

Washington State Regional Educational Needs Assessment

December 8, 2017

Authors

The report was created by the Western Interstate Commission for Higher Education (WICHE) to capture the insights generated from stakeholders across the state of Washington regarding economic trends, employers' long-term planning trends, student demand, community needs and other factors, as they relate to educational needs in the state's nine Educational Service Districts. All qualitative data collection and analysis was conducted by WICHE, with support from Dennis Jones, President Emeritus of the National Center for Higher Education Management Systems (NCHEMS). Questions related to this work may be directed to:

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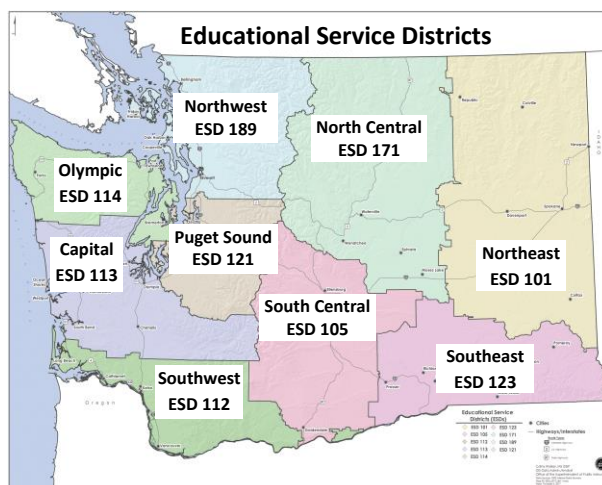
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Executive Summary

The project's goal was to gain insights into emerging economic trends, employers' long-term planning trends, student demand, community needs and other factors, as they relate to specific educational needs in distinct geographic regions of the state.

The Washington Student Achievement Council (WSAC) defined these regions to be Educational Service Districts (ESDs), which are nine regional educational support agencies that provide essential services for local school districts and communities and help the Office of the Superintendent of Public Instruction (OSPI) implement legislatively-supported education initiatives. This report also includes a quantitative data analysis of Washington's regional educational needs prepared by WSAC staff. The qualitative analysis provided in this report adds insights from key regional stakeholders who have in-depth knowledge of their areas to inform more detailed and nuanced perspectives on the regional needs outlined in the quantitative information.



Source: Office of Superintendent of Public Instruction, "Washington State School Districts: Maps and Websites – Educational Service Districts," by Cathy Walker, GIS Data Administrator/Analyst

Universal Themes

Five themes came up in every ESD in the state, earning the title "Universal Themes." These were:

- **SOFT SKILLS & COMMUNICATION:** Concern that students and graduates across all levels, K-12 through postsecondary, lack the necessary soft skills and communication abilities to succeed in the workplace. "Soft skills" refer to the personal attributes that enable someone to interact effectively and harmoniously with other people, typically including work habits, attitude, interpersonal skills, etc.
- **COLLEGE & CAREER GUIDANCE:** Students' lack of information on the full range of postsecondary and career options, whether appropriate data, guidance from counselors and advisors, or other challenges with understanding and communicating information about available postsecondary and career pathways.
- **CAREER EXPLORATION OPPORTUNITIES:** Limitations in the number and breadth of career exploration opportunities for students at both the K-12 and postsecondary levels, such as work-based learning, internships, and job shadowing experiences.
- **HEALTHCARE & TEACHING SHORTAGES:** Extensive shortages in teaching and in healthcare fields, primarily nursing.
- **CHILDCARE:** Challenges related to the availability of affordable child care for students, potential students, and those in the workforce.

Cross-Regional Themes

Certain themes came up in several, though not all, ESDs – themes which arose in at least three ESDs each were:

- **DUAL CREDIT:** Challenges related to dual credit programs, particularly Running Start, with concerns including access for rural students, students' accumulation of excess postsecondary credit, and the program's impact on in-school offerings at the high school level.
- **ACADEMIC POLICIES, POSTSECONDARY:** Topics related to postsecondary academic policies, including the need to restructure placement and remedial education practices, create more stackable credential frameworks, and improve the transfer and articulation processes.
- **FLEXIBLE COURSE OFFERINGS, POSTSECONDARY:** The call for more flexible postsecondary course offerings whether online, hybrid, or accelerated – including more night and weekend classes.
- **SHIFTING ECONOMIES:** Matters related to shifting regional economies, such as industries historically important to the region contracting or new industries emerging and the attendant challenges for the postsecondary system in responding to changing workforce needs.
- **PROGRAM APPROVAL PROCESS, POSTSECONDARY:** Issues related to the public community college program approval process, typically centered around the length and complexity of the process and its impacts on institutions' ability to respond quickly to local needs.
- **HIGH SCHOOL GRADUATION REQUIREMENTS:** Concerns related to the state's new 24-credit framework for high school graduation, generally focused on the academic requirements perceived negative impact on students' capacity to take CTE courses and pursue work-based learning opportunities.
- **TRANSPORTATION:** Transportation-related challenges to accessing postsecondary education, such as inadequate public transit options to local institutions.
- **COST OF LIVING:** Cost of living challenges, often related to housing costs, that affect students' ability to access higher education by forcing them to live at a significant distance from campuses and putting additional constraints on already tight student budgets.

Cross-Regional Themes in Educational Service Districts

	North-east ESD 101	South Central ESD 105	South-west ESD 112	Capital ESD 113	Olympic ESD 114	Puget Sound ESD 121	South-east ESD 123	North Central ESD 171	North-west ESD 189
Dual Credit	✓			✓	✓	✓	✓		✓
Academic Policies, Postsecondary		✓		✓	✓	✓	✓		✓
Flexible Course Offerings, Postsecondary	✓	✓			✓	✓		✓	✓
Shifting Economy	✓	✓			✓		✓	✓	
Program Approval Process, Postsecondary				✓	✓	✓	✓	✓	
High School Graduation Requirements	✓			✓	✓	✓	✓		
Transportation					✓	✓	✓		✓
Cost of Living						✓	✓		✓

Regional Summaries

NORTHEAST EDUCATIONAL SERVICE DISTRICT 101

In addition to the universal themes, cross-regional themes present in Northeast ESD 101 were: dual credit, a shifting economy, high school graduation requirements, and flexible course offerings at the postsecondary level. Specific to Northeast ESD 101 were the following themes:

- **THE “MIDDLE” STUDENT:** Concerns that students not in either advanced or remedial programming in high schools are not receiving adequate attention.
- **POSTSECONDARY COMPUTER SCIENCE PROGRAM CAPACITY:** Feeling that the area’s efforts to expand its tech sector are hampered by a lack of capacity in local computer science programs.
- **INABILITY TO PASS DRUG TESTS:** Struggle for some local employers to hire employees able to routinely pass drug tests.
- **INCLUSIVE CURRICULUM IN K-12 & POSTSECONDARY:** Suggested that students at all levels—particularly Native American students—would benefit from more inclusive curricula that offer a more comprehensive view of subjects such as history, including more information on the state’s indigenous populations.

From the employer survey, respondents struggled to find local employees with strong soft skills and welding skills and were unsure if the local options would meet their education and training needs in the future. Respondents felt that healthcare, as well as computer and mathematical occupations, would be key to the region in the coming years.

Over the next ten years, from 2017-2027, the industry sectors in the region that will experience the greatest growth are healthcare and social assistance (19 percent), administration and support services (13 percent), government (8 percent), and professional, scientific, and technical services (8 percent). Jobs in mathematical and science-related and computer occupations are projected to grow by 34 percent and 16 percent, respectively (Source: Emsi 2017.3; QCEW, non-QCEW, Self-Employed). Most of these jobs will require some postsecondary education and for many an associate degree or higher will be necessary to successfully compete for them.

SOUTH CENTRAL EDUCATIONAL SERVICE DISTRICT 105

In addition to the universal themes, cross-regional themes present in South Central ESD 105 were: a shifting economy, flexible course offerings at the postsecondary level, and academic policies at the postsecondary level (specifically around short-term and stackable credentials). Specific to South Central ESD 105 were the following themes:

- **SUPPORT FOR ENGLISH LANGUAGE LEARNERS:** Given the area’s majority Hispanic population, suggestion that local K-12 schools would benefit from more bilingual staff and should provide a greater level of support to English Language Learners.
- **EDUCATIONAL EXPECTATIONS FOR STUDENTS WITH DISABILITIES:** Perception that students with disabilities in K-12 were not steered towards a college track.
- **DISCONNECT FROM LOCAL COMMUNITY:** Concerns in certain areas that a local higher education institution was disconnected from the surrounding community.
- **REGIONAL VARIATION IN JOB MARKETS:** The region’s job market is very localized, with different communities offering different opportunities.

From the employer survey, respondents believed local options would meet their education and training needs in the future. Respondents felt that farming, fishing, and forestry occupations would be key to the region in the coming years.

Over the next ten years, from 2017-2027, the largest industry clusters in the South Central region will include crop and animal production, government, healthcare and social assistance, retail trade, manufacturing, accommodation and food services, and construction (Source: Emsi 2017.3; QCEW, non-QCEW, Self-Employed). Many of the jobs in these industries will require education beyond high school. Currently, only 39 percent of South Central residents age 25-44 have pursued postsecondary education and only 22 percent have completed an associate degree or higher (WSAC analysis of American Community Survey data, 2011-2015).

SOUTHWEST EDUCATIONAL SERVICE DISTRICT 112

While the universal themes were present in Southwest ESD 112, none of the cross-regional theme came up in focus groups discussions. Specific to Southwest ESD 112 were the following themes:

- **STUDENT SUPPORTS AT THE K-12 LEVEL:** As the area's schools serve a growing low-income population, K-12 representatives expressed the need for more robust "wrap-around" services from mental health support to connections with social services and nonprofits.
- **INCLUSIVE COMMUNITY:** There were concerns that the area's increasingly diverse student population was not feeling as welcomed and included in the community as they should be.
- **MANUFACTURING WORKFORCE SHORTAGE:** The robust local manufacturing sector struggles to find employees.

From the employer survey, respondents struggled to find local employees with welding skills and were unsure if the local options would meet their education and training needs in the future. Respondents felt that production occupations would be key to the region in the coming years.

The industry sectors in the Southwest region projected to experience the greatest growth over the next ten years, through 2027, are healthcare and social assistance (23 percent), wholesale trade (20 percent), professional, scientific, and technical (17 percent), and construction (17 percent) (Source: Emsi 2017.3; QCEW, non-QCEW, Self-Employed). Most of the jobs in these industries will require a higher education degree or postsecondary credential. Among current Southwest residents age 25-44, 59 percent have completed some education beyond high school. Thirty-two percent have attained an associate degree or higher (WSAC analysis of American Community Survey data, 2011-2015).

CAPITAL REGION EDUCATIONAL SERVICE DISTRICT 113

In addition to the universal themes, cross-regional themes present in Capital ESD 113 were: dual credit, the postsecondary program approval process, high school graduation requirements, and academic policies at the postsecondary level (specifically related to placement). Specific to Capital ESD 113 were the following themes:

- **LOCAL VARIATION IN PROGRAM NEEDS:** Perception that regional data used to determine postsecondary program needs was not adequately granular and targeted for the economic diversity of the region.
- **COMMUNITY COLLEGE RETENTION & COMPLETION:** Concerns centering around students' lack of connection to institutions and its effect on retention.
- **INABILITY TO PASS DRUG TESTS:** Struggle for some local employers to hire employees able to routinely pass drug tests.

From the employer survey, respondents struggled to find local employees with strong soft skills and were unsure if the local options would meet their education and training needs in the future. Respondents felt that healthcare occupations would be key to the region in the coming years.

In the Capital region, the industry sectors projected to experience the greatest growth over the next ten years are administration and support (24 percent), healthcare and social assistance (18 percent), and professional, scientific, and technical (18 percent) (Source: Emsi 2017.3; QCEW, non-QCEW, Self-Employed). Most of the jobs in these fields will require postsecondary education. Among current Capital residents age 25-44, about 64 percent have completed some education beyond high school, with 37 percent having completed an associate degree or higher (WSAC analysis of American Community Survey data, 2011-2015).

OLYMPIC EDUCATIONAL SERVICE DISTRICT 114

In addition to the universal themes, cross-regional themes present in Olympic ESD 114 were: a shifting economy, dual credit, the postsecondary program approval process, high school graduation requirements, flexible postsecondary course offerings, transportation, and academic policies at the postsecondary level (specifically related to placement). Specific to Olympic ESD 114 were the following themes:

- **STIGMA RELATED TO CTE & SKILLED TRADES:** The perception that students are discouraged from pursuing CTE coursework and careers in the skilled trades by social stigma.
- **GAP BETWEEN K-12 AND HIGHER EDUCATION:** The Bremerton area in particular felt they struggled to effectively move students from secondary to postsecondary education.
- **APPRENTICESHIP UTILIZATION:** Widely viewed to be a key local pathway to living-wage employment, accompanied by concerns that apprenticeships are not utilized to their fullest extent.

From the employer survey, respondents believed local options would meet their education and training needs in the future. Respondents felt that construction and extraction occupations would be key to the region in the coming years.

Over the next ten years, the industries in the Olympic region projected to experience the greatest growth are healthcare and social assistance (13 percent), manufacturing (10 percent), and administration and support (10 percent) (Source: Emsi 2017.3; QCEW, non-QCEW, Self-Employed). Workers competing for most of the jobs in these sectors will need at least some postsecondary education, with many requiring a postsecondary credential or degree. Among Olympic residents age 25-44, 68 percent have pursued education beyond high school. Thirty-seven percent have completed an associate, bachelor's or graduate degree (WSAC analysis of American Community Survey data, 2011-2015).

PUGET SOUND EDUCATIONAL SERVICE DISTRICT 121

In addition to the universal themes, cross-regional themes present in Puget Sound ESD 121 were: dual credit, the postsecondary program approval process, high school graduation requirements, flexible postsecondary course offerings, transportation, cost of living, and academic policies at the postsecondary level (specifically around stackable credentials). Specific to Puget Sound ESD 121 were the following themes:

- **INCENTIVES TO COMPETE:** Some local two-year institutions felt incentivized to operate as competitors rather than collaborators.

- **WORKFORCE PARTNERSHIPS WITH EDUCATION:** Need for more robust engagement from employers to offer work-based learning opportunities for students and in developing postsecondary programs to meet employer needs.
- **LOSING JOBS TO SEATTLE/IMPORTED TALENT:** Stakeholders in Pierce County expressed concern about losing jobs to Seattle, while participants from across 121 noted that many jobs were filled with imported, not local, talent.
- **APPRENTICESHIP UTILIZATION:** Widely viewed to be a key local pathway to living-wage employment, accompanied by concerns that apprenticeships are not utilized to their fullest extent.

From the employer survey, respondents struggled to find local employees with strong soft skills and believed local options would meet their education and training needs in the future. Respondents felt that computer and mathematical occupations would be key to the region in the coming years.

From 2017-2027, the industry sectors in the Puget Sound region projected to experience the greatest growth are healthcare and social assistance (20 percent), construction (18 percent), and professional, scientific, and technical (16 percent). The Puget Sound area is a hub for STEM-driven technology and research. Jobs are projected to expand substantially in mathematical science-related fields (by 26 percent) and computer occupations (by 16 percent) (Source: Emsi 2017.3; QCEW, non-QCEW, Self-Employed).

SOUTHEAST EDUCATIONAL SERVICE DISTRICT 123

In addition to the universal themes, cross-regional themes present in Southeast ESD 123 were: a shifting economy, dual credit, the postsecondary program approval process, high school graduation requirements, transportation, cost of living, and academic policies at the postsecondary level (specifically around placement, transfer, and articulation). Specific to Southeast ESD 123 were the following themes:

- **HIGHER EDUCATION PARTNERSHIPS:** Local two-year institutions engaged in many partnerships, particularly with employers, which were described as a strength to expand upon.
- **LOCAL ECONOMIC COMPETITION:** The state tax structure can incentivize economic competition among closely located cities and towns, as in the Tri-Cities area.

From the employer survey, respondents struggled to find local employees with strong soft skills and believed local options would meet their education and training needs in the future. Respondents felt that construction and extraction occupations would be key to the region in the coming years.

In the Southeast region, projections for the next ten years show that government, healthcare and social assistance, and crop and animal production will continue to be the leading industry sectors. In STEM fields, the greatest number of job openings will be in the engineering, computer, and life, physical, and social science professions (Source: Emsi 2017.3; QCEW, non-QCEW, Self-Employed). Among Southeast residents age 25-44, 56 percent have completed some education beyond high school. Thirty-five percent have completed an associate, bachelor's or graduate degree (WSAC analysis of American Community Survey data, 2011-2015).

NORTH CENTRAL EDUCATIONAL SERVICE DISTRICT 171

In addition to the universal themes, cross-regional themes present in North Central ESD 171 were: a shifting economy, the postsecondary program approval process, and flexible postsecondary course offerings. Specific to North Central ESD 171 were the following themes:

- **SKILLED TRADES SHORTAGE:** Pending wave of retirements in the skilled trades with no pipeline of younger workers to replace the retirees.
- **COMMUNITY ENGAGEMENT:** Strong employer and community partnerships are a local strength which could be expanded upon in Wenatchee.
- **INNOVATIVE APPROACHES:** Another area strength was innovative programming at Big Bend Community College, which leveraged federal funding to implement a range of new programs.
- **COMPETING SOCIETAL & FAMILIAL PRESSURES:** Widespread availability of jobs not requiring a postsecondary credential leads many students to choose work to contribute to their families instead of continued education.

From the employer survey, respondents struggled to find local employees with strong soft skills and were unsure whether local options would meet their education and training needs in the future. Respondents felt that farming, fishing, and forestry, as well as production occupations, would be key to the region in the coming years.

Projections for the next ten years (2017-2027), show that crop and animal production, government, healthcare and social assistance, and retail trade will be the leading industry sectors in the North Central region (Source: Emsi 2017.3; QCEW, non-QCEW, Self-Employed). Among North Central residents age 25-44, 48 percent have completed at least some education beyond high school. Twenty-eight percent have completed an associate, bachelor's or graduate degree (WSAC analysis of American Community Survey data, 2011-2015).

NORTHWEST EDUCATIONAL SERVICE DISTRICT 189

In addition to the universal themes, cross-regional themes present in Northwest ESD 189 were: dual credit, flexible postsecondary course offerings, transportation, cost of living, and academic policies at the postsecondary level (specifically around remedial education). Specific to Northwest ESD 189 were the following themes:

- **WRITING ABILITY:** General concern with the perceived decline in writing ability among students of all levels.
- **FAMILY SUPPORTS:** Family issues related to poverty, mental health, and addiction were cited as key reasons students from the K-12 system did not make the transition to postsecondary.
- **POSTSECONDARY COLLABORATION WITH BUSINESS & INDUSTRY:** Despite strong collaborations in program development, it was suggested that employers could be more supportive of employees' educational aspirations.
- **VOLATILITY OF KEY SECTORS:** Many area jobs revolve around the retail, construction, and manufacturing sectors, which tend to offer employment opportunities dependent on economic conditions.

From the employer survey, respondents struggled to find local employees with strong soft skills and were unsure whether local options would meet their education and training needs in the future. Respondents felt that computer and mathematical occupations would be key to the region in the coming years.

Over the next ten years, several Northwest industry sectors are projected to experience substantial growth: healthcare and social assistance (21 percent), construction (18 percent), and professional, scientific, and technical (16 percent). In STEM fields, mathematical science-related (31 percent), computer (17 percent), physical science (16 percent), and social science (16 percent) occupations will see the fastest growth (Source: Emsi 2017.3; QCEW, non-QCEW, Self-Employed). Among North Central

residents age 25-44, 66 percent have completed at least some education beyond high school. Forty percent have completed an associate degree or higher (WSAC analysis of American Community Survey data, 2011-2015).

Concluding Considerations

The themes described reflect emerging statewide trends as well as those in various regions, and they inform several reflections worthy of consideration by policymakers eager to move the state forward.

- **COMMUNITIES HAVE UNIQUE NEEDS AND THEREFORE REQUIRE UNIQUE SOLUTIONS:** A one-size-fits-all approach designed for population centers, and in particular, the Seattle metropolitan area, will not work for Washington statewide, and strategies for addressing divides within regions will be critical to the development of any plan to meet regional needs.
- **WASHINGTON IS A LEADER IN DUAL CREDIT FOR HIGH SCHOOL STUDENTS, BUT THERE IS MORE WORK TO BE DONE:** Because of concerns regarding the implementation of dual credit programs—in particular Running Start—ongoing monitoring and evaluation of implementation and outcomes could provide greater clarity around these concerns and better inform policy. Further, clear communication regarding policy nuances and updates would be valuable.
- **A COMPREHENSIVE, EVIDENCE-BASED STRATEGY FOR BOLSTERING SOFT SKILLS IS NEEDED:** Understanding the efficacy of programs seeking to instill soft skills in participants, examining if and how these efforts are successful could provide useful guidance in addressing the soft skill deficit cited by so many stakeholders.
- **WORK-BASED LEARNING IS A PROMISING APPROACH, BUT REQUIRES A COMPREHENSIVE STRATEGY FOR IMPLEMENTATION:** When faced with a choice between earning and learning, many students will choose earning, so the options must be available concurrently. Recognizing the legitimate challenges related to large-scale work-based learning opportunities in less populated areas, business, industry, and education leaders will need to work together to identify approaches that work in various contexts. For instance, partnerships could be established that would allow for those in smaller communities to participate in opportunities in population centers. Technology-dependent, work-based learning opportunities also have the potential to bring this much needed approach to underserved areas.
- **PREPARING STUDENTS FOR TODAY'S WORKFORCE, YET ALSO TO ADAPT FOR THE JOBS OF THE FUTURE SHOULD BE A FOCUS:** An underlying thread throughout many of the conversations was the inherent tension between providing students with very specific, marketable skills which would prepare them to enter the workforce versus the need to teach students more difficult-to-quantify skillsets such as adaptability and the “ability to learn and relearn” that would prepare them for the jobs of the future. Maintaining a focus on stackable credentials and an education system with multiple entry and exit points could help to bridge this gap.

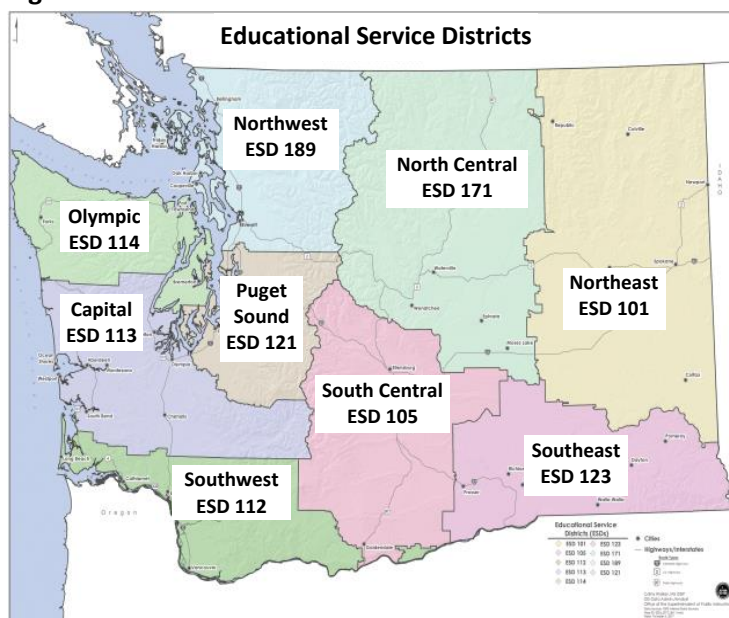
Background

In February 2017, the Washington Student Achievement Council (WSAC) circulated an RFP to solicit bids for a project to convene focus groups with regional employers, leaders from education, industry, labor, nonprofit, and community groups, students, and parents in Washington. The Western Interstate Commission for Higher Education (WICHE), in partnership with the National Center for Higher Education Management Systems (NCHEMS), was awarded the contract to conduct this work in March 2017. WICHE is a regional, interstate compact whose membership includes the 15 western states and the U.S. Pacific Territories and Freely Associated States (Commonwealth of the Northern Mariana Islands and Guam). WICHE and its members work to improve access to higher education and ensure student success by promoting innovation, cooperation, resource sharing, and sound public policy. WICHE subcontracted with the National Center for Higher Education Management Systems (NCHEMS)—a private nonprofit 501(c)(3) organization whose mission is to improve strategic decision making in higher education for states and institutions in the United States and abroad—to consult on protocol development for the focus groups, identifying participants, conducting focus groups, and contributing to the analysis of key themes and insights. NCHEMS has considerable experience in conducting education needs assessments, having conducted them in more than 20 states and regions across the country.

