

Program Endorsement Brief:

Fire Fighting Officers and Supervisors in the Greater Sacramento region

North Far North Center of Excellence, June 2019

INTRODUCTION

This report provides an overview of the labor market demand and educational program supply for fire fighting officer and supervisor occupations in the Greater Sacramento region and the broader 22-county North Far North region.

SUMMARY OF KEY FINDINGS

- First-line supervisors of fire fighting and prevention workers are projected to add 14 jobs over the next five years, an increase of 5.6%.
- Median wages for first-line supervisors of fire fighting and prevention workers are above the living wage for a one-adult and one-child household.
- While five region colleges offer awards in the 2133.00 – Fire Technology TOP code, only one provides a specific focus on fire officers – Lake Tahoe Community College.
- Regional community colleges confer an average of 22 certificates and 56 associate degrees in TOP code Fire Technology – 2133.00.

The report contains the following sections:

- Occupational demand,
- Wages and job postings,
- Education and training,
- Regional program supply, and
- Findings and recommendations.

OCCUPATIONAL DEMAND

The following Standard Occupational Classification (SOC) codes related to the proposed program were included in the analysis:

33-1021.01 - Municipal Fire Fighting and Prevention Supervisors	
Description:	Supervise fire fighters who control and extinguish municipal fires, protect life and property, and conduct rescue efforts.
Sample job titles:	Battalion Chief, Battalion Fire Chief, Fire Battalion Chief, Fire Captain, Fire Chief, Fire Lieutenant, Fire Marshal, Fire Suppression Captain, Lieutenant Fire Fighter, Training Officer

33-1021.02 - Forest Fire Fighting and Prevention Supervisors	
Description:	Supervise fire fighters who control and suppress fires in forests or vacant public land.
Sample job titles:	Assistant Unit Forester, Crew Boss, District Fire Management Officer, Engine Boss, Fire Captain, Fire Management Officer, Firefighter Type One (FFT1), Forest Fire Specialist Supervisor, Section Forest Fire Warden, Squad Boss

These two occupations can be summarized under the broader SOC code 33-1021 for first-line supervisors of fire fighting and prevention workers.

Exhibit 1 summarizes the job trends by SOC codes in the 7-county Greater Sacramento region, the 22-county North Far North region, and California.

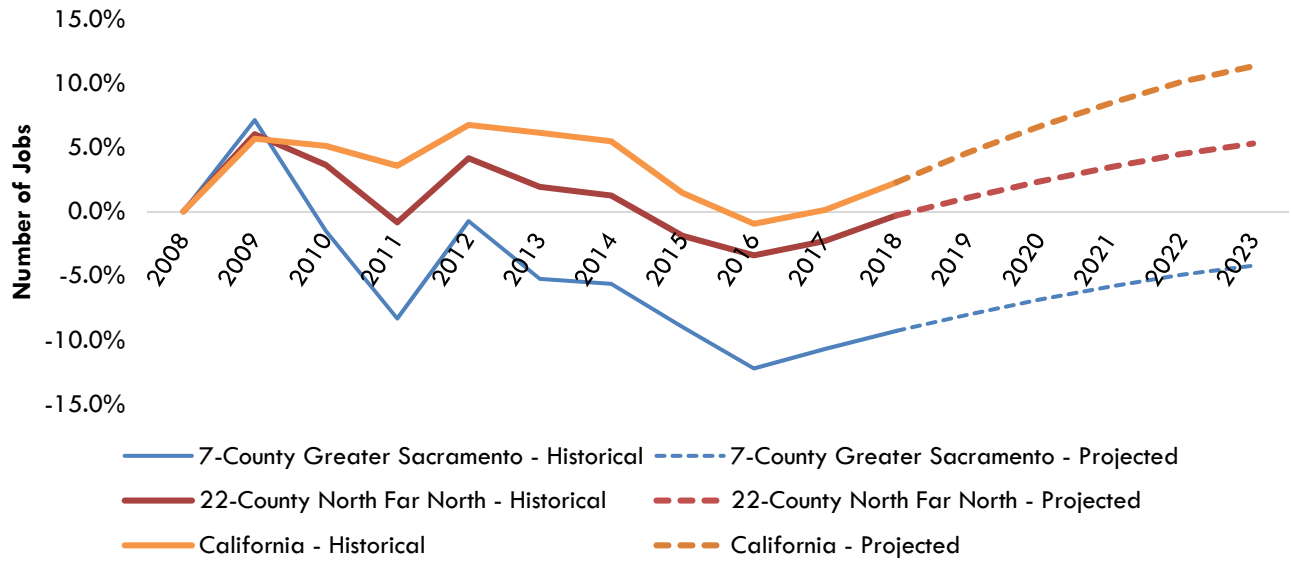
Exhibit 1. Employment and projected occupational demand¹

