



# Pierce College BAS Fire Command and Administration

## Statement of Need

**COVER SHEET  
STATEMENT OF NEED**

**Program Information**

Institution Name: Pierce College

Degree Name: Fire Command and Administration CIP Code: \_\_\_\_\_

Name(s) of existing technical associate degree(s) that will serve as the foundation for this program:

Associates in Applied Science (AAS)  
Degree: in Fire Command and Administration CIP Code: 43.0202 Year Began: 2008

Associates in Applied Science  
(AAS)in Homeland Security  
Degree: Emergency Management CIP Code: 43.0302 Year Began: 2007

Proposed Start Implementation Date ( i.e. Fall 2014): Fall 2019

Projected Enrollment (FTE) in Year One: 12 at Full Enrollment by Year 1: 30

Funding Source: State FTE:  Self-Support:  Other:

**Mode of Delivery**

Distance Learning: FCA-BAS courses would be online; General Education would be delivered via multiple modalities.

**Statement of Need:** *Please see criteria and standard sheet. Page Limit: 20 pages*

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## Introduction

On November 1, 1974, President Gerald Ford established the National Fire Prevention and Control Administration, known today as the United States Fire Administration, by signing the Federal Fire Prevention and Control Act of 1974, Public Law 43-198 into law. Now an entity under the U.S. Department of Homeland Security's Federal Emergency Management Agency (FEMA), the mission of the U.S. Fire Administration is to provide national leadership to foster a solid foundation for our fire and emergency services stakeholders in prevention, preparedness and response in both paid and volunteer capacities.

The Emergency Services Sector is comprised of five distinct disciplines that integrate a wide range of services. Fire and Emergency (Rescue) Services are organized as distinct disciplines under the National Emergency Services sector. Other disciplines include law enforcement, emergency medical services, emergency management and public works. (Figure 1)

The Fire and Emergency Services sector has become more complex with professionals required to have new skill sets and understand the multifaceted nature of the industry. There is a growing recognition of the need for whole community involvement within the sector, which includes cross-functional planning with other disciplines and agencies. Additionally, the Fire and Emergency Services sector faces an aging workforce at or near retirement where succession planning has now become a priority. (Appendix G)



Figure 1: National Emergency Services Sector

The U.S. Fire Administration is working with the fire and emergency services professional development community through the Fire and Emergency Services Higher Education (FESHE) initiative to standardize training, education, experience and certification activities. The result of this partnership is the National Professional Development Model. (Figure 2)

***The Fire Service is a unique and complex profession and higher education focused on career advancement for fire service senior officers is specialized and evolving.***

According to Dr. Denis Onieal, superintendent of the National Fire Academy, “Across most industries in the United States, the last 50 years have seen a gradual emphasis on the need for education beyond a high school diploma or even an associate’s degree or a technical certification. More and more jobs require four-year degrees. The fire service is not immune to this trend, and as a result, we’ve seen more company officers returning to school for their bachelor degrees, and more chiefs pursuing master and even doctoral degrees. What [we are beginning] to see [as an industry], is that the municipalities that are hiring people are using education as a line of demarcation. The level of [fire service specific] education is really telling [an] employer that this person has taken the initiative to acquire new knowledge, and it’s been formalized and recognized by a regionally accredited body.”<sup>1</sup>

<sup>1</sup> Dr. Denis Onieal on Higher Education in the Fire Service, Fire Rescue.pdf, April 2011, Executive Fire Officer Program. Web July 2018  
<https://www.firerescuemagazine.com/print/volume-6/issue-4/professional-development/dr-denis-onieal-on-higher-education-in-the-fire-service>

To appreciate the Fire Service industry’s need for a Bachelor of Applied Science degree, it is necessary to have a basic level of understanding about the nature of the evolving Fire and Emergency Services sector and how fire **service** differs from fire **administration** or more accurately, **leadership** and administration. The need for a Fire Command and Administration Bachelor of Applied Science (BAS) degree and its importance to the industry must be understood in its full context and not simply viewed as a step on a career ladder for incumbent workers where a baccalaureate degree in any discipline qualifies an individual to advance into the industry as a manager or administrator.

The Fire and Emergency Services sector can be broken down into two distinct tiers; **Supervision and Leadership and Management**. Fire **service** encompasses the parallel basics of education and training from Firefighter I and II to Fire Officer I focused on supervision. At the bachelor degree level the emphasis shifts to growing a fire professional’s ability to perform as a **manager** and do the work as a Fire Officer II. (See Figure 2, National Professional Development Model)

At the management or bachelor degree level the focus shifts to operations and risk management where advanced training in the increasingly important concepts and contextual study of leadership, political and organizational analysis, strategic thinking, risk management and public policy become primary. The Pierce College BAS-FCA degree will advance the skills needed by senior level fire officers to progress from a supervisor or Fire Officer I to leadership and management opportunities as a Fire Officer II or Manager.

The alignment of training and education has been recognized as a critical factor that contributes to the overall competency of the fire service professional. To achieve consistency in training and education the U.S. Fire Administration collaborated with two and four year Fire and Emergency Management programs to create standards for post-secondary institutions to promote higher education and to enhance the recognition of fire and emergency services as a profession to reduce loss of life and property from fire and other hazards. This resulted in the Fire and Emergency Services Higher Education model or FESHE. The idea for creating the FESHE model is recognition within the institutions of higher education that firefighters and fire officers, armed with the knowledge and a college degree, can reduce the human and economic impact of fires in their communities. [https://www.usfa.fema.gov/training/prodev/about\\_feshe.html](https://www.usfa.fema.gov/training/prodev/about_feshe.html)

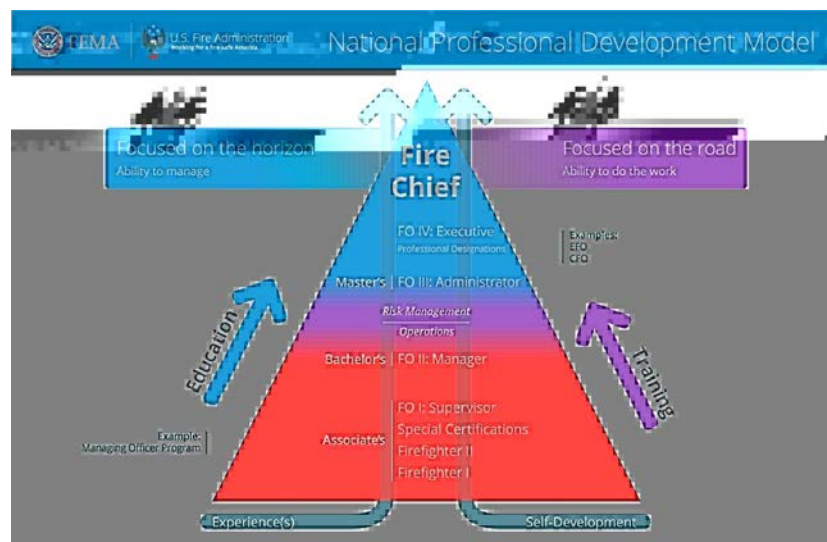


Figure 2: National Professional Development Model

The BAS-FCA will be designed to support the goals and objectives of the U.S. Fire Administration and FEMA to provide Fire Service professionals with the knowledge and skills they need to progress on their career pathway into supervisory, management and administrative positions and meet the succession planning needs of the sector. The existing Pierce College AAS in Fire Command and Administration degree coupled with in-station training is the first step in this process.

There are multiple ways to enter the fire service profession:

- Pre-recruit academy programs offered by K-12 Skill Centers
- Recruit Academies (Example: the Washington State Patrol (WSP) Basic Fire Fighter Training Program at North Bend that provides fire departments and fire protection districts with resources and financial support to facilitate and enable the training of fire fighters to minimum safety requirements).
- Registered apprenticeship
- College associate degree programs

All firefighters, volunteer or career, must successfully complete a Basic Firefighter Training Program (Recruit Academy). These Basic Firefighter Training programs are provided through a number of agencies including the Washington State Patrol (WSP). Larger departments may provide their own but often collaborate to provide a county level academy or coordinate with a community college based program. As stated earlier, it is important to differentiate between fire service and fire command and administration programs. College *fire service* programs and associated *registered apprenticeships* provide education and training for **Firefighters** up to and including the **Fire Officer I** designation that includes supervisory responsibilities. These programs culminate with training through the Fire Officer I level. Moving up the career/education pathway is Fire Officer II where the emphasis shifts from the technical skills for firefighting and supervision to leadership and management to include operations and risk management. **The Pierce AAS in Fire Command and Administration is the preparatory pathway and forms a natural foundation and progression to a BAS-FCA degree.**

Pierce will design the BAS-FCA program to build upon its existing AAS in Fire Command and Administration and extend the curriculum to encompass the FESHE Bachelor Degree Model. “FESHE leaders have produced, through consensus, a standardized undergraduate curriculum that is national in scope, content and outcomes. This represents a major paradigm shift from a fragmented system of education to one that is unified and integrated. All the courses share student learning outcomes, catalog descriptions, outlines and text recommendations that provide a national core of knowledge and competencies. This curriculum linkage represents a milestone in fire and emergency services education. It provides for a seamless articulation of coursework between institutions and between associate and bachelor programs.”<sup>2</sup>

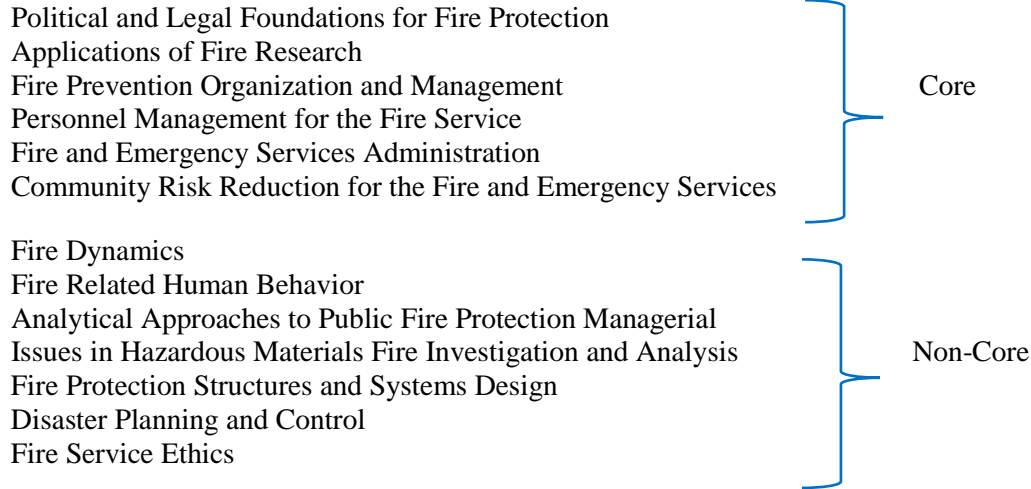
### ***FESHE Bachelor Degree Content***

FESHE makes available six core and seven non-core courses that colleges may adopted in whole or part to create a robust bachelor level program. Pierce BAS program developers will further detail the program and course outcomes in the BAS-FCA program proposal phase of the approval process.

