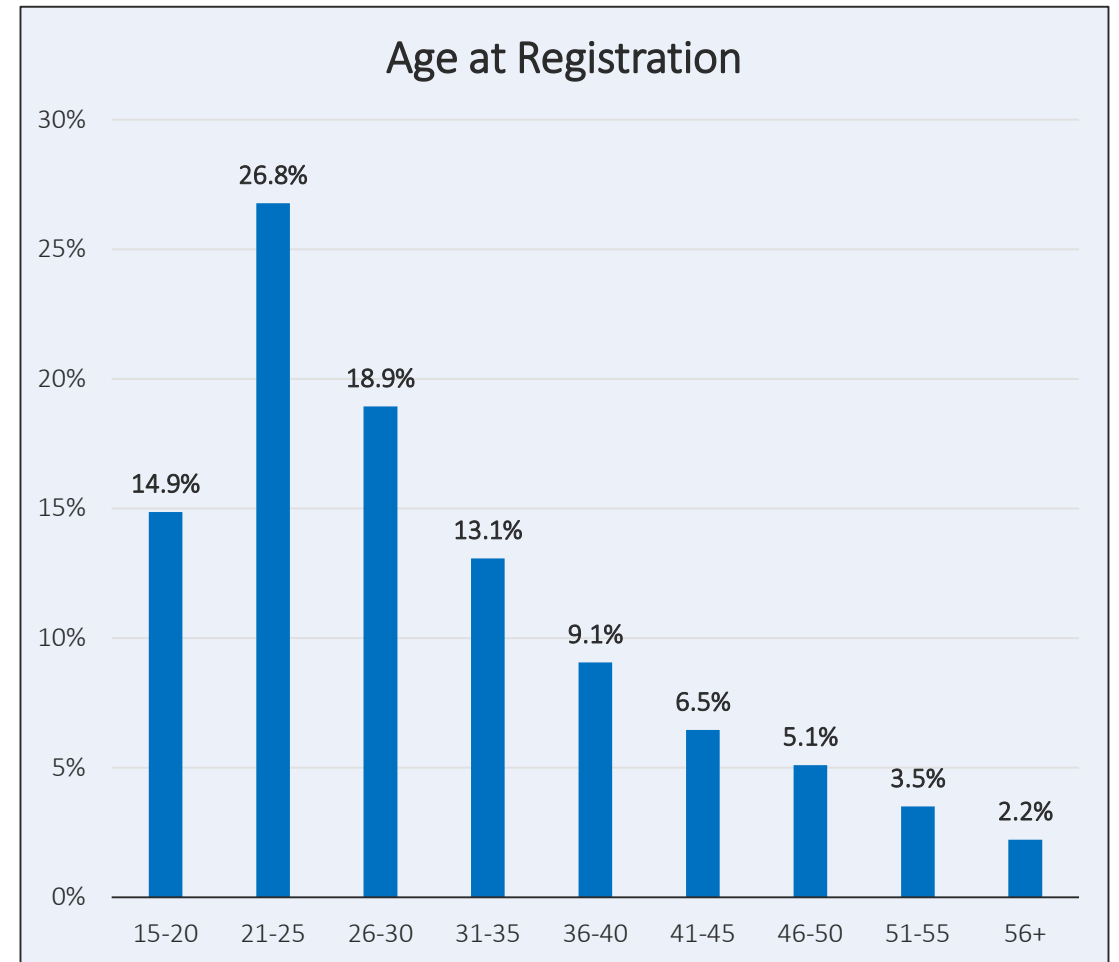


- The 2015 jump in the number of new female registrants was due to the re-instatement of two new programs: *Pharmacy Technicians* and *First Line Supervisors of Retail Sales Workers*.