Occupation	SOC	2008 Jobs	2018 Jobs	2023 Jobs	2018-23 % Change	Annual Openings	Annual Replacements
First-Line Supervisors of Fire Fighting and Prevention Workers	33-1021	278	252	266	5.6%	22	17
GREATER SACRAMENTO	TOTALS	278	252	266	5.6%	22	17
First-Line Supervisors of Fire Fighting and Prevention Workers	33-1021	489	487	515	5.6%	41	32
NORTH FAR NORTH	TOTALS	489	487	515	5.6%	41	32
First-Line Supervisors of Fire Fighting and Prevention Workers	33-1021	2,386	2,440	2,656	8.8%	207	162
CALIFORNIA	TOTALS	2,386	2,440	2,656	8.8%	207	162

¹ Emsi 2019.2; QCEW Employees, Non-QCEW Employees and Self-Employed. The 7-county Greater Sacramento region includes El Dorado, Placer, Nevada, Sacramento, Sutter, Yolo and Yuba. The 22-county North Far North region includes the aforementioned counties as well as Butte, Colusa, Del Norte, Glenn, Humboldt, Lake, Lassen, Mendocino, Modoc, Plumas, Shasta, Sierra, Siskiyou, Tehama and Trinity.

Exhibit 2 compares the rates of change of the total number of jobs between 2008 and 2018 in the Greater Sacramento region, the North Far North region, and California. It also compares occupational demand projections from 2018 through 2023 across the same areas. The rate of change is indexed to the base year 2008 total number of jobs.

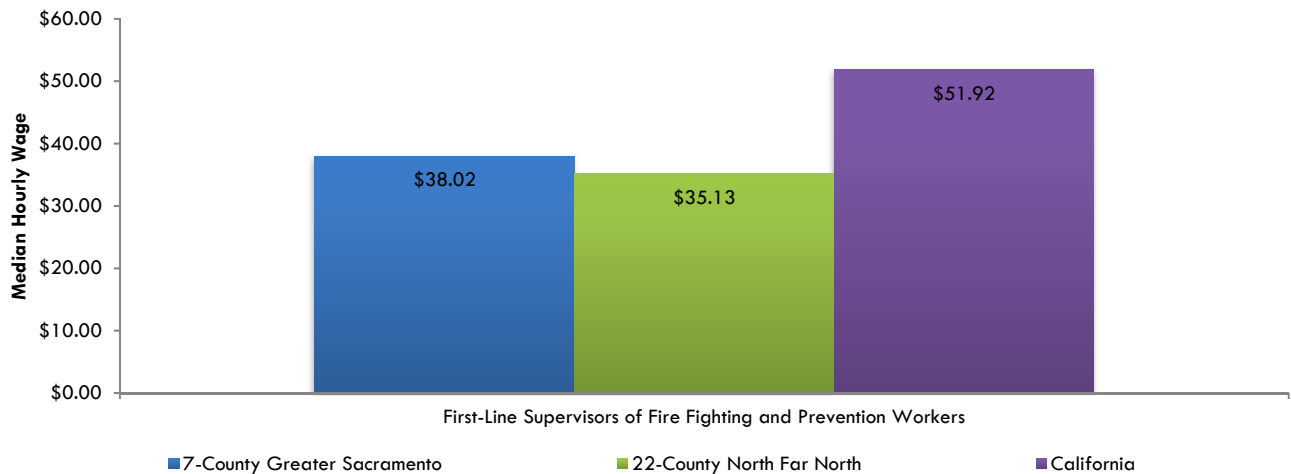
Exhibit 2. Rate of Change for Selected Occupations²



WAGES AND JOB POSTINGS

Exhibit 3 shows the median hourly wages of the selected occupations in the study regions to the Sacramento Metropolitan Statistical Area (MSA) living wage for a one-adult household and a one-adult, one-child household.³

Exhibit 3. Wages for selected occupations⁴



Burning Glass identified a pool of 88 job postings in the Greater Sacramento region for the selected occupations. This data represents job listings posted online within the last year, from September 1, 2018, through August 31, 2019.