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<sup>2</sup> [https://www.usfa.fema.gov/training/prodev/model\\_courses.html](https://www.usfa.fema.gov/training/prodev/model_courses.html) Retrieved from web September 2, 2018.

Topics for consideration are:



Pierce College seeks approval to offer an online Bachelor of Applied Science Degree in Fire Command and Administration (BAS-FCA) beginning in the fall quarter of 2019 that will build upon the existing AAS degree in Fire Command and Administration and expand degree offerings for Fire Service professionals. Online delivery of the BAS-FCA program allows for flexibility of instruction for fire service professionals who are currently employed with inconsistent and constantly changing work schedules.

**Criteria 1: Relationship to institutional role, mission, and program priorities**

**Standard: Describe how the proposed program reflects and support the role and mission of the institution and reflect program priorities.**

The mission of Pierce College is to *create quality educational opportunities for a diverse community of learners to thrive in an evolving world*. Its vision is to support and nurture innovative and engaged learners who enrich the local and global communities. The Bachelor of Applied Science in Fire Command and Administration (BAS-FCA) degree is a natural extension of Pierce College’s mission. The addition of a BAS option to the Fire Command and Administration Associate degree complements the institutional core themes of access, excellence, contributions to the community, creating a positive and diverse college environment and maximizing the potential for student learning and success.

The BAS-FCA complements degrees in Pierce College’s career pathway of Social, Human, and Public Services and will further the college’s intent to develop a seamless, standardized and portable pathway for current firefighters to obtain leadership education and training. The BAS-FCA degree fills a leadership and management training gap in the educational pathway for firefighters that is not addressed by any Washington 4-year institutions.

In developing its proposal for a BAS-FCA program, Pierce College has carefully examined the initiative through the lens of each of the five institutional core themes that collectively comprise its mission: 1) Access, 2) Excellence, 3) Contribution to the Community, 4) Positive and Diverse College Environment and 5) Student Learning and Success.

**Core Themes**

**Access:** At Pierce College District, students have access to comprehensive educational offerings and services for their core general education courses. Pierce continually seeks ways to make education more accessible and affordable by offering these programs online. The BAS-FCA degree will be designed as an



online program to meet the needs of working professionals and increase overall access and affordability for students seeking an undergraduate degree regardless of their age, mobility or physical location. Having a program that can be accessed via an online modality is critical for employed firefighters as their schedules are often very unpredictable.

***Excellence:*** Pierce College District ensures quality, sustainability and continuous improvement in all of its departments and programs and recognizes the needs of an evolving workforce. The BAS-FCA further ensures that graduates will be prepared and competitive for employment in fire service leadership by seamlessly coupling on-site training with academic preparation. The BAS-FCA degree will offer access to innovative curriculum, customized training and qualified instructors with practical experience and knowledge of the leadership opportunities within the fire service profession.

***Contribution to the Community:*** Pierce College District continues to be a recognized leader in building and maintaining academic, industry and broad-based community partnerships to advance local and statewide education opportunities and economic development. The BAS-FCA program will prepare students to be effective leaders in managing fire departments. Having a cohesive team serving as first responders is critical to maintaining safety and reassurance to the broader community.

Statewide access to the Pierce College online BAS-FCA degree program will close a geographic gap as graduates are hired in their own communities with the skills and knowledge to work collaboratively with other community partners/agencies.

***Positive and Diverse College Environment:*** Pierce College District is recognized for promoting an environment in which quality teaching and learning are fostered, decision-making is collaborative, and students and employees feel valued and respected. The college continually seeks to recruit, retain, and support a diverse student population and program faculty by creating a safe and innovative environment for learning.

***Student Learning and Success:*** Pierce College District students in the current FCA Associate degree program experience industry-relevant learning that increases their knowledge, skills, and abilities to maximize the potential for individual success whether transferring to a four-year institution or preparing directly for the workforce.

Career professionals and transitioning military who have previous education, training or work experience can receive academic credit for prior learning (ACPL). Program outcomes will be developed with industry to ensure the necessary rigor that challenges students to apply critical thinking, problem solving, analytical, and leadership skills to their profession. Graduates will have the theoretical, methodological, and technical competencies required to pursue leadership positions in the fire service.

An examination of Fire Command and Administration baccalaureate programs across the nation revealed only out-of-state options for AA graduates. Examples of these program options include:

[Eastern Oregon University—Fire Services Administration](#)

[Columbia Southern University—Bachelor of Science in Fire Administration](#)

[Idaho State University—Fires Services Administration](#)

## **Criteria 2: Support of the statewide strategic plans.**

Alignment with state education and workforce development policy provides a solid foundation from which to establish the BAS-FCA degree program. The BAS-FCA program aligns with state policy beginning with Governor Inslee’s Working Washington Agenda, which provides a broad range of proposals to improve the state’s economy and education system. Further, the degree program would encompass goals and objectives from the State Board for Community and Technical Colleges Mission

Study, a 20 year action plan for community and technical college education, and the Workforce Training and Education Coordinating Board's (Workforce Board) 10 year strategic plan for workforce development, High Skills High Wages, and the Washington Student Achievement Council's 2016 Strategic Action Plan.

State policy makers and planners for higher education have articulated specific objectives to increase student achievement and increase levels of educational attainment in Washington State. Specifically, the BAS-FCA degree program directly addresses the following challenges to the state's education system:

#### Building a Working Washington<sup>3</sup>

- Increase baccalaureate capacity at community and technical colleges throughout the state.
- Help students complete their degrees in targeted, high quality, faculty-driven online learning courses and curricula that meet the workforce needs of high-demand fields.

#### SBCTC Mission Study<sup>4</sup>

- Close the statewide skills gap for technically trained workers.
- Contribute more to the production of baccalaureate degrees.

#### High Skills High Wages<sup>5</sup>

- Engage employers in identifying skill standards and develop training programs that meet their standards. (Goal 2, Objective 1, Strategy B)
- Increase the accessibility of training programs for adult workers and reduce the time it takes to complete training. (Goal 2, Objective 3, Strategy B)

#### Washington Student Achievement Council 2016 Strategic Action Plan<sup>6</sup>

- Support Washington State's education continuum by building on the strengths of our institutions and targets students at each stage of the educational continuum to improve college going rates and college completion rates.
- Reengagement of working adults to provide more options to meet personal and career goals.

### State Sector Strategies

Washington State has been a national leader in advancing a sector strategy policy framework for economic development. Sector strategy policy centers on engaging employers in innovative ways to leverage the assets, geography, history, and infrastructure in industries that are vital to the economic growth of the state.

### **Criteria 3: Employer/community demand for graduates with baccalaureate level of education proposed in the program.**

#### *Establishing the Supply/Demand Gap*

Pierce County is the second most densely populated area in Washington State with nearly 12% of the state's residents located in the county. Recent census data (2016) shows high school graduation rates in Pierce County (91%) exceed the state average (90.6%), however attainment of bachelor's degrees by

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<sup>3</sup> Working Washington Agenda. Governor Inslee's Plan for economic development and education.

<https://www.governor.wa.gov/issues/issues/economy/working-washington-agenda> Web. February 2018.

<sup>4</sup> State Board for Community and Technical Colleges: Mission Study. May 2010. <https://www.sbctc.edu/about/agency/initiatives-projects/mission-study.aspx> Web. February 2018.

<sup>5</sup> High Skills High Wages. Washington's 10 Year Strategic Plan for Workforce Development. Workforce Training and Education Coordinating Board. September 2012. <http://www.wtb.wa.gov/Documents/HSHW2012StrategicPlan.pdf> Web. February 2018.

<sup>6</sup> Washington Student Achievement Council 2016 Strategic Action Plan. <http://www.wsac.wa.gov/sites/default/files/2016.12.01.SAP.pdf> Web. February 2018.



county residents (25.4%) lags both the state (33.6%) and national (30.3%) averages.<sup>7</sup> The proposed BAS-FCA degree program will address the local areas undergraduate degree attainment by increasing the supply of qualified, highly educated professionals to fill leadership vacancies at the fire services administration/executive levels.

Most employment of fire officers occurs at the local and county levels, where they are primarily employed by local fire departments. (Appendix D) County level employment is represented in Figure 3. (Data used to create the map in Figure 3 can be found in Appendix B)

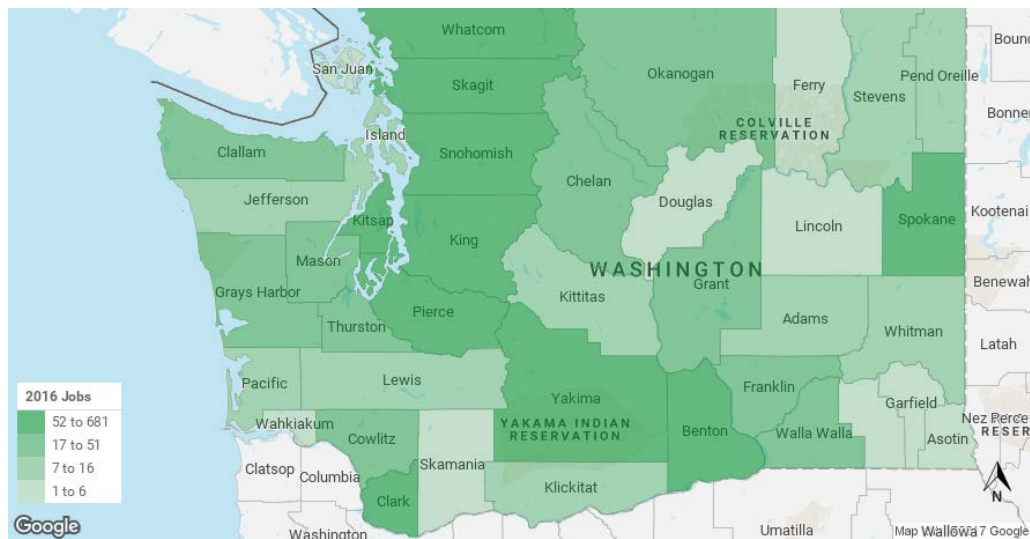


Figure 3: County Level Employment

Pierce initially brought the BAS-FCA option before the FCA program Advisory Board. On November 7, 2017, the FCA program Advisory Board met to discuss the value of expanding the existing AAS-FCA program to include a Bachelor of Applied Science degree. (Appendix H, Roster) Feedback was positive and the following responses are among those expressed:

- “Need to stay up on laws and to have the expertise specific in our field.”
- “We are now screening applicants with a bachelor’s degree. One mentioned that he has multiple people pursuing bachelor’s degrees in multiple institutions in multiple states.”
- “Our industry still advertises positions with GED requirement. The industry is long overdue to have a specialized program.”
- “The bachelor level program would fill in the gaps in current employee’s knowledge.”
- “This is an important program to have for chiefs.”
- “Succession planning. You need to have an educated workforce to step into this role. Right now you have to go to the national academy. Why can’t we do it locally?”