Demographics: Age

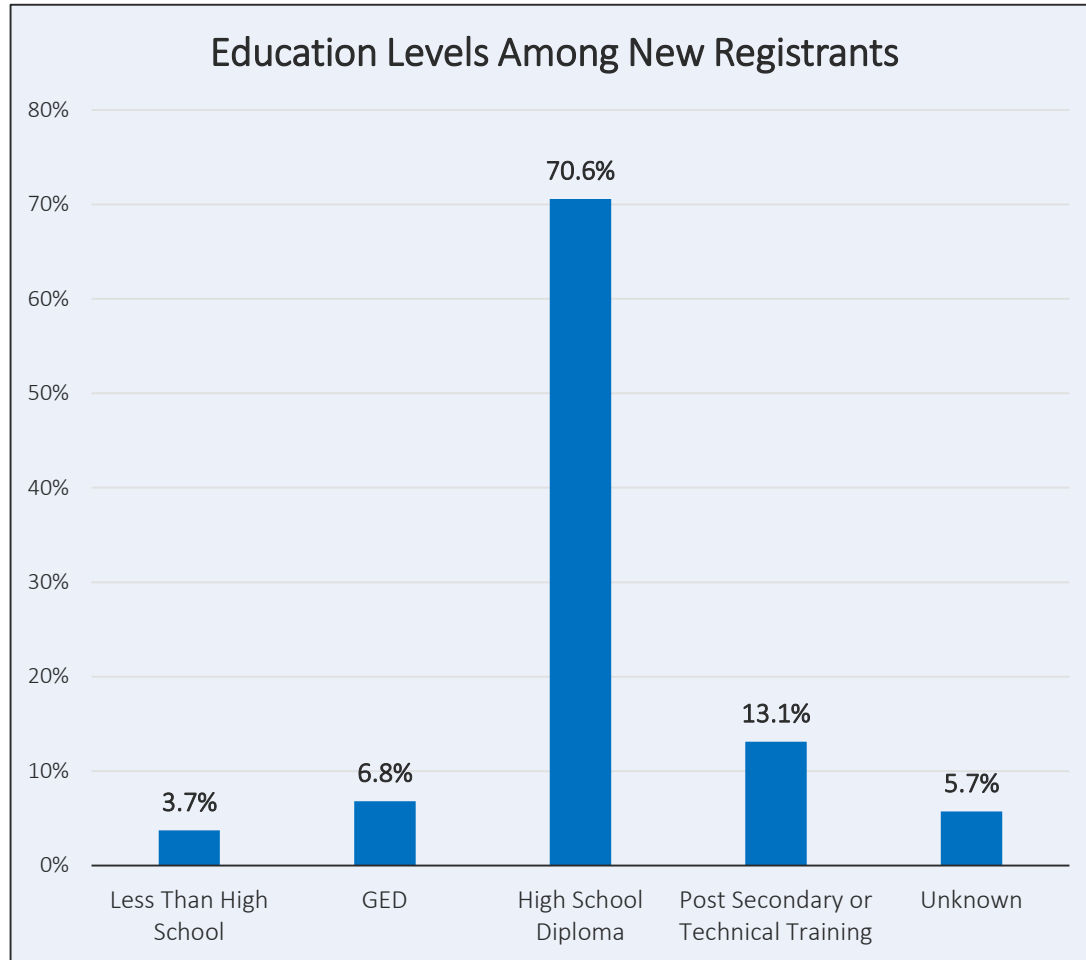
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- Most registrants join a registered apprenticeship between the ages of 21-25.
- However, ages are widespread, with older registrants making their mark.
- Women tend to be slightly older upon registration: 30 years to 27 for men.



Demographics: Education

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□ Newly registered women are slightly higher educated than men.