² Ibid.

³ Living Wage Calculator: Counties and Metropolitan Statistical Areas in California, <http://livingwage.mit.edu/>

⁴ Emsi 2019.2; QCEW Employees, Non-QCEW Employees and Self-Employed.

Exhibit 4 shows the number of job postings by county for the selected occupations.

Exhibit 4. Top job postings locations for selected occupations⁵

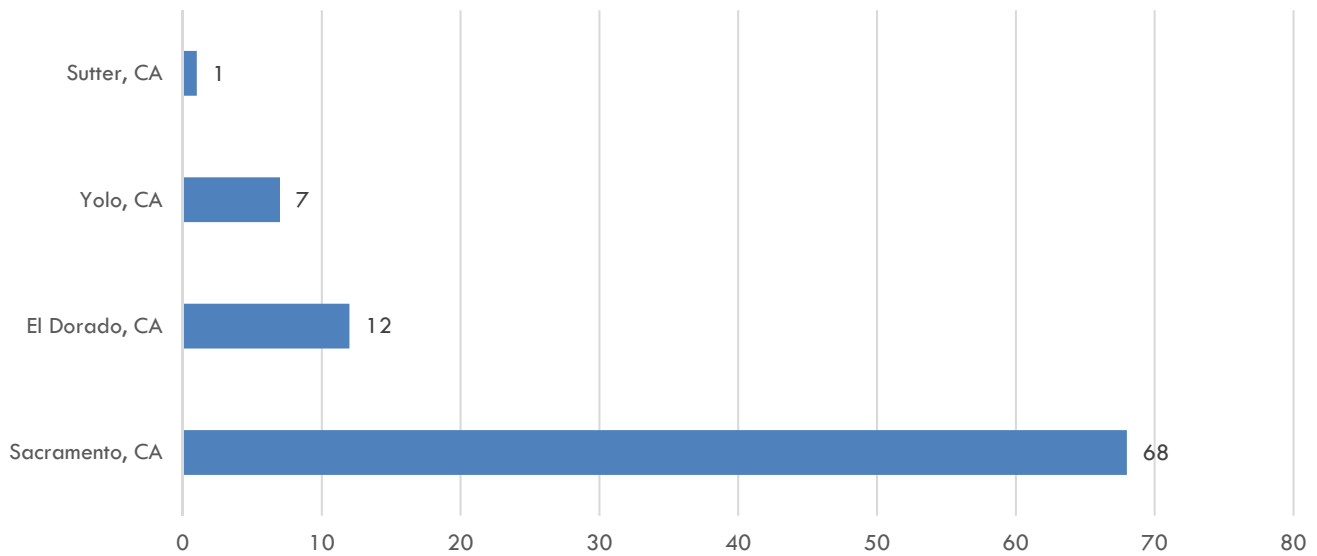


Exhibit 5 lists the employers with the most job openings for the selected occupations within the study region. Of the 88 job postings, 374 included the employer’s name.

Exhibit 5. Top employers by number of job postings⁶

Employer	Greater Sacramento (n = 88)	
	Number of Postings	Percent of Postings
State of California	20	31%
Daily Dispatch	6	9%
City of Sacramento	6	9%
UC Davis Health	3	5%
County of Sacramento	3	5%
University of California	2	3%
US Department of the Interior	2	3%
St Hope Public Schools	2	3%
Department of the Interior	2	3%
City of South Lake Tahoe	2	3%

⁵ Ibid.

⁶ Ibid.

Exhibit 6 shows the top job titles for the selected occupations in the Greater Sacramento region. All 88 job postings included job titles.