**Validating the Demand.** Currently, there are no bachelor degree programs for Fire Command and Administration offered within the state of Washington. Working professionals seeking to advance their careers are limited to out-of-state options. Pierce College intends to follow the National Professional Development Standards for Fire and Emergency Service personnel and build upon their existing AAS-FCA degree or related associate degree to create a seamless pathway to a FESHE recognized BAS-FCA degree. An online delivery model will accommodate the inconsistent and constantly changing schedules of working fire service professionals.

<sup>7</sup> U.S. Census QuickFacts 2012-2016. [http://www.census.gov/quickfacts/table/EDU635213/00\\_53053\\_53](http://www.census.gov/quickfacts/table/EDU635213/00_53053_53) Web. February 2018.

In February 2018, to acquire real-time labor market information to analyze the need for the BAS-FCA degree and validate demand, program developers used multiple methods of data collection to include an employer survey, student survey, direct communication with industry professionals and information gathered by the labor market analytics firm Emsi.

The college followed up the Advisory Board feedback with a comprehensive statewide employer survey of fire department hiring managers/fire chiefs. (Appendix E – Employer Survey Instrument). The scope of the employer survey included the four separate categories of departments that frame the fire service workforce, 1) All volunteer, 2) Combination department, mostly volunteer (50% or more), 3) Combination department, mostly career (50% or more) with some volunteers, and 4) Career only. Responses from the Employer Survey were assigned by zip code to defined local, regional or state service delivery areas. Appendix F illustrates the local/regional distribution of the employer responses by county. Appendix F1 lists the specific zip codes and corresponding counties to support the distribution map. Additional data was gathered from prospective BAS-FCA students who are currently employed as fire service professionals. Thirty-one workers from 18 individual departments were surveyed and further reinforced the need for a fire specific bachelor degree program to advance their careers. (Appendix I)

For the purposes of this Statement of Need and supporting employer survey, Pierce College has defined its local and regional service delivery areas as follows:

- Local = Pierce, Thurston, Mason, Kitsap and South King Counties (So. King includes Federal Way, Milton, Auburn and Renton.)
- Regional = Local SDA plus King and Snohomish Counties

The potential for developing a successful BAS-FCA program is grounded in employer demand and data representing a significant recruitment pool. The following table represents only a quarter of the fire districts in Pierce County with the addition of the South King, North Kitsap and South Kitsap Fire & Rescue Districts which are located within the Pierce service delivery area. The nearly 1,200 potential students working as Firefighter 1 & 2 and Fire Officer 1 & 2 in these districts provide substantial recruitment opportunities for the BAS-FCA program.

Table 1 – Example of Potential BAS Recruitment Pool within the Pierce College Service District Area

Districts (Excludes Thurston & Mason Counties)	Sq. Miles	Population	Stations (417 Stations in WA State)	Annual Calls for Service	**Uniformed Personnel FF 1 & 2 - FO 1 & 2
West Pierce Fire & Rescue	31	90,000	6	15,895	167
Central Pierce Fire & Rescue	84	198,000	13	28,961	258
East Pierce Fire & Rescue	153	90,000	12	10,259	125
Tacoma Fire Department	72	214,605	16	65,000	380
South King County Fire	41	150,000	7	20,337	127
North Kitsap Fire & Rescue	46	19,935	5	3,052	33
South Kitsap Fire & Rescue	117	75,018	12	9,520	72
<b>Total</b>	<b>544</b>	<b>837,558</b>	<b>71</b>	<b>153,024</b>	<b>1,162</b>

\*\*Excludes Executive Uniformed Officer Positions (Chief, Deputy Chief, Assistant Chief, Battalion Chief, Captain, Lieutenant)

Table 2 below illustrates the occupational demand gathered from fire districts across Washington separated by local, regional and statewide data. Appendix F further illustrates the geographic distribution of current vacancies for senior leadership positions within the Fire Service industry.

Table 2 – Gap Analysis Summary

Geographic Area	Current Jobs requiring bachelor degrees	# of Incumbent workers in WA with Fire related bachelor degrees	Future Jobs (Next 3 years) requiring bachelor degrees	Projected # of graduates from the proposed BAS-FCA program
Local*	13	0	33	30
Regional**	14	0	57	30
Statewide***	27	0	112	30

\*Local = Pierce, Thurston, Mason, Kitsap and South King Counties (So. King includes Federal Way, Milton, Auburn and Renton.)

\*\*Regional = Local SDA plus King and Snohomish Counties

\*\*\*All Surveyed Employers

In addition to Pierce College Fire Command and Administration AA students transferring into the BAS-FCA program, the following Fire Science/Firefighting programs could feed into the BAS-FCA online program.

Table 3 – Potential Transfer Programs

College	Program/Scope	Degree Awarded
Bates	Fire Science/Firefighting	AAS – (RSI Firefighters JATC)
Columbia Basin	Fire Science/Firefighter	AAS – (RSI Firefighters JATC)
Everett	Fire Science/Firefighting	ATA
Skagit Valley	Fire Service Administration	AAS-T
Spokane	Fire Officer/Fire Science	AAS/AAS-T

Source: <https://www.sbctc.edu/colleges-staff/programs-services/workforce-education/> (Program Inventory). Cross referenced to program offerings in current college catalogs.

Succession planning is a concern for those employing fire officers. The Emsi report states: *“In Washington State, the majority of those employed as fire officers are in the later phases of their careers, with 69.3% of them age 45 or older. This represents a likely opportunity in coming years, especially since many are likely to begin retiring with benefits at 55. Due in part to the high physical and mental stresses of the job, as well as to the availability of retirement, workers in the 45-54 cohort can be assumed to be in the final stage of their careers.”* (Appendix G: Fire Officer Succession Planning).

When asked about the level of interest that the department has in a Washington State focused BAS in Fire Command and Administration over 84 percent of responding departments indicated they were either *Very Interested* or *Interested* in seeing Pierce develop a Washington-focused BAS-FCA degree.

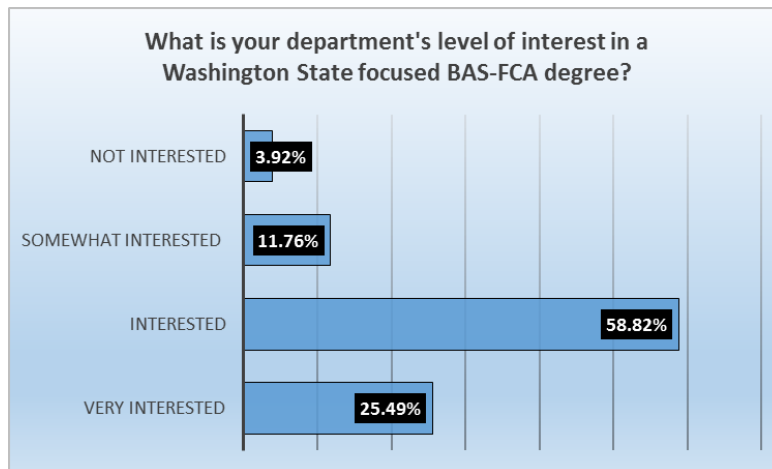


Figure: 4

**Preferred versus Required – The case for an industry specific bachelor degree.** Currently, there are no bachelor degree programs in Fire Command and Administration offered within the state of Washington. As professional benchmarks have been established through the FESHE initiative to standardize training, education, experience and certification activities, employers are increasingly writing BAS-Fire Command specific degrees into job announcements as preferred. Upscaling of degree requirements will continue to advance as fire specific bachelor degree programs are developed and offered by colleges and universities.

To address the question of why a fire specific bachelor degree is preferred over a general bachelor degree Dr. Denis Onieal, superintendent of the National Fire Academy provides clarity. **Bachelor degree required is an evolving trend in job announcements for senior and executive fire service occupations.** The Fire Service industry will continue to evolve and require versus prefer fire specific undergraduate degrees for new hires. This will happen as the higher education field aligns its baccalaureate education offerings with the demands of the Fire and Emergency Services sector. Dr. Onieal further emphasizes that degree attainment is a line of demarcation within the selection process. For example, when evaluating two equally qualified candidates with the difference being a general bachelor degree or a fire service specific bachelor degree the preference is for the fire service specific degree due to technical and critical nature of the industry where many leadership decisions are the difference between life and death. Fire specific undergraduate and graduate degrees become the benchmark by which new hires are initially evaluated.

***Degree Upscaling in the Fire Service Sector***

BAS-FCA degree developers looked further into the local/regional preferred versus required question and explored the professional evolution of the fire services industry, the upscaling of education/degree requirements and contributing factors.

At one time the fire services industry did not require workers to hold advanced degrees. Today, it is recognized that both training and education comprise essential parts of fire service competency. Consider them side-by-side, and one sees their unique attributes and complementary values.<sup>8</sup>

- |  |   |
|--|---|
| <p><i>Training</i></p> <ul style="list-style-type: none"> <li>• What to do</li> <li>• Anchored in the past</li> <li>• Job skills</li> <li>• Application</li> <li>• Confront the known</li> </ul> | <p><i>Education</i></p> <ul style="list-style-type: none"> <li>• What to be</li> <li>• Geared to the future</li> <li>• Life skills</li> <li>• Theory</li> <li>• Confront the unknown</li> </ul> |
|--|---|

The Fire Services industry is currently at a point in time where the hiring paradigm is shifting from the old thinking of no degree required or a preference for any bachelor degree to fire industry specific bachelor degrees and above. The Pierce BAS-FCA degree is forward looking and is a response to the industry’s demand to upscale their hiring qualifications to require a fire specific bachelor degree.



<sup>8</sup> <https://www.firerescuemagazine.com/articles/print/volume-3/issue-2/training-0/the-importance-of-higher-education-in-the-fire-service.html>  
Retrieved from web September 3, 2018.

What slows the industry requested progression of degree attainment illustrated above is the lack of accredited industry-specific Fire Service bachelor degrees offered by colleges and universities in the state of Washington. Employers then turn to the available skills pool when filling vacancies—thus the use of the term *preferred*. By developing a BAS-FCA program, Pierce College is responding to the local/regional Fire Service industry’s employer demand to increase the available pool of fire-specific degreed, skilled professionals available for promotion or hire. Establishing a new BAS-FCA program will enable employers to shift the bachelor *preferred* qualifications to BAS-FCA *required* when posting job vacancies.