The project's goal was to gain insights into emerging economic trends, employers' long-term planning trends, student demand, community needs and other factors, as they relate to specific educational needs in distinct geographic areas of the state. WSAC defined the geographic areas to be Educational Service Districts (ESDs), which are nine regional educational support agencies composed of groups of school districts. ESDs provide essential services for local school districts and communities and help the Office of the Superintendent of Public Instruction (OSPI) implement legislatively-supported education

initiatives (see Figure 1 for a map of ESDs). A list of the counties included in each ESD is available in Appendix F.

Figure 1. Educational Service Districts



Source: Office of Superintendent of Public Instruction, "Washington State School Districts: Maps and Websites – Educational Service Districts," by Cathy Walker, GIS Data Administrator/Analyst

This work complements a quantitative data analysis of Washington's regional educational needs that was completed in October 2017. The quantitative component of the assessment was aimed at developing broad economic profiles, highlighting major growth industries and occupational sectors, as well as educational and demographic profiles, looking at key factors, such as regional education attainment rates.¹ The focus group work augments these profiles, adding insights from key regional stakeholders who have in-depth

knowledge of their areas to inform more detailed and nuanced perspectives on regional needs.

This project employed a mixed methods approach to solicit feedback from local stakeholders using in-person focus groups, supplemented by key informant interviews and an online employer survey, all informed by quantitative data about the state and each of the regions. For an in-depth discussion of the methodology used, please refer to Appendix A.

The State-Level Economic and Educational Context

Each region of the state has separate and specific characteristics that contribute to unique economic and educational needs. However, to set the regional profiles developed in this report in context, a brief look at the broader state-level picture is provided. Viewed from a statewide perspective, Washington is favored with a dynamic and innovative economy, with workforce demand and employment opportunities spread across a wide range of industries. The largest industry clusters include government, health care and social assistance, retail trade, manufacturing, accommodation and food services, professional scientific, and technical, and construction. Occupational clusters offering the most jobs include office and administrative support, sales and related, food preparation and serving related, transportation and material moving, and business and financial operations. Those paying the highest median hourly wage in 2016 were in computer and mathematical fields (\$47.96), management (\$46.75), architecture and engineering (\$41.61), and healthcare practitioners and technical fields (\$36.40) (Source: Emsi 2017.3; QCEW, non-QCEW, Self-Employed).²

The sectors projected to experience the greatest growth over the next decade are health care and social assistance (20 percent), construction (17 percent), professional, scientific, and technical (14 percent), and retail trade (14 percent). Occupations projected to experience the greatest growth during this time period include health care practitioners and technical (18 percent), computer and mathematical (17 percent), personal care and service (15 percent), construction (15 percent), education, training, and library (14 percent), and business and financial operations (11 percent) (Source: Emsi 2017.3; QCEW, non-QCEW, Self-Employed).

Washington's economy also has a rapidly expanding STEM-driven technology and innovation sector. In STEM fields, the greatest number of employment opportunities over the next ten years are projected to be in computer occupations, engineering, drafting and engineering technicians, and life, physical, and social sciences. The fastest growth will be in mathematical science-related (28 percent), computer (16 percent), and social science occupations (10 percent) (Source: Emsi 2017.3; QCEW, non-QCEW, Self-Employed).

The outlook for strong economic growth across the state bodes well for Washington's future. However, educational attainment among the core working-age adult population statewide is currently not keeping pace with employer demand for middle- and high-skill workers. Among current Washington state residents age 25-44, about 68 percent have pursued some education beyond high school and 45 percent have completed an associate degree or above (WSAC analysis of American Community Survey data, 2011-2015).

Of K-12 Students in Washington:

43.2%
are on free or reduced-priced lunch

0.3%
are migrant

0.6%
are American Indian/Alaska Native

3.5%
are Asian

1.1%
are Native Hawaiian/Other Pacific Islander

1.6%
are Black

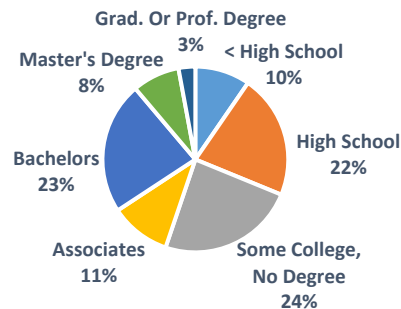
17.2%
are Hispanic

69.5%
are White

6.5%
are Two or More Races

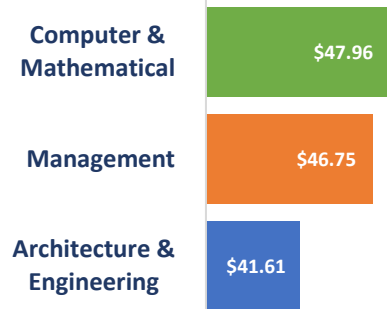
Source: Washington Office of Superintendent of Public Instruction, Washington State Report Card, May 2016

Washington Population Education Attainment Level, Age 25-44



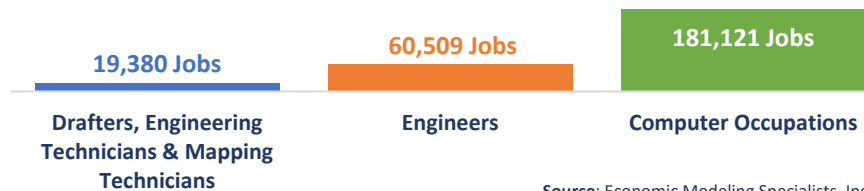
Source: WSAC staff analysis of American Community Survey (U.S. Census Bureau) data, 2011-2015

Washington Highest Paid Occupations, 2016 Median Hourly Earnings



Source: Economic Modeling Specialists, Inc.

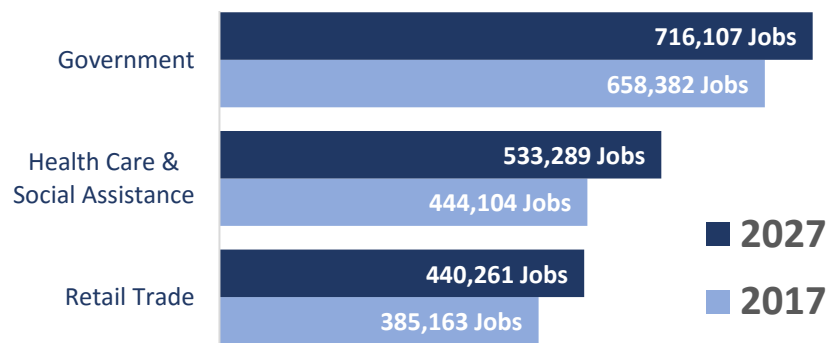
Washington Top Projected STEM Occupations, 2027



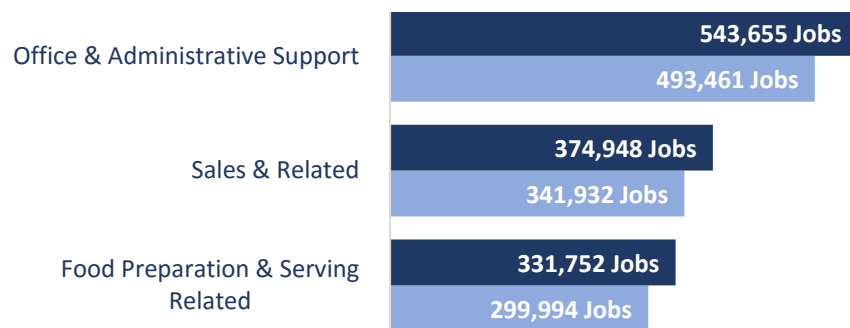
Source: Economic Modeling Specialists, Inc.

Washington Industry & Occupation Growth

Largest Projected Industries (2027) & Largest Industries (2017)



Largest Projected Occupations (2027) & Largest Occupations (2017)



Source: Economic Modeling Specialists, Inc.

Universal Themes

The focus groups and key informant interviews yielded substantial insights into the perceptions of local stakeholders on emerging economic trends, employer needs, and community and student demand for education. The online survey of employers provided additional information about the perceptions of business leaders throughout the state of Washington. While the goal of the research was to conduct regional focus groups to provide a more complete picture of the educational needs within each of the state's ESDs, certain universal themes emerged across the board and are applicable statewide.

Students and graduates across levels exhibit poor soft skills and communication abilities

A key theme that emerged in the focus groups, key informant interviews, and the online survey of employers was that students and graduates across all levels, K-12 through postsecondary, lack the necessary soft skills and communication abilities to apply for employment and to succeed in the workplace. Study participants used different language to refer to soft skills, or the personal attributes that enable someone to interact effectively and harmoniously with other people, but they typically include work habits, attitude, interpersonal skills, etc. However, the importance of these skills was clear. Bolstering that sentiment, a 2014 survey conducted by the Washington State Human Resources Council found that 90 percent of company respondents surveyed indicated that soft skills were “more important or as important than technical skills.”³

WHAT ARE SOFT SKILLS?

Personal attributes that enable someone to interact effectively and harmoniously with other people, such as: work habits, attitude, interpersonal skills, etc.

Examples include:

- Punctuality
- Teamwork
- Flexibility
- Problem-solving
- Self-motivation
- Communication
- Dependability
- Courtesy
- Accepts and learns from criticism

Quote from employer in Central Washington

“I hear a lot of demand and frustration with soft skills; just the general decline in soft skills, and I've certainly seen it as well, but it's something that I hear across multiple different industries. I know the college has some classes that are required with certain degrees to help students with that, but I have a pretty strong sense that it needs to start earlier than that.”

The soft skill deficits cited by study participants ranged from a lack of work ethic and punctuality issues to the absence of interpersonal skills. Study participants were in general agreement that it is a significant problem that negatively impacts an individual's ability to fully participate in the workforce.

The online survey of employers supported the findings of the focus groups and key informant interviews. When employers were asked if they have difficulty finding employees with particular skills sets, 68 percent said yes (see Table 1).

Table 1. Do you currently have difficulty finding employees with particular skill sets?

	Responses	Percent
No	60	32%
Yes	127	68%
Total Responses <i>n=187</i>	187	100%

Table 2 shows that of those, 20 percent of respondents indicated that soft skills were the skill set that they struggle to find locally, followed by commercial drivers and machinery (6 percent of respondents) and sales, skilled trades, and welders (5 percent of respondents).

Table 2. Describe the skill sets you struggle to find locally

	Responses	Percent
Soft Skills	25	20%
Commercial Drivers	7	6%
Machinery	7	6%
Sales	6	5%
Skilled Trades	6	5%
Welders	6	5%
Total Responses <i>n=124</i>	124	

Looking toward the future, when employers were asked what key skills they anticipate their employees will require over the next one to five years, 18 percent of all responses related to soft skills, followed by computer skills (9 percent of responses), sales (5 percent of responses), and communication, information technology (IT), and management (all 4 percent of responses) (see Table 3).

Table 3. What are the Key Skills that You Anticipate Your Employees Will Require Over the Next 1 to 5 Years?

	Responses	Percent
Soft Skills	72	18%
Computer Skills	35	9%

Sales	21	5%
Communication	17	4%
Information Technology (IT)	15	4%
Management	14	4%
Total Responses ⁴	393	

n=146

While there was overall agreement regarding the deficit in soft skills among recent high school and college graduates alike, people were not as able to identify clear solutions to the problem. The Washington State Human Resources Council study found that 95 percent of their respondents felt that employees themselves were most responsible for developing their own soft skills, 76 percent felt that it is the employers' role to do so, and only 66 percent felt that it was the education system's responsibility.⁵

***Quote from an administrator at a four-year postsecondary institution
in Southwest Washington:***

“And we’re hearing all the time now, employers want soft skills from students, and they want them to get those skills in college. No, you’re not going to take someone who doesn’t have a sense of responsibility, a sense that it’s really necessary to show up on time and what have you, and teach that to them in 120 credits of college.”

The focus groups revealed that stakeholders assumed that there is not one easy solution, and several study participants offered insights into how the soft skill deficit might be addressed, including providing more opportunities for work-based learning and pedagogy that reinforces these skills. They acknowledged, however, that work-based learning is unevenly provided across the state.

Career exploration opportunities are limited, but needed, by students all along the educational pathway

Study participants were in nearly universal agreement that career exploration opportunities are limited for students and that more options are needed all along the educational pathway. Career exploration often involves self-assessments; in which students explore their interests and aptitudes; learning about possible career options; participating in career fairs; engaging in work-based learning, etc. Participants noted that when students were provided with career exploration opportunities, it was often later in their educational careers and that students would benefit greatly from earlier interventions. A widespread desire for more “on-the-job” opportunities such as job shadowing, part-time employment, internships, externships, and other work-based learning opportunities was expressed.

Students at all levels would benefit from more college and career guidance

Participants across the state expressed concerns related to the availability of information on the full range of postsecondary and career options for students, whether appropriate data, guidance from counselors, or other challenges with communicating available pathways. They suggested that students were not fully aware of the many options available to them, including attending a four-year college, a community college, a technical school, joining a union, or entering the workforce.

Quote from a local nonprofit representative and K-12 parent in Central Washington:

“I have a high schooler right now, and I’ll ask him what sort of training or classes he is getting at the high school level around goal setting, planning for the future, career development, and those kind of things, and I was amazed at how little he actually knows...I’m amazed at how little education does actually happen early on in their development to start setting that stage for goal setting and thinking about their future careers.”

Focus group participants also expressed their frustration that students were pressured to pursue baccalaureate degrees even when they were not adequately prepared or when their career choice did not necessarily require that level of education. People felt this single-focused steering of students into a four-year degree path was detrimental to a significant group of students who could benefit from the vast array of other options that are available to them, however, they are not made aware of the possibilities.

Quote from a two-year administrator at a technical college along the I-5 corridor:

“I know there was a time and not too long ago where our college and...I mean the technical colleges, in particular...were not even invited to participate in K-12 fairs and...come in and talk to students to...let them know the opportunities that we provided. It was assumed...that all high school graduates would go directly to a four-year institution and even now, there are some that...don't necessarily want us to come on to campuses. Even though we're having more positive conversations...and letting them know that sometimes...it's good for [young people] to come...here and...learn or participate in whatever career pathway and then be ready to go on to a four-year institution.”

It was also clear from the focus group discussions that stakeholders felt that even when students were aware that many options were available to them, they did not fully understand the differences between degree options and pathways. For instance, a student who earned an associate of applied science degree may not understand that it is not eligible for transfer to a four-year institution. In other words,

students seem to know they have options, but not necessarily what the consequences of their decisions relating to these options may be.

Extensive shortages in teaching and healthcare fields, especially nursing, exist statewide and in all regions

Study participants in each of the nine ESDs noted extensive shortages in teaching and in healthcare fields, primarily nursing. First, study participants across the state mentioned various issues pertaining to the teacher shortage in Washington. In particular, they noted that recruiting and retaining teachers in high-needs fields, such as math and special education, were especially difficult. In many areas, those responsible for hiring noted a trend towards teachers in in-demand fields being recruited earlier and earlier, in many cases graduating from teacher preparation programs with multiple job offers.

They also revealed certain nuances that are noteworthy. For instance, hiring and retaining teachers in rural communities and smaller districts in all fields, not just in math and special education, is challenging. This is likely in part due to the smaller pool of applicants, but also because compensation packages are not as competitive as they are in the urban areas. In many areas, participants noted certain districts are unable to compete with neighboring districts that can offer additional incentive packages, which often exacerbates challenges around recruiting and retaining teachers.

They also shared that districts are not able to hire teachers to teach in the fields in which they have been trained—especially in STEM fields such as mathematics—leading to questions around the quality of education that the K-12 students in those areas are receiving.

Quote from a faculty member from a community college in Southeastern Washington:

“Right now, I think [fewer] than 50 percent of the teachers teaching actually have degrees in those subjects [they are teaching]. And...there's going to be a demand, again, because pay wasn't so good for K-12 for so long. Now they're getting to the point where people are retiring. They can't get replacements.”

In addition to these recruitment and retention challenges, many study participants noted there is a declining interest among postsecondary students and others in pursuing a career in teaching. They cited possible reasons for this phenomenon as low salaries, challenging working conditions, and public degradation of teaching as a profession.

It is important to note, however, that the budget passed on June 30, 2017 by the Washington Legislature is likely to have significant impacts on teacher compensation in the coming years. According to the Washington Education Association, the plan funds a 2.3 percent cost-of-living adjustment for 2017-18, and then in 2018-19 the current salary allocation model will be eliminated. Districts will be allowed to pay higher salaries for “educational staff associates or teachers who are teaching in the subjects of science, technology, engineering, math or in the transitional bilingual instruction or special

education programs.” And finally, the plan will allow for “regional pay adjustments ranging from 6 to 18 percent in districts where housing costs are above the state median.”⁶

Healthcare, and specifically nursing, was the other field most frequently cited in conversations with study participants as a shortage area. With respect to nursing in the state of Washington, the WWAMI Center for Workforce Studies projects that by 2031, supply will be short of demand by as many as 21,000 practicing registered nurses (RNs).⁷ This is due to an aging RN workforce and pending retirements, but also because of a growing population in the state, particularly among the elderly.⁸ This phenomenon was evident in the discussions with stakeholders across the state.

Further, most everyone is in agreement that nursing is a shortage area statewide, and the solutions to the problem are complicated and not easily achieved. The postsecondary institutions that have nursing programs at the various levels often are unable to expand capacity for several reasons. This results in enrollment caps or other types of restrictions. First, they cannot offer additional clinical placement sites to accommodate more students. The clinical portion of a nurse’s education is a required element that provides them with a work-based learning opportunity where they can apply what they have learned in the academic setting in a real-world environment and can work directly with patients. Particularly in rural settings, securing clinical placement sites can be a barrier to completion for nursing students and a limiting factor for institutions that want to expand their programs to meet employer and community demand. Second, postsecondary administrators are frequently unable to hire qualified faculty to teach in and serve as administrators in nursing programs. At the core of this challenge is compensation for nursing faculty. Simply put, nurses can earn considerably higher salaries in a clinical setting than they can in an academic environment.

The limited capacity of nursing programs has created an extremely competitive academic environment for students who want to enter and succeed in nursing programs. The academic entrance requirements vary by institution, but there are other admissions hurdles as well. In some cases, qualified students are admitted to nursing programs through a lottery system and in other cases, by a first-come, first-served process. There seem to be advantages and disadvantages to the various approaches, but the one message that was clear was that the necessary programs for the most part existed, but they simply could not produce enough volume to meet demand.

Quote from a parent in Eastern Washington:

“I have a step-daughter that went to school in Great Falls in Montana. She did a nursing program there. And I would hazard to say that at least 60 percent of their graduates from that nursing program are from the Spokane area. They can’t get into a program here.”

Notably, these challenges are not unique to the state of Washington. A recent report from the Georgetown Center on Education and the Workforce projects that the nursing workforce nationwide will face a shortfall of approximately 193,000 nursing professionals by 2020.⁹ Further, nursing schools

cannot meet the growing demand because they lack adequate faculty, facilities, and clinical placement sites.¹⁰

Within the focus group discussions, people most often referred to nursing as the most challenging occupation to fill, but they also cited medical assistants, certified nursing assistants (CNAs), physicians in rural areas, and mental health professionals in K-12 schools specifically and in communities more broadly.

Quote from a community college administrator in Central Washington:

“We had only five people, and I'm not exactly sure what the title is, but there are only five practicing clinical psychologists...in the area and one of them left because it was ...challeng[ing] to deliver...services within a community where you see these people all the time and cannot ...acknowledge [anything]...for client confidentiality issues...it was too difficult. So, he left to a...larger area...and now we only have four in the same sized area who are all struggling with the same problem.”

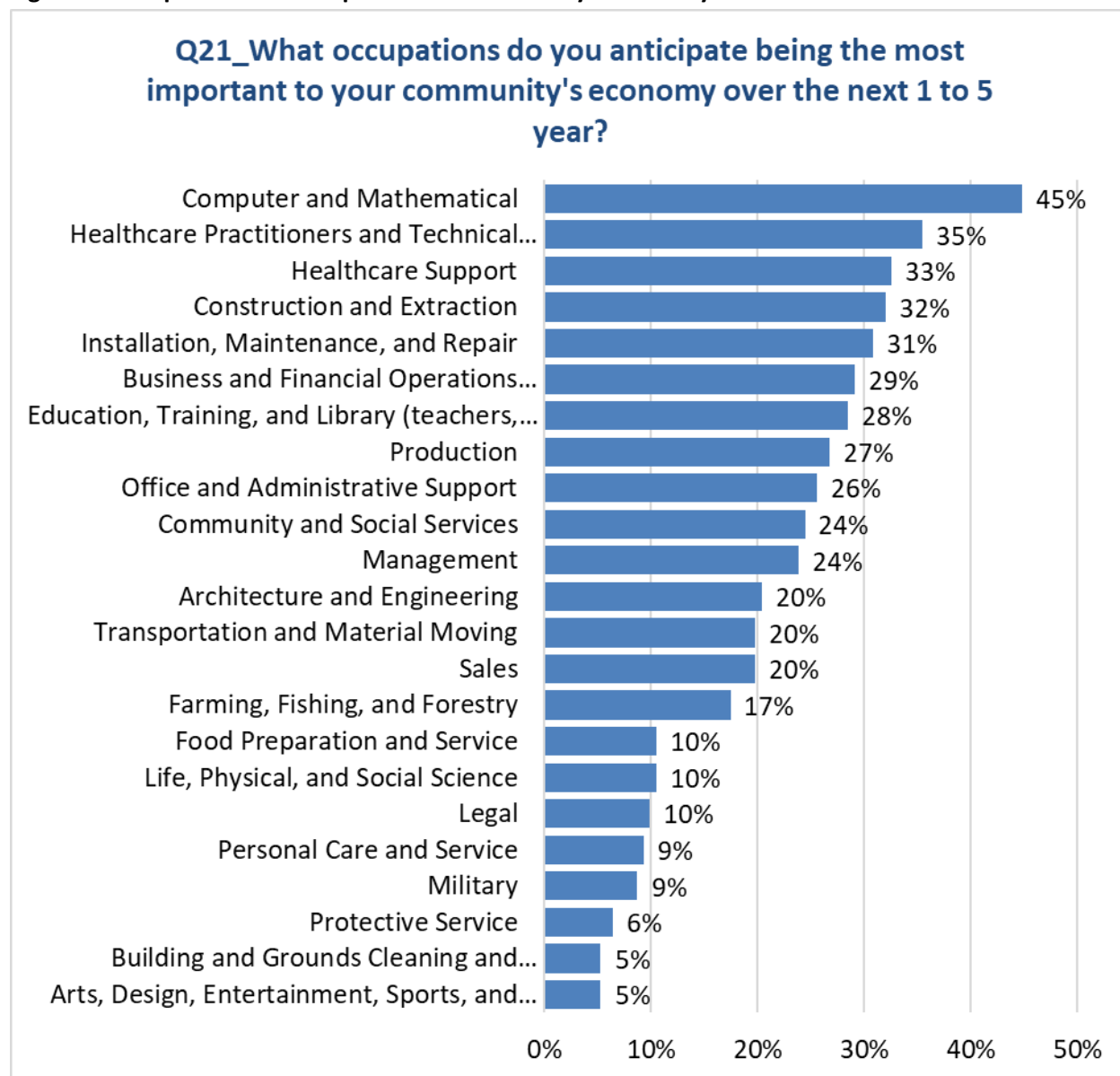
Quote from a nonprofit representative in the mental health industry in Northwest Washington:

“And you can't attract anybody. We look to hire from Kentucky. We look to hire from Illinois. We are going to states all over the nation to hire.”