Exhibit 6. Top job titles by number of job postings⁷

33-1021.01 - Municipal Fire Fighting and Prevention Supervisors (n = 71)			33-1021.02 - Forest Fire Fighting and Prevention Supervisors (n = 17)		
Title	Job Postings	% Job Posting	Title	Job Postings	% Job Posting
Fire Chief	15	21%	Fire Recruit	6	35%
Deputy Marshal	11	15%	Management Officer	6	35%
Battalion Chief	9	13%	Captain	3	18%
Deputy Chief	4	6%	Coordinator, Contract	1	6%
Deputy Specialist	4	6%	Crew Lead	1	6%
Assistant Recorder	3	4%			
Chief Deputy Commissioner	3	4%			
Chief Deputy Department Commissioner, Business	2	3%			
Deputy Marshal/Supervisor	2	3%			
Deputy State Fire	2	3%			

Exhibit 7 shows the skills most in-demand for the selected occupations in the Greater Sacramento region. All 88 job postings included skills.

Exhibit 7. Top skills by number of job postings⁸

33-1021.01 - Municipal Fire Fighting and Prevention Supervisors (n = 71)			33-1021.02 - Forest Fire Fighting and Prevention Supervisors (n = 17)		
Skill	Job Postings	% Job Posting	Skill	Job Postings	% Job Posting
Fire Protection	43	61%	Medical Assistance	8	47%
Self-Contained Breathing Apparatus (SCBA)	27	38%	Budgeting	6	35%
Occupational Health and Safety	26	37%	Chemistry	6	35%
Exercise Treadmill	24	34%	Land Management	6	35%
Spirometry	24	34%	Natural Resource Management	6	35%
Telecommunications	24	34%	Natural Resources	6	35%
Budgeting	12	17%	Policy Development	6	35%
Public administration	12	17%	Policy Implementation	6	35%
Personnel Management	10	14%	Technical Inspections	6	35%
Cardiopulmonary Resuscitation (CPR)	7	10%	Cost Control	5	29%

⁷ Ibid.

⁸ Ibid.

EDUCATION AND TRAINING

Exhibit 8 shows the typical educational attainment for workers 25 years and old by occupation across the U.S. At the national level, the typical education for the existing workforce based on survey data from 2016-2017 for the selected occupations is some college.