To capture the data the employer survey included a question to determine to what level employers prefer to hire fire service professionals with a FCA specific degree, general baccalaureate degree or other credential. The results clearly support a Fire Command specific degree with over 65 percent responding that a fire specific degree is what they are looking for.

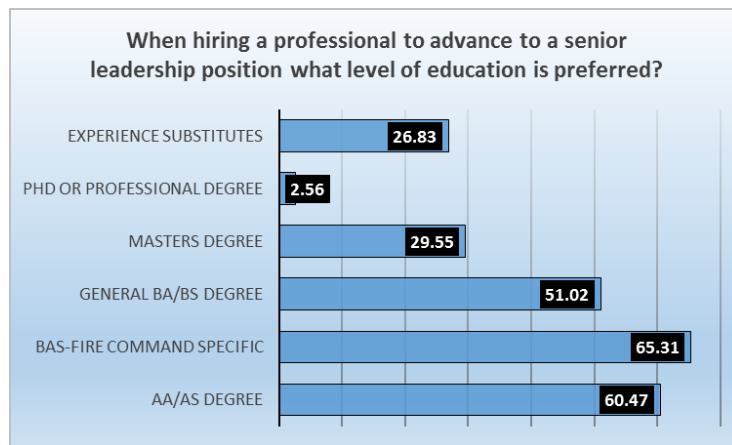


Figure: 5

The employer responses from the Fire Command and Administration survey were much the same as those for the Homeland Security Emergency Management BAS degree. The Fire Service industry is evolving and will continue to evolve to **require** versus **prefer** fire specific undergraduate degrees for new hires. *This will happen as the higher education field aligns its baccalaureate education offerings with the demands of the Fire and Emergency Services sector.* The above statement is again validated by Dr. Denis Onieal, superintendent of the National Fire Academy (See Introduction, Page 1, BAS-FCA Statement of Need.)

Fire specific undergraduate and graduate degrees will become the benchmark by which new hires are initially evaluated. The Pierce College BAS-FCA degree program directly responds to what employers are asking for in an academically prepared workforce. The aggregate results of all employer data provides solid evidence regarding the demand for a bachelor degree in Fire Command and Administration.

***Defining the Labor Market***

To define the labor market, BAS-FCA developers engaged Emsi to analyze multiple sources of employment data reflected in the Fire Service sector. Emsi data reveals that in 2016 there were 2,145 Washington state residents who held jobs as Fire Officers. This career group saw a significant 5.6% growth from 2010 to 2017. The growth outpaced the nation resulting in fire officers in Washington State receiving compensation higher than the national median. The median hourly earnings for fire officers in Washington State was \$44.19/hr. (\$91,900/year) compared to the national median hourly earnings of

\$34.72/hr. Table 3 shows the job growth and earnings data for Fire Officers in Washington is significantly higher when compared to the national average.

**Table 4: Fire Officer Compensation Employment Data**

Region	2010 Jobs	2017 Jobs	Change	% Change	Median Hourly Earnings
Washington	2061	2176	115	6%	\$44.19
United States	58191	59272	1081	2%	\$34.72

Source: Emsi 2017.2 Employee Data

Fire Command and Administration is a broad category and encompasses more than simply chiefs of fire departments. Completion of the Pierce BAS-FCA degree would prepare graduates for **Fire Officer III** Certification and to serve in senior administration level positions. Sample job titles for these positions include: Battalion Chief, Fire Marshal, Training Officer, Section Forest Fire Warden, Fire Captain, Shift Commander, and Incident Commander.<sup>9</sup>

Currently, students seeking a bachelor’s degree in Fire Command and Administration must pursue their education out-of-state. One example that addresses why having an in-state fire specific bachelor’s program relates to how fire services are funded by individual states. Looking at neighboring Oregon—the state has a complex multi-faceted state tax structure, which includes state matching funds and takes into consideration multiple sources of land ownership to determine the funding for the work of the Oregon Department of Forestry’s Fire Protection Division. The tax structure in Oregon is very specific and reflects the diversity of resources required and land ownership.

In comparison, Washington State does not employ a tax and fee structure to fund fire services and instead has established a state fire service mobilization mechanism through the legislature that provides for state reimbursement to host fire departments or fire protection districts in the event of large-scale events.

When looking at a fire specific degree program and using the single example above, a Washington State based program makes sense. Senior Fire Officers must understand the administrative codes, regulations and policies unique to Washington in order to perform the duties of their positions. The Pierce BAS-FCA program will include instruction in the policies, organizational structure and interagency dynamics specific to Washington State that meets the legislative intent of RCW 43.43, the needs of the state’s fire districts and creates a competitive advantage for Washington fire service professionals seeking promotion.

In assessing the value of the BAS-FCA degree for incumbent workers seeking career advancement, Figure 6 shows 88 percent of employers responding to the survey agree the FCA specific degree would make their existing fire service workforce more competitive.

<sup>9</sup> O\*Net. <https://www.onetonline.org/link/summary/33-1021.01#Education>. Web March 2018.



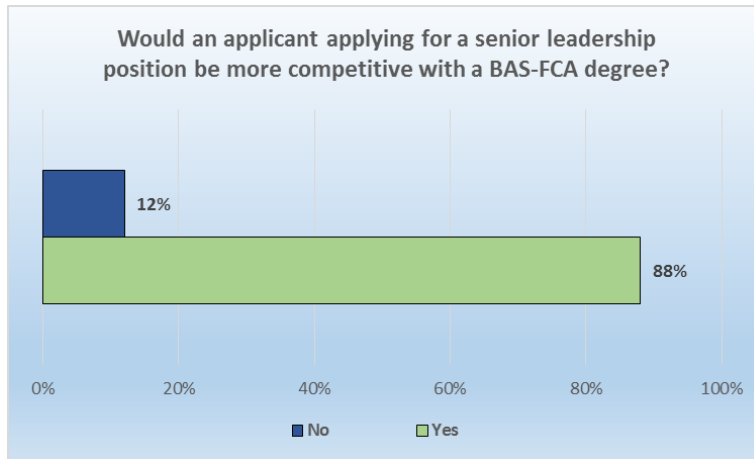


Figure: 6

Employer demand for a FCA specific bachelor’s degree established through analysis of the Employer Survey data, job announcement review, and Emsi modeling data equates to a widening supply gap for job applicants that meet the education standards set forth by FESHE. The BAS-FCA degree will give graduates an important competitive advantage in the job market and provide upward mobility for fire service professionals seeking career advancement.

When employers were asked if they expected to see a need for graduates of a Fire Command and Administration baccalaureate degree in the next 3 to 5 years over 92% responded “yes.” Anticipated retirements and succession planning needs underscore the need for BAS-FCA prepared candidates for senior leadership positions.

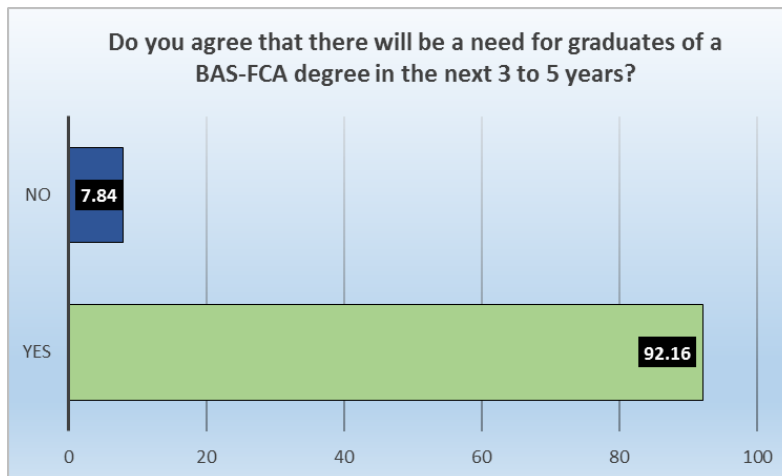


Figure: 7

When asked “How many personnel in your organization that you estimate would participate in a BAS degree in the next 3-5 years” 34 indicated 1-5, 8 indicated 6-10, and 4 indicated 10 or more. **Based upon these responses, an estimate for the number of fire service employees that would seek BAS enrollment over the next 3-5 years would be 122 to 290 employees.** This range represents the gap as there are no bachelor degree-granting institutions for Fire Command and Administration in Washington State.

The survey also indicated the following:

- Over 50% of the respondents indicated that their fire district had more than half of their firefighters as volunteers.
- Most respondents (54%) indicated that they have experienced problems finding qualified bachelor's prepared graduates to enter leadership positions.
- Those who answered the survey indicated that there were collectively a total of 27 leadership positions that are currently open.
- Projecting forward over the next 3 years, survey respondents indicated that they estimate having a collective total of 112 positions coming open.
- Over 88% of the survey respondents indicated that they would encourage their employees to enroll in the BAS-FCA program.
- Respondents provided supportive comments to the survey. (See Appendix E, Q16)

**Criteria 4: Applied baccalaureate program builds from existing professional and technical degree program offered by the institution.**

Pierce College initially offered the Associate degree in Fire Command and Administration in the 1970's at what was then Fort Lewis Army Base (now Joint Base Lewis McChord) and continued offering courses and awarding credit through 2005. The program utilized a statewide curriculum that had aligned prior learning assessment criteria for awarding credit. The departments would generally cover the tuition of their employees. Post-9/11 restriction of access to the military base made it difficult for firefighters to obtain base access. This resulted in a hiatus of the program in 2005 while research was done regarding the program and what would need to be updated. The fire districts were very interested in an online Fire Command and Administration program and worked closely with the project coordinator on the restructure of and the reinstatement of the FCA degree program (2006-2007). Research and recommendations were completed in June of 2007. A Memorandum of Understanding (MOU) was developed with Bates Technical College to offer a shared program. Bates would offer the Fire Service aspects of the degree (44 credits) and Pierce would offer the Administrative courses (46 credits) with Pierce College awarding the degree. The program reinstatement was submitted in January 2008 and the MOU was completed shortly after.

The program had a shared coordinator and a shared advisory committee. The curriculum of the FCA program was designed to align with the International Fire Service Accreditation Congress (IFSAC) certifications. The courses were offered online. In addition, there was collaboration with the Center of Excellence for Homeland Security Emergency Management, co-located on the Pierce College Ft. Steilacoom campus, and the development of the Homeland Security Emergency Management (HSEM) Associate degree. The program was developed with the guidance of the State Fire Marshal's Office and was in alignment with the State Fire Training and Education Master Plan.

Pierce continued to partner with Bates Technical College until 2016. Bates has agreed to share information about the Pierce BAS-FCA degree program with their fire science students and those on an Apprenticeship pathway. Pierce will coordinate with all regional fire science programs to provide information to existing students about the BAS-FCA option for advancing their Fire Service sector education. (See Table 3, Page 10)

By partnering with local/regional fire academies and fire science programs the Fire Command and Administration associate degree program at Pierce creates a natural progression for fire science graduates into the field of fire administration. The BAS-FCA program will further extend the options for fire professionals into an undergraduate degree program.

