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**Plumbing Apprenticeship Program Report**

**For Greater South Bay and Peninsula Region**

**(Santa Clara and San Mateo Counties)**

**November 2014**

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| **Plumbing Technology/Plumber** |

CIP 2010: A program that prepares individuals to practice as licensed plumbers by applying technical knowledge and skills to lay out, assemble, install, and maintain piping fixtures and systems for steam, natural gas, oil, hot water, heating, cooling, drainage, lubricating, sprinkling, and industrial processing systems in home and business environments. Includes instruction in source determination, water distribution, waster removal, pressure adjustment, basic physics, technical mathematics, blueprint reading, pipe installation, pumps, welding and soldering, plumbing inspection, and applicable codes and standards.

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| **Target Occupations**‡ |
| First-Line Supervisors of Construction Trades and Extraction Workers (47-1011) |
| Pipelayers (47-2151) |
| Plumbers, Pipefitters, and Steamfitters (47-2152) |
| Helpers--Pipelayers, Plumbers, Pipefitters, and Steamfitters (47-3015) |
| Septic Tank Servicers and Sewer Pipe Cleaners (47-4071) |

‡Based on EMSI crosswalk of the Classification of Instructional Programs (CIP) codes with Standard Occupational Classification (SOC) codes as published by the U.S. Department of Education.

 In 2014, the number of plumbing jobs in the target occupations in Santa Clara and San Mateo Counties totaled 8,188. The Bureau of Labor Statistics (BLS) expects the total number of positions to increase by 6.3% over the next three years. Regional openings in 2014, which included created jobs and turnover, totaled 300. Completions in plumbing technology programs totaled 41, with an additional 316 completions from other related programs. These other programs are linked to multiple occupations and not all those who complete will enter the target occupations indicated in this report.

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| **Target Occupation Performance** |
| **8,188\*** | **6.3%\*** | **$35.05/hr** |
| **Jobs (2014)** | **Growth (2014-2017)** | **Median Earnings** |
| National Location Quotient: 0.73† | National: 2.1% | National: $23.98/hr |

 \*Based on total number of jobs for target occupations Santa Clara and San Mateo Counties.

†Represents occupation density as compared to national average (national average=1).

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| Regional Openings (2014)\*\* | 300 |  |
| Regional Program Completions (2013) | 41 |  |
| All Regional Completions for Target Occupations†† (2013) | 357 |  |

 \*\*Openings include created jobs and turnover.

††Includes all regional programs applicable to target occupations.

**Plumbing Occupations Performance**

| **Target Occupations** | **Regional Openings (2014)** | **Median Hourly Earnings** | **Growth (2014-2017)** |
| --- | --- | --- | --- |
| Septic Tank Servicers and Sewer Pipe Cleaners (47-4071) | 3 | $21.66 | 0.6% |
| First-Line Supervisors of Construction Trades and Extraction Workers (47-1011) | 98 | $35.13 | 3.2% |
| Pipelayers (47-2151) | 7 | $22.16 | 4.2% |
| Plumbers, Pipefitters, and Steamfitters (47-2152) | 170 | $37.91 | 9.4% |
| Helpers--Pipelayers, Plumbers, Pipefitters, and Steamfitters (47-3015) | 22 | $14.45 | 13.9% |

**Regional Breakdown for Plumbing Occupations**

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| --- | --- | --- | --- | --- | --- |
| **County Name** | **2014 Jobs** | **2017 Jobs** | **2014 Annual Openings** | **Median Hourly Earnings** | **2014 National Location Quotient** |
| Santa Clara | 4,680 | 4,874 | 128 | $35.31 | 0.57 |
| San Mateo | 3,508 | 3,833 | 172 | $34.68 | 1.15 |
| Total | 8,188 | 8,707 | 300 | $35.05 |  |

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| **Regional Plumbing Training Providers** |
| **1** | **41** |
| **Institutions** | **Completions (2013)** |



| **Institution** | **Degrees** | **Certificates** | **Total Completions** |
| --- | --- | --- | --- |
| College of San Mateo | 0 | 41 | 41 |

Other regional programs may train individuals eligible for the targeted primary care associate occupation, which is based on an occupation-program crosswalk developed by the Department of Education. As noted earlier, many postsecondary programs are linked to multiple occupations and not all those who complete the program will enter the target occupation.

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| **Related Regional Programs Allowing Entry to Primary Care Associate Occupations** |
| **8** | **357** |
| **Programs (2013)** | **Completions (2013)** |

| **Program** | **2009** | **2010** | **2011** | **2012** | **2013** |
| --- | --- | --- | --- | --- | --- |
| Electrician (46.0302) | 191 | 260 | 147 | 164 | 160 |
| Building Construction Technology (46.0415) | 0 | 18 | 122 | 149 | 152 |
| Plumbing Technology/Plumber (46.0503) | 64 | 9 | 0 | 28 | 41 |
| Building/Home/Construction Inspection/Inspector (46.0403) | 12 | 8 | 1 | 7 | 4 |
| Construction Trades, Other (46.9999) | 45 | 0 | 0 | 0 | 0 |

**Target Occupations Demographics**

The demographics among those employed in plumbing occupations in Santa Clara and San Mateo Counties for 2014 show that almost all are men (94%) and half are between the ages of 25-44 (50%).