□ High School Diploma

■ 76.4% Women

■ 70.2% Men

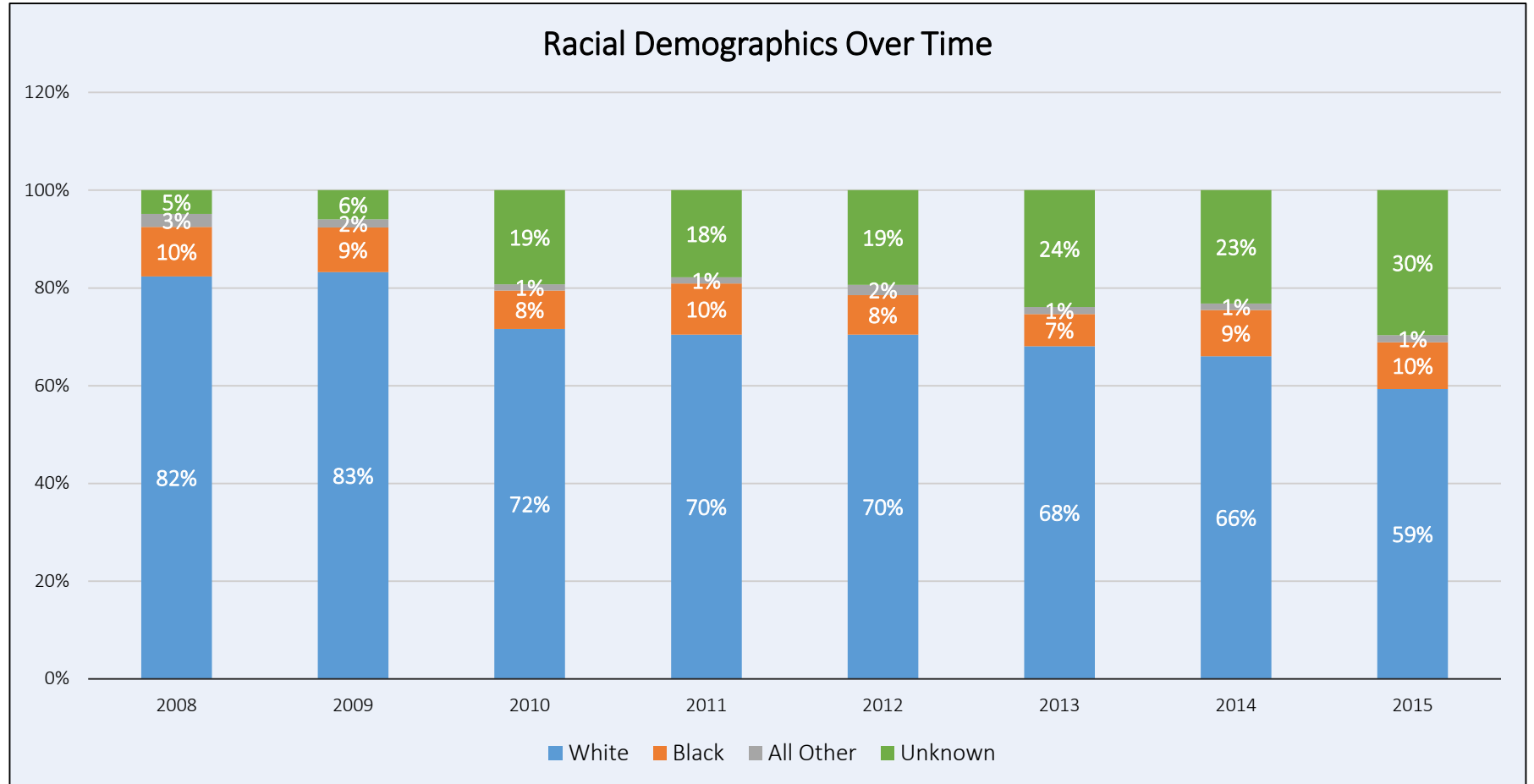
□ Post Secondary

■ 15.0% Women

■ 13.0% Men

Demographics: Race

While the proportion of minority races in apprenticeship programs has been fairly steady since 2008, the number of apprentices with an unknown racial background has grown.