The focus of the existing FCA program at Pierce College is to provide the skills necessary for leadership, management and opportunity for advancement within the department. The FCA courses that Pierce provides through its Associate degree support fire research, community risk, personnel management, as well as political and legal issues in the industry. The BAS-FCA degree will be designed to include advanced concepts and contextual studies in leadership, political and organizational analysis, strategic thinking, risk management and public policy.

Online courses at Pierce College are designed to Quality Matters standards. The eLearning Department has provided strong support for online learners in the Associate degree program. A BAS-FCA program would align with Pierce College’s work with Achieving the Dream and Guided Pathways.

The BAS degree is focused on incumbent workers and would integrate Academic Credit for Prior Learning (ACPL) as an opportunity for incoming students. ACPL was one of the areas expressed in the comments by students as important to their decision on enrolling in a BAS-FCA program. The Pierce Guided Pathways model creates a framework for students to seek credit for what they already know and can do related to course outcomes and skills practiced through “in-station” training. To help optimize its PLA offerings, Pierce is implementing two online tools to add structure and consistency for students, faculty and advisors through the implementation of the PLA Accelerator—an online tool that guides students through the process of documenting their work and learning experiences. The PLA Accelerator not only helps identify specific areas of knowledge and expertise, it can also enable students to self-assess their skills against the college’s professional technical programs’ specific learning outcomes to include the Fire Command and Administration program. In this way, the PLA Accelerator adds structure and consistency to the ACPL process and creates efficiency in the advising function by automating the PLA intake process, and providing a framework for tracking data on student engagement with PLA. The PLA Accelerator and supporting Credit Predictor tools are expected to “go live” by fall 2018.

The proposed BAS-FCA program would align with the BAS-HSEM (Homeland Security Emergency Management) program already offered at Pierce College. This alignment would result in some common offerings between the two programs. Pierce College already has masters prepared faculty in FCA and HSEM programs and in all of the related instruction courses. Pierce at present offers three BAS degrees, has a NWCCU approved library, as well as the necessary student support services and budget.

**Table 5: Prior Pierce College Enrollment in the FCA Program**

Academic Year	Enrollments
2013-14	20
2014-15	10
2015-16	17
2016-17	48
2017-18 (Through Winter Quarter 2018)	47

**Criteria 5: Student demand for program within the region.**

Students with associate degrees in Fire Command and Administration (Pierce), fire service (Bates), emergency medical services (Pierce & Tacoma) or other similar associate degree programs would be ideal candidates to enter the BAS-FCA program. Pierce considers the FCA program to be a statewide offering due to the online nature of the program. The BAS-FCA program will draw from a statewide student population.

**Table 6: Enrollment Projections for the BAS-FCA program over Five Years**

Academic Year	Projected Enrollment
2018-19 (Potential Spring 2019 start)	6
2019-20	12
2020-21	30
2021-22	60
2022-23	60

In February 2018 Pierce College assessed student demand for a BAS-FCA degree program. Incumbent workers in the fire service emergency management sector indicated that the BAS is now required for promotion. (Appendix I – Student Survey Instrument)

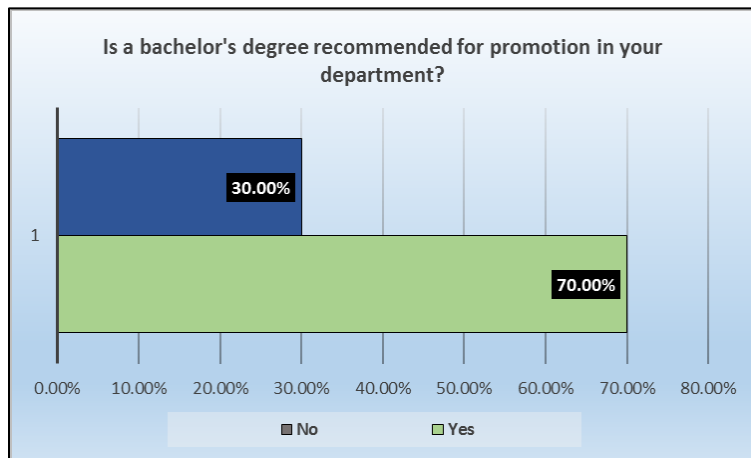


Figure: 8

The survey indicated students understand the recommendations of the National Professional Development model for education coupled with in-station training. When asked if they were supportive of a Washington-based fire service specific BAS program, nearly 94 percent responded positively.

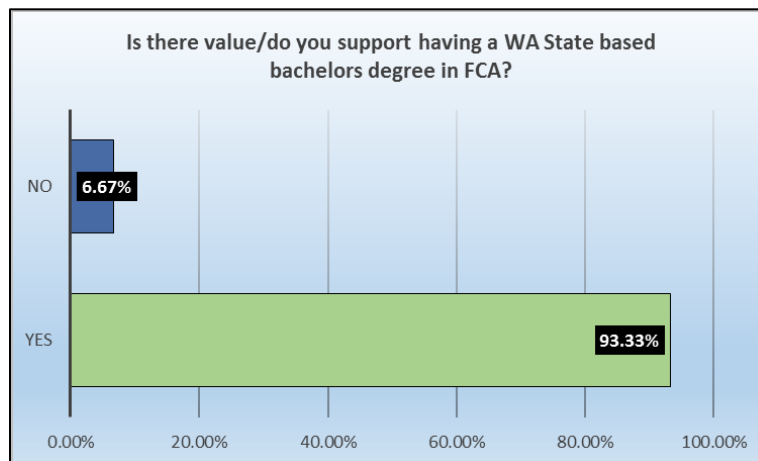


Figure: 9

A key question is whether current students would choose to continue their education and enroll in a BAS-FCA program. The answer was a resounding yes with over 90 percent indicating they were ready to follow the national career pathway model recommending a BAS-FCA degree for promotion.

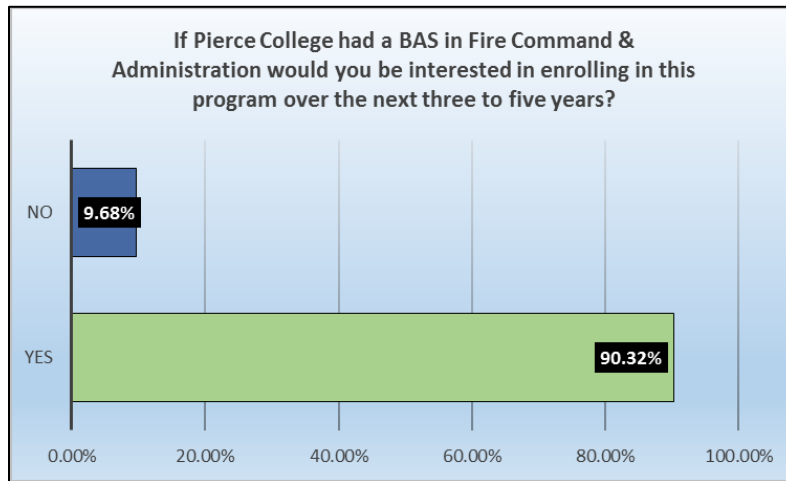


Figure: 10

**Criteria 6: Efforts to maximize state resources to serve place-bound students.**

The BAS-FCA program would serve place-bound incumbent workers through its online modality of delivery. Access to a flexible, online program appeals to a broader range of student; including those who are place-bound or are employed as professional firefighters. Students enrolling in this program would be incumbent firefighters seeking employment advancement into leadership and management positions. Their inconsistent work schedules present unique challenges for this group of students. There are no similar programs offered by public or independent institutions in the State of Washington. The closest program is the Fire Services Administration Program offered by Eastern Oregon University located in La Grande, Oregon.

FCA programs outside the State of Washington build their programs around regulations and rules that support their individual state policies. Funding for fire departments, training frameworks and state policies that govern the fire and emergency services sector are unique to each state and university education and training programs are built to guide students through administrative policies and procedures unique to that state. The Employer Survey conducted by Pierce College asked specifically about a Washington focused BAS-FCA degree to determine if it mattered where Fire Command graduates receive their advanced degrees. Over 84 percent of employers responding indicated that a Washington focused BAS-FCA degree was important. Having professionals who fully understand the nuances of the Washington Fire and Emergency Services sector, laws, regulations and policies was deemed important in terms of succession planning as well.

Conversations have taken place with fire districts in Pierce County regarding their need for bachelor level educational opportunities for their firefighters. To further the conceptual design for the BAS-FCA degree program Pierce has engaged the research capacity of the Center of Excellence for Homeland Security Emergency Management. (COE) The COE is hosted on the Pierce College campus and provides statewide leadership in the Homeland Security and Emergency Management sector which includes six industry subsectors, Fire Services; Emergency Medical and Health Services; Homeland Security Emergency Management; Criminal Justice; Cybersecurity and Occupational Health and Safety. The COE provides access to current data in the industry subsectors and can rapidly respond to the interests of educational institutions and the workforce training needs of the Fire Services sector across the state.

The BAS-FCA online degree program builds on the Associate degree professional experiential component, centered on creating adaptable, agile leaders in Fire Command and Administration. Students enrolled in Pierce College’s Homeland Security and Emergency Management program would also be

afforded the opportunity to opt-in to the FCA program. The FCA career pathway will serve as a means for firefighters to enter and advance through parallel education and in-station training tracks leading to supervisory and management positions.

Unique to the BAS-FCA design the program is intended to be:

- An online delivery model for incumbent fire service and emergency management professionals, working adults, and place-bound students.
- An experiential learning opportunity in a professional environment with leadership and management mentoring.
- Taught by faculty who are practitioners and professionals in the Fire and Emergency Services field.

### **Conclusion**

Pierce College is well positioned to meet the educational demands of the fire and emergency services field. The College has a history of offering high quality degrees in public safety, fire command, homeland security, and emergency management, taught by skilled instructors that have practical experience in their academic discipline. These same principles form the foundation for the BAS-FCA degree program. Research shows a growing demand for those with fire and emergency management knowledge, skills, and abilities and a BAS-FCA credential. Employer and student input indicates strong support for Pierce College's development of a BAS-FCA degree.

Responding to employer needs and serving students with quality education leading to a family wage career is the goal of all professional technical programs. FCA is unique in that an advanced degree option will serve primarily incumbent workers in a high skill, high wage career. An important consideration for moving ahead with development of a FESHE recognized BAS-FCA degree program was feedback from employers and students in their own words.