This in essence creates the perfect storm because while these positions are among the hardest to fill, they are some of the most in demand.

When employers in the state of Washington were asked what occupations they anticipated would be the most important to their community's economy over the next one to five years, 45 percent of respondents indicated computer and mathematical, and 35 percent said healthcare practitioners and technical (doctors, nurses), 33 percent said healthcare support, and 32 percent said construction and extraction (see Figure 2).

Figure 2. Occupations Most Important to Community's Economy Over Next 1-5 Years



Lack of affordable child care is a barrier to students and workers

Study participants in nearly every ESD noted the challenges related to the availability of affordable child care for students, potential students, and those in the workforce. This theme revealed itself in three primary respects. First, study participants noted a lack of affordable childcare options in most areas. Participants emphasized that childcare in both urban and rural areas is expensive, difficult to secure, and provided little in terms of options. Child Care Aware of Washington finds that Washington is the third most expensive state for infant care in family home child care programs and the sixth most expensive state for care of infants in centers.¹¹ Further, the rising cost of child care has outpaced growth in family incomes. Since, 2009, the median cost of child care has increased for all age groups ranging from 4 to 32 percent, while the median household income has increased 1 percent.¹²

Quote from a community college administrator from Northwest Washington:

“No one can afford the childcare...and no one can afford to provide childcare [be]cause it doesn't create enough income.”

Second, in many areas, primarily those that were rural in nature, study participants described a lack of any options at all, affordable or otherwise, citing that increased state regulations had caused local facilities to shut down. According to Child Care Aware of Washington, in December 2016, there were 225 fewer licensed child care providers statewide than there were in December 2015; the state has had a net loss of more than 1,600 child care providers since the beginning of 2011.¹³ And while, there has been about a 1 percent decline statewide in overall child care capacity, certain areas of the state have been hit much harder.¹⁴

Quote from returning adult student in Central Washington:

“I finally ended up having to go to a church daycare. That was not my first choice, it wasn't my second choice, and it wasn't my third choice. And since then more daycares have closed in the 11 years that I've been here. And I've always wondered how other people were able to manage.”

And finally, study participants indicated that while the need for affordable care was substantial for children of all ages, it was most prominent for infant care, which is not provided by the school system. Data from Child Care Aware of America shows that the average annual cost of infant care at an accredited center in the state of Washington in 2017 is \$15,601.¹⁵ Study participants said these barriers impacted students' ability to access and complete higher education as well as employees' ability to participate fully in the workforce.

Cross-Regional Themes

In addition to the universal themes described in the preceding section, several common themes emerged across ESDs, though did not appear in all regions. The list and Table 4 below describe the most widespread of these “cross-regional” themes, which appeared in three or more ESDs.

- **Dual Credit:** Challenges related to dual credit programs, particularly Running Start, with concerns including access for rural students, students’ accumulation of excess postsecondary credit, and the program’s impact on in-school offerings at the high school level.
- **Academic Policies, Postsecondary:** Topics related to postsecondary academic policies, including the need to restructure placement and remedial education practices, create more stackable credential frameworks, and improve the transfer and articulation processes.
- **Flexible Course Offerings, Postsecondary:** The call for more flexible postsecondary course offerings whether online, hybrid, or accelerated – including more night and weekend classes.
- **Shifting Economies:** Matters related to shifting regional economies, such as industries historically important to the region contracting or new industries emerging and the attendant challenges for the postsecondary system in responding to changing workforce needs.
- **Program Approval Process, Postsecondary:** Issues related to the public community college program approval process, typically centered around the length and complexity of the process and its impacts on institutions’ ability to respond quickly to local needs.
- **High School Graduation Requirements:** Concerns related to the state’s new [24-credit framework](#) for high school graduation, generally focused on the academic requirements perceived negative impact on students’ capacity to take CTE courses and pursue work-based learning opportunities.
- **Transportation:** Transportation-related challenges to accessing postsecondary education, such as inadequate public transit options to local institutions.
- **Cost of Living:** Cost of living challenges, often related to housing costs, that affect students’ ability to access higher education by forcing them to live at a significant distance from campuses and putting additional constraints on already tight student budgets.

Table 4. Cross-Regional Themes

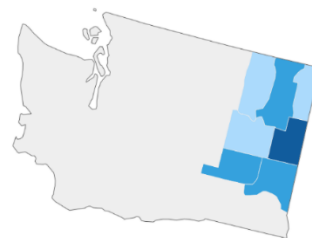
	North-east ESD 101	South Central ESD 105	South-west ESD 112	Capital ESD 113	Olympic ESD 114	Puget Sound ESD 121	South-east ESD 123	North Central ESD 171	North-west ESD 189
Dual Credit	✓			✓	✓	✓	✓		✓
Academic Policies, Postsecondary		✓		✓	✓	✓	✓		✓
Flexible Course Offerings, Postsecondary	✓	✓			✓	✓		✓	✓
Shifting Economy	✓	✓			✓		✓	✓	
Program Approval Process, Postsecondary				✓	✓	✓	✓	✓	
High School Graduation Requirements	✓			✓	✓	✓	✓		
Transportation					✓	✓	✓		✓
Cost of Living						✓	✓		✓

Regional Profiles

The universal and cross-regional themes uncovered in the focus groups, key informant interviews, and survey of employers highlighted some of the important needs in the state of Washington. Washington, however, is an incredibly diverse state in terms of geography, demography, economic trends, and educational patterns. The assets and challenges that exist along the I-5 corridor, for example, are different from the assets and challenges that are found elsewhere in the state. The following regional profiles aim to draw attention to the key themes that are prevalent in each of the nine ESDs as well as to the similarities and differences that exist to inform policy and practice decisions.

Northeast Educational Service District 101

The Northeast Educational Service District 101 benefits from having a natural regional hub in Spokane, which supports robust partnerships. The area was notable for the strength and breadth of its cross-sector partnerships, with a particularly engaged business community. Despite the area's wealth of higher education institutions, programs in high-demand fields such as nursing and computer science remain over-subscribed due to intense local demand. The region also must continue to address the disparity in resources between its population centers and more rural areas, particularly in relation to teacher supply. Another key issue to address will be identifying, communicating, and promoting career pathways in areas like advanced manufacturing and machining that can lead to a living-wage job with a sub-baccalaureate credential.



Focus Group Themes		
Universal	Soft Skills & Communication	Career Exploration Opportunities
	Healthcare & Teaching Shortages	Childcare
	College & Career Guidance	
Cross-Regional	Flexible Course Offerings, Postsecondary	Dual Credit
	High School Graduation Requirements	Shifting Economy
Regional	The "Middle" Student	Inability to Pass Drug Tests
	Postsecondary Computer Science Program Capacity	Inclusive Curriculum in K-12 & Postsecondary

Stakeholder Perspectives Represented
Higher Education
K-12
Business/Industry/Economic Development
Community/Nonprofit/Government
STEM Network
Tribal
Workforce Development Council

Postsecondary Institutions	
Eastern Washington University	Washington State University
Washington State University – Spokane	Spokane Falls Community College
Spokane Community College	WGU Washington
Gonzaga University	Spokane Tribal College
Whitworth University	

Employer Survey Themes
Skills Difficult to Find Locally: Soft Skills & Welders
Anticipated Workforce Size Changes: Stable or Expanding
Local Education/Training Options Meet Needs: Unsure
Most Important Anticipated Occupations: Healthcare, Computer & Mathematical

Of K-12 Students in Northeast ESD:

46.6%
are on free or reduced-priced lunch

0.1%
are migrant

2.0%
are American Indian/Alaska Native

1.9%
are Asian

0.8%
are Native Hawaiian/Other Pacific Islander

1.9%
are Black

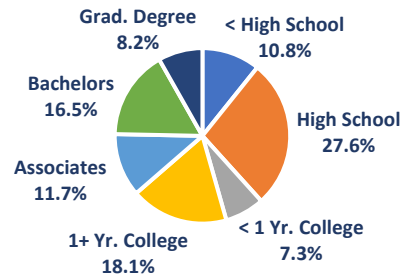
8.2%
are Hispanic

77.2%
are White

8.1%
are Two or More Races

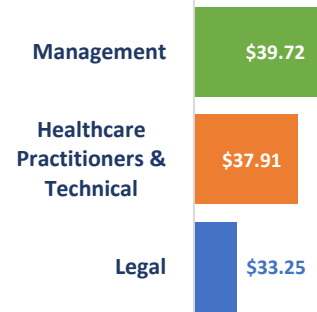
Source: Washington Office of Superintendent of Public Instruction, Washington State Report Card, May 2016

Northeast ESD Population Education Attainment Level, Age 25-44



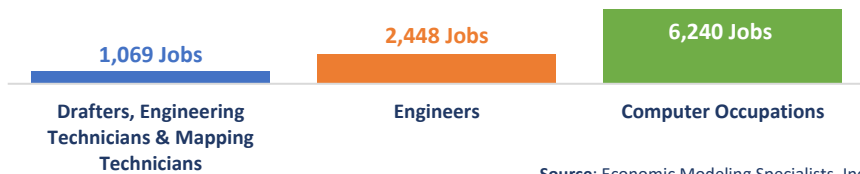
Source: WSAC staff analysis of American Community Survey (U.S. Census Bureau) data, 2011-2015

Northeast ESD Highest Paid Occupations, 2016 Median Hourly Earnings



Source: Economic Modeling Specialists, Inc.

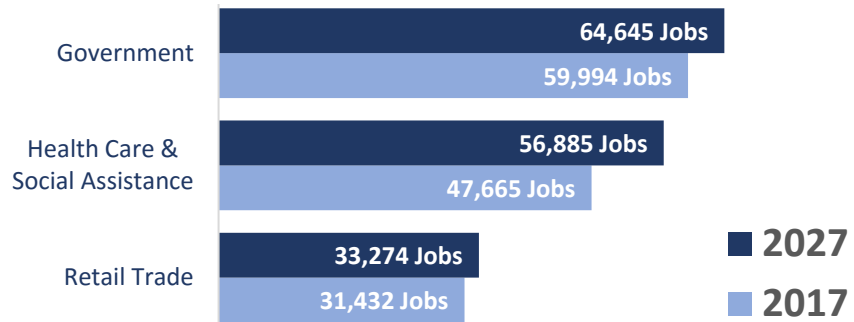
Northeast ESD Top Projected STEM Occupations, 2027



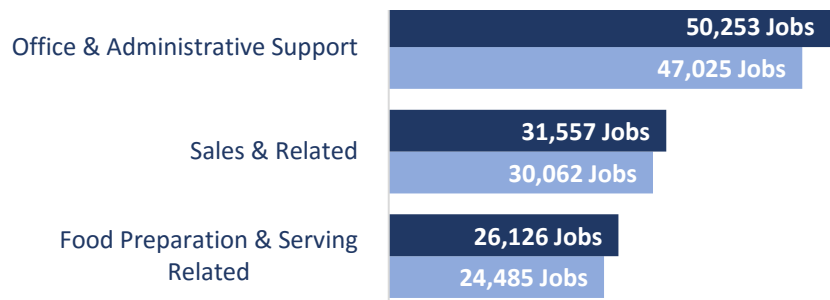
Source: Economic Modeling Specialists, Inc.

Northeast ESD Industry & Occupation Growth

Largest Projected Industries (2027) & Largest Industries (2017)



Largest Projected Occupations (2027) & Largest Occupations (2017)



Source: Economic Modeling Specialists, Inc.

Background

The Northeast Educational Service District 101 serves 59 school districts in Adams, Ferry, Lincoln, Pend Oreille, Spokane, Stevens, and Whitman counties as well as part of Adams County. The ESD spans most of the Eastern portion of the state, sharing a long border with Idaho to the East and Canada to the North. The ESD's population is heavily clustered in and around the city of Spokane. Two workforce development regions overlap with the ESD, the [Eastern Washington Partnership](#) and the [Spokane Area Workforce Development Council](#). They identify the area's strategic industry sectors as: finance and insurance; healthcare; manufacturing; professional, scientific, and technical services; and transportation and warehousing. The area is also served by the Spokane STEM Network. The region is home to the Colville Confederated Tribes, Kalispel Tribe, and Spokane Tribe.

The ESD is served by two public baccalaureate institutions, Eastern Washington University in Cheney and Washington State University in Pullman. Two community colleges, Spokane Community College and Spokane Falls Community College—who together form the Community Colleges of Spokane community college district—operate in the ESD. Private institutions including Gonzaga University and Whitworth University are also located in Spokane, and the Spokane Tribal College in Wellpinit offers programming through a partnership with Montana's regionally accredited Salish Kootenai Tribal College.

Recently, Washington State University also opened WSU Health Sciences Spokane, which offers an array of upper-division undergraduate, professional, and graduate programs in the health sciences (as well as education and criminal justice programs). Washington State University also launched the Elson S. Floyd College of Medicine in Spokane. Meanwhile, the University of Washington has extended its medical school to the area through a partnership with Gonzaga University in Spokane.

Economic and Educational Profile

Economy and Workforce Demand

Over the past ten years, from 2007-2017, the largest industry clusters in the Northeast ESD offering the most employment opportunities included government, healthcare and social assistance, retail trade, manufacturing, accommodation and food services, manufacturing, and construction. Over this time period, job numbers increased considerably in healthcare and social assistance (31 percent), administration and support services (12 percent) and professional, scientific, and technical fields (9 percent). Jobs in construction and manufacturing declined substantially, reflecting the economic downturn and slow recovery associated with the recession (Source: Emsi 2017.3; QCEW, non-QCEW, Self-Employed).

Occupational clusters offering the most employment opportunities included office and administrative support, sales and related, food preparation and serving related, education, and transportation and material moving. The fastest growing occupations during this period were in the fields of farming, fishing and forestry (55 percent), community and social service (28 percent), protective services (25 percent), healthcare support (22 percent), and healthcare practitioners and technicians (14 percent). Occupations paying the highest median hourly wage in 2016 were in management (\$39.72), healthcare practitioners and technical (\$37.91), legal professions (\$33.25), architecture and engineering (\$33.20),

and computer and math related fields (\$31.84) (Source: Emsi 2017.3; QCEW, non-QCEW, Self-Employed).

Projections for the next ten years, from 2017-2027, show that many of these same industries will continue to lead the field in the region. The sectors that will experience the greatest growth are healthcare and social assistance (19 percent), administration and support services (13 percent), government (8 percent), and professional, scientific, and technical services (8 percent). Occupations that are projected to experience the greatest growth during this time period include healthcare practitioners and technical (15 percent), personal care and service (13 percent), management (9 percent), and construction (8 percent) (Source: Emsi 2017.3; QCEW, non-QCEW, Self-Employed).

In STEM fields, the greatest number of employment opportunities from 2017-2027 in Northeast ESD are projected to be in computer occupations, engineering and related, and life, physical, and social sciences. The fastest growth in STEM fields will be in mathematical science-related (34 percent), computer (16 percent), and social science and related (10 percent) (Source: Emsi 2017.3; QCEW, non-QCEW, Self-Employed).

Educational Attainment

Among Northeast ESD residents age 25-44, 62 percent have pursued education beyond high school and 36 percent have completed an associate, bachelor's or graduate degree (WSAC analysis of American Community Survey data, 2011-2015).

Focus Groups

Three focus groups were hosted in Northeast ESD, two at Spokane Falls Community College and one at Spokane Community College. Two key informant interviews were also conducted. Participants represented a range of sectors and perspectives including those of: K-12, parent, community college, four-year institution, government, nonprofit, employer, workforce development council, economic development organization, regional STEM network, and policymaker. The areas of concern identified are as follows:

Key Themes

K-12

- **Teacher Shortages [Universal Theme]:** Teacher shortages were an issue in the ESD, although these manifested differently depending on the area. Districts in the Spokane area noted that their proximity to Eastern Washington University and Washington State University allowed for good access to a pipeline of new teachers, although they were beginning to experience increasing competition in hiring for certain areas – such as special education. More rural districts struggle to hire and then to retain teachers, having most success with local students who returned to the area. There was also the suggestion that teachers today need additional training and support in meeting mental and behavioral health needs of students. Another suggestion was that the region would benefit from increasing the diversity of its teaching corps as it's student body is becoming increasingly diverse.

- **College & Career Guidance [Universal Theme]:** Participants felt that students were primarily provided with information on baccalaureate degrees and that other options such as apprenticeships and sub-baccalaureate credentials were not communicated. A participant noted that construction, manufacturing and machining all offer good wages locally for those with sub-baccalaureate credentials and students are not aware of this. The [Curlew Jobs Corps Civilian Conservation Center](#) was highlighted as an alternative route to living-wage occupations for students not interested in pursuing a four-year degree, though it was noted that its remote location meant it was not a scalable program.
- **High School Graduation Requirements [Cross-Regional Theme]:** K-12 participants were concerned that the new graduation requirements were preventing students from using electives to access career exploration opportunities.
- **Dual Credit [Cross-Regional Theme]:** Running Start was praised for offering academic opportunities to high school students, however, concerns were raised that the distance involved for some rural students made participating difficult if they were at the far end of the mileage range from a Running Start provider that did not allow their local school to offer College in the High School.
- **The “Middle” Student:** Some participants worried that students not on an advanced academic track or receiving remedial services, who were “in the middle” were not being offered the same level of services as their peers and might be lost in the shuffle, especially in relation to identifying post-high school plans.

K-12 & Higher Education

- **Inclusive Curriculum in K-12 & Postsecondary:** It was suggested that students at all levels—particularly Native American students—would benefit from more inclusive curricula that offer a more comprehensive view of subjects such as history, including more information on the state’s indigenous populations.

Higher Education

- **Nursing Shortage [Universal Theme] – Nursing Program Capacity:** Local nursing programs cannot meet demand—both for their graduates and of potential students—with their current capacity. However, programs are not in a place to expand due to a lack of additional clinical sites, the high cost of operating nursing programs (one participant noted that their program’s fee structure was inadequate to cover operating cost) and the difficulty in finding and retaining nursing faculty due to their ability to earn significantly more employed in their field than as a faculty member.
- **Computer Science Program Capacity:** Local computer science programs are also experiencing increased demand and have to cap access to students. Participants felt that Spokane’s growing tech sector would benefit from more graduates in this field, particularly as the area works to recruit more tech employers. There was also some concern that local computer science programs were not able to afford the appropriate technology. One participant suggested that an apprenticeship-style program might be beneficial in this field.

- **Flexible Course Offerings [Cross-Regional Theme]:** Some felt that local two-year institutions could do more to accommodate nontraditional students by offering more evening, part-time, and accelerated programs.

Workforce

- **Soft Skills [Universal Theme]:** A repeated concern of local employers was the lack of soft skills among new and potential employees.
- **Shifting Economy [Cross-Regional Theme]:** While the Spokane area's economy is robust and includes fast-growing healthcare and professional services sectors, rural counties traditionally reliant on natural resources, such as mining, forestry, and agriculture have been struggling since the great recession.
- **Inability to Pass Drug Tests:** Several participants noted the increasing difficulty of hiring employees who are able to pass drug tests.

Survey

Current Skill Sets Employers Struggle to Find Locally

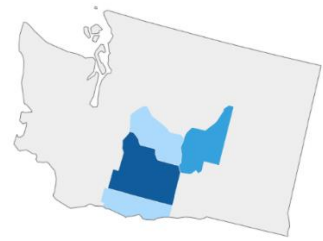
- **Soft Skills and Welders:** Ten of the 16 employer respondents from Northeast ESD stated that they struggle to find employees with particular skill sets. Among the skills that employers struggle to find locally, welders/welding and soft skills were the top skills desired. Other skills that were stated as a struggle to find locally were business, commercial drivers, and HVAC mechanics.

Future Workforce Needs

- **Anticipating a Stable or Expanding Workforce:** Almost all employer respondents anticipate stability or growth in their workforce over the next one to five years, but one employer in the region anticipates their workforce significantly decreasing.
- **Unsure if Current Education/Training Offerings Will Meet Future Needs:** Considering the anticipated growth, employers had mixed responses as to whether they believe their community's current education/training offerings will meet their organization's needs in the next one to five years. Seven employers believe the current offerings will meet future needs, six are unsure, and one employer does not think that current offerings will meet future needs.
- **Computer and Mathematical and Healthcare Practitioners Anticipated to be Most Important Occupations:** The two occupations stated by Northeast ESD employers as being the most important over the next one to five years were computer and mathematical and healthcare practitioners. Similarly, focus group participants from Northeast ESD identified nursing and computer science programs as currently facing significant capacity issues at higher education institutions. Other important occupations include: healthcare support and management; business and financial operations (auditors, accountants, etc.).

South Central Educational Service District 105

South Central Educational Service District 105 is in many ways at the forefront of the state's efforts to better serve its growing Hispanic student population. The region's efforts to build and train its bilingual K-12 workforce may offer an important example to other communities across the state. Similarly, its large population of first-generation college students provides an opportunity to refine and enhance how college and career guidance is offered at the high school level to ensure students understand the credential opportunities and financial aid options available to them. The ESD faces unique challenges in responding to the evolving nature of the agriculture economy from a higher education perspective as well as developing the healthcare workforce the region needs with limited clinical sites for its students. Reaching across sectors to develop meaningful regional partnerships will be critical in meeting the needs of the area's students and ensuring promising programs and practices benefit even the most rural districts.



Focus Group Themes		
Universal	Soft Skills & Communication	Career Exploration Opportunities
	Healthcare & Teaching Shortages	Childcare
	College & Career Guidance	
Cross-Regional	Flexible Course Offerings, Postsecondary	Academic Policy, Postsecondary
	Shifting Economy	
Regional	Support for English Language Learners	Educational Expectations for Students with Disabilities
	Disconnect from Local Community	Regional Variation in Job Markets

Stakeholder Perspectives Represented	Postsecondary Institutions	
Higher Education	Yakima Valley Community College	Central Washington University
K-12	Heritage University	Pacific Northwest University of Health Sciences
Community/Nonprofit/Government	Perry Technical Institute	WGU Washington

Employer Survey Themes
Skills Difficult to Find Locally: Varied
Anticipated Workforce Size Changes: Stable or Expanding
Local Education/Training Options Meet Needs: Yes
Most Important Anticipated Occupation: Farming, Fishing, and Forestry

Of K-12 Students in South Central ESD:

67.3%

are on free or reduced-priced lunch

10.9%

are migrant

3.4%

are American Indian/Alaska Native

0.6%

are Asian

0.1%

are Native Hawaiian/Other Pacific Islander

0.5%

are Black

64.3%

are Hispanic

29.0%

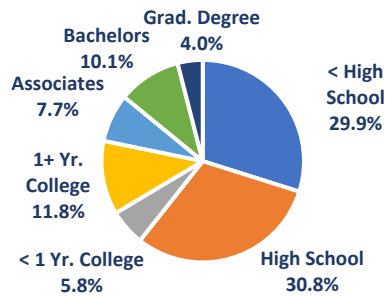
are White

2.0%

are Two or More Races

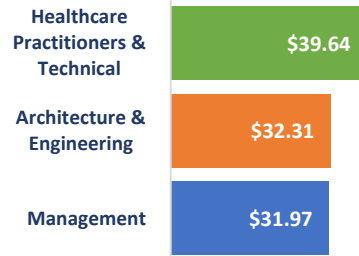
Source: Washington Office of Superintendent of Public Instruction, Washington State Report Card, May 2016

South Central ESD Population Education Attainment Level, Age 25-44



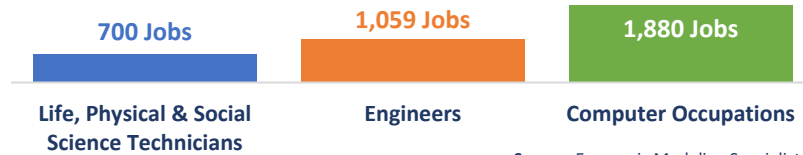
Source: WSAC staff analysis of American Community Survey (U.S. Census Bureau) data, 2011-2015

South Central ESD Highest Paid Occupations, 2016 Median Hourly Earnings



Source: Economic Modeling Specialists, Inc.