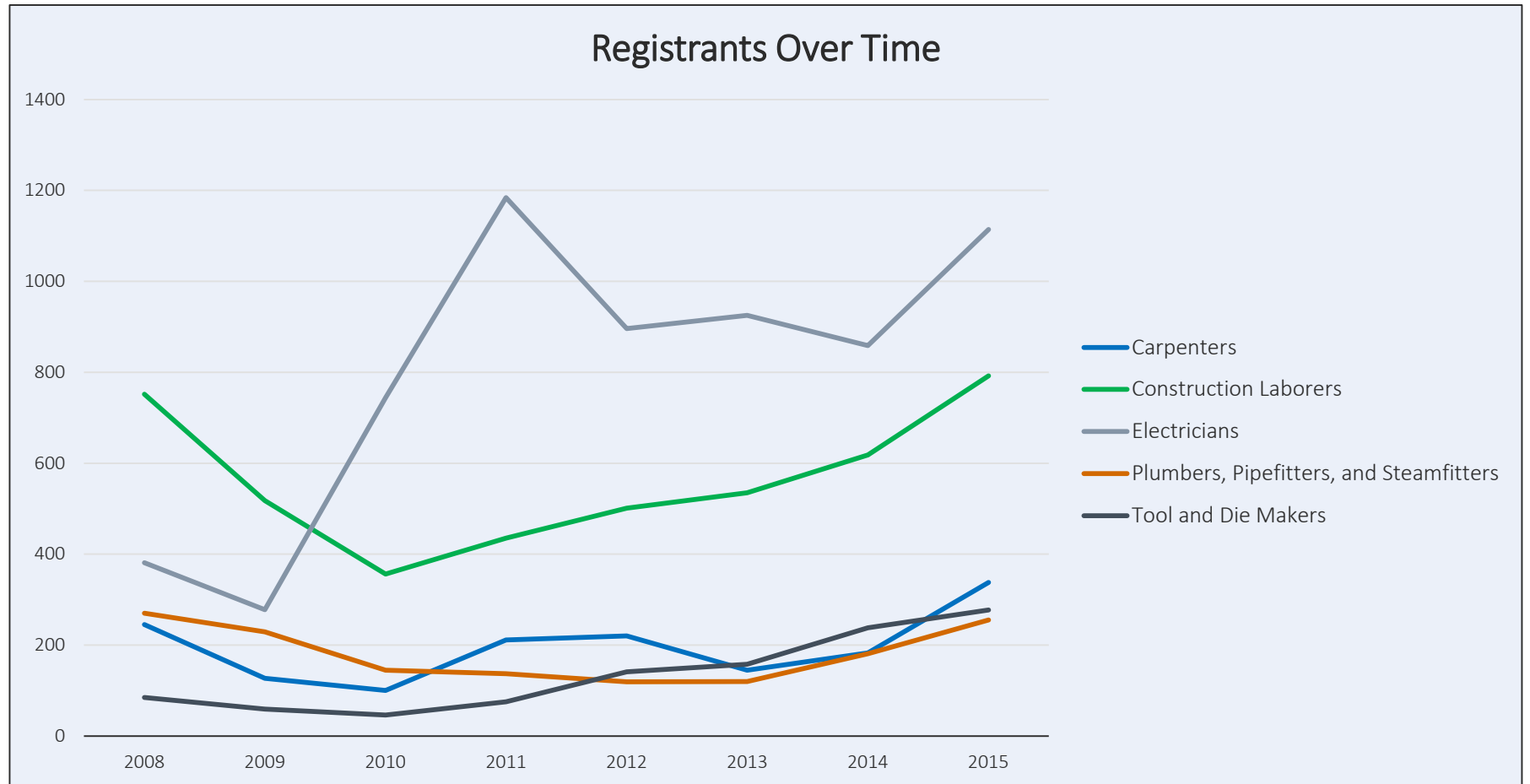


Occupations: Registrants

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Interestingly, 4 of the top 5 occupations are Skilled Trades.

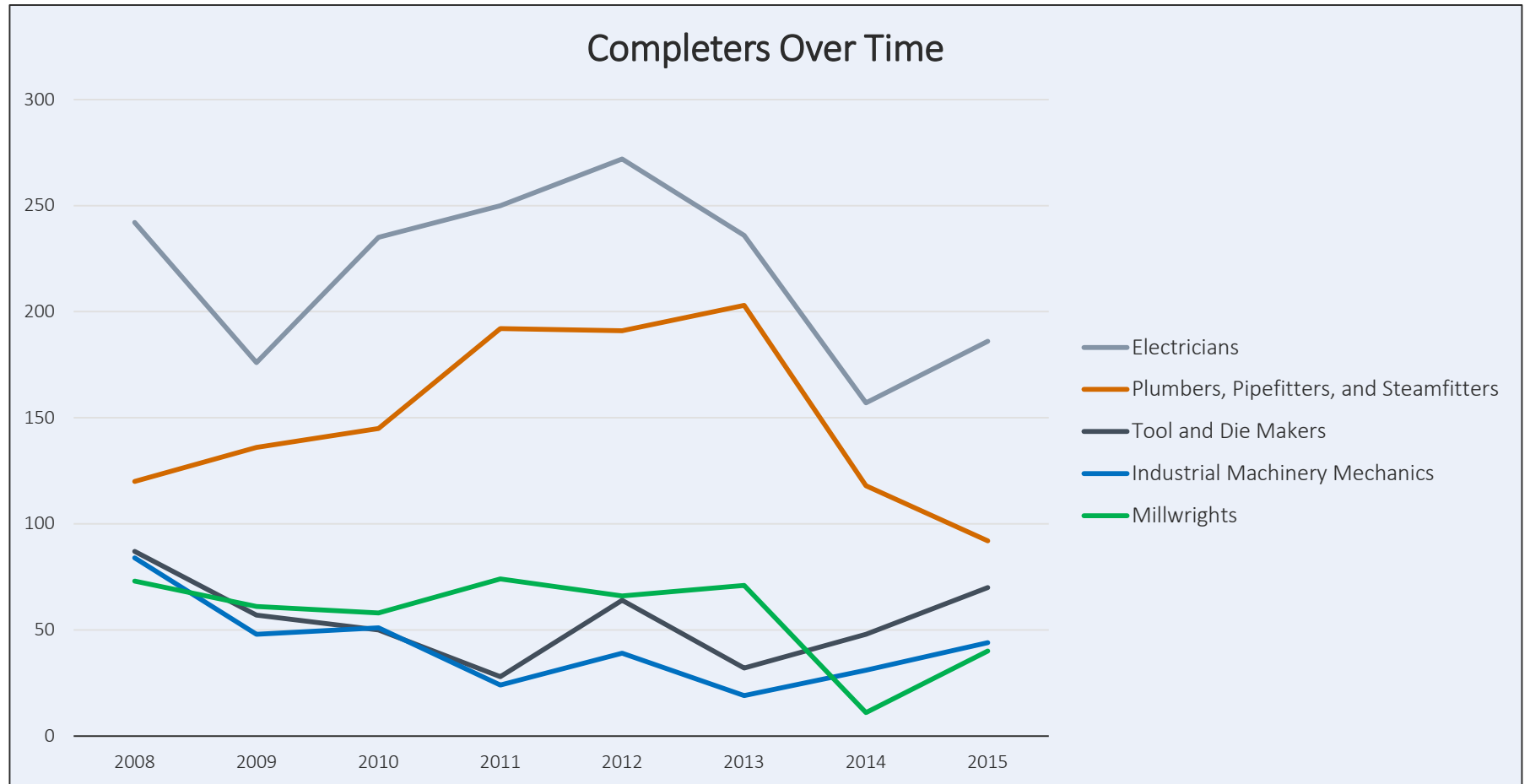
With the exception of the Great Recession in 2009 and 2010, newly registered apprentices have remained steady, and then grown in the last 2 years.