### **In Their Own Words. . .**

#### ***Employers***

- “The Wildland Fire Education requirements have principally been centered on ecology. A degree in Fire Command Administration would complement the current educational structure that now is in place.”
- “Establishing a program that maximizes transfer of credit hours for prior studies, credit for certifications and work experience and competitive tuition fees (with other online programs) are important to prospective students.”
- “A local program would be highly beneficial to the Washington State fire service and fill a void that has been felt for decades causing members to seek education out of state. This program is important to our future.”
- “Currently some employees have enrolled in an out-of-state program because none are available in Washington State that are specific to fire administration.” Another employer responded, “Sounds like a good program and very appropriate for numerous departments that carry FTE firefighters.”
- “Hoping that the majority of the work is online as it would be too far to commute for our District.”



### *Students*

- “The number of professional fire departments in the state of Washington, require access to a higher degree of education. The days of coming up the back step and making chief are coming to an end. Firefighters today need to be prepared for the changing service of which they have chosen to be a part of. This program being proposed by Pierce College is the right step!”
- “A great opportunity for those of us working full time, who want to further our careers.”
- “I look forward in having a BAS directly related to and aligned with my profession.”
- “This is very exciting news and I know that there will be a lot of fire professionals that will want to continue on with their BAS degrees at Pierce in the future if this moves forward. Thanks for putting this into motion!”
- “I started this program at Peninsula College in 1995 and had to take classes when time and funding were both available. This program is important to me and to the Fire Service in Washington State.”

## **APPENDICES**

Appendix A – Applied Baccalaureate Degree Supply/Demand Gap Rubric

Appendix B – County Level Employment

Appendix C – Unique Fire Officer Job Postings May 2015 – April 2017

Appendix D – Top Employers 2015 - 2017

Appendix E – Employer Survey Instrument

Appendix F – Geographic Distribution of Employer Survey Responses

Appendix F1 – Zip Code City/County Cross-Reference (Employer Survey Responses)

Appendix G – Fire Officer Succession Planning Data

Appendix H – Fire Command and Administration Advisory Board Roster

Appendix I – Student Survey Instrument

Appendix J – Letter of Endorsement – Washington Fire Chiefs Association

## APPENDIX A: Applied Baccalaureate Degree Supply/Demand Gap Rubric for Colleges

The goal of this rubric is to help you build a program that will meet the needs of your community. We have given you options about the information you can use to support the need for your new program. Also, the guidelines for estimating the supply/demand gap are similar to the ones we use for other program applications. We hope this makes the rubric more familiar to you. If not, contact Joyce Hammer at [jhammer@sbctc.edu](mailto:jhammer@sbctc.edu) for further information.

**The application needs to show the information below for program approval:**

- employers demand\* the level of technical training proposed within the program, making it cost-effective for students to seek the degree;
- lead to high wage-earning jobs; and
- the proposed program fills a gap in options available for students because it is not offered by a public four-year institution of higher education in the college's geographic area.

<b>College Name: Pierce College</b>	
<b>Program Name: Fire Command Administration</b>	
Select one: Existing Occupation <input checked="" type="checkbox"/> or Emerging Occupation <input type="checkbox"/>	
<b>If local demand/supply information is available for the specified degree program and target occupation(s),**</b>	
<b>For demand:</b> Provide local/regional demand data for the targeted occupation job title(s) from traditional labor market data, industry data, trade association data, or other transactional data. <i>(Provide absolute numbers, not just percentages)</i>	
<b>For supply gap:</b> Provide data on the number of programs and the number of annual program graduates for all four-year colleges that supply your region. Is the number of current annual graduates insufficient to meet current and projected demand? (The result of demand minus supply).	
<b>OR, if demand information is not available or it is a new/emerging/changing occupation, **</b>	

**For demand:** Provide employer survey results for local demand for the targeted occupation job title(s) to support the demand and education level for the program. Survey requirements are listed below.

**Employer Survey Results**

**Current Leadership/Administration Vacancies for Senior and Executive Fire Service occupations (Fire Officer 3: Administrator and Fire Officer 4: Executive levels.)**

- Local Service District Area – Pierce, Thurston, South King County (Federal Way, Milton,, Auburn Renton) = 13
- Regional Service District Area – Addition of King and Snohomish Counties = 14
- Statewide = 27

**Projected Growth for Leadership/Administration Senior and Executive Fire Service occupations over the next 3 years. (Fire Officer 3: Administrator and Fire Officer 4: Executive levels.)**

- Local Service District Area – Pierce, Thurston, South King County (Federal Way, Milton,, Auburn Renton) = 33
- Regional Service District Area – Addition of King and Snohomish Counties = 57
- Statewide = 112

<p><b>For supply gap:</b> Provide employer survey results for local supply for the targeted occupation job title(s) to support that there is a gap in the number of qualified applicants available to fill jobs. <u>Survey requirements are listed below.</u></p>	<p><b>Employer Survey Results</b></p> <p>Out of 51 Respondents, 28 or 54.9% answered <b>Yes</b> when asked if they have experienced difficulty finding qualified bachelor prepared graduates to enter leadership positions in their organizations.</p> <p>This number is significant and validates the shift from bachelor <b>preferred</b> to bachelor <b>required</b> is currently evolving. The number of departments in Washington state alone that are currently seeking bachelor prepared fire professionals for promotion validates the statement by Dr. Denis Onieal, Superintendent of the National Fire Academy that more and more industries are requiring bachelor degrees and the fire service is a part of that trend. (BAS-FCA Statement of Need, Page 1, Introduction.)</p> <p>With regard to the question about general bachelor degrees versus fire service specific degrees, Dr. Onieal provides clarity. Bachelor degree <u>required</u> is an evolving trend in job announcements for senior and executive fire service occupations. Degree attainment is a line of demarcation within the selection process. For example, two equally qualified candidates with the difference being a general bachelor degree or a fire service specific bachelor degree. The preference is for the fire service specific degree due to technical and critical nature of the industry where many leadership decisions are the difference between life and death.</p>
<p><b>OR, if based on a statutory or accreditation requirement, **</b></p>	
<p><b>Select one:</b> Statutory Requirement <input type="checkbox"/> or Accreditation Requirement <input type="checkbox"/></p>	
<p><b>For demand:</b> Provide labor market information on the current education requirements for the job, including evidence of recent openings for requiring or preferring bachelor’s degrees or above. Cite the statute or certifying body, your proposed program is based upon that has specified a bachelor’s or above in the field is needed.</p>	

**For supply gap:** Provide employer survey results for local supply for the targeted occupation job title(s) to support that there is a gap or that employers anticipate a gap in the number of qualified applicants that will be available to fill jobs with the new requirements. Survey requirements are listed below.

\* Demand is defined by state law as ***“an occupation with a substantial number of current or projected employment opportunities.”***  
\*\*Applications may include information related to more than one option (i.e., labor market data to support the local demand for the occupation and a local employer survey to support that there is a gap in the number of qualified applicants available to fill jobs).



## APPENDIX B: COUNTY LEVEL EMPLOYMENT

County	2010 Jobs	2016 Jobs	2021 Jobs	2010-2021 Change	2010-2021% Change
<b>King County</b>	646	681	719	73	11%
<b>Pierce County</b>	305	304	316	11	4%
<b>Snohomish County</b>	202	212	230	28	14%
<b>Spokane County</b>	101	103	110	9	9%
<b>Kitsap County</b>	89	97	103	14	16%
<b>Skagit County</b>	61	72	79	18	30%
<b>Benton County</b>	60	69	76	16	27%
<b>Clark County</b>	64	64	66	2	3%
<b>Whatcom County</b>	52	53	56	4	8%
<b>Yakima County</b>	52	52	54	2	4%
<b>Thurston County</b>	42	44	49	7	17%
<b>Grant County</b>	38	40	43	5	13%
<b>Okanogan County</b>	37	39	39	2	5%
<b>Walla Walla County</b>	38	34	32	-6	-16%
<b>Clallam County</b>	30	32	35	5	17%
<b>Grays Harbor County</b>	27	29	30	3	11%
<b>Mason County</b>	24	25	27	3	13%
<b>Cowlitz County</b>	18	20	23	5	28%
<b>Chelan County</b>	19	20	21	2	11%
<b>Franklin County</b>	16	17	18	2	13%
<b>Lewis County</b>	14	14	15	1	7%
<b>Kittitas County</b>	15	14	14	-1	-7%
<b>Stevens County</b>	13	13	14	1	8%
<b>Whitman County</b>	13	13	13	0	0%
<b>Island County</b>	11	11	11	0	0%

Source: Emsi 2017.2 Employee Data

## APPENDIX C: UNIQUE FIRE OFFICER JOB POSTINGS: MAY 2015 – APRIL 2017

<b>County</b>	<b>Unique Postings</b>
<b>Chelan County, WA</b>	67
<b>Clark County, WA</b>	60
<b>King County, WA</b>	60
<b>County not reported (Washington)</b>	50
<b>Stevens County, WA</b>	38

Source: Emsi 2017.2 Employee Data

Note: Not all postings in Emsi's database specify the county in which the employer is located, since not all reporting organizations specify their county. Emsi's data uses proprietary algorithms to de-duplicate job postings and remove postings that refer to the same position, creating what is referred to as unique postings.

**APPENDIX D: TOP EMPLOYERS 2015-2017**

<b>Company</b>	<b>Total Postings (May 2015-April 2017)</b>	<b>Unique Postings (May 2015-April 2017)</b>
<b>United States Government</b>	532	251
<b>Agri Culture Inc</b>	133	64
<b>Washington State Depart. Of Transportation</b>	83	35
<b>Washington State University</b>	87	33
<b>Washington State Patrol</b>	74	30
<b>County of Skagit</b>	53	24
<b>The Boeing Company</b>	71	23
<b>City of Vancouver</b>	38	14
<b>County of Clark</b>	20	9
<b>City of Seattle</b>	32	7
<b>City of Spokane</b>	14	7
<b>Depart. of the Interior</b>	19	7
<b>Central County Fire &amp; Rescue</b>	12	6
<b>Harley Marine Services, Inc.</b>	14	6
<b>Army Installation Management Command, US</b>	10	5
<b>Port of Seattle</b>	14	5
<b>City of Bremerton</b>	9	4
<b>City of Bellevue</b>	19	3
<b>City of Burlington</b>	10	3

Source: Emsi 2017.2 Employee Data

## APPENDIX E: EMPLOYER SURVEY INSTRUMENT

**Q 1: Please provide the 5-digit zip code for your location. Answered: 48; No Response: 4**

**Q 2: How would you describe your department?**

Answer Choices	Responses	
All volunteer	3.92%	2
Combination Department, mostly volunteer (50% or more) with some career	50.98%	26
Combination Department, mostly career (50% or more) with some volunteers	33.33%	17
All career	11.76%	6
	<b>Answered</b>	<b>51</b>
	<b>No Response</b>	<b>1</b>

**Q3: What is your department's level of interest in a Washington State focused Bachelor of Applied Science degree in Fire Command Administration?**