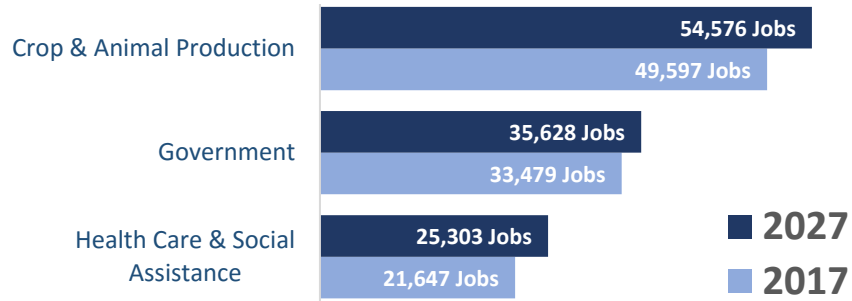
South Central ESD Top Projected STEM Occupations, 2027



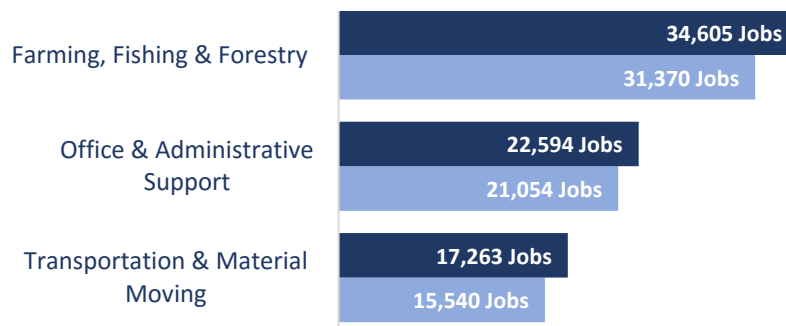
Source: Economic Modeling Specialists, Inc.

South Central ESD Industry & Occupation Growth

Largest Projected Industries (2027) & Largest Industries (2017)



Largest Projected Occupations (2027) & Largest Occupations (2017)



Source: Economic Modeling Specialists, Inc.

Background

The South Central Educational Service District 105 serves 25 school districts in Kittitas, Yakima and parts of Klickitat and Grant counties. The ESD serves a primarily rural area, with its major population center in Yakima, and a secondary cluster in Ellensburg. The area generally aligns with the South Central workforce development region, led by the [South Central Workforce Development Council](#), which identifies the strategic industry sectors in the region as agriculture (food processing, crop production, agricultural support), healthcare, manufacturing, warehousing and distribution, and construction. The area is also served by the South Central STEM Network. The region is home to the Confederated Tribes and Bands of the Yakama Nation, whose Yakama Indian Reservation covers over 2,000 square miles and includes the city of Toppenish.

The ESD is served by one public baccalaureate institution, Central Washington University in Ellensburg, and one public community college, Yakima Valley Community College in Yakima (where Central Washington University operates a University Center). Private institution Heritage University is also located in Toppenish and serves many local students. Other private providers in the region include Perry Technical Institute, a nonprofit technical school, and the Pacific Northwest University of Health Sciences, an osteopathic medical college.

Economic and Educational Profile

Economy and Workforce Demand

Over the past ten years, from 2007-2017, the largest industry clusters in the South Central region included crop and animal production, government, healthcare and social assistance, retail trade, manufacturing, accommodation and food services, and construction. Over this time period, the greatest growth in job numbers occurred in the fields of crop and animal production (33 percent), healthcare and social assistance (20 percent), accommodation and food services (18 percent) and wholesale (13 percent) and retail trade (11 percent). As in other regions, construction jobs in the South Central area suffered during the recession, declining by 13 percent (Source: Emsi 2017.3; QCEW, non-QCEW, Self-Employed).

Occupational clusters offering the most employment opportunities included farming, fishing, and forestry, office and administrative support, transportation and material moving, and sales. The fastest growing occupations during this period were in the fields of farming, fishing and forestry (36 percent), installation, maintenance, and repair (17 percent), transportation and material moving (17 percent), and healthcare support (15 percent). Occupations paying the highest median hourly wage in 2016 were among healthcare practitioners and technical (\$39.64), architecture and engineering (\$32.31), management (\$31.97), legal (\$31.57), and computer and mathematical (\$31.21) professions (Source: Emsi 2017.3; QCEW, non-QCEW, Self-Employed).

Projections for the next ten years, from 2017-2027, show that many of these same industries will continue to lead the field in the region. The sectors experiencing the greatest growth will be construction (18 percent), healthcare and social assistance (17 percent), and wholesale trade (14 percent). Occupations that are projected to see the fastest growth during this time period are in the fields of construction (15 percent), healthcare practitioners and technical (15 percent), personal care

and service (13 percent), education, training, and library (13 percent) (Source: Emsi 2017.3; QCEW, non-QCEW, Self-Employed).

In STEM fields, the greatest number of employment opportunities from 2017-2027 in the South Central region are projected to be in computer, engineering, and life, physical, and social science occupations. Mathematical science-related (31 percent) and computer and engineering (14 percent) occupations will see the fastest growth (Source: Emsi 2017.3; QCEW, non-QCEW, Self-Employed).

Educational Attainment

Among South Central residents age 25-44, 39 percent have pursued education beyond high school and 22 percent have completed an associate, bachelor's or graduate degree (WSAC analysis of American Community Survey data, 2011-2015).

Focus Groups

Two focus groups were hosted in South Central ESD, one at Yakima Valley Community College and one at Central Washington University. Participants represented a range of sectors and perspectives including those of: K-12, parent, student, community college, four-year institution, government, nonprofit, employer, and policymaker. The areas of concern identified are as follows:

Key Themes

K-12

- **Teacher Shortages [Universal Theme]:** The area is facing a teacher shortage, with particular need for special education teachers and teachers in rural schools. Some school administrators noted that certain rural schools in high-poverty areas struggle with issues of gang violence and this makes teacher recruitment and retention particularly challenging. There was also a widespread perception that teaching is viewed as an “overworked and underpaid” profession and is not attractive to potential new entrants.
- **Career Exploration Opportunities [Universal Theme] – STEM Exposure:** Many participants wanted to see more robust STEM options at local schools, exposing students to careers in these fields, particularly as the region's heavily agricultural economy shifts towards mechanization meaning many local job options will now require more of a background in the sciences. A local high school's robotics program, which includes the opportunity to earn college-level credit, was held up as a promising practice. An additional suggestion was to offer financial support to students who would like to participate in summer STEM camps.
- **College & Career Guidance [Universal Theme]:** Several participants noted that students in the region need more robust guidance on postsecondary options. Many students in local high schools need support in navigating not only postsecondary choices, but also the financial aid system, to make informed choices.
- **Support for English Language Learners:** A key concern in K-12 was the level of support for the area's extensive English Language Learner (ELL) population. Students and administrators expressed the desire for a greater investment in bilingual staff, as well as training for all staff on

how to effectively work with bilingual student populations – ensuring their dual language skills are recognized as an asset rather than seen as a barrier.

- **Educational Expectations for Students with Disabilities:** Participants who worked with this population felt that many high school students with disabilities were steered away from a college track, and could be better prepared to pursue postsecondary coursework.

Higher Education

- **Childcare [Universal Theme]** On-campus childcare was suggested as a solution to support parenting students. One campus' on-site facility staffed by early childhood education students was highlighted as a nice example of this idea in practice.
- **Nursing Shortage [Universal Theme] – Clinical Sites for Healthcare Programs:** While this issue came up across the state in relation to nursing and other healthcare occupation shortages, the issue of clinical placements for all types of healthcare professions seemed to be particularly acute in this region, due to the more limited supply of healthcare providers in relation to the number of students.
- **Academic Policies – Short-term & Stackable Credentials [Cross-Regional Theme]:** There was much discussion regarding the area's need for a strong array of short-term and stackable postsecondary credentials. With a relatively strong agricultural economy at the current time, potential students face heavy incentives to enter the workforce, and should have options to quickly complete credentials of some kind with the option to later return and build on these as there are shifts in the economy.
- **Flexible Course Offerings [Cross-Regional Theme]:** Several participants suggested that the region would benefit from more night and weekend class opportunities as well as online offerings, for nontraditional students juggling work and family responsibilities and who would prefer not to leave the area for higher education.
- **Disconnect from Local Community:** In Ellensburg, many participants felt that there was a lack of collaboration between the local university and the surrounding community.

Workforce

- **Shifting Economy [Cross-Regional Theme]:** While there was much talk of the increasingly mechanized approach to agriculture and warehousing and logistics and agreement that new education and training options would be required to equip workers for this shift, there was not clear consensus regarding how the higher education sector should respond.
- **Regional Variation in Job Markets:** There is significant regional variation in job markets, Yakima's economy is dominated by agriculture and attendant services such as transportation and logistics, while Ellensburg's economy was perceived as relying much more on the university, tourism, government services, and the service industry. Yakima seems to offer more employment opportunities—though largely in lower-wage occupations—while Ellensburg was seen as having an extremely constrained job market with very limited opportunities across the spectrum of available occupations and perceived hostility towards new industries.

Survey

Current Skill Sets Employers Struggle to Find Locally

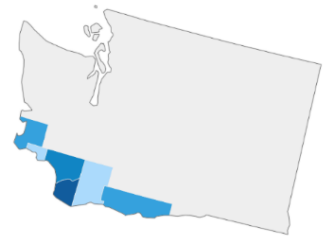
- **Varied Skill Sets:** Four of the eight employer respondents from South Central ESD stated that they struggle to find employees with particular skill sets. Similar to the region's economy, the skills that employers struggle to find locally were varied. Respondents stated math skills, skilled trades, sales, and soft skills as current skill sets that they struggle to find locally.

Future Workforce Needs

- **Anticipating a Stable or Expanding Workforce:** Seven employers from South Central ESD anticipate their workforce staying the same or increasing over the next one to five years, and South Central ESD was one of just two ESDs in which an employer anticipates their workforce significantly decreasing.
- **Most Employers Expect Current Education/Training to Meet Future Needs:** Four respondents think that the current education/training offerings will meet the needs of their organization in the next one to five years, two respondents stated that they do not think the current offerings will meet future needs, and two employers responded unsure. One employer from the water industry referenced "a large group of employees retiring in the near future" as a rationale for why the current community's education/training may not meet future needs, on the other hand, employers referenced "in-house training" as a tool for their organization to continue to meet future workforce needs outside of their community's education/training offerings.
- **Farming, Fishing, and Forestry Anticipated as Most Important Occupation:** Reflective of the region's agriculture industry, farming, fishing and forestry was stated as the most important occupation for the community in the next one to five years. Other occupations stated by employers as being the most important over the next one to five years closely align with strategic industry sectors articulated by the South Central Workforce Development Council and include: computer and mathematical; healthcare practitioners and technical (doctors, nurses, etc.), healthcare support, installation, maintenance, and repair.

Southwest Educational Service District 112

Robust partnerships and strong community engagement are a hallmark of Southwest ESD 112. K-12, higher education, and the business and economic development community actively collaborate and cooperate on local initiatives. The region's primary challenges appear to be: finding new ways and services to meet the needs of their changing population at the K-12 and postsecondary levels, ensuring they are supported and feel welcomed by the community; expanding resources—especially mental health services—to rural school districts; and effectively communicating the local opportunities in the advanced manufacturing sector that involve pathways other than a four-year degree.



Focus Group Themes		
Universal	Soft Skills & Communication	Career Exploration Opportunities
	Healthcare & Teaching Shortages	Childcare
	College & Career Guidance	
Regional	K-12 Student Supports	Manufacturing Workforce Shortages
	Inclusive Community	

Stakeholder Perspectives Represented
Higher Education
K-12
Business/Industry/Economic Development
Community/Nonprofit/Government
STEM Network
Tribal

Postsecondary Institutions	
Clark College	Lower Columbia College
Washington State University Vancouver	WGU Washington

Employer Survey Themes
Skills Difficult to Find Locally: Welding
Anticipated Workforce Size Changes: Stable or Expanding
Local Education/Training Options Meet Needs: Unsure
Most Important Anticipated Occupation: Production

Of K-12 Students in Southwest ESD:

43.2%
are on free or reduced-priced lunch

0.3%
are migrant

0.6%
are American Indian/Alaska Native

3.5%
are Asian

1.1%
are Native Hawaiian/Other Pacific Islander

1.6%
are Black

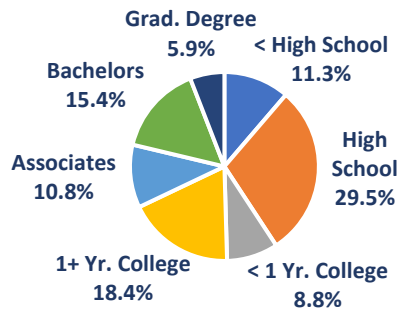
17.2%
are Hispanic

69.5%
are White

6.5%
are Two or More Races

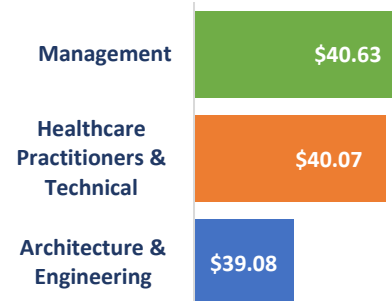
Source: Washington Office of Superintendent of Public Instruction, Washington State Report Card, May 2016

Southwest ESD Population Education Attainment Level, Age 25-44



Source: WSAC staff analysis of American Community Survey (U.S. Census Bureau) data, 2011-2015

Southwest ESD Highest Paid Occupations, 2016 Median Hourly Earnings



Source: Economic Modeling Specialists, Inc.

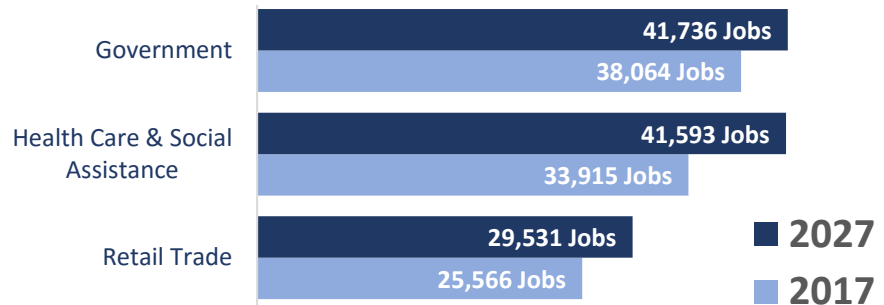
Southwest ESD Top Projected STEM Occupations, 2027



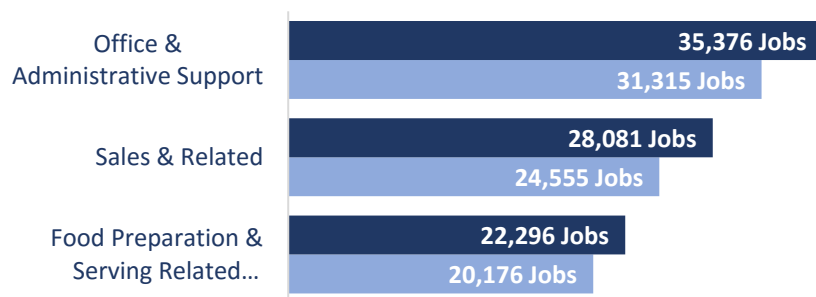
Source: Economic Modeling Specialists, Inc.

Southwest ESD Industry & Occupation Growth

Largest Projected Industries (2027) & Largest Industries (2017)



Largest Projected Occupations (2027) & Largest Occupations (2017)



Source: Economic Modeling Specialists, Inc.

Background

The Southwest Educational Service District 112 serves 30 school districts in Clark, Cowlitz, Skamania, Wahkiakum, and parts of Klickitat and Pacific counties. The ESD includes the southwest edge of Washington's Pacific Coast and borders Oregon to the south. The area's major population center is Vancouver, located just across the Columbia River from Portland, Oregon. Other population centers include Longview and communities along the I-5 corridor. The ESD largely overlaps with the Southwest Washington workforce development region, whose [Workforce Development Council](#) has identified four main industry sectors for the region to focus on: manufacturing, healthcare (specifically long-term care), technology/software, and infrastructure/construction. The Southwest Washington STEM Network serves the region as well. The region is also home to the Cowlitz Indian Tribe. The area is served by two public community colleges, Clark College and Lower Columbia College, and one public baccalaureate, Washington State University Vancouver.

Economic and Educational Profile

Economy and Workforce Demand

Over the past ten years, from 2007-2017, the largest industry clusters in the Southwest region included government, healthcare and social assistance, retail trade, manufacturing, and construction. Over this time period, the greatest growth in job numbers occurred in the fields of healthcare and social assistance (41 percent), professional, scientific, and technical (21 percent), wholesale trade (18 percent), and administration and support (17 percent). As in other regions, construction jobs in the Southwest area suffered during the recession, declining by 8 percent (Source: Emsi 2017.3; QCEW, non-QCEW, Self-Employed).

Occupational clusters offering the most employment opportunities included office and administrative support, sales, food preparation, education, training, and library, and transportation and material moving. Occupations experiencing the fastest growth during this period were in the fields of community and social services (41 percent), computer and mathematical (31 percent), healthcare support (31 percent), healthcare practitioners and technical (23 percent). Occupations paying the highest median hourly wage in 2016 were management (\$40.63), healthcare practitioners and technical (\$40.07), architecture and engineering (\$39.08), and computer and mathematical (\$38.69) professions (Source: Emsi 2017.3; QCEW, non-QCEW, Self-Employed).

Projections for the next ten years, from 2017-2027, show that government, healthcare and social assistance, retail trade, manufacturing, and construction will continue to be the leading industry sectors. The sectors experiencing the greatest growth will be healthcare and social assistance (23 percent), wholesale trade (20 percent), professional, scientific, and technical (17 percent), and construction (17 percent). Occupations that are projected to see the fastest growth in jobs during this time period are in the fields of healthcare support (25 percent), healthcare practitioners and technical (20 percent), business and financial operations (19 percent), and personal care and service (18 percent) (Source: Emsi 2017.3; QCEW, non-QCEW, Self-Employed).

In STEM fields, the greatest number of employment opportunities from 2017-2027 in the Southwest region are projected to be in computer, engineering, and drafting, engineering technician, and mapping

technician occupations. Mathematical science-related (44 percent), computer (19 percent) and social science and related (17 percent) occupations will see the fastest growth (Source: Emsi 2017.3; QCEW, non-QCEW, Self-Employed).

Educational Attainment

Among Southwest residents age 25-44, 59 percent have pursued education beyond high school and 32 percent have completed an associate, bachelor's or graduate degree (WSAC analysis of American Community Survey data, 2011-2015).

Focus Groups

Two focus groups were hosted in Southwest ESD, one at Clark College and one at WSU Vancouver. Participants represented a range of sectors and perspectives including those of: K-12; parent; community college; four-year institution; regional STEM network; economic development organization; the business community; and tribal representative. The areas of concern identified are as follows:

Key Themes

K-12

- **Teacher Shortages [Universal Theme]:** Districts are struggling to fill special education and STEM teaching roles, with rural districts facing the greatest challenges. The local public baccalaureate institution noted that they have a program in place to produce more teachers, but due to the cyclical demand for teachers, it was previously quite small, and they have only recently increased its size, which means there is a few years delay in the teachers they can produce. There was also general concern expressed that teaching is not seen as an attractive career option due to low salaries and the national focus on standardized testing. Many school districts recruit from nearby Oregon.
- **College & Career Guidance [Universal Theme]:** Many participants felt that schools too strongly pushed four-year degrees for all students, at the expense of other career pathways, such as apprenticeships, certificates, and technical degrees.
- **Career Exploration [Universal Theme]:** There was concern that there were not enough work-based learning opportunities for students, that internships were difficult to find, and that CTE options were not as plentiful as many would like.
- **Student Supports:** There was a widely shared perception among K-12 representatives that the area was serving a changing student population, one more likely to be low-income and face significant stressors in their home life. Consequently, schools are required to provide much more in terms of wrap-around supports, ranging from connections to social services and community resources, to mental health counseling, to teachers trained in trauma-informed practices. School district representatives shared ways in which they are leveraging community partnerships to meet this growing need, for example, partnering with local nonprofits to offer at-school services. However, there was consensus that more robust support structures are needed, with suggestions ranging from universal preschool to more funding for school

counselors – with a particular focus on resources for rural areas which typically have the fewest resources.

Higher Education

- **Training for Jobs of the Future:** There was much discussion of the tensions inherent in trying to provide students with skills for specific employment or for jobs of the future. While no concrete solution was proposed, consensus emerged that the key was teaching “learning how to learn” and adaptability in all courses of study, technical or otherwise, so that all students have the capacity to retrain at a future date.
- **Inclusive Community:** The area’s population is growing more and more diverse, yet participants mentioned that surveys and focus groups they had conducted with local students revealed that many students of color feel isolated on campus and in the community. Local institutions are working to make their campuses more welcoming and inclusive.

Quote from an administrator at a four-year postsecondary institution in Southwest Washington:

“...[we] are trying to proactively remake this university, this campus, into a place that is a welcoming atmosphere for students of color. Right now, one quarter of our students are students of color. We think that within five years, we will actually be a Hispanic-serving institution.”

Workforce

- **Manufacturing Workforce Shortage:** The robust local manufacturing community expressed a constant need for skilled technicians, especially in the face of a pending retirement wave, noting that these roles are an excellent fit for students out of high school with strong soft skills and that they oftentimes offer opportunities for continuing education in technical fields. Moreover, they tend to be much more technical than the traditional perception of manufacturing work and they would like to see a “rebranding” of the field to attract more candidates.

Survey

Current Skill Sets Employers Struggle to Find Locally

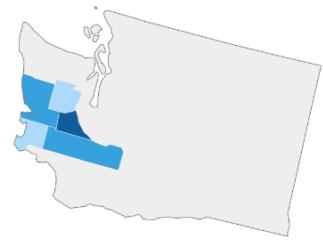
- **Welding:** Six of the eight employer respondents from Southwest ESD stated that they struggle to find employees with particular skill sets. Among the skills that employers struggle to find locally, welders/welding was the top skill stated. Other skills that were stated as a struggle to find locally were engineering, math skills, sales, and soft skills.