Occupations: Completers

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Completers have gone down over time, however, this could be due a delayed effect of reduced registrations during the Great Recession, as most apprentices take 4 to 6 years to complete a program.



Occupations: Completion Rates

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- Number of registrants and completers in occupations does not provide the whole picture.
- Need to look at completion rates of programs in order to determine where the best successes are arising.
- How we determine a Completion Rate:
 1. Find “completers”
 - Completed a program within 2 years of expected completion date
 2. Find total registrants
 - Registrants in a program between 2008 and 2013
 - 2013 is used in order to leave 2 years for expected completion
 - Registrants must have expected completion date (+2 years) before 9/30/2015

Occupations: Completion Rates

Interestingly, women had a slightly higher completion rate than men: 38.7 percent to 34.2 percent.

Top Completion Rates		Completion Rates for Top Occupations	
Occupation	Rate	Occupation	Rate
Power Distributors and Dispatchers	99%	Electricians	33%
Electrical and Electronics Repairers, Powerhouse, Substation, and Relay	99%	Construction Laborers	4%
Computer Occupations, All Other	87%	Carpenters	27%
Network and Computer Systems Administrators	86%	Tool and Die Makers	57%
Electrical Power Line Installers and Repairers	77%	Plumbers, Pipefitters and Steamfitters	54%

Wages

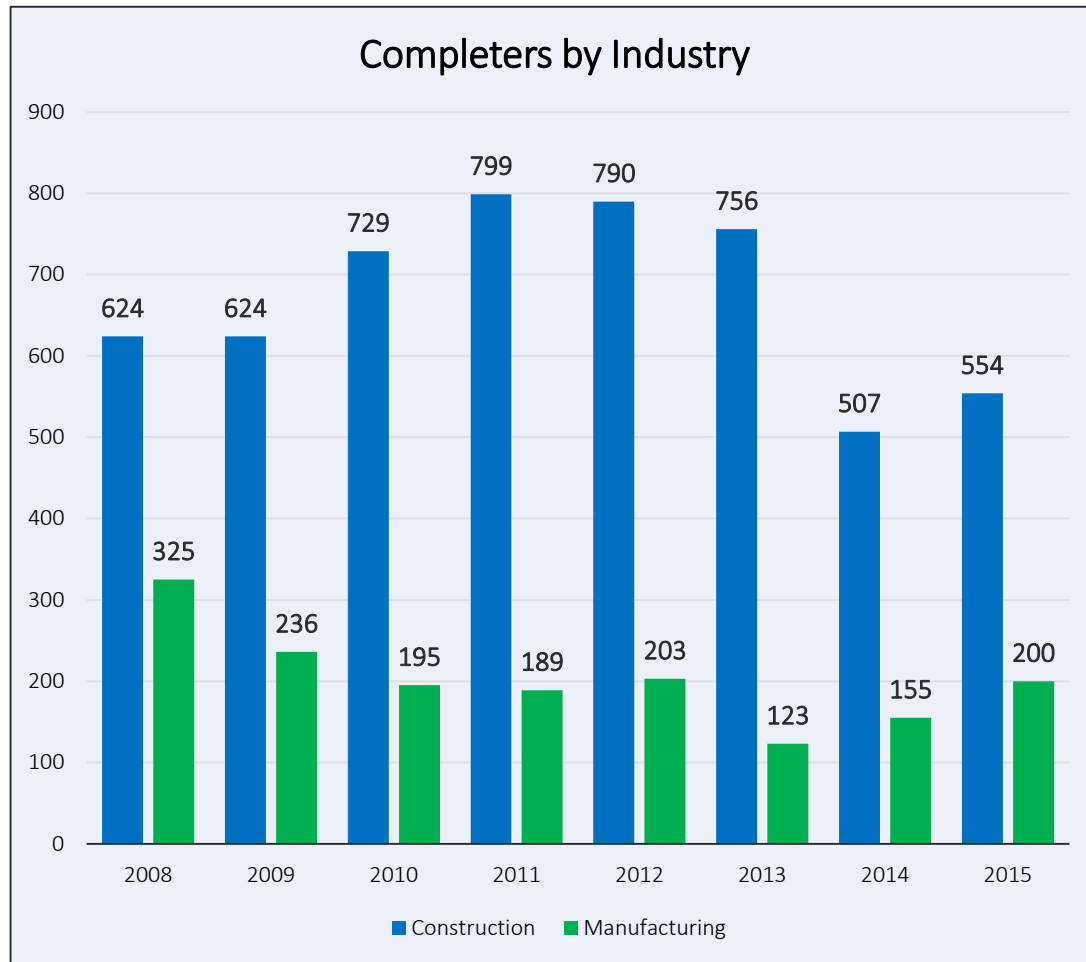
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The wages for those completing a registered apprenticeship program between 2010 and 2015, on average, increased \$5.90, or 38.6 percent.