Exhibit 8. Typical educational attainment for selected occupations, nationally⁹

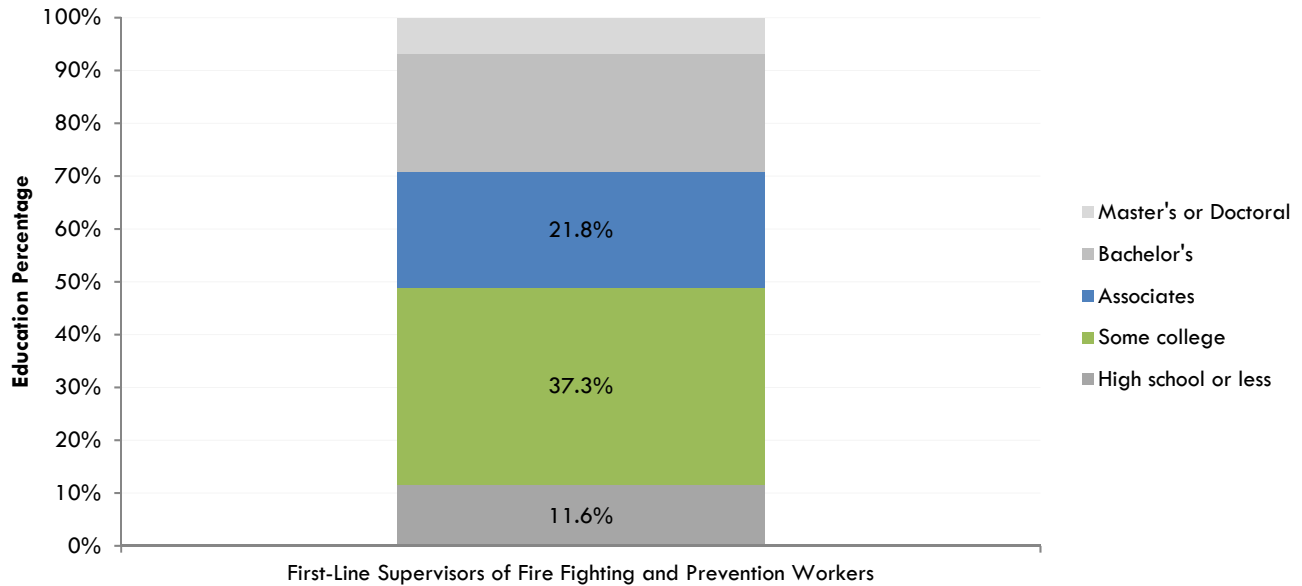


Exhibit 9 shows the typical entry-level education requirements, on-the-job training, and work experience requirements for the selected occupations in the Greater Sacramento region.

Exhibit 9. Typical education, training, and work experience for selected occupations¹⁰

Occupations	SOC	Typical Entry-Level Education	Typical On-The-Job Training	Work Experience Required
First-Line Supervisors of Fire Fighting and Prevention Workers	33-1021	Postsecondary nondegree award	Less than 5 years	Moderate-term on-the-job training

PROGRAM SUPPLY

Analysis of existing educational programs shows that there is one Taxonomy of Program (TOP) codes related to training for fire fighting officers and supervisors: 21 33.00 – Fire Technology. The corresponding Classification of Instructional Programs (CIP) code for this program is 43.0201 – Fire Prevention and Safety Technology/Technician.

Exhibit 10 compares the average total number of awards (certificates and degrees) conferred by colleges in the Greater Sacramento region over the last three academic years.

⁹ Bureau of Labor Statistics. Educational Attainment for Workers 25 Years and Older by Detailed Occupation, 2016-2017, <https://www.bls.gov/emp/tables/educational-attainment.htm>.

¹⁰ Emsi 2019.2; QCEW Employees, Non-QCEW Employees and Self-Employed.

Exhibit 10. Average annual awards conferred by Greater Sacramento post-secondary institutions, 2016-2019¹¹

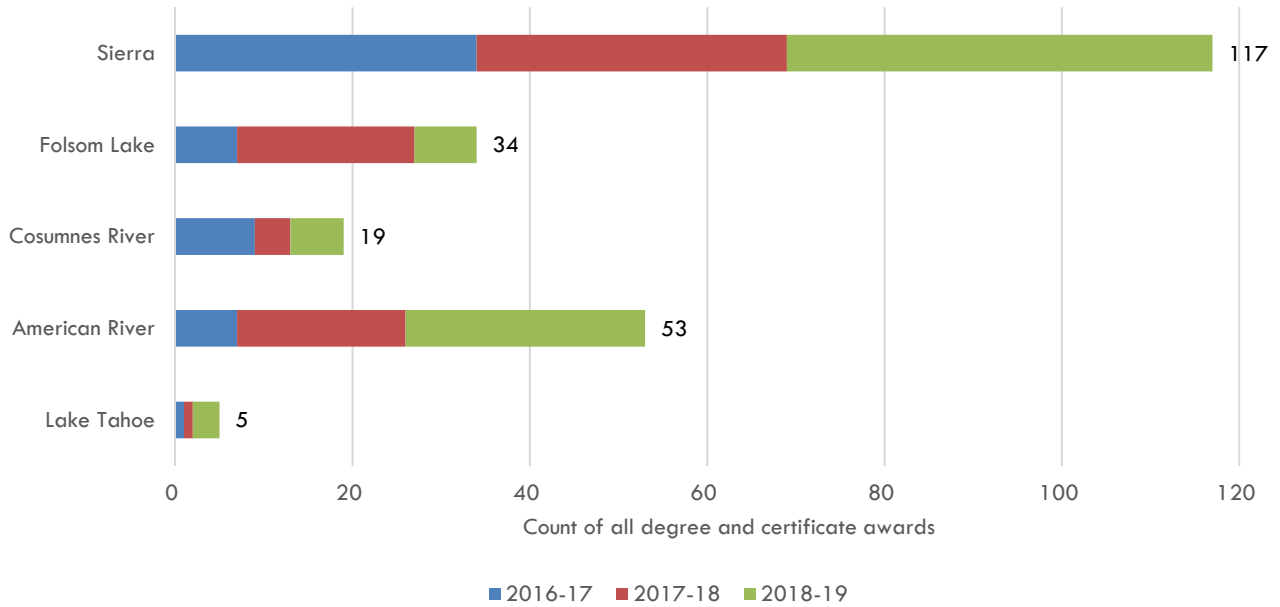


Exhibit 11 display program awards by level and year for the selected education programs over the last three academic years.