Future Workforce Needs

- **Anticipating an Expanding Workforce:** All the employer respondents from Southwest ESD anticipate the size of their workforce staying about the same, moderately expanding, or significantly expanding over the next one to five years.
- **Unsure if Current Education/Training Will Meet Future Needs:** Just one respondent thinks that the current education/training offerings will meet the needs of their organization in the next one to five years, three respondents stated that they do not think the current offerings will meet future needs, and three employers responded unsure.
- **Production Anticipated as Most Important Occupation:** The top occupations stated by employers in the region as being the most important over the next one to five years support the region's growing manufacturing, construction, and healthcare industries. Top occupations include: production; business and financial operations (auditors, accountants, etc.); computer and mathematical; healthcare practitioners and technical (doctors, nurses, etc.); construction and extraction; and transportation and material moving.

Capital Educational Service District 113

The Capital ESD 113's varied local economies and needs have sparked a variety of creative and targeted solutions to challenges. The western portion of the ESD has invested heavily in cross-sector partnerships, collaborating closely across K-12, postsecondary, and the business community. Meanwhile, the Olympia region is devoting significant resources to enhancing its postsecondary offerings through initiatives like the Guided Pathways project. Important areas moving forward may include: the success of BAS in teaching programs; enhanced career exploration opportunities—particularly technology-mediated approaches if these are demonstrated to be effective—with a focus on high-wage opportunities in the skilled trades; and region-wide initiatives that recognize and account for local differences.



Focus Group Themes		
Universal	Soft Skills & Communication	Career Exploration Opportunities
	Healthcare & Teaching Shortages	Childcare
	College & Career Guidance	
Cross-Regional	Dual Credit	Program Approval Process, Postsecondary
	High School Graduation Requirements	Academic Policy, Postsecondary
Regional	Local Variation in Program Needs	Community College Retention & Completion
	Inability to Pass Drug Tests	

Stakeholder Perspectives Represented
Higher Education
K-12
Business/Industry/Economic Development
Community/Nonprofit/Government
STEM Network
Tribal
Workforce Development Council

Postsecondary Institutions	
The Evergreen State College	Centralia College
Grays Harbor Community College	South Puget Sound Community College
Saint Martin's University	WGU Washington

Employer Survey Themes
Skills Difficult to Find Locally: Soft Skills
Anticipated Workforce Size Changes: Stable or Expanding
Local Education/Training Options Meet Needs: Unsure
Most Important Anticipated Occupation: Healthcare

Of K-12 Students in Capital ESD:

47.0%
are on free or reduced-priced lunch

0.9%
are migrant

2.1%
are American Indian/Alaska Native

3.3%
are Asian

0.7%
are Native Hawaiian/Other Pacific Islander

2.0%
are Black

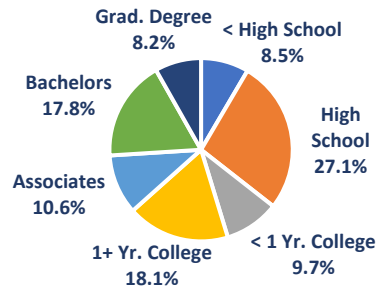
17.2%
are Hispanic

66.1%
are White

8.5%
are Two or More Races

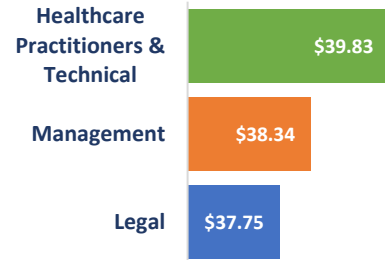
Source: Washington Office of Superintendent of Public Instruction, Washington State Report Card, May 2016

Capital ESD Population Education Attainment Level, Age 25-44



Source: WSAC staff analysis of American Community Survey (U.S. Census Bureau) data, 2011-2015

Capital ESD Highest Paid Occupations, 2016 Median Hourly Earnings



Source: Economic Modeling Specialists, Inc.

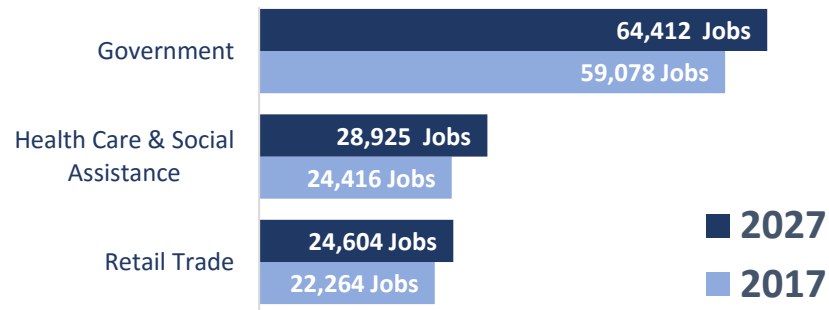
Capital ESD Top Projected STEM Occupations, 2027



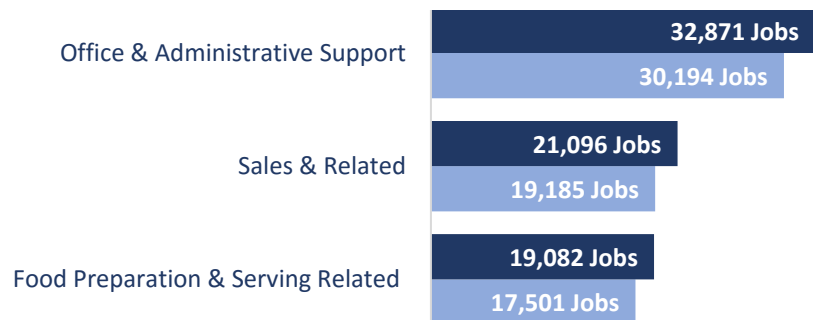
Source: Economic Modeling Specialists, Inc.

Capital ESD Industry & Occupation Growth

Largest Projected Industries (2027) & Largest Industries (2017)



Largest Projected Occupations (2027) & Largest Occupations (2017)



Source: Economic Modeling Specialists, Inc.

Background

The Capital Educational Service District 113 serves 44 school districts in Grays Harbor, Lewis, Thurston, and parts of Mason and Pacific counties. The ESD includes Olympia, its major population center, with additional population centers in Aberdeen to the West, and communities along the I-5 corridor to the South. The area is covered by the [Pacific Mountain Workforce Development Council](#), which identifies the target industry clusters in the region as: manufacturing (especially wood products), IT and tech, life sciences, and tourism and recreation. The area is also served by the recently formed Capital STEM Network.

The region is home to the Confederated Tribes of the Chehalis Reservation, Nisqually Tribe, Quinault Nation, Shoalwater Bay Tribe, Skokomish Tribe, and Squaxin Island Tribe. The area is served by three public community colleges, Grays Harbor College in Aberdeen, South Puget Sound Community College in Olympia, and Centralia Community College in Centralia as well as one public baccalaureate institution, The Evergreen State College. Saint Martin's University, a private postsecondary institution, is also located in Lacey, Washington and has some partnerships with local public institutions, such as South Puget Sound Community College.

Economic and Educational Profile

Economy and Workforce Demand

Over the past ten years, from 2007-2017, the largest industry clusters in the Capital region included government, healthcare and social assistance, retail trade, accommodation and food service, and manufacturing. Over this time period, the greatest growth in job numbers occurred in the fields of office and administrative support (45 percent), healthcare and social assistance (29 percent), accommodation and food service (15 percent), and professional, scientific, and technical (13 percent). Construction and manufacturing jobs in the Capital area suffered during the recession, declining by 19 percent (Source: Emsi 2017.3; QCEW, non-QCEW, Self-Employed).

Occupational clusters offering the most employment opportunities included office and administrative support, sales, education, training, and library, and transportation and material moving. Occupations experiencing the fastest growth during this period were in the fields of healthcare support (28 percent), healthcare practitioners and technical (18 percent), computer and mathematical (16 percent), community and social services (41 percent), computer and mathematical (31 percent). Occupations paying the highest median hourly wage in 2016 were among healthcare practitioners and technical (\$39.83), management (\$38.34), legal (\$37.75), computer and mathematical (\$35.74), and architecture and engineering (\$33.71) professions (Source: Emsi 2017.3; QCEW, non-QCEW, Self-Employed).

Projections for the next ten years, from 2017-2027, show that government, healthcare and social assistance and retail trade will continue to be the leading industry sectors. The sectors experiencing the greatest growth will be administration and support (24 percent), healthcare and social assistance (18 percent), and professional, scientific, and technical (18 percent). Occupations that are projected to see the fastest growth in jobs during this time period are in the fields of healthcare support (21 percent), healthcare practitioners and technical (19 percent), personal care and service (15 percent), and construction (14 percent) (Source: Emsi 2017.3; QCEW, non-QCEW, Self-Employed).

In STEM fields, the greatest number of employment opportunities from 2017-2027 in the Capital region are projected to be in computer, engineering, and life science occupations. Mathematical science-related (33 percent), computer and engineering (19 percent) and physical science (12 percent) occupations will see the fastest growth (Source: Emsi 2017.3; QCEW, non-QCEW, Self-Employed).

Educational Attainment

Among Capital residents age 25-44, 64 percent have pursued education beyond high school and 37 percent have completed an associate, bachelor's or graduate degree (WSAC analysis of American Community Survey data, 2011-2015).

Focus Groups

Three focus groups were hosted in Capital ESD 113, two at South Puget Sound Community College and one at Grays Harbor College, with one supplemental key informant interview conducted. Participants represented a range of sectors and perspectives including those of: K-12; parent; community college; regional STEM network; economic development organization; tribal representative; and workforce development council. The areas of concern identified are as follows:

Key Themes

K-12

- **Teacher & Other K-12 Employee Shortages [Universal Theme]:** The more rural districts in the ESD are facing serious teacher shortages, struggling with both recruitment and retention. They also face challenges filling other roles, such as paraeducators and school psychologists. They would like to hire “homegrown” teachers to mitigate retention issues, but there are not currently enough of them. Grays Harbor has implemented a Bachelor's of Applied Science (BAS) in teacher education to help address this issue, including partnering with Centralia College to offer a special education endorsement.
- **Dual Credit [Cross-Regional Theme]:** The Running Start program produced mixed reactions from participants, it was complimented for offering excellent opportunities to advanced students, but there were concerns that it was not as effective for less academically advanced students.
- **High School Graduation Requirements & Standardized Testing [Cross-Regional Theme]:** K-12 representatives praised the intent of the graduation requirements but noted they were resulting in unintended consequences for students, including adding a fifth year onto high school for some and limiting career exploration opportunities. Standardized testing was also discussed as a barrier to graduation for some students.

K-12 & Higher Education

- **Career Exploration Opportunities [Universal Theme]:** Participants across sectors spoke to the need for more career exploration opportunities—as early as middle school—for students to have a better sense of career options, the credentials they require, and what those credentials entail. For example, one participant noted that many students enter postsecondary wanting a nursing credential, but they do not fully grasp the science coursework required. One suggestion was increased funding for career services staff at the community college level, so there would

be more capacity to build relationships with local employers. The Pacific Mountain Workforce Development Council has also been working on the issue, partnering with rural school districts in the ESD to provide CTE students with field trips to industry partners and the Thurston Chamber of Commerce has created [Business2Youth Connect](#), an online tool to connect students with career exploration opportunities.

- **College & Career Guidance [Universal Theme]:** There was concern that K-12 schools were emphasizing baccalaureate degrees to the exclusion of other options, such as skilled trades. There was further concern that students do not understand the economic opportunities that exist in these fields. In addition, there have been decreases in some district's CTE programming, but they are working to reestablish them. At the postsecondary level, South Puget Sound Community College is in the early stages of implementing a Guided Pathways model to help steer students towards viable careers earlier in their postsecondary experience. The college reports seeing great promise in the approach, though some faculty were initially hesitant since they favored the traditional liberal arts model.

Higher Education

- **Program Approval Process [Cross-Regional Theme]:** Several community college representatives expressed concern that the program approval process was too long and bureaucratically cumbersome.
- **Academic Policies – Placement [Cross-Regional Theme]:** Some community college representatives noted dissatisfaction with the process of placement tests and advocated for a “multiple measures” placement approach.
- **Local Variation in Program Needs:** Given the great variation among local economies across the ESD, some community college representatives felt that the regional data used to determine program need was not adequately granular and prevented them from meeting more targeted and specific local needs. Additionally, there was some concern that the state's focus on developing community college programs only for “high-wage, high-demand” jobs meant that areas without many high-wage job opportunities could not prepare their students for stable, if lower-wage, local employment.
- **Community College Retention & Completion:** Some concerns related to retention and completion included that two-year campuses do not offer enough of a sense of community for students—perhaps related to students' geographic dispersion—and that many important courses are taught by adjunct faculty whose contracts do not include office hours, so students do not receive as many supports as they should. One potential solution posited was a peer mentoring program between students.

Workforce

- **Soft Skills [Universal Theme]:** Employers across the region expressed disappointment in the level of soft skills of those entering the workforce. While local schools indicate they are working to incorporate soft skills training into their curricula, there is concern this does not go far enough. Conversely, some participants attributed the deficit to a lack of work-based learning opportunities being offered by local employers.

- **Healthcare Workforce [Universal Theme]:** More rural areas in the ESD noted serious problems with recruiting healthcare professionals, particularly physicians, noting that when they recruit externally it's often difficult to find employment for spouses which contributes to retention issues. The need for nurses and medical assistants came up as well.
- **Inability to Pass Drug Tests:** Participants in the eastern portion of the ESD in particular noted the increasing difficulty of hiring employees who are able to pass drug tests, which is especially problematic given the prevalence of jobs in industries such as logging and manufacturing which require drug-free employees.

Survey

Current Skill Sets Employers Struggle to Find Locally

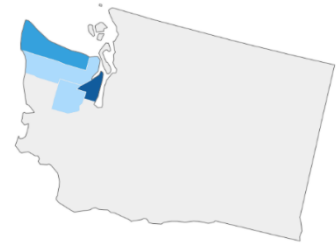
- **Soft Skills:** Eleven of the 17 employer respondents from Capital ESD stated that they struggle to find employees with particular skill sets. Similar to focus group respondents, employers stated soft skills as the top skill set that they struggle to find locally. The other skills that employers state that they struggle to find locally include: heavy equipment operators, plumbing/plumbers, and trained RV/auto technicians.

Future Workforce Needs

- **Anticipating a Stable or Expanding Workforce:** All the employer respondents from Capital ESD anticipate the size of their workforce staying about the same, moderately expanding, or significantly expanding over the next one to five years.
- **Unsure if Current Offerings Will Meet Future Needs:** Six respondents think that the current education/training offerings will meet the needs of their organization in the next one to five years, two respondents stated that they do not think the current offerings will meet future needs, and nine employers responded unsure. In response to why or why not the community's current education/training will meet future needs, one employer stated that in their quickly changing industry it is difficult to anticipate what training will be required in the next five years. Other reasons cited by employers for why they are unsure if current offerings will meet future needs relate to students lacking "vision and discipline" coming out of school and lack of existing current training opportunities.
- **Healthcare Anticipated to be Most Important Occupation:** The healthcare industry is among the projected largest industries in the region, and focus group respondents described the need for healthcare professionals in the region. Similarly, employer respondents listed healthcare practitioners as the most important occupation for their community in the next one to five years. Other top occupations included: office and administrative support; business and financial operations (auditors, accountants, etc.); community and social services; and installation, maintenance, and repair.

Olympic Educational Service District 114

Olympic Educational Service District 114 serves a unique section of Washington state with geographically diverse communities and industries. Despite the small number of public higher education institutions, those located in the region are actively leveraging partnerships to provide a robust array of options to local students. Crucial issues for the region to address include effective communication of the varied career paths the area's economy offers—both in traditional areas, such as the naval shipyard and new ones, such as the composite recycling center—as well as equitably distributing postsecondary opportunities among the ESD's widespread communities and fostering cross-sector partnerships among K-12, higher education, and business.



Focus Group Themes		
Universal	Soft Skills & Communication	Career Exploration Opportunities
	Healthcare & Teaching Shortages	Childcare
	College & Career Guidance	
Cross-Regional	Dual Credit	Program Approval Process, Postsecondary
	Shifting Economy	Academic Policy, Postsecondary
	High School Graduation Requirements	Transportation
	Flexible Course Offerings, Postsecondary	
Regional	K-12 Standardized Testing	Stigma Related to CTE & Skilled Trades
	Gap Between K-12 & Higher Education	Utilizing Apprenticeships

Stakeholder Perspectives Represented	Postsecondary Institutions	
Higher Education	Olympic College	Peninsula College
Business/Industry/Economic Development	Brandman University	Old Dominion University
Community/Nonprofit/Government	WGU Washington	
K-12		
Workforce Development Council		
Tribal		

Employer Survey Themes	
Skills Difficult to Find Locally:	Soft Skills
Anticipated Workforce Size Changes:	Moderately expanding
Local Education/Training Options Meet Needs:	Unsure
Most Important Anticipated Occupation:	Construction & Extraction

Of K-12 Students in Olympic ESD:

43.5%
are on free or reduced-priced lunch

0.4%
are migrant

2.3%
are American Indian/Alaska Native

3.1%
are Asian

1.0%
are Native Hawaiian/Other Pacific Islander

2.2%
are Black

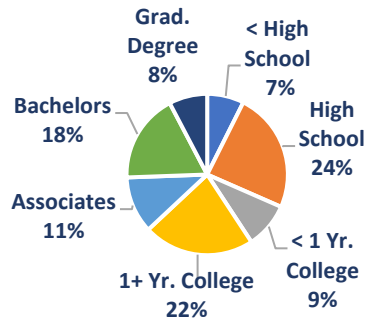
12.8%
are Hispanic

66.6%
are White

12.0%
are Two or More Races

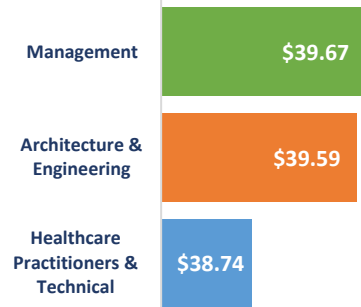
Source: Washington Office of Superintendent of Public Instruction, Washington State Report Card, May 2016

Olympic ESD Population Education Attainment Level, Age 25-44



Source: WSAC staff analysis of American Community Survey (U.S. Census Bureau) data, 2011-2015

Olympic ESD Highest Paid Occupations, 2016 Median Hourly Earnings



Source: Economic Modeling Specialists, Inc.

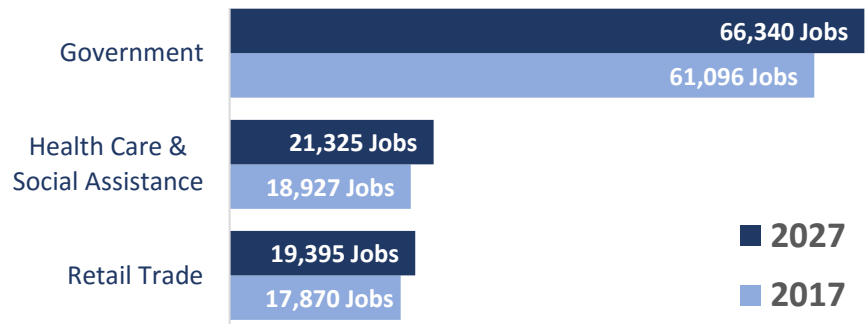
Olympic ESD Top Projected STEM Occupations, 2027



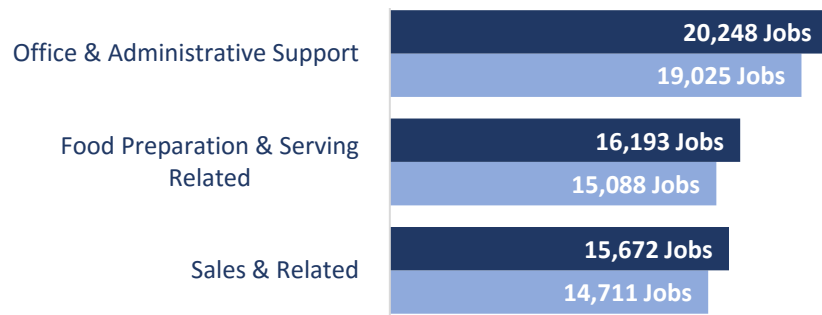
Source: Economic Modeling Specialists, Inc.

Olympic ESD Industry & Occupation Growth

Largest Projected Industries (2027) & Largest Industries (2017)



Largest Projected Occupations (2027) & Largest Occupations (2017)



Source: Economic Modeling Specialists, Inc.

Background

Olympic Educational Service District (OESD) 114 serves 21 school districts in Clallam, Jefferson, and parts of Kitsap and Mason counties. The ESD ranges from Bremerton to the West coast of Washington, including Olympic National Park, with the major population center in Bremerton and along the Kitsap Peninsula, followed by Port Angeles on the Olympic Peninsula. The workforce region associated with OESD 114 is led by the [Olympic Workforce Development Council](#), which identifies the key industry sectors in the region as: composite manufacturing, business services, construction, healthcare, maritime, military, tourism and hospitality, and transportation and logistics. The West Sounds STEM Network also serves the region. The region is home to many Native American Tribes, including the Hoh Tribe, Jamestown S’Klallam Indian Tribe, Lower Elwha Klallam Tribe, Makah Tribe, Port Gamble S’Klallam Tribe, Quileute Tribe, and Quinault Nation.

The area is served by two public community colleges, Peninsula College in Port Angeles and Olympic College in Bremerton. While no public baccalaureate is located in the region, Western Washington University operates a University Center at Olympic’s Poulsbo campus, Washington State University offers two engineering programs at Olympic’s Bremerton Campus, and The Evergreen State College’s Reservation Based Community Determined Bachelor of Arts is offered at Peninsula College for Native and tribally-connected students. Private institutions, including Brandman University and Virginia-based Old Dominion University, also offer programs in the area.

Economic and Educational Profile

Economy and Workforce Demand

Over the past ten years, from 2007-2017, the largest industry clusters in the Olympic region included government, healthcare and social assistance, retail trade, accommodation and food service, and construction. Over this time period, the greatest growth in job numbers occurred in the fields of healthcare and social assistance (12 percent) and government (12 percent) while other sectors lost jobs. For example, jobs in the construction and finance and insurance industries declined by 29 percent (Source: Emsi 2017.3; QCEW, non-QCEW, Self-Employed).

Occupational clusters offering the most employment opportunities included office and administrative support, food preparation and serving, and sales. Occupations experiencing the fastest growth during this period were in the fields of life, physical, and social science (16 percent), architecture and engineering (16 percent), community and social service (15 percent), and healthcare support (13 percent). Occupations paying the highest median hourly wage in 2016 were management (\$39.67), architecture and engineering (\$39.59), healthcare practitioners and technical (\$38.74), and computer and mathematical (\$36.17) professions (Source: Emsi 2017.3; QCEW, non-QCEW, Self-Employed).

Projections for the next ten years, from 2017-2027, show that government, healthcare and social assistance, and retail trade will continue to be the leading industry sectors. The sectors experiencing the greatest growth will be healthcare and social assistance (13 percent), manufacturing (10 percent), and administration and support (10 percent). Occupations that are projected to see the fastest growth in jobs during this time period are in the fields of healthcare practitioners and technical (13 percent),

personal care and service (11 percent), and business and financial operations (10 percent) (Source: Emsi 2017.3; QCEW, non-QCEW, Self-Employed).

In STEM fields, the greatest number of employment opportunities from 2017-2027 in the Olympic Region are projected to be in engineering, computer, and drafting and engineering technician professions. Mathematical science-related (35 percent), computer (16 percent), and social science (14 percent) occupations will see the fastest growth (Source: Emsi 2017.3; QCEW, non-QCEW, Self-Employed).

Educational Attainment

Among Olympic residents age 25-44, 68 percent have pursued education beyond high school and 37 percent have completed an associate, bachelor's or graduate degree (WSAC analysis of American Community Survey data, 2011-2015).