Wages for Completers				
Occupation	Starting Wage	Exit Wage	Difference	Percentage Change
Carpenters	\$11.54	\$22.04	\$10.50	91.0%
Electrical Power Line Installers and Repairers	\$18.54	\$31.98	\$13.44	72.5%
Electricians	\$15.71	\$24.78	\$9.07	57.7%
Industrial Machinery Mechanics	\$18.13	\$22.50	\$4.36	24.1%
Millwrights	\$18.74	\$26.62	\$7.89	42.1%
Sheet Metal Workers	\$14.05	\$27.10	\$13.04	92.8%
Solar Photovoltaic Installers	\$13.74	\$19.46	\$5.73	41.7%
Structural Iron and Steel Workers	\$15.62	\$26.34	\$10.72	68.7%
Telecommunications Equipment Installers and Repairers, Except Line Installers	\$11.82	\$23.73	\$11.91	100.8%
Tool and Die Makers	\$13.41	\$18.64	\$5.24	39.1%

Industry

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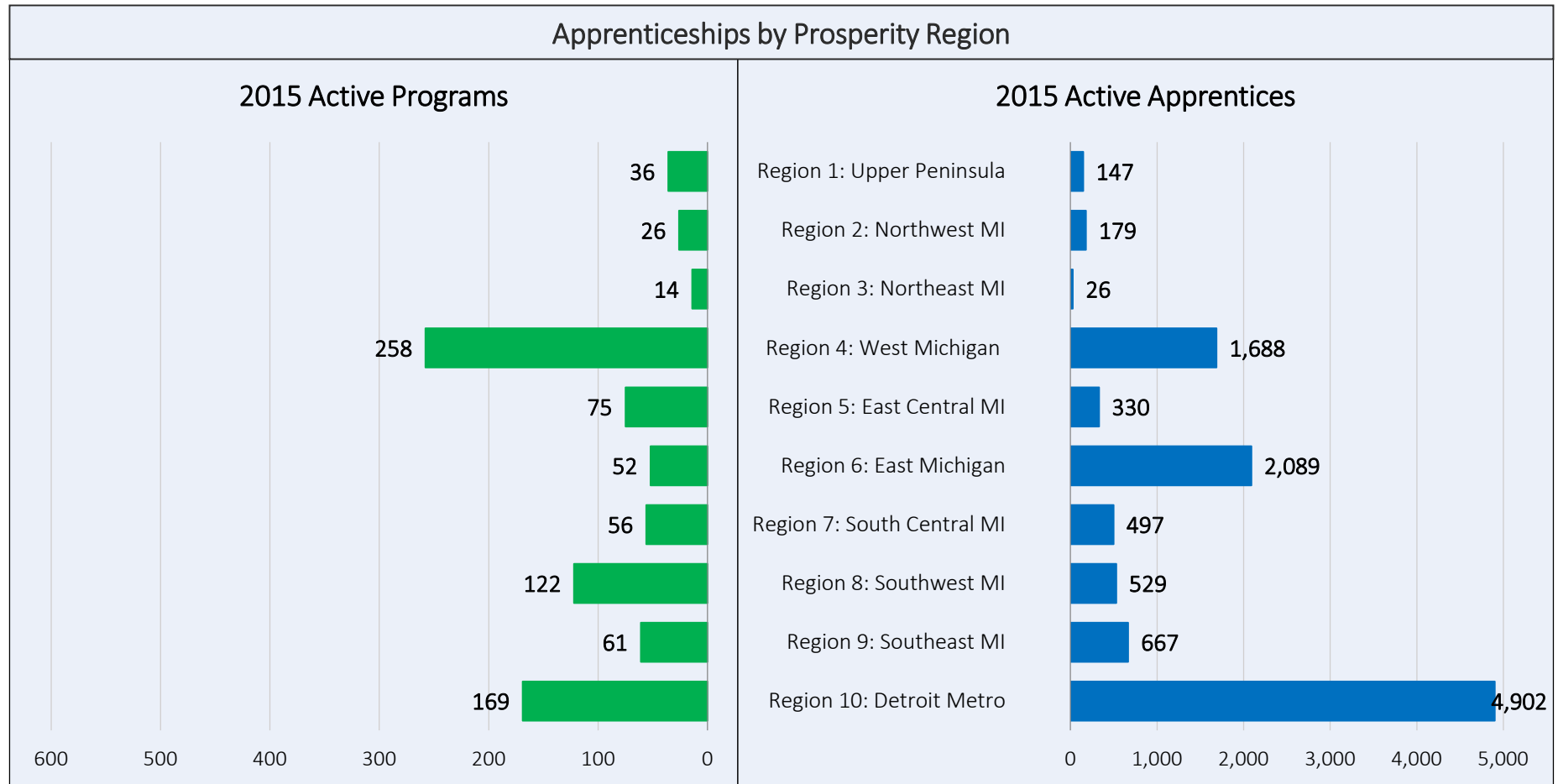