**Gender Demographics (Regional)**

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| --- | --- | --- |
| Gender |   |   |
| Male | 94% |  |
| Female | 6% |  |

**Age Demographics (Regional)**

|  |  |  |
| --- | --- | --- |
| Age |   |   |
| 14-18 | 0% |  |
| 19-24 | 5% |  |
| 25-44 | 50% |  |
| 45-64 | 42% |  |
| 65+ | 3% |  |

**Industries Employing Plumbing Occupations**

A number of industries in Santa Clara and San Mateo Counties employ those trained in plumbing. The following table represents a regional industry breakdown of the number of plumbers employed, the percentage of plumbers employed by industry and the percentage plumbers represent within all jobs by each industry. While plumbing, heating, and air-conditioning contractors employed 42.9% of all regional plumbers in 2014, plumbing and its associated jobs made up nearly one-third of the total jobs in that industry (30.0%).

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| **Inverse Staffing Patterns (Regional)** |
| **Industry** | **Occupation Group Jobs in Industry (2014)** | **% of Occupation Group in Industry (2014)** | **% of Total Jobs in Industry (2014)** |
| Plumbing, Heating, and Air-Conditioning Contractors (238220) | 3,513 | 42.9% | 30.0% |
| Commercial and Institutional Building Construction (236220) | 646 | 7.9% | 10.6% |
| Residential Remodelers (236118) | 539 | 6.6% | 8.1% |
| Electrical Contractors and Other Wiring Installation Contractors (238210) | 376 | 4.6% | 4.4% |
| New Single-Family Housing Construction (except For-Sale Builders) (236115) | 309 | 3.8% | 7.1% |

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| **Compatible Occupations for Plumbing**Individuals completing a plumbing program share many skills and abilities with other occupations. The Occupational Information Network (O\*Net) identifies compatible occupations based on an analysis of overlapping knowledge, skills and ability. Additional education required for transition can range from short on-site training to advanced post-secondary degrees. The following table shows how much education might be needed to be employed in these compatible occupations.**Top Ten Compatible Occupations for Plumbing: Associate’s Degree or Less**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Rank | Occupation | Median Hourly Earnings | 2014 Jobs | 2014-2017 Change | 2014-2017 Estimated Annual Openings |
| 1 | Floor Sanders and Finishers | $20.77 | 77 | 6 | 3 |
| 2 | Helpers--Extraction Workers | $20.44 | 18 | 1 | 1 |
| 3 | Landscaping and Groundskeeping Workers | $14.36 | 10,799 | 307 | 285 |
| 4 | Pipe Fitters and Steamfitters | $37.91 | 3,602 | 337 | 123 |
| 5 | Plumbers | $37.91 | 3,602 | 337 | 123 |
| 6 | Pourers and Casters, Metal | $19.74 | 12 | 0 | 0 |
| 7 | Rail-Track Laying and Maintenance Equipment Operators | $22.50 | 19 | 1 | 1 |
| 8 | Refractory Materials Repairers, Except Brickmasons | $25.03 | <10 |  (1) | 0 |
| 9 | Rough Carpenters | $25.49 | 9,268 | 175 | 163 |
| 10 | Sawing Machine Setters, Operators, and Tenders, Wood | $15.34 | 106 | 4 | 4 |

**Data Sources and Calculations** |

**State Data Sources**

This report uses state data from the following agencies: California Labor Market Information Department

**Institution Data**

The institution data in this report is taken directly from the national IPEDS database published by the U.S. Department of Education's National Center for Education Statistics.

**Completers Data**

The completers data in this report is taken directly from the national IPEDS database published by the U.S. Department of Education's National Center for Education Statistics.

**Occupation Data**

EMSI occupation employment data are based on final EMSI industry data and final EMSI staffing patterns. Wage estimates are based on Occupational Employment Statistics (QCEW and Non-QCEW Employees classes of worker) and the American Community Survey (Self-Employed and Extended Proprietors). Occupational wage estimates also affected by county-level EMSI earnings by industry.

**Staffing Patterns Data**

The staffing pattern data in this report are compiled from several sources using a specialized process. For QCEW and Non-QCEW Employees classes of worker, sources include Occupational Employment Statistics, the National Industry-Occupation Employment Matrix, and the American Community Survey. For the Self-Employed and Extended Proprietors classes of worker, the primary source is the American Community Survey, with a small amount of information from Occupational Employment Statistics.

**Industry Data**

EMSI industry data have various sources depending on the class of worker. (1) For QCEW Employees, EMSI primarily uses the QCEW (Quarterly Census of Employment and Wages), with supplemental estimates from County Business Patterns and Current Employment Statistics. (2) Non-QCEW employees data are based on a number of sources including QCEW, Current Employment Statistics, County Business Patterns, BEA State and Local Personal Income reports, the National Industry-Occupation Employment Matrix (NIOEM), the American Community Survey, and Railroad Retirement Board statistics. (3) Self-Employed and Extended Proprietor classes of worker data are primarily based on the American Community Survey, Nonemployer Statistics, and BEA State and Local Personal Income Reports. Projections for QCEW and Non-QCEW Employees are informed by NIOEM and long-term industry projections published by individual states.