Focus Groups

Three focus groups were hosted in OESD 114, two at Olympic College and one at Peninsula College and supplemented with two key informant interviews. Participants represented a range of sectors and perspectives including those of: K-12; parent; community college; the business community; economic development organization; government; policymaker; tribal representative; workforce development council; and nonprofit. The areas of concern identified are as follows:

Key Themes

K-12

- **Teacher Shortages [Universal Theme]:** While the area does not face the difficulty hiring teachers that some areas do, they do struggle to find teachers for subject-matter specific areas, such as special education and certain sciences.
- **Career Exploration Opportunities [Universal Theme]:** Participants were generally in favor of a much earlier exposure—even at the elementary school level—to different career tracks, highlighting one Port Angeles elementary school for implementing a career planning program.
- **College & Career Guidance [Universal Theme]:** Some participants from the Kitsap Peninsula noted that with the skilled trades offering many living-wage opportunities in the area, students are in some cases being pushed away from viable career paths that do not require a four-year degree.
- **High School Graduation Requirements & Standardized Testing [Cross-Regional Theme]:** Several participants noted that the high school graduation requirements were focused on preparing all students for baccalaureate degrees, while many in the area end up pursuing different types of credentials. Further, meeting these requirements limits a district's flexibility to offer a broad array of programming. Some K-12 representatives also mentioned that state-required standardized tests act as an additional barrier to high school graduation.
- **Dual Credit [Cross-Regional Theme]:** Running Start was mentioned as both a challenge and an asset during focus groups. Participants from areas in the northern portion of the Kitsap Peninsula were concerned about the distance their students were forced to travel for the

opportunity, particularly in the winter. They suggested that more local options would be welcomed by the community.

- **Stigma Related to CTE & Skilled Trades:** Some suggested that there is stigma associated with pursuing a CTE track in high school which discourages students from participating. The Port Angeles group noted that the North Olympic Peninsula Skill Center was likely to shut down as the school districts participating were too geographically dispersed to benefit and as a result, were pulling their support. Focus group participants were concerned that this would contribute to a lack of CTE opportunities and alternative pathways to careers available in the community.

K-12 & Higher Education

- **Gap Between K-12 & Higher Education:** Participants in the Bremerton area were especially concerned with the number of local K-12 students who do not go on to pursue higher education of any kind. Students' perception of cost as a barrier to higher education was cited as a potential reason for this issue. Olympic College is currently exploring ways to better connect with and engage high school students so they understand the local postsecondary options that are available to them. Olympic's early engagement strategies have included offering coding workshops for middle school students and an annual "Girls Exploring Math and Science" (GEMS) conference for female middle school students.

Higher Education

- **Childcare [Universal Theme]:** Lack of on-campus childcare was flagged as a barrier to many nontraditional students. Peninsula College's on-campus Educare Center for three-to-five-year old's was cited as a promising model, though it was acknowledged that they do not have the funds to offer a similar program for infants.
- **Flexible Course Offerings [Cross-Regional Theme]:** Participants expressed disappointment that local institutions did not offer more night and weekend classes that could serve a more nontraditional student population still looking for face-to-face options.
- **Academic Policies – Placement & Remedial Education [Cross-Regional Theme]:** Some participants cited concerns around placement tests used by community colleges, noting that students often end up dropping out while attempting to complete remedial coursework.
- **Program Approval Process [Cross-Regional Theme]:** Certain participants felt the community college program approval process was lengthy and cumbersome and hindered schools' ability to respond to industry needs.
- **Transportation – Geographical Barriers [Cross-Regional Theme]:** The area faces significant geographical challenges in relation to higher education access, with students from the western side of the Olympic Peninsula often unable to physically access opportunities in Port Angeles due to road closures. Exacerbating this issue, internet connections west of Port Angeles can be unreliable, making even online options difficult to access in some cases.

Workforce

- **Health Professional Shortage [Universal Theme]:** There was clear demand for more healthcare workers across a variety of fields. The ever-present nursing shortage was an issue, however,

there was also strong demand for behavioral health providers from psychiatrists to medical assistants and community healthcare workers. One promising practice was Kitsap Mental Health Services efforts to work with health professionals, such as nurses and medical assistants, to offer more training in managing behavioral health issues by focusing on “whole-person care” and chronic disease management.

- **Soft Skills [Universal Theme]:** All groups devoted significant discussion time to the lack of soft skills displayed by today’s students and young people. There was an assortment of views on who should be responsible for remedying this deficit, ranging from elementary schools to workforce training programs to employers. The I-Best program at Peninsula College was mentioned as positive example of a program that successfully integrated soft skill development.
- **Shifting Economy [Cross-Regional Theme]:** The ESD’s economy varies greatly between geographic areas, which means region-wide planning can be difficult. In the Bremerton area, the construction industry is booming as the arrival of the fast ferry is leading to an influx of Seattle/King County commuters. Meanwhile, on the Olympic Peninsula, the declining timber and fishing industries are leading to a shift towards new industries including tourism and recreation and light manufacturing. Many Olympic Peninsula residents were especially enthused regarding the economic development potential of the new [Composite Recycling Technology Center](#) (CRTC), a first of its kind effort to recycle uncured carbon fiber composite scraps developed in partnership by the Port of Port Angeles and Peninsula College, with support from state and federal grant funds.
- **Apprenticeship Utilization:** There was consensus that apprenticeships could offer valuable career pathways to local students. Apprenticeship opportunities through [Puget Sound Naval Shipyard](#) were cited as especially successful in transitioning participants to full-time, living-wage employment, though it was noted that these programs required participants to adhere to rigorous standards and were not an option for everyone. Some participants felt that smaller local employers could make more of an effort to offer internship or apprenticeship opportunities, but acknowledged that setting such programs up could be difficult.

Survey

Current Skill Sets Employers Struggle to Find Locally

- **Soft Skills:** Six of the seven employer respondents from OESD 114 stated that they struggle to find employees with particular skill sets. Similar to the perspectives from the focus groups, employers stated soft skills were the top skill set they struggle to find locally. The other skills that employers state that they struggle to find locally were carpentry, plumbing, and optical dispensing.

Future Workforce Needs

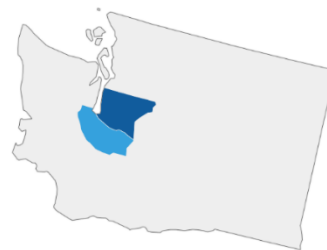
- **Anticipating a Moderately Expanding Workforce:** All the employer respondents from OESD 114 anticipate the size of their workforce moderately expanding over the next one to five years.
- **Unsure If Current Education/Training Offerings Will Meet Future Needs:** Just one respondent thinks that the current education/training offerings will meet the needs of their organization in the next one to five years, three respondents stated that they do not think the current offerings

will meet future needs, and three employers responded unsure. Two employers referenced skilled trades/labor as rationale for why or why not current offerings may not meet their future needs, including one employer who specifically referenced the decreased education in areas of skilled labor in high schools.

- **Construction and Extraction Anticipated to be Most Important Occupation:** Construction and extraction was expected to be the most important occupation to responding employers over the next one to five years, which reflects themes from the focus groups. Other top occupations included: architecture and engineering and healthcare support occupations.

Puget Sound Educational Service District 121

The region is unique in many ways, with its large population, booming economy, and wide range of local higher education institutions. However, PSESD 121's size brings challenges as well as benefits. The skyrocketing cost of living is a critical issue for students across the area, lending urgency to their need to successfully transition from education to living-wage employment. The wide variety of employers, postsecondary institutions, K-12 systems, and nonprofits render regional collaboration a difficult endeavor – though several promising initiatives have emerged to address this challenge. Ultimately the region shares many needs with its peers – better advising and communication of college and career options, more services for nontraditional postsecondary students, and more robust partnerships and collaboration among local stakeholders.



Focus Group Themes		
Universal	Soft Skills & Communication	Career Exploration Opportunities
	Healthcare & Teaching Shortages	Childcare
	College & Career Guidance	
Cross-Regional	Flexible Course Offerings, Postsecondary	Academic Policy, Postsecondary
	Program Approval Process	Dual Credit
	High School Graduation Requirements	Cost of Living
Regional	Workforce Partnerships with Education	Utilizing Apprenticeships
	Losing Jobs to Seattle/Imported Talent	Incentives to Compete, Postsecondary

Stakeholder Perspectives Represented	Postsecondary Institutions		
Higher Education	University of Washington	University of Washington – Bothell	University of Washington – Tacoma
K-12	Bellevue College	Green River College	Highline College
Business/Industry/Economic Development	Lake Washington Institute of Technology	North Seattle College	Pierce College Fort Steilacoom
Community/Nonprofit/Government	Pierce College Puyallup	Seattle Central College	Shoreline Community College
STEM Network	South Seattle College	Tacoma Community College	Bates Technical College
Workforce Development Council	Clover Park Technical College	Renton Technical College	WGU Washington
	City University of Seattle	Pacific Lutheran University	Seattle Pacific University
	Seattle University	University of Puget Sound	Muckleshoot Tribal College

Employer Survey Themes	
Skills Difficult to Find Locally: Soft Skills	
Anticipated Workforce Size Changes: Stable or Expanding	
Local Education/Training Options Meet Needs: Yes	
Most Important Anticipated Occupation: Computer & Mathematical	

Of K-12 Students in Puget Sound ESD:

37.4%
are on free or reduced-priced lunch

0.1%
are migrant

0.6%
are American Indian/Alaska Native

13.4%
are Asian

1.7%
are Native Hawaiian/Other Pacific Islander

8.4%
are Black

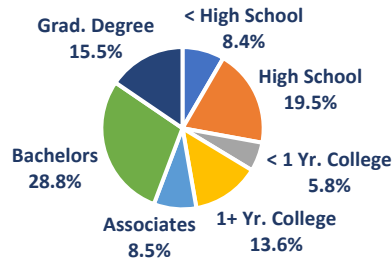
17.1%
are Hispanic

49.4%
are White

9.2%
are Two or More Races

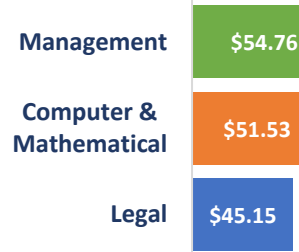
Source: Washington Office of Superintendent of Public Instruction, Washington State Report Card, May 2016

Puget Sound ESD Population Education Attainment Level, Age 25-44



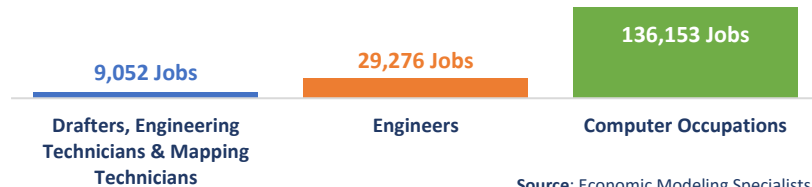
Source: WSAC staff analysis of American Community Survey (U.S. Census Bureau) data, 2011-2015

Puget Sound ESD Highest Paid Occupations, 2016 Median Hourly Earnings



Source: Economic Modeling Specialists, Inc.

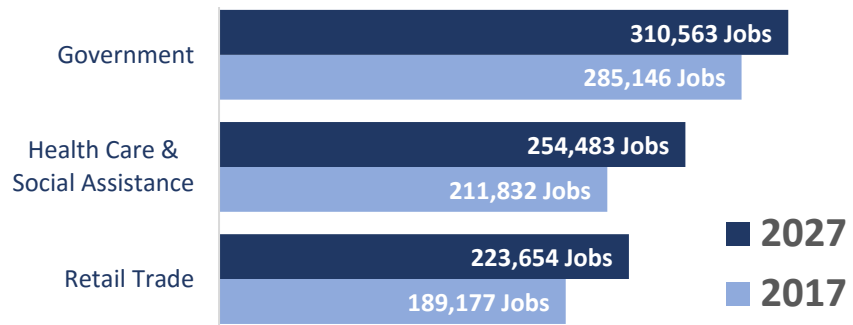
Puget Sound Top Projected STEM Occupations, 2027



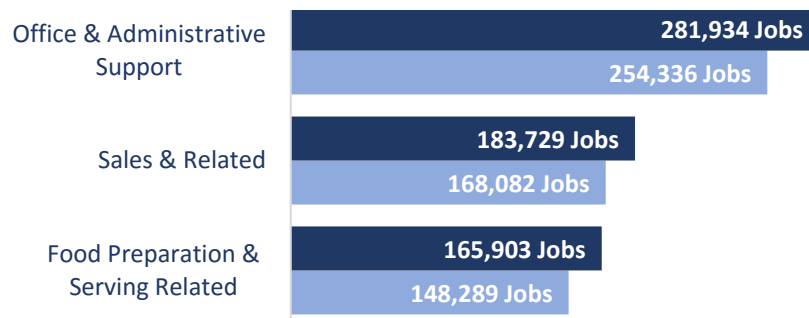
Source: Economic Modeling Specialists, Inc.

Puget Sound ESD Industry & Occupation Growth

Largest Projected Industries (2027) & Largest Industries (2017)



Largest Projected Occupations (2027) & Largest Occupations (2017)



Source: Economic Modeling Specialists, Inc.

Background

Puget Sound Educational Service District (PSESD) 121 serves 35 school districts in King County, Pierce County, and part of Kitsap County. The ESD encompasses the state's largest and densest population centers with the cities of Seattle and Tacoma and their suburbs, ultimately serving 39 percent of all K-12 public school students in the state. PSESD 121 is covered by two workforce development regions, [Workforce Central](#) which serves Pierce County and [Workforce Development Council of Seattle-King County](#). They identify the key industry sectors in the region as: healthcare; construction; military and defense; transportation, warehousing, and logistics; information technology, and cybersecurity; advanced manufacturing; trade; public administration; and professional, scientific and technical services. The Seattle/King County STEM Initiatives and the Tacoma STEM Network fall within PSESD 121 as well. The region is also home to the Muckleshoot Tribe, Snoqualmie Tribe and the Puyallup Tribe.

The area is served by numerous higher education institutions, including three University of Washington campuses, three technical colleges, 12 community colleges, a tribal college, and several private institutions of higher education.

Economic and Educational Profile

Economy and Workforce Demand

Over the past ten years, from 2007-2017, the largest industry clusters in the Puget Sound region included government, healthcare and social assistance, retail trade, and professional, scientific, and technical. Over this time period, the greatest growth in job numbers occurred in the fields of healthcare and social assistance (40 percent), information (28 percent), and professional, scientific, and technical (28 percent). Some other sectors did not fare as well, as jobs in the construction and manufacturing industries declined by 9 percent (Source: Emsi 2017.3; QCEW, non-QCEW, Self-Employed).

Occupational clusters offering the most employment opportunities included office and administrative support, sales, food preparation and serving, and business and financial operations. Occupations experiencing the fastest growth during this period were in the fields of computer and mathematical (38 percent), healthcare support (29 percent), and healthcare practitioners and technical (27 percent). Occupations paying the highest median hourly wage in 2016 were management (\$54.76), computer and mathematical (\$51.53), legal (\$45.15), architecture and engineering (\$44.84), and healthcare practitioners and technical (\$43.61) (Source: Emsi 2017.3; QCEW, non-QCEW, Self-Employed).

Projections for the next ten years, from 2017-2027, show that government, healthcare and social assistance, and retail trade will continue to be the leading industry sectors. The sectors experiencing the greatest growth will be healthcare and social assistance (20 percent), construction (18 percent), and professional, scientific, and technical (16 percent). Occupations that are projected to see the fastest growth in jobs during this time period are in the fields of healthcare practitioners and technical (18 percent), computer and mathematical (17 percent), and construction (17 percent) (Source: Emsi 2017.3; QCEW, non-QCEW, Self-Employed).

In STEM fields, the greatest number of employment opportunities from 2017-2027 in the Puget Sound region are projected to be in computer, engineering, and drafting and engineering technician

professions. Mathematical science-related (26 percent), computer (16 percent), and social science (10 percent) occupations will see the fastest growth (Source: Emsi 2017.3; QCEW, non-QCEW, Self-Employed).

Educational Attainment

Among Puget Sound residents age 25-44, 72 percent have pursued education beyond high school and 53 percent have completed an associate, bachelor's or graduate degree (WSAC analysis of American Community Survey data, 2011-2015).

Focus Groups

In recognition of the area's large population, five focus groups were hosted in PSESD 121. Two groups were held at Clover Park Technical College, one at Renton Technical College, one at the Seattle Metropolitan Chamber of Commerce, and one at Seattle Central College. Participants represented a range of sectors and perspectives including those of: K-12; parents; community colleges; technical colleges, four-year institutions; the business community; economic development organizations; government; students; labor; policymakers; and nonprofits. The areas of concern identified are as follows:

Key Themes

K-12

- **College & Career Guidance [Universal Theme]:** A common theme was the lack of guidance available to students on postsecondary and career options, resulting in a lack of understanding of the differences between types of postsecondary credentials and of the skill sets required for different careers. Reasons presented for this information gap included high school counselors with exceptionally large caseloads and limited resources; college and career planning being viewed as an add on, rather than a core component of the K-12 curriculum; and a focus on a four-year college track to the exclusion of other options.
- **High School Graduation Requirements [Cross-Regional Theme]:** Some felt that the new high school graduation requirements were crowding out career exploration opportunities in local high schools.
- **Dual Credit [Cross-Regional Theme]:** Some participants expressed concern that Running Start students were not receiving enough guidance on how to select credits, and that many were ending up with superfluous credits because they were not ready to choose a specific major while still in high school and thus took unnecessary courses.

K-12 & Higher Education

- **Career Exploration Opportunities [Universal Theme]:** There was widespread agreement that students at both the K-12 and the postsecondary levels require more opportunities to understand the careers that are available to them. It was also suggested that better data regarding employment outcomes and labor markets could facilitate this work by providing a more complete picture of different options. At the postsecondary level there was concern that career advising is variable between programs, that some do it well and some do not. Helping

students bridge the gap between earning a credential and obtaining employment was seen as critical.

Higher Education

- **Childcare [Universal Theme]:** A common thread was the need to better serve the growing body of nontraditional students who are dealing with multiple responsibilities beyond the classroom, for example by offering on-campus childcare.
- **Flexible Course Offerings [Cross-Regional Theme]:** Another suggestion put forward for better serving nontraditional students was to offer more night and weekend classes.
- **Academic Policies – Stackable Credentials [Cross-Regional Theme]:** Stackable credentials that allow for more fluid entry and exit from the postsecondary system were also suggested as a mechanism to improve the postsecondary experience—and thus retention and completion—for nontraditional students.
- **Cost of Living [Cross-Regional Theme]:** This was a huge issue for residents of PSESD 121 and leads to multiple related challenges. The steeply rising cost of living—especially in King County—is pushing students (and many institutional employees) to live farther and farther from campus which engenders long and complex commutes and exacerbates already challenging childcare situations. Students in the Seattle area are facing increasingly dire challenges, such as homelessness and hunger, as they deal with the area’s growing economic inequality. Moreover, attending school whether full- or part-time has implications for benefit eligibility, which is a challenge to navigate for the many students involved in multiple systems.

Quote from an industry representative from the Seattle metro area:

“Sometimes [it is] just the combination of the two where if you have to travel with your child on public transportation to drop [him or her] off at childcare and then make it to class...and then if [you have] to finish up [and] get back [to] pick up your kid... they were citing two and half hours per direction on public transportation and if you miss the connection or if the bus doesn't show up,...it becomes almost impossible to make it on time reliably.”

- **Program Approval Process [Cross-Regional Theme]:** Participants from the community and technical college sector expressed some concerns regarding the length of the program approval process, noting that it hindered their ability to be responsive to industry needs, which is particularly problematic given the “exponential” pace of change in the area’s economy.
- **Incentives to Compete:** Some representatives from the two-year system felt that schools geographically clustered in the same region were competing for students and that the current system did not incentivize them to work together to best meet the needs of students.

Workforce

- **Soft Skills [Universal Theme]:** Employers shared widespread dissatisfaction with the soft skills of employees and candidates including self-discipline, communication, and reliability.

- **Partnerships with Education:** Participants noted that area employers seem less willing to invest in internships and other career exploration opportunities for young people, as well as for continuing education for their current employees. They noted that it would be helpful if employers were more engaged in postsecondary program development as well, but acknowledged that connecting with the higher education system and students in particular can be a confusing process for external parties.
- **Losing Jobs to Seattle/Imported Talent:** Participants in the Pierce County region specifically cited the challenge of losing their residents to Seattle’s workforce, as a significant proportion of Pierce County’s working-age population commutes to Seattle. Meanwhile, Seattle residents noted that many companies based in the area hire from a national or international talent pool and often jobs—especially high-wage jobs—go to imported rather than local talent.
- **Apprenticeship Utilization:** Many participants referenced apprenticeship programs, such as the [Aerospace Joint Apprenticeship Committee \(AJAC\)](#) programs in King and Pierce counties, as promising avenues outside the traditional college system for obtaining solid employment. Yet, it was widely felt that these opportunities were not publicized either broadly or successfully enough to potential participants.

Survey

Current Skill Sets Employers Struggle to Find Locally

- **Soft Skills:** Almost 70 percent of employer respondents from PSESD 121 stated that they struggle to find employees with particular skill sets. Similar to perspectives from the focus groups, soft skills was the top skill set that employers struggle to find locally. Other skills that employers state that they struggle to find locally were commercial driving, machinery, sales, and skilled trades.

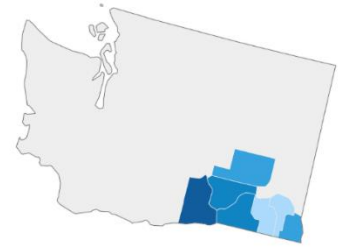
Future Workforce Needs

- **Anticipating a Stable or Expanding Workforce:** Looking ahead to the next one to five years, 97 percent of respondents anticipate their workforce staying the same, moderately expanding, or significantly expanding, while three percent anticipate it moderately decreasing.
- **Most Employers Expect Current Education/Training Will Meet Their Future Needs:** Considering this anticipated growth, 47 percent of employer respondents anticipate that their community’s current education/training offerings will meet their future needs. Several employers referenced both leveraging the numerous existing educational institutions and using in-housing training to continue to meet their workforce needs. Another 43 percent of respondents were unsure if current offerings will meet future needs, and 10 percent stated that they do not anticipate current offerings will meet future needs. In particular, one employer referenced the need for more nursing professionals as a rationale for why current offerings will not meet future needs.
- **Computer and Mathematical Anticipated to be Most Important Occupation:** Over 50 percent of employers from PSESD 121 stated that they anticipate computer and mathematical occupations to be the most important to their community in the next one to five years. Other top occupations span across several industries and are indicative of the diverse economy in the region. The other top occupations include: healthcare support; education, training, and library

(teachers, librarians, etc.); business and financial operations (auditors, accountants, etc.); healthcare practitioners and technical (doctors, nurses, etc.); office and administrative support; and installation, maintenance, and repair.

Southeast Educational Service District 123

Southeast ESD 123 is undergoing significant change, with its growing population and shifting economy. Local institutions of higher education are striving to be responsive to the area's needs, developing relevant programs and pursuing collaboration with the K-12 and business sectors. Nonetheless, historical challenges related to providing equitable opportunities to the more rural areas of the ESD persist. Meanwhile, growth in the population-fueled construction, services, and retail industries together with decreasing employment at the Hanford site indicate a shift towards lower-wage occupations in the regional economy. However, tourism, the wine industry, and value-added agriculture are contributing to an increasingly diverse economic outlook. Key areas of focus for the region seem to be effective dissemination of opportunities to rural areas and strengthened partnerships between K-12, postsecondary, and the business community to meet rapidly evolving local needs.