- *Construction and Manufacturing* are the two industries with the highest number of completers.
- *Retail Trade* had no completers for several years, but in 2015, due to the registration of new programs, had a handful.
- Since 2013, the industry paying the highest exit wage was *Other Services*, at around \$40 an hour.

Programs

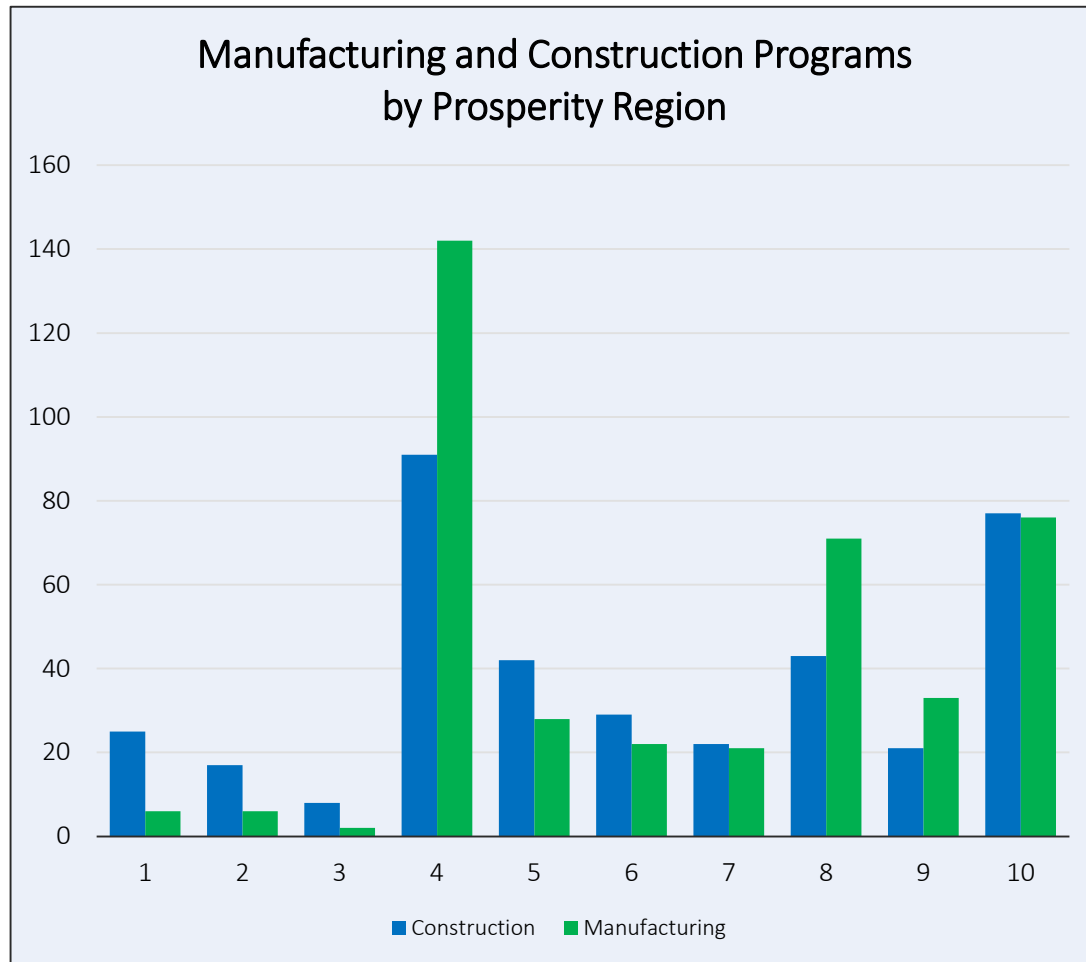
The region with the most active programs, both in 2014 and 2015, was the West Michigan Prosperity Alliance.