Answer Choices	Responses	
Not interested, not necessary	3.92%	2
Somewhat interested. We need a bachelor's degree but there are adequate other options	11.76%	6
Interested. There is value in this degree and we endorse this initiative.	58.82%	30
Very interested. This would provide a professional development pathway for fire service personnel. We fully endorse this initiative.	25.49%	13
	<b>Answered</b>	<b>51</b>
	<b>No Response</b>	<b>1</b>

**Q 4: How many full time equivalent employees do you have in your Department?**

Answer Choices	Responses	
0 - 9	24.00%	12
10 - 19	32.00%	16
20 - 29	14.00%	7
30 - 39	4.00%	2
40 or more	26.00%	13
	<b>Answered</b>	<b>50</b>
	<b>No Response</b>	<b>2</b>

**Q 5: How many personnel in your organization that you estimate would participate in a Bachelor of Applied Science degree in the next 3-5 years?**

Answer Choices	Responses	
0	9.80%	5
1 - 5	66.67%	34
6 - 10	15.69%	8
10 or more	7.84%	4
<b>Answered</b>		<b>51</b>
<b>No Response</b>		<b>1</b>

**Q 6: When hiring a professional to advance into senior leadership positions within your organization what level of education is preferred or required?**

	Preferred	Required	Neither preferred nor required	Total
Vocational Associate Degree (AA or AS)	60.47% 26	20.93% 9	18.60% 8	43
Bachelor of Applied Science (BAS) Fire Command Specific	65.31% 32	6.12% 3	28.57% 14	49
Baccalaureate degree (General BA or BS)	51.02% 25	26.53% 13	22.45% 11	49
Master's degree (MA or MS)	29.55% 13	4.55% 2	65.91% 29	44
A doctoral (PhD) or professional degree	2.56% 1	0.00% 0	97.44% 38	39
Experience substitutes for education	26.83% 11	21.95% 9	51.22% 21	41
Other (please specify)				4
<b>Answered</b>				<b>51</b>
<b>No Response</b>				<b>1</b>

The responses from HSEM employers were much the same as those for Fire specific BAS degrees. The Fire Service industry will continue to evolve and require versus prefer Fire specific undergraduate degrees for new hires. This will happen as the higher education field aligns its baccalaureate education offerings with the demands of the Fire and Emergency Services sector. This statement is validated by Dr. Denis Onieal, superintendent of the National Fire Academy (See Introduction, Page 1, BAS-FCA Statement of Need.) Fire specific undergraduate and graduate degrees become the benchmark by which new hires are initially evaluated.

**Q7: Have you experienced problems finding qualified bachelor's prepared graduates to enter leadership positions in your organization?**

Answer Choices	Responses	
Yes	54.90%	28
No	45.10%	23
<b>Answered</b>		<b>51</b>
<b>No Response</b>		<b>1</b>

**Q 8: Would an applicant applying for senior leadership positions be more competitive with a Fire Command Administrative specific Bachelor of Applied Science degree?**

Answer Choices	Responses	
Yes	88.00%	44
No	12.00%	6
<b>Answered</b>		<b>50</b>
<b>No Response</b>		<b>2</b>

**Q 9: Will the proposed Bachelor of Applied Science in Fire Command Administration offered through Pierce College assist you in finding qualified applicants to fill job vacancies?**

Answer Choices	Responses	
Yes	77.55%	38
No	22.45%	11
<b>Answered</b>		<b>49</b>
<b>No Response</b>		<b>3</b>

**Q10: Do you agree that there will be a need for graduates of a fire command administration baccalaureate degree in the next 3 to 5 years?**

Answer Choices	Responses	
Yes	92.16%	47
No	7.84%	4
Comments:		6
<b>Answered</b>		<b>51</b>
<b>No Response</b>		<b>1</b>

**Q 11: If there is a demand, how many positions do you currently have open?\***

**Answered 46**  
**No Response 6**

**Current Vacancies 27**

Local = Pierce, Thurston, Kitsap, Mason & South King (Federal Way, Milton, Auburn, Renton) 13

Regional = Local plus King, Snohomish 27

Statewide = All 27

\*See Appendix E for Geographic Distribution of Employer Responses

**Q 12: How many vacancies do you anticipate having open in the next 3 years?\***

**Answered 47**  
**No Response 5**

**Vacancies next 3 yrs 112**

Local = Pierce, Thurston, Kitsap, Mason & South King (Federal Way, Milton, Auburn, Renton) 33

Regional = Local plus King, Snohomish 90

Statewide = All 112

\*See Appendix E for Geographic Distribution of Employer Responses



**Q 13: Do you have incumbent workers that you would encourage to enroll in a Washington State Bachelor of Applied Science in Fire Command and Administration online program (BAS-FCA)?**

Answer Choices	Responses	
Yes	88.24%	45
No	11.76%	6
<b>Answered</b>		<b>51</b>
<b>No Response</b>		<b>1</b>

**Q 14: If yes, would a BAS-FCA degree make employees more valuable in their current position?**

Answer Choices	Responses	
Yes	94.00%	47
No	6.00%	3
<b>Answered</b>		<b>50</b>
<b>No Response</b>		<b>2</b>

**Q15: Would a BAS-FCA degree provide opportunities for advancement?**

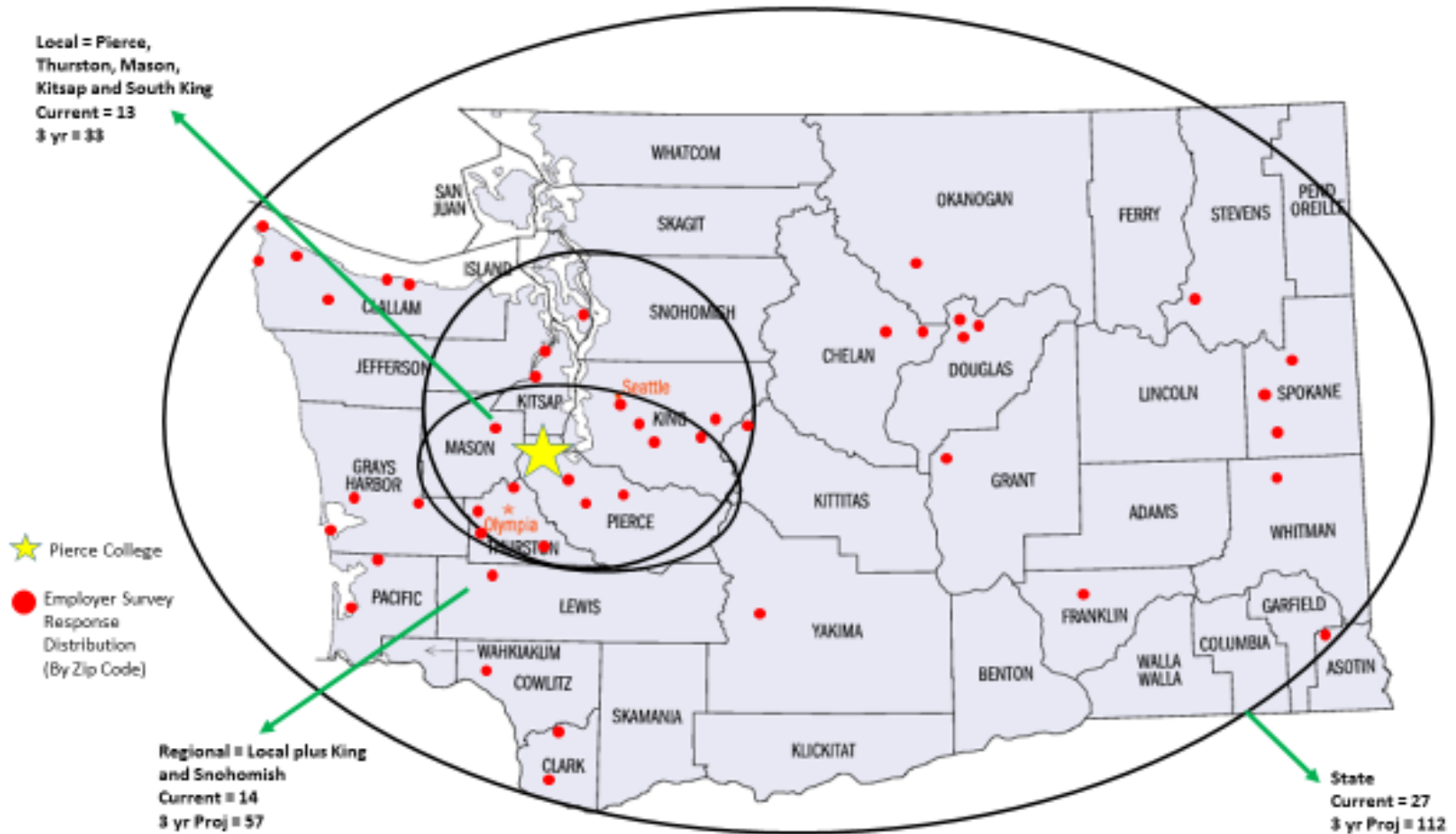
Answer Choices	Responses	
Yes	88.24%	45
No	11.76%	6
<b>Answered</b>		<b>51</b>
<b>No Response</b>		<b>1</b>

**Q 16: Do you have any comments to share?**

- I would like to know if this is going to be an online program or a hybrid of some type.
- The Wildland Fire Education requirements have principally been centered on ecology. A degree in Fire Command Administration would complement the current educational structure that now is in place.
- I am currently searching for a BAS program to enroll in by fall of 2018.
- Great idea, WSU does not have a fire science program.
- Establishing a program that maximizes transfer of credit hours for prior studies, credit for certifications and work experience and a competitive tuition fees (with other online programs) are important to prospective students.
- I fully support this. Currently eastern Oregon is where my folks attend. I graduated from Western Illinois University under the USFA BOT/BA program and it was instrumental in achieving the position of Fire Chief.
- Two members are currently enrolled in the eastern Oregon Fire Command and Administration program. These individuals would have been directed towards a local program had one been in existence.
- I have a general studies BA and I would probably consider getting this BAS as well.
- A combination of online and on campus classes have been most beneficial.

- Education plus experience is a good combination for middle and executive leadership
- A local program would be highly beneficial to the Washington State fire service and fill a void that has been felt for decades causing members to seek education out of state. This program is important to our future.
- Remote / online delivery? I think our need is more toward administration, management and general critical thinking than a specific fire command focus. Command specific functions can be adequately addressed through training. Management, administration, and critical thinking skills from higher education are harder to deliver in an "in-house" training environment.
- Love the idea, keep curriculum and education local.  
Ensure program addresses FESHE; offer CFO portfolio development guidance and assistance from day one.  
Would love to be a FCA instructor!
- Currently some employees have enrolled in an out-of-state program because none are available in Washington State that are specific to fire administration.
- Sounds like a good program and very appropriate for numerous departments that carry FTE firefighters.
- Hoping that the majority of the work is online as it would be too far to commute for our District.