Focus Group Themes		
Universal	Soft Skills & Communication	Career Exploration Opportunities
	Healthcare & Teaching Shortages	Childcare
	College & Career Guidance	
Cross-Regional	Dual Credit	Program Approval Process, Postsecondary
	High School Graduation Requirements	Academic Policy, Postsecondary
	Cost of Living	Shifting Economy
Regional	Local Economic Competition	Higher Education Partnerships

Stakeholder Perspectives Represented
Higher Education
K-12
Business/Industry/ Economic Development
Community/Nonprofit/ Government
Workforce Development Council

Postsecondary Institutions	
Columbia Basin College	Walla Walla Community College
Washington State University – Tri-Cities	Walla Walla University
Whitman College	WGU Washington

Employer Survey Themes
Skills Difficult to Find Locally: Varied
Anticipated Workforce Size Changes: Stable or Expanding
Local Education/Training Options Meet Needs: Yes
Most Important Anticipated Occupation: Construction & Extraction

Of K-12 Students in Southeast ESD:

58.8%
are on free or reduced-priced lunch

7.5%
are migrant

0.4%
are American Indian/Alaska Native

1.7%
are Asian

0.2%
are Native Hawaiian/Other Pacific Islander

1.4%
are Black

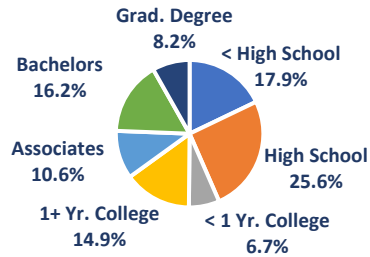
44.8%
are Hispanic

48.7%
are White

2.7%
are Two or More Races

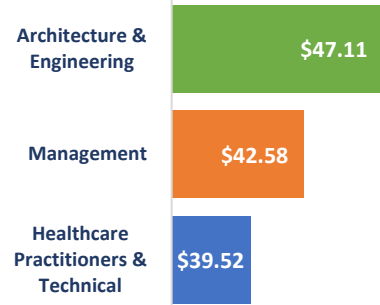
Source: Washington Office of Superintendent of Public Instruction, Washington State Report Card, May 2016

Southeast ESD Population Education Attainment Level, Age 25-44



Source: WSAC staff analysis of American Community Survey (U.S. Census Bureau) data, 2011-2015

Southeast ESD Highest Paid Occupations, 2016 Median Hourly Earnings



Source: Economic Modeling Specialists, Inc.

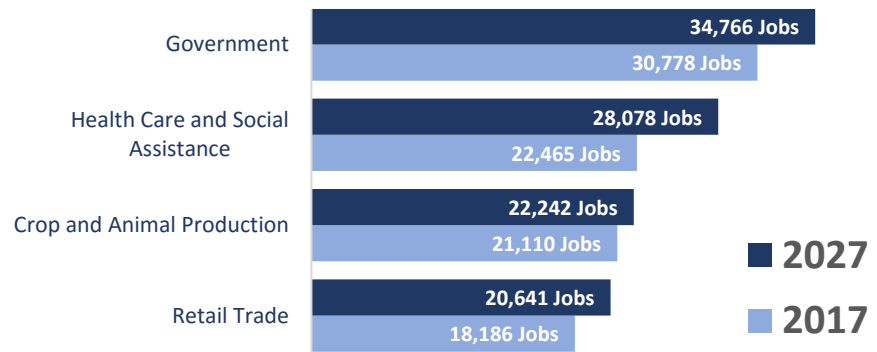
Southeast ESD Top Projected STEM Occupations, 2027



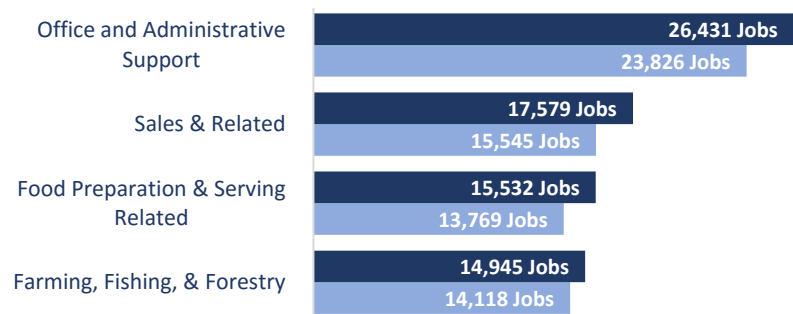
Source: Economic Modeling Specialists, Inc.

Southeast ESD Industry & Occupation Growth

Largest Projected Industries (2027) & Largest Industries (2017)



Largest Projected Occupations (2027) & Largest Occupations (2017)



Source: Economic Modeling Specialists, Inc.

Background

Southeast Educational Service District 123 serves 23 school districts in Asotin, Benton, Columbia, Franklin, Garfield, and Walla Walla counties, as well as part of Adams County. The ESD's major population center is the "Tri-Cities" metropolitan area—at the confluence of the Columbia, Snake, and Yakima rivers—which includes the cities of Kennewick, Pasco, and Richland. The city of Walla Walla, county seat of Walla Walla County, is the ESD's other population concentration. The ESD borders Oregon to the South and Idaho to the East, and serves a substantial rural population. ESD 123 covers two workforce development areas, and is served by [Benton-Franklin Workforce Development](#) to the West and the Southeastern portion of the [Eastern Washington Partnership](#). Their regional plans identify healthcare, manufacturing, business services, construction, agriculture, and warehousing/transportation as the region's prominent industry sectors. The area is also served by the Mid-Columbia STEM Network.

Southeast ESD is home to one public baccalaureate institution, Washington State University Tri-Cities and two community colleges, Columbia Basin College in Pasco and Walla Walla Community College in Walla Walla. Two private institutions are also located in the city of Walla Walla, Whitman College and Walla Walla University. Though located in ESD 101, Washington State University's main campus at Pullman is quite geographically proximate to the eastern portions of ESD 123. Columbia Basin College also engages in partnerships with Heritage University, a private institution located in Toppenish, Washington in ESD 105.

Economic and Educational Profile

Economy and Workforce Demand

Over the past ten years, from 2007-2017, the largest industry clusters in the Southeast region included government, healthcare and social assistance, crop and animal production, retail trade, and manufacturing. Over this time period, the greatest growth in job numbers occurred in the fields of healthcare and social assistance (51 percent), accommodation and food services (32 percent), crop and animal production (23 percent), and manufacturing (22 percent) (Source: Emsi 2017.3; QCEW, non-QCEW, Self-Employed).

Occupational clusters offering the most employment opportunities included office and administrative support, sales, and farming, fishing, and forestry. Occupations experiencing the fastest growth during this period were in the fields of healthcare support (31 percent), food preparation and serving (31 percent), and healthcare practitioners and technical (28 percent). Occupations paying the highest median hourly wage in 2016 included architecture and engineering (\$47.11), management (\$42.58), and healthcare practitioners and technical (\$39.52) (Source: Emsi 2017.3; QCEW, non-QCEW, Self-Employed).

Projections for the next ten years, from 2017-2027, show that government, healthcare and social assistance, and crop and animal production will continue to be the leading industry sectors. The sectors experiencing the greatest growth will be healthcare and social assistance (25 percent), construction (21 percent), and government (13 percent). Occupations that are projected to see the fastest growth in jobs during this time period are in the fields of healthcare support (25 percent) healthcare practitioners and

technical (21 percent), personal care and service (18 percent), and education, training, and library (18 percent) (Source: Emsi 2017.3; QCEW, non-QCEW, Self-Employed).

In STEM fields, the greatest number of job openings from 2017-2027 in the Southeast region are projected to be in the engineering, computer, and life, physical, and social science professions. Mathematical science-related (19 percent), social science (14 percent), and computer (13 percent) occupations will see the fastest growth (Source: Emsi 2017.3; QCEW, non-QCEW, Self-Employed).

Educational Attainment

Among Southeast Washington residents age 25-44, 56 percent have pursued education beyond high school and 35 percent have completed an associate, bachelor's or graduate degree (WSAC analysis of American Community Survey data, 2011-2015).

Focus Groups

Three focus groups were hosted in Southeast ESD, two at Columbia Basin College and one at WSU Tri-Cities. Participants represented a range of sectors and perspectives including those of: K-12; parents; community colleges; four-year institutions; the business community; economic development organizations; government; and nonprofits. The areas of concern identified are as follows:

Key Themes

K-12

- **Teacher & School Counselor Shortages [Universal Theme]:** Teacher recruitment and retention in rural school districts is a major challenge, and participants noted particular issues with hiring school counselors and/or psychologists referencing the perceived discrepancy between their level of credentials and the salaries associated with these roles. Local higher education providers are pursuing strategies to address the teacher shortage, including an alternative teacher certification program for paraeducators run by WSU Tri-Cities and an effort in Pasco to support and retain bilingual educators. WSU Tri-Cities is also exploring the possibility of a K-12 Endorsement in Computer Science to meet a growing need in this field, and Columbia Basin College is considering a K8 Teacher Certification program. Meanwhile, some rural school districts are working with Eastern Washington University's Masters in Counseling program to place students in internships as a potential recruitment tool.
- **College & Career Guidance [Universal Theme]:** Participants felt that K-12 students lacked information on the area's postsecondary options, as well as the career paths available to them, and that this issue was especially acute for rural students in the ESD. Walla Walla Community College's new initiative of sending a letter of admission to all students at the local high school was highlighted as a partial solution to this issue by providing local secondary students with a clear pathway to local higher education.
- **Dual Credit [Cross-Regional Theme]:** Some focus group participants were concerned that rural students were not receiving the same dual credit opportunities as their urban counterparts due to distance from higher education providers and fewer teachers who were qualified to offer dual credit courses on site at local high schools. Online courses were suggested as a potential

solution; however, it was noted that offering an online higher education course on high school grounds could potentially raise issues with teachers' unions. Concerns were also expressed regarding dual credit affecting financial aid eligibility.

- **High School Graduation Requirements [Cross-Regional Theme]:** Some participants expressed concern that the state's high school graduation requirements were limiting students' ability to engage in more CTE-focused coursework, explore career options through internships, or earn marketable short-term credentials, such as becoming a certified nursing assistant (CNA).

K-12 & Higher Education

- **Career Exploration Opportunities [Universal Theme]:** The need for more career exploration opportunities came up at both the K-12 and the postsecondary levels. Participants generally felt that students at all levels had inadequate exposure to viable career pathways, noting as examples that Columbia Basin College did not have a career center to spearhead this work and that many local employers—including Pacific Northwest National Laboratory—were scaling back internships due to liability concerns. The Guided Pathways approach was referenced as a potential solution, and programs, such as Columbia Basin College's health sciences partnership with the Richland School District and the extensive work-based learning opportunities offered at Pasco's Delta High School were shared as strong examples of cross-sector collaboration that provided students with solid career exploration opportunities in high-demand fields.

Higher Education

- **Academic Policies – Transfer & Articulation [Cross-Regional Theme]:** Community college representatives expressed some frustration at the loss of credits their students were seeing when transferring to four-year institutions. They noted that despite the statewide Direct Transfer Agreement (DTA) they still had to create bilateral transfer agreements for most majors and these were sometimes challenging to build.
- **Academic Policies – Placement [Cross-Regional Theme]:** Some participants expressed concern that placement policies at two-year institutions were acting as barrier to first-generation students and that high-stakes placement exams discouraged students from pursuing math or science degrees.
- **Program Approval Process [Cross-Regional Theme]:** Some participants felt that community colleges were constrained in offering programs that could build up new economic sectors—such as tech—since they cannot create the programs in advance of local demand.
- **Cost of Living & Transportation [Cross-Regional Themes]:** Rising housing costs and low housing stock near higher education institutions are creating transportation issues for some students who are forced to reside far from campuses. Columbia Basin College is in part working to address this issue by building dormitories on their campus. Some participants also mentioned local institutions efforts to expand online course offerings as a potential way to mitigate these issues, but further noted that many students—particularly returning adult students—struggle to use the required technology on their own.

Workforce

- **Nursing & Related Occupations Shortage [Universal Theme]:** Participants agreed that nurses and CNAs were in high demand in the region, noting that even the typically low-paying CNA jobs were seeing wages rise in response to demand.
- **Shifting Economy [Cross-Regional Theme]:** The area's rapidly expanding population has led to significant growth in construction and retail trade and the tourism, wine, and value-added agriculture sectors are also experiencing significant growth according to focus group participants. As a result, viticulture and enology programs at Walla Walla Community College and WSU Tri-Cities have been growing in popularity. Further, this increasingly diverse economy is helping to accommodate the gradually declining number of jobs at [Hanford](#), a long-time economic driver in the region.
- **Higher Education Partnerships:** Local two-year institutions were lauded for having strong relationships with local employers. Examples include Walla Walla Community Colleges' [John Deere Tech program](#) and Columbia Basin College's work with local healthcare providers to provide employees across the allied health spectrum. Walla Walla and Columbia Basin also partner on a CDL program, in response to local employer demand
- **Local Economic Competition:** Tri-Cities participants noted that the state's tax structure incentivized local competition between communities, rather than encouraging regional collaboration, and suggested that this might be harming the area's overall economic prosperity.

Survey

Current Skill Sets Employers Struggle to Find Locally

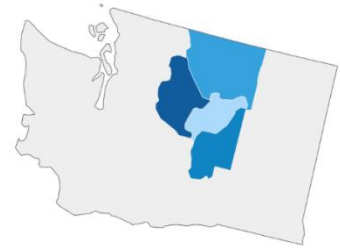
- **Varied Skill Sets Employers Struggle to Find Locally:** Nine of the 12 employer respondents from Southeast ESD stated that they struggle to find employees with particular skill sets. The skills that employers struggle to find locally were varied, but many correspond with the region's prominent industries of manufacturing, warehousing/transportation, and construction.

Future Workforce Needs

- **Anticipating a Stable or Expanding Workforce:** All the employer respondents from Southeast ESD anticipate the size of their workforce staying the same or moderately expanding over the next one to five years.
- **Most Employers Expect Current Education/Training Offerings to Meet Future Workforce Needs:** Six respondents think that the current education/training offerings will meet the needs of their organization in the next one to five years, four respondents stated that they do not think the current offerings will meet future needs, and one employer responded unsure. Employers provided varied responses as to why or why not current offerings will meet their needs, including one employer who referenced the lack of desire for youth to learn a trade.
- **Construction and Extraction Anticipated to be Top Occupation:** Employers stated construction and extraction would be the most important occupations for their community in the near future, which supports the significant growth in the construction industry referenced in the focus groups. Other top occupations were: computer and mathematical occupations and installation, maintenance, and repair occupations.

North Central Educational Service District 171

North Central Washington stood out for its extensive and robust partnerships. The region appears focused on pursuing innovative approaches to meet the needs of its evolving economy through collaboration and active pursuit of external resources, such as federal grants. The ESD's geographic breadth and dispersed population presents ongoing challenges and suggests the need for continued exploration of alternative learning modalities—in particular hybrid options—to expand access to higher education. Another key area of need appears to be building local pipelines for high-demand fields, such as teaching, to encourage long-term retention and a workforce with a bilingual skillset. Finally, adapting postsecondary offerings to meet the changing needs of local industry will be an ongoing but important process for the region.



Focus Group Themes		
Universal	Soft Skills & Communication	Career Exploration Opportunities
	Healthcare & Teaching Shortages	Childcare
	College & Career Guidance	
Cross-Regional	Flexible Course Offerings, Postsecondary	Program Approval Process, Postsecondary
	Shifting Economy	
Regional	Skilled Trades Shortage	Community Engagement
	Competing Societal & Familial Pressures	Innovative Approaches

Stakeholder Perspectives Represented
Higher Education
K-12
Business/Industry/ Economic Development
Community/Nonprofit/ Government
STEM Network
Workforce Development Council

Postsecondary Institutions	
Big Bend Community College	Wenatchee Valley College
WGU Washington	

Employer Survey Themes
Skills Difficult to Find Locally: Soft Skills
Anticipated Workforce Size Changes: Stable or Expanding
Local Education/Training Options Meet Needs: Unsure
Most Important Anticipated Occupations: Farming, Fishing, and Forestry and Production

Of K-12 Students in North Central ESD:

60.2%
are on free or reduced-priced lunch

8.5%
are migrant

2.3%
are American Indian/Alaska Native

0.9%
are Asian

0.2%
are Native Hawaiian/Other Pacific Islander

1.0%
are Black

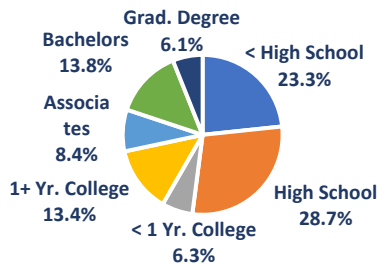
44.2%
are Hispanic

48.9%
are White

2.6%
are Two or More Races

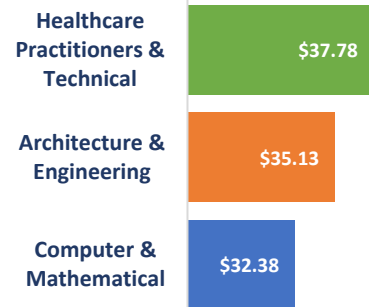
Source: Washington Office of Superintendent of Public Instruction, Washington State Report Card, May 2016

North Central ESD Population Education Attainment Level, Age 25-44



Source: WSAC staff analysis of American Community Survey (U.S. Census Bureau) data, 2011-2015

North Central ESD Highest Paid Occupations, 2016 Median Hourly Earnings



Source: Economic Modeling Specialists, Inc.

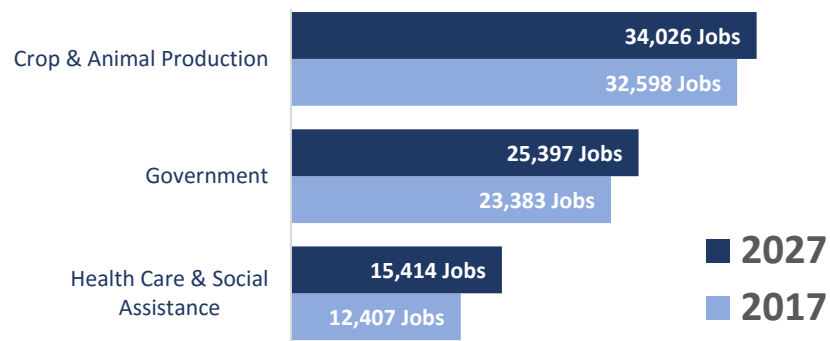
North Central ESD Top Projected STEM Occupations, 2027



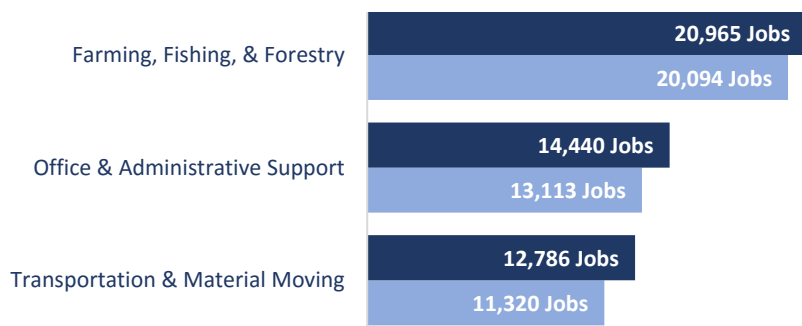
Source: Economic Modeling Specialists, Inc.

North Central ESD Industry & Occupation Growth

Largest Projected Industries (2027) & Largest Industries (2017)



Largest Projected Occupations (2027) & Largest Occupations (2017)



Source: Economic Modeling Specialists, Inc.

Background

The North Central Educational Service District 171 serves 29 school districts across Chelan, Douglas, Okanogan and part of Grant counties. North Central ESD 171 covers a significant geographic area, covering 20 percent of Washington state. The ESD is largely rural, with population concentrations in Wenatchee and Moses Lake. The area is home to the Colville Confederated Tribes, whose Colville Reservation spans North Central ESD 171 and Northeast ESD 101 to the east. The North Central ESD 171 area roughly corresponds to the regional workforce area served by the [North Central Workforce Development Council](#), which has identified healthcare, agriculture, food processing, chemical and metal manufacturing, electrical utilities, and trade as the industry sectors most important to the region. The Apple STEM Network, headquartered in Wenatchee, also works in Chelan and Douglas counties.

While no public baccalaureate institution is located in North Central ESD 171, Central Washington University maintains centers at the two public community colleges in the area – Wenatchee Valley College in the city of Wenatchee and Big Bend Community College in Moses Lake. Both community colleges offer a robust array of two-year and certificate programs to their local communities—for example Big Bend Community College is home to the Pacific Northwest’s [largest commercial pilot training program](#)—and [Wenatchee Valley College](#) has been approved to offer an applied bachelor’s degree in engineering technology as well as a bachelor’s of science in nursing.

Economic and Educational Profile

Economy and Workforce Demand

Over the past ten years, from 2007-2017, the largest industry clusters in the North Central region included crop and animal production, government, healthcare and social assistance, and retail trade. Over this time period, the greatest growth in job numbers occurred in the fields of wholesale trade (53 percent), administration and support (28 percent), accommodation and food services (25 percent), and healthcare and social assistance (21 percent). As in other regions, construction did not fare well during the recession years, as jobs in this industry declined by 21 percent (Source: Emsi 2017.3; QCEW, non-QCEW, Self-Employed).

Occupational clusters offering the most employment opportunities included farming, fishing, and forestry, office and administrative support, and transportation and material moving. Occupations experiencing the fastest growth during this period were in the fields of healthcare practitioners and technical (25 percent), food preparation and serving (22 percent), and transportation and material moving (18 percent). Occupations paying the highest median hourly wage in 2016 were in the healthcare practitioners and technical (\$37.78), architecture and engineering (\$35.13), and computer and mathematical (\$32.38) professions (Source: Emsi 2017.3; QCEW, non-QCEW, Self-Employed).

Projections for the next ten years, from 2017-2027, show that crop and animal production, government, healthcare and social assistance, and retail trade will continue to be the leading industry sectors. The sectors experiencing the greatest growth are projected to be administration and support (27 percent), healthcare and social assistance (24 percent), and wholesale trade (23 percent). Occupations that are projected to see the fastest growth in jobs during this time period are in the fields of healthcare

practitioners and technical (24 percent), and education, training, and library (16 percent) (Source: Emsi 2017.3; QCEW, non-QCEW, Self-Employed).

In STEM fields, the greatest number of employment opportunities from 2017-2027 in the North Central region are projected to be in computer, engineering, and life, physical, and social science professions. Mathematical science-related (38 percent), computer (21 percent), engineering (12 percent), and social science (12 percent) occupations will see the fastest growth (Source: Emsi 2017.3; QCEW, non-QCEW, Self-Employed).

Educational Attainment

Among North Central residents age 25-44, 48 percent have pursued education beyond high school and 28 percent have completed an associate, bachelor's or graduate degree (WSAC analysis of American Community Survey data, 2011-2015).