The region with the most active apprentices was the Detroit Metro area, which grew from 3,360 in 2014 to 4,900 in 2015.



Programs

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- In each region, with the exception of East Michigan (6) and Southeast Michigan (9) the highest occurring occupation is *Electrician*.
- In East Michigan, the highest occurring occupation is *Construction Laborer*.
- In Southeast Michigan it is *Operating Engineers and Other Construction Operators*.

Conclusion

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- Apprentices are increasing, while programs are decreasing
 - ▣ Completers are also down, but likely a product of reduced enrollment in earlier years
- Programs are showing some signs of increased diversity, but still have room for improvement
- Programs are concentrated in *Construction* and *Manufacturing* industries, including occupations such as *Electricians, Plumbers, Pipefitters and Steamfitters* and *Tool and Die Makers*.
- Registered Apprenticeships are represented across all 10 Prosperity Regions.

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Questions?

Thanks for listening!

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Michigan Registered Apprentices Over Time

Michigan Registered Apprentices Over Time			
Year	Active	Completer	Programs
2008	8,726	1,168	1,095
2009	8,006	1,191	1,038
2010	7,854	1,202	1,032
2011	8,181	1,255	1,107
2012	8,083	1,275	1,007
2013	8,539	1,034	958
2014	9,517	765	982
2015	11,802	878	927

Occupations: Registrants

Registrants Over Time								
Occupation	2008	2009	2010	2011	2012	2013	2014	2015
Carpenters	245	127	100	211	220	145	183	338
Construction Laborers	752	518	356	435	501	535	618	792
Electricians	381	278	744	1,184	896	925	859	1,114
Millwrights	67	71	77	72	86	56	107	121
Pharmacy Technicians	117	22	6	42	33	N/A	N/A	126
Plumbers, Pipefitters, and Steamfitters	270	229	145	137	119	120	181	255
Power Distributors and Dispatchers	110	N/A	25	6	N/A	27	10	N/A
Roofers	118	115	96	123	170	119	89	161
Sheet Metal Workers	72	80	64	69	72	91	101	136
Tool and Die Makers	85	59	46	75	141	158	238	277
Total	2,217	1,499	1,659	2,354	2,238	2,176	2,386	3,320

Occupations: Completers

Completers Over Time								
Occupation	2008	2009	2010	2011	2012	2013	2014	2015
Carpenters	95	85	98	93	52	53	51	33
Electrical Power Line Installers and Repairers	42	38	57	43	41	19	34	24
Electricians	242	176	235	250	272	236	157	186
Elevator Installers and Repairers	26	5	16	12	11	6	5	23
Industrial Machinery Mechanics	84	48	51	24	39	19	31	44
Millwrights	73	61	58	74	66	71	11	40
Plumbers, Pipefitters, and Steamfitters	120	136	145	192	191	203	118	92
Sheet Metal Workers	37	50	58	44	75	59	43	37
Structural Iron and Steel Workers	20	19	49	34	19	14	10	26
Tool and Die Makers	87	57	50	28	64	32	48	70
Total	826	675	817	794	830	712	508	575

Completers by Industry

Box B: Completers by Industry								
Industry	2008	2009	2010	2011	2012	2013	2014	2015
Accommodation and Food Services	1	1	2					
Administrative and Waste Services		1		11	1		2	3
Agriculture, Forestry, Fishing and Hunting	9	1	2					4
All Other Industries	16	5	10	13	18	2	3	2
Construction	624	624	729	799	790	756	507	554
Educational Services	22	7	8	23	21	35	24	22
Finance and Insurance				2				
Health Care and Social Assistance	29	7	2	8				1
Manufacturing	325	236	195	189	203	123	155	200
Mining, Quarrying, and Oil and Gas Extra							3	1
Other Services	7	1	16	5	8	4	3	3
Professional and Technical Services	8	1	17	3	10	23	4	5
Public Administration	26	9	14	47	18	15	9	2
Retail Trade	16	107	1	46	106			10
Transportation	42	22	9	15	30	24	9	17
Utilities	42	158	191	88	67	43	43	51
Wholesale Trade	1	11	6	6	3	9	3	3