Exhibit 11. Program awards conferred by Greater Sacramento community colleges, 2016-2019¹²

Programs in Fire Technology – 2133.00	Certificate				Associate			
	2016-17	2017-18	2018-19	3-Yr Avg	2016-17	2017-18	2018-19	3-Yr Avg
Lake Tahoe	0	1	1	1	1	0	2	1
American River	2	4	6	4	5	15	21	14
Cosumnes River	3	1	1	2	6	3	5	5
Folsom Lake	2	9	1	4	5	11	6	7
Sierra	7	11	17	12	27	24	31	27
Yuba	0	0	1	0	4	1	2	2
Totals	14	26	27	22	48	54	67	56

¹¹ COE Supply Tables, California Community Colleges Chancellor's Office DataMart, and Integrated Postsecondary Education Data System (IPEDS).

¹² Ibid.

FINDINGS

- Between 2008 and 2018, first-line supervisors of fire fighting and prevention workers lost 26 jobs in the Greater Sacramento region.
- First-line supervisors of fire fighting and prevention workers are projected to add 14 jobs over the next five years, an increase of 5.6%. It is estimated that there will be 22 annual openings in the Greater Sacramento region through 2023.
- Median wages for first-line supervisors of fire fighting and prevention workers are above the living wage for a one-adult and one-child household - \$38 per hour.
- Burning glass identified 88 jobs postings for first-line supervisors of fire fighting and prevention workers in the last 12 months. Most job postings were located in Sacramento county.
- While five region colleges offer awards in the 2133.00 – Fire Technology TOP code, only one provides a specific focus on fire officers – Lake Tahoe Community College.
- Regional community colleges confer an average of 22 certificates and 56 associate degrees in TOP code Fire Technology – 2133.00.

RECOMMENDATIONS

- Based on a three-year average of annual awards in fire technology programs in the Greater Sacramento region (78 certificates and degrees), and projected annual openings for first-line supervisors of fire fighting and prevention workers (22 openings), the region appears to have no room for additional programs.
- However, Lake Tahoe Community College is the only program in the region that offers officer training for fire fighters. Lake Tahoe offers certificates and degrees for two programs under the studied TOP code; Fire Officer and Fire Science. The specific breakdown of awards contained under this TOP code is not available.
- Therefore, when comparing awards from Lake Tahoe only to projected annual openings, there may be an opportunity for another fire fighter officer training program.
- NFN COE recommends gathering additional information from industry partners, as well as on-going communication with industry partners to ensure any new fire officer training programs align with regional need.

COE Recommendation		
Move forward with program	Program is not recommended	Additional information needed
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

METHODOLOGY

Occupations in this report were identified using O*Net. Findings in this report were determined using labor market data from the Bureau of Labor Statistics (BLS), U.S. Census Bureau data from Emsi, and jobs posting data from Burning Glass.

APPENDIX A: DATA SOURCES

Sources used for data analysis purposes in this report include:

- U.S. Department of Labor/Employment and Training Administration (DOLETA) O*NET Online
- Burning Glass, Labor Insight/Jobs
- Economic Modeling Specialists, International (EMSI)
- California Employment Development Department, Labor Market Information Division (EDD, LMID)
- Bureau of Labor Statistics, Occupational Employment Statistics (OES)
- California Community Colleges Chancellor's Office, Cal-PASS Plus LaunchBoard
- Living Insight Center for Community Economic Development, Self-Sufficiency Standard Tool for California
- California Community Colleges Chancellor's Office Management Information Systems (MIS Data Mart)
- U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System (IPEDS)

For more information, please contact:

Ebony J. Benzing, Manager
Center of Excellence, North Far North Region
Ebony.Benzing@losrios.edu

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