## APPENDIX F: GEOGRAPHIC DISTRIBUTION OF EMPLOYER SURVEY RESPONSES



# APPENDIX F1

## Fire Command Employer Survey

Please provide the 5-digit zip code for your location:

Answered 48

Skipped 4

Respondents	Respon+ Date	Responses	City	County
3	Feb 09 2018 09:43 PM	98022	Enumclaw	King
35	Feb 08 2018 10:02 AM	98027	Issaquah	King
25	Feb 08 2018 10:37 AM	98058	Renton	King
18	Feb 08 2018 12:30 PM	98065	Snoqualmie	King
20	Feb 08 2018 11:46 AM	98065	Snoqualmie	King
14	Feb 08 2018 02:07 PM	98239	Coupeville	Island
34	Feb 08 2018 10:05 AM	98303	Anderson Island	Pierce
38	Feb 08 2018 09:34 AM	98321	Buckley	Pierce
31	Feb 08 2018 10:18 AM	98349	Lakebay	Pierce
30	Feb 08 2018 10:26 AM	98362	Port Angeles	Clallam
42	Feb 08 2018 09:29 AM	98363	Port Angeles	Clallam
26	Feb 08 2018 10:34 AM	98366	Port Orchard	Kitsap
33	Feb 08 2018 10:05 AM	98382	Sequim	Clallam
7	Feb 09 2018 06:33 AM	98383	Silverdale	Kitsap
39	Feb 08 2018 09:33 AM	98501	Olympia	Thurston
21	Feb 08 2018 11:29 AM	98502	Olympia	Thurston
10	Feb 08 2018 03:46 PM	98512	Olympia	Thurston
48	Feb 08 2018 06:40 AM	98512	Olympia	Thurston
29	Feb 08 2018 10:31 AM	98520	Aberdeen	Grays Harbor
22	Feb 08 2018 11:25 AM	98528	Belfair	Mason

APPENDIX  
F1 continued

24	Feb 08 2018 11:03 AM	98532	Chehalis	Lewis Grays Harbor
47	Feb 08 2018 09:17 AM	98563	Montesano	
8	Feb 08 2018 09:04 PM	98577	Raymond	Pacific Grays Harbor
16	Feb 08 2018 01:42 PM	98595	Westport	
11	Feb 08 2018 03:36 PM	98626	Kelso	Cowlitz
41	Feb 08 2018 09:30 AM	98640	Ocean Park	Pacific
28	Feb 08 2018 10:31 AM	98642	Ridgefield	Clark
15	Feb 08 2018 02:00 PM	98683	Vancouver	Clark
13	Feb 08 2018 02:10 PM	98801	Wenatchee	Chelan
46	Feb 08 2018 09:20 AM	98801	Wenatchee East	Chelan
5	Feb 09 2018 09:41 AM	98802	Wenatchee East	Douglas
44	Feb 08 2018 09:25 AM	98802	Wenatchee East	Douglas
45	Feb 08 2018 09:25 AM	98802	Wenatchee	Douglas
17	Feb 08 2018 01:24 PM	98848	Quincy	Grant
36	Feb 08 2018 09:53 AM	98901	Yakima	Yakima
12	Feb 08 2018 03:15 PM	98926	Ellensburg	Kittitas
1	Feb 11 2018 09:32 AM	99003	Chattaroy	Spokane
40	Feb 08 2018 09:30 AM	99036	Valleyford	Spokane
43	Feb 08 2018 09:27 AM	99110	Clayton	Stevens
4	Feb 09 2018 12:33 PM	99155	Nespelem	Okanogan
9	Feb 08 2018 05:00 PM	99163	Pullman	Whitman
23	Feb 08 2018 11:05 AM	99201	Spokane	Spokane
27	Feb 08 2018 10:33 AM	99301	Pasco	Franklin
19	Feb 08 2018 12:20 PM	99324	Carlsborg	Clallam

APPENDIX  
F1 continued

37	Feb 08 2018 09:34 AM	99326	Clallam Bay	Clallam
2	Feb 10 2018 10:49 AM	99353	Manchester	Kitsap
6	Feb 09 2018 08:28 AM	99357	Neah Bay	Clallam
32	Feb 08 2018 10:08 AM	99403	Clarkston	Asotin

**APPENDIX G: FIRE OFFICER SUCCESSION PLANNING DATA**

<b>Age</b>	<b>2016 Jobs</b>	<b>2016 Percent</b>
<b>14-18</b>	0	0.0%
<b>19-24</b>	5	0.2%
<b>25-34</b>	110	5.1%
<b>35-44</b>	543	25.3%
<b>45-54</b>	918	42.8%
<b>55-64</b>	535	24.9%
<b>65+</b>	35	1.6%

**APPENDIX H**  
**Fire Command and Administration Advisory Board**

<b>Name</b>	<b>Department /</b>	<b>Rank / Title</b>	<b>FCA Board Position</b>	<b>Contact Information</b>
Becker, Ashley	Central Pierce Fire	Training Division Support Specialist	Member WFAS Liaison	<a href="mailto:ABecker@CentralPierceFire.ORG">ABecker@CentralPierceFire.ORG</a>
Buchanan, Mike	Olympia Fire Department	Assist. Chief - Ops	Member	<a href="mailto:MBuchana@Cl.Olympia.WA.US">MBuchana@Cl.Olympia.WA.US</a>
Juarez, Woody	Central Pierce Fire	Asst. Chief – Train	Member	<a href="mailto:WJuarez@CentralPierceFire.ORG">WJuarez@CentralPierceFire.ORG</a>
Keith, Craig	Seattle Fire Dept.	Firefighter	Member	<a href="mailto:Craigl.Keith@gmail.com">Craigl.Keith@gmail.com</a>
Kinder, Tim	Lewis County Fire #6	Fire Chief	Member	<a href="mailto:TKinder@LCFD6.ORG">TKinder@LCFD6.ORG</a>
Mason, Thomas	Graham Fire Department	Battalion Chief - Training	Member	<a href="mailto:TMason@grahamfire.org">TMason@grahamfire.org</a>
North, Steve	McLane Fire Department	Fire Chief	Member Chairperson, Acting	<a href="mailto:SNorth@McLanefire.org">SNorth@McLanefire.org</a>
Norton, Eric	West Pierce Fire	Asst. Chief	Member	
Sagers, Jim	West Pierce Fire	Deputy Chief	Member	
Sharp, Jim	West Pierce Fire	Fire Chief	Member	<a href="mailto:Jim.Sharp@WESTPIERCE.ORG">Jim.Sharp@WESTPIERCE.ORG</a>
Summerlin, Jay	West Pierce Fire		Member	<a href="mailto:jay.sumerlin@westpierce.org">jay.sumerlin@westpierce.org</a>
Welander, Matthew	Mason Fire District #6	Fire Chief	Member	<a href="mailto:matthewwelander@msn.com">matthewwelander@msn.com</a>
Baria, Jo Ann	Pierce College	Vice President Workforce Education		<a href="mailto:JBaria@Pierce.CTC.EDU">JBaria@Pierce.CTC.EDU</a>
May, Ron	Pierce College	Dean, Health and Technology		<a href="mailto:RMay@PIERCE.CTC.EDU">RMay@PIERCE.CTC.EDU</a>
Lord, Robert	Pierce College	FCA Program Coordinator		<a href="mailto:RLord@Pierce,CTC.EDU">RLord@Pierce,CTC.EDU</a>



## APPENDIX I: STUDENT SURVEY

### Q1: What is your current level of college education?

Answer Choices	Responses	
High school graduate	6.45%	2
Some college courses	38.71%	12
Associate's degree in a non-fire service-related field	3.23%	1
Associate's degree in a fire service-related field	29.03%	9
Bachelor's degree	16.13%	5
Graduate degree	6.45%	2
<b>Answered</b>	<b>31</b>	
<b>No Response</b>	<b>0</b>	

### Q2: Is a bachelor's degree recommended for promotion in your department?

Answer Choices	Responses	
Yes	70%	21
No	30%	9
<b>Answered</b>	<b>30</b>	
<b>No Response</b>	<b>1</b>	

### Q3: Is there value/do you support in having a Washington State based/focused bachelor's degree program in Fire Command Administration?

Answer Choices	Responses	
Yes	93.33%	28
No	6.67%	2
<b>Answered</b>	<b>30</b>	
<b>No Response</b>	<b>1</b>	

### Q4: If Pierce College had a BAS in Fire Command Administration, would you be interested in enrolling in this program over the next three to five years?

Answer Choices	Responses	
Yes	90.32%	28
No	9.68%	3
<b>Answered</b>	<b>31</b>	
<b>No Response</b>	<b>0</b>	

**Q5: What *specialization areas* might you be interested in pursuing? Check all that apply.**

Answer Choices	Responses	
Fire Service Administration	100%	31
Fire Support Services	19.35%	6
Fire Service Training Management	61.29%	19
Public Administration	51.61%	16
Prevention	16.13%	5
Public Education	19.35%	6
Emergency Medical Services	38.71%	12
Homeland Security	35.48%	11
Answered	<b>31</b>	
No Response	<b>0</b>	

**Q6: Do you have any comments you want to provide to us?**

Answer Choices

- The number of professional fire department in the state of Washington, I believe, require access to a higher degree of education. The days of coming up for the back step and making chief are coming to an end. Firefighters today need to be prepared for the changing service of which they have chosen to be a part of. A program that is being proposed by Pierce College is the right step!
- A great opportunity for those of us working full time, who want to further our careers.
- I would like to see more inspector classes. Such as code reinforcement. Also classes that help for arson investigator.
- I look forward in having a BAS directly related to, aligned with my profession.
- This is very exciting news and I know that there will be a lot of fire professionals that will want to continue on with their BAS degrees at Pierce in the future if this moves forward. Thanks for putting this into motion!
- I started this program at Peninsula College in 1995 and had to take classes when time and funding were both available. This program is important to me and to the Fire Service in Washington State.



March 26, 2018

**Robert Lord, MA**  
Pierce College  
Fire Command & Administration Degree

**Dear Robert Lord,**

The Washington Fire Chiefs support the concept of creating a Bachelor of Applied Science (BAS) in Fire Command and Administration (FCA). We believe that creating this online program will make the degree more accessible to volunteers and individuals working for small agencies and the ability to pursue areas of specialty makes this a very flexible program for the fire service.

The Washington Fire Chiefs believes this area of study meets a need in our fire service, and we support the creation of this program.

Sincerely,

A handwritten signature in black ink that reads "Wayne Senter". The signature is written in a cursive style with a large, prominent "W" and "S".

**Wayne Senter**  
Executive Director  
Washington Fire Chiefs