Focus Groups

Three focus groups were hosted in North Central ESD 171, two at Wenatchee Valley College and one at Big Bend Community College. Participants represented a range of sectors and perspectives including those of: K-12; parents; community colleges; the business community; workforce development council; economic development organizations; local government; the regional STEM network, nonprofits and both two- and four-year college students. The areas of concern identified are as follows:

Key Themes

K-12

- **Career Exploration Opportunities [Universal Theme]:** There was consensus that students in the secondary school system are not adequately exposed to career options—particularly local options—and that this problem is exacerbated by high school counselors facing overwhelming student ratios and liability issues preventing employers from offering internship and job shadowing opportunities. Some promising local programs addressing this need were highlighted, such as [Wenatchee Learns Connect](#) a school district and chamber of commerce partnership that offers career connected learning experiences for district students with community volunteers.
- **Teacher & K-12 Mental Health Professional Shortages [Universal Theme]:** School district representatives, especially those serving rural areas, spoke to general difficulties in both recruiting and retaining teachers of all types, as well as mental health professionals, such as school psychologists or counselors. One possible solution mentioned was the ESD's "grow your own" teacher program. The ESD is working on developing a partnership with Eastern and Central Washington Universities to place community members interested in teaching—such as paraeducators—on a path to a teaching credential, with a particular focus on preparing bilingual educators. A community college administrator suggested that a statewide Major Related Program (MRP) Direct Transfer Agreement (DTA) for teaching could help to mitigate the teaching shortage by creating a more seamless pathway for those pursuing education degrees who begin at community colleges.

- **Soft Skills [Universal Theme]:** Many participants were concerned with the general lack of soft skills they observed among the student population. One participant posited that K-12's increased focus on standardized testing left educators without room to focus on these skill sets, while others attributed the soft skill deficit to the lack of career exploration opportunities or a lack of extracurricular activities, such as arts programs.

Higher Education

- **Cost & Availability of Childcare [Universal Theme]:** This common thread was again a major theme, with Wenatchee participants in particular very concerned about both the availability and the cost of childcare. This was noted as a barrier to workers looking to retrain and as an early contributor to ongoing equity gaps in the education system.
- **Flexibility of Course Offerings [Cross-Regional Theme]:** A primary concern of older students who preferred to stay local for their education was the availability of desired programs. There was a strong interest in face-to-face or hybrid offerings—for example in business in Moses Lake and in computer science in Wenatchee—as opposed to fully online coursework. However, local administrators responded that these programs are often difficult to fill and cited additional concerns related to program-specific accreditation standards in limiting their ability to offer a hybrid instructional model.
- **Program Approval Process [Cross-Regional Theme]:** The lengthy nature of the program approval process for standing up new programs at community colleges was mentioned as barrier to the institution's ability to quickly meet the needs of the regional economy.
- **Competing Societal & Familial Pressures:** The dominance of agriculture and manufacturing in the regional economy mean that many workers are able to find living-wage jobs without a postsecondary credential – though they do face irregular schedules and the potential for layoffs. As a result, many students face familial pressure to enter the workforce after high school and there is less clarity around the value proposition of postsecondary education – especially if it necessitates leaving the area. There was also the perception that some families steer their children away from potentially lucrative sub-baccalaureate credentials in areas like horticulture and advanced manufacturing, with the goal of having their children pursue alternate, more stable career paths – yet employment opportunities outside of these sectors are limited in the regional economy.
- **Innovative Approaches:** Participants at the Big Bend Community College focus group highlighted exciting new programs, implemented with external grant funding, which are preparing their students for emerging job opportunities in new fields. These included their new Unmanned Aerial Systems operations (drone piloting) and mechatronics (drone maintenance) programs as well as a simulation technician program where students learn to repair and maintain simulation technology used in medical training.

Workforce

- **Nursing & Related Occupations Shortage [Universal Theme]:** As in communities across the state, ESD 171 faces a shortage of nurses, as well as other medical professionals, such as certified nursing assistants and medical assistants. While there are local programs for all three,

they are not able to produce the quantity demanded by the local job market. Despite strong local partnerships—for example Wenatchee’s Confluence Health works closely with Wenatchee Valley College to offer clinical placements for nursing students—there are still constraints in program size since clinical placements in the region are described as “maxed out” and nursing faculty are difficult to hire at the local institutions due to the pay scale. Moreover, many nursing program graduates are lost to urban centers like Seattle due to higher paying job opportunities.

- **Shifting Economy [Cross-Regional Theme]:** A repeated theme was the evolving nature of local industries, particularly the mechanization of agriculture from picking to processing to shipping. The increasing automation of all stages of the process led many participants to express both hope (for the newly high-tech nature of the regional economy) and concern (regarding the current lack of postsecondary programs to prepare students for this new reality). Wenatchee Valley College’s new BAS in engineering technology was highlighted as a positive example of higher education moving to meet this need, but there was a general sense that this should be seen as a first step rather than a complete solution.
- **Skilled Trades Shortage:** Employers in the region also described a serious shortage of workers in the skilled trades, which they expect to worsen due to a pending wave of retirements. The region’s energy sector and local governments are especially challenged by this shortage, and are implementing or considering apprenticeship programs to help address this issue. However, there are concerns that many of these occupations are not necessarily attractive to young people and will need to be effectively marketed.
- **Community Engagement:** Local employers appeared to be heavily engaged in community initiatives, partnering with both K-12 and higher education across a range of initiatives.

Survey

Current Skill Sets Employers Struggle to Find Locally

- **Soft Skills:** Eight of the 12 employer respondents from North Central ESD 171 stated that they struggle to find employees with particular skill sets. Among the skills that employers struggle to find locally, soft skills were the top skill stated. Other skills that employers stated they struggle to find locally were electricians, hospitality, mechanical, and architecture.

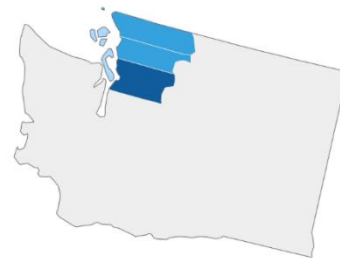
Future Workforce Needs

- **Anticipating a Stable or Expanding Workforce:** All the employer respondents from North Central ESD 171 anticipate the size of their workforce staying the same, moderately expanding, or significantly expanding over the next one to five years.
- **Unsure if Current Education/Training Will Meet Future Needs:** Employers in the region were fairly split on if the region’s current educational/training offerings will meet their future workforce needs. Three respondents expect current offerings to meet their needs and three respondents do not think that current offerings will meet future needs, with varied responses from employers on their rationale for why offerings will or will not meet their needs. Additionally, four respondents are unsure if current offerings will meet future needs.
- **Farming, Fishing, and Forestry and Production Anticipated to be Most Important Occupations:** In the next one to five years, employer respondents stated farming, fishing, and forestry;

production; and installation, maintenance, and repair as the occupations most important for their community, which aligns with the important industries identified by the North Central Workforce Development Council.

Northwest Educational Service District 189

Northwest ESD 189 has many assets, including strong local higher education institutions, a generally robust economy, and demonstrated commitment to community partnerships. Its challenges primarily seem to revolve around larger regional trends, such as increasing cost of living, the opioid epidemic, and economic reliance on volatile industry sectors. Key areas for strengthening higher education outcomes in the region may include: increased data and information sharing among sectors to provide K-12 and returning adult students with reliable and digestible information on credential pathways leading to living-wage local employment opportunities; continued exploration of hybrid or online course offerings to support students in need of a flexible credential pathway; connection with community supports around housing, childcare, and transportation; and increased investment in building experiential learning opportunities at both the K-12 and postsecondary levels.



Focus Group Themes		
Universal	Soft Skills & Communication	Career Exploration Opportunities
	Healthcare & Teaching Shortages	Childcare
	College & Career Guidance	
Cross-Regional	Flexible Course Offerings, Postsecondary	Dual Credit
	Academic Policies, Postsecondary	Transportation
	Cost of Living	
Regional	Writing Ability	Family Supports
	Collaboration with Business & Industry	Volatility of Key Sectors

Stakeholder Perspectives Represented
Higher Education
K-12
Business/Industry/ Economic Development
Community/Nonprofit/ Government
Tribal
Workforce Development Council

Postsecondary Institutions	
Washington State University Everett	Western Washington University
Edmonds Community College	Everett Community College
Skagit Valley Community College	Whatcom Community College
Bellingham Technical College	Northwest Indian College
Hope University	WGU Washington

Employer Survey Themes
Skills Difficult to Find Locally: Soft Skills
Anticipated Workforce Size Changes: Stable or Expanding
Local Education/Training Options Meet Needs: Unsure
Most Important Anticipated Occupations: Computer & Mathematical

Of K-12 Students in Northwest ESD:

38.7%
are on free or reduced-priced lunch

1.1%
are migrant

1.5%
are American Indian/Alaska Native

6.7%
are Asian
0.6%
are Native Hawaiian/Other Pacific Islander

2.7%
are Black

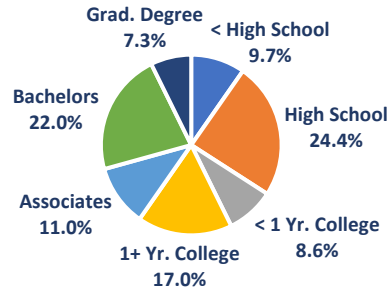
19.6%
are Hispanic

61.9%
are White

7.0%
are Two or More Races

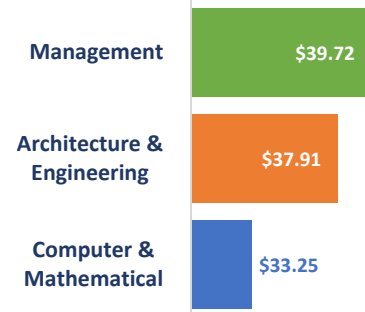
Source: Washington Office of Superintendent of Public Instruction, Washington State Report Card, May 2016

Northwest ESD Population Education Attainment Level, Age 25-44



Source: WSAC staff analysis of American Community Survey (U.S. Census Bureau) data, 2011-2015

Northwest ESD Highest Paid Occupations, 2016 Median Hourly Earnings



Source: Economic Modeling Specialists, Inc.

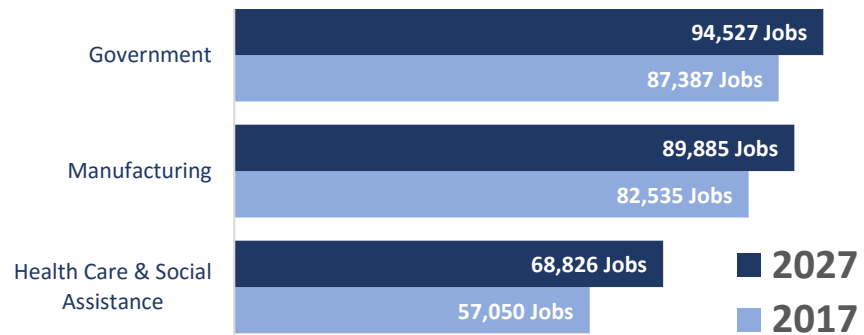
Northwest ESD Top Projected STEM Occupations, 2027



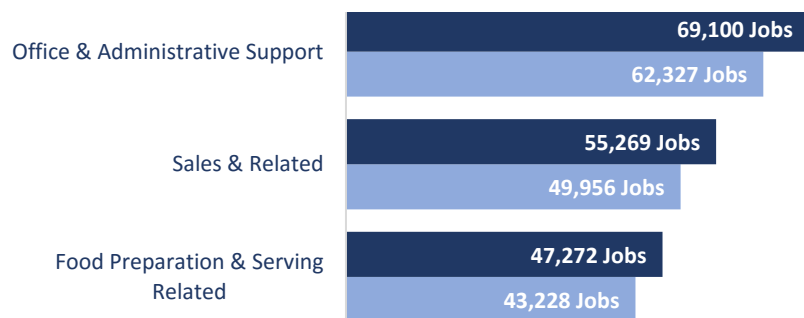
Source: Economic Modeling Specialists, Inc.

Northwest ESD Industry & Occupation Growth

Largest Projected Industries (2027) & Largest Industries (2017)



Largest Projected Occupations (2027) & Largest Occupations (2017)



Source: Economic Modeling Specialists, Inc.

Background

The Northwest Educational Service District (NWESD) 189 serves 35 school districts across the five northwestern counties of Washington state: Island, San Juan, Skagit, Snohomish and Whatcom. The area encompasses a broad range of geography, including the San Juan Islands, the cities of Bellingham and Everett, and North Cascades National Park – with population density clustered along the I-5 corridor. The area is home to several Native American Tribes, including: Lummi Nation, Nooksack Tribe, Samish Nation, Sauk-Suiattle Tribe, Stillaguamish Tribe, Swinomish Tribe, Tulalip Tribe, and the Upper Skagit Tribe. NWESD 189 is served by two Workforce Development Councils, the Northwest Workforce Council and Workforce Snohomish, whose most recent workforce development plans identify the industry/occupation sectors of advanced manufacturing, construction, healthcare, and retail trade as “in-demand.” The ESD also houses two regional STEM Networks, the Skagit STEM Network and the Snohomish STEM Network.

Higher education options in the ESD include public baccalaureate Western Washington University as well as Everett’s University Center – which offers degree completion options from Washington State University Everett, Western Washington University, Eastern Washington University, University of Washington Bothell and the private Hope International University. The region is also served by Bellingham Technical College as well as four community colleges: Edmonds Community College, Everett Community College, Skagit Valley Community College, and Whatcom Community College. Northwest Indian College—an accredited tribal college serving the states of Washington, Oregon, and Idaho—is also located in the region on the Lummi Indian Reservation.

Economic and Educational Profile

Economy and Workforce Demand

Over the past ten years, from 2007-2017, the largest industry clusters in the Northwest region included government, manufacturing, healthcare and social assistance, retail trade, and construction. Over this time period, the greatest growth in job numbers occurred in the fields of healthcare and social assistance (37 percent), professional, scientific, and technical (21 percent), administration and support (19 percent), and manufacturing (17 percent). Jobs in the construction industry remained relatively strong, but declined by 13 percent during the years of the recession and slow recovery (Source: Emsi 2017.3; QCEW, non-QCEW, Self-Employed).

Occupational clusters offering the most employment opportunities included office and administrative support, sales, food preparation and serving, and production. Occupations experiencing the fastest growth during this period were computer and mathematical (31 percent), architecture and engineering (20 percent), and healthcare practitioners and technical (20 percent). Occupations paying the highest median hourly wage in 2016 were in management (\$39.72), architecture and engineering (\$37.91), computer and mathematical (\$33.25), and healthcare practitioners and technical (\$33.20) professions (Source: Emsi 2017.3; QCEW, non-QCEW, Self-Employed).

Projections for the next ten years, from 2017-2027, show that government, manufacturing, healthcare and social assistance, retail trade, and construction will continue to be the leading industry sectors. The

sectors experiencing the greatest growth are projected to be healthcare and social assistance (21 percent), construction (18 percent), and professional, scientific, and technical (16 percent). Occupations that are projected to see the fastest growth in jobs during this time period are in the computer and mathematical (18 percent), healthcare practitioners and technical (18 percent), and construction (18 percent) fields (Source: Emsi 2017.3; QCEW, non-QCEW, Self-Employed).

In STEM fields from 2017-2027, the greatest number of employment opportunities in the Northwest region are projected to be in computer, engineering, drafting and engineering technician, and social science professions. Mathematical science-related (31 percent), computer (17 percent), physical science (16 percent), and social science (16 percent) occupations will see the fastest growth (Source: Emsi 2017.3; QCEW, non-QCEW, Self-Employed).

Educational Attainment

Among North Central residents age 25-44, 66 percent have pursued education beyond high school and 40 percent have completed an associate, bachelor's or graduate degree (WSAC analysis of American Community Survey data, 2011-2015).

Focus Groups

Three focus groups were hosted in NWESD 189, two at Whatcom Community College and one at WSU Everett and two additional perspectives were included via key informant interviews. Participants represented a range of sectors and perspectives including: K-12; parents; community, technical, and tribal colleges; four-year institutions; the business community; workforce development council; government; and nonprofit. The areas of concern identified are as follows:

Key Themes

K-12

- **Teacher Shortages [Universal Theme] – Subject-matter Expertise:** Local K-12 representatives suggested that the area does not suffer teacher shortages of the same magnitude as many other ESDs, but noted that they do struggle to find teachers with expertise in certain areas, such as computer science. One participant noted that Washington state's [Alternative Certification policy](#) helped in this area, but the issue persists – one theory posited was the cost differential between teachers' salaries and working in industry in high-demand fields, such as computer science.
- **College & Career Guidance [Universal Theme]:** Participants felt there was a serious need for K-12 students to have access to better information and data on the career options available to them—with a focus on local options offering a living wage—as well as the different postsecondary education pathways the region offers (certificates, associates, applied bachelor's, and bachelor's degrees) and their attendant pros, cons, and expected employment outcomes. There was a feeling that students did not have a solid understanding of the nuances between degree types—for example between an Associate of Arts and an Applied Associate's degree—and were susceptible to dubious marketing claims promoting short-term credentials leading to high-wage jobs. Suggestions of avenues for providing this information included enhanced counseling staff at local high schools and greater communication between entities that collect

and disseminate data—such as the Washington State Employment Security Department—and those responsible for communicating options directly to students.

- **Dual Credit [Cross-Regional Theme]:** The Running Start program came up often, both its benefits and challenges. There was widespread concern that students were earning credits that would not ultimately apply to their college major and might negatively impact their eligibility for financial aid. Additional areas of concern included high Running Start participation decreasing in-school opportunities for non-participants, the program being primarily utilized by middle-income students and not ultimately closing equity gaps, and Running Start students changing the dynamic in community college classrooms. However, others pointed out the value of the program as a cost-saving tool for students and one participant stated that Running Start was especially beneficial for providing postsecondary education opportunities for undocumented students.

K-12 & Higher Education

- **Career Exploration Opportunities [Universal Theme]:** Both K-12 and higher education representatives expressed a desire for more experiential learning opportunities for students, suggesting that employers could take on a more active role in offering meaningful work-based learning experiences. There was consensus that to develop a robust pipeline of career exploration opportunities at either the postsecondary or secondary level requires a significant investment in staffing to build relationships between the education and employment sectors.
- **Family Supports:** It was observed that local students who were not able to make the transition between K-12 and postsecondary education were often held back by family circumstances including poverty, mental health issues, and addiction challenges—particularly related to opioid use—which impacted students’ ability to enroll in a postsecondary program of any kind. For students in higher education, these issues posed challenges to retention. Participants noted that in the Bellingham area there are strong partnerships between service providers, highlighting the work of the local [Opportunity Council](#) as a positive example of collaboration, yet recognized that significant unmet need remains.

Higher Education

- **Childcare [Universal Theme]:** Affordable and accessible childcare was repeatedly mentioned as a barrier to accessing higher education and participants noted that there are very limited on-campus options for students as these tend to be small and primarily serve faculty and staff – if they exist at all.
- **Nursing Shortages [Universal Theme] – Nursing Program Capacity:** Despite multiple local programs, all participants were clear that the area cannot produce nurses quickly enough to meet demand. They cited challenges related to hiring nursing faculty, securing clinical placements, and lab space issues as constraints on program growth.
- **Flexible Course Offerings [Cross-Regional Theme]:** Several higher education stakeholders cited a need for more flexible course offerings – whether through hybrid offerings or increased evening and weekend class options. They noted an increasing number of students with outside obligations who would benefit from more flexibility in taking classes and some speculated that

this would increase public institutions' ability to compete with private providers. Whatcom Community College's [Physical Therapy Assistant Program](#) was highlighted as an effective model of a successful hybrid program.

- **Academic Policies – Remedial Education [Cross-Regional Theme]:** Some participants mentioned retention challenges associated with the existing remedial education structure, whereby students must spend time and money completing remedial coursework prior to entering credit bearing classes. Whatcom Community College's adoption of a "[multiple measures](#)" option for placing students in math coursework as opposed to using a single high-stakes placement exam was cited as a potential way to mitigate this issue.
- **Academic Policies – Guided Pathways [Cross-Regional Theme]:** Many postsecondary representatives felt that current Guided Pathways initiatives hold great promise for increasing retention by providing students with more clear academic pathways to viable careers.
- **Transportation [Cross-Regional Theme]:** As an area with a significant rural population and a rising cost of living in urban centers, many participants cited transportation as a barrier to postsecondary education, including for students at Northwest Indian College. With limited public transit options, students and potential students are often forced to take on the cost of a vehicle to access higher education.
- **Writing Ability:** Students' writing abilities were roundly criticized by participants, who broadly agreed—across participant sectors—that a general decline in writing ability was evident among postsecondary students at all levels. Some additional criticism of research and "fact vetting" skills among undergraduates also came up when discussing this topic.
- **Collaboration with Business & Industry:** Local institutions have a strong history of developing academic programs in partnership with local employers to ensure they are meeting community needs, such as WSU Everett's close collaboration with Boeing and Bellingham Technical College's development of a short-term precision machining certificate in response to local employer demand. However, there seems to be less collaboration in relation to employers supporting their employees in pursuing higher education opportunities through flexible scheduling or tuition assistance.

Workforce

- **Soft Skills [Universal Theme]:** Area employers expressed general disappointment in employees' soft skills. Although, Bellingham Technical College was lauded for producing graduates who were well trained in the job search process, including soft skill components, such as interacting with potential employers.
- **Volatility of Key Sectors:** Three of the area's key industries, construction, retail trade, and manufacturing, are quite volatile. Participants noted the historical boom and bust cycle of construction jobs and speculated that the significant layoffs during the 2008 Great Recession and following few years discouraged workers from returning and led them to discourage their children from pursuing occupations in this sector. The manufacturing industry, largely centered in Snohomish County, has also seen volatility in terms of employment numbers. Meanwhile, Whatcom County in particular is reliant on Canadian consumers for its retail trade sector, and this activity fluctuates in relation to the relative strength of the Canadian dollar in addition to

being a generally low-wage industry. Further, employment in this sector generally comes with an unpredictable work schedule – a challenge for potential or current students pursuing higher education.

- **Cost of Living:** Many noted that the area’s wages are relatively low, while the cost of living tends to be high and is rising. Housing costs were specifically referenced, with explanations including the attractive quality of life in the more northern portions of the ESD and an influx of residents who commute to King County in the more southern portions. It was also noted that while high-wage jobs in the engineering, healthcare, and advanced manufacturing sectors exist, there are only a very limited number of high-wage professional services occupations outside these sectors available.

Survey

Current Skill Sets Employers Struggle to Find Locally

- **Soft Skills:** Fifteen of the 21 employer respondents from NWESD 189 stated that they struggle to find employees with particular skill sets, and similar to the employers included in the focus group, soft skills was the top skill set employers stated they struggle to find locally. Other skill sets employers state that they struggle to find locally were electricians and machinery, followed by a variety of skills, most of which relate to the region’s “in-demand” industries of manufacturing and construction.

Future Workforce Needs

- **Anticipating a Stable or Expanding Workforce:** All the employer respondents from NWESD 189 anticipate the size of their workforce staying the same, moderately expanding, or significantly expanding over the next one to five years.
- **Unsure if Current Education/Training Offerings Will Meet Future Needs:** Although employers consistently expect their workforce to grow or remain stable, there is uncertainty if the community’s current education and training offerings will meet their future needs. Nine employers from the area are unsure if current education/training will meet their future needs. Six respondents anticipate that future needs will be met, and four respondents stated that they do not think the current offerings will meet future needs.
- **Computer and Mathematical Anticipated as Most Important Occupation:** The top occupations stated by employers as being the most important over the next one to five years come from a variety of industries and reflects the region’s current robust economy. The occupations stated as being the most important over the next one to five years were: computer and mathematical; community and social services; education, training, and library (teachers, librarians, etc.); construction and extraction; and production.

Concluding Considerations

The goal of this project was to gain insights into emerging economic trends, employers' long-term planning trends, student demand, community needs and other factors, as they relate to specific educational needs in distinct geographic regions of the state. The themes described reflect emerging statewide trends as well as those in various regions, and they inform several reflections worthy of consideration by policymakers eager to move the state forward.

Communities have unique needs and therefore require unique solutions

The qualitative regional analysis brought to the fore perceptions of statewide needs from key stakeholders in K-12, postsecondary education, the workforce, and communities as well as marked regional differences. The first and perhaps the most obvious difference is the distinction between the communities in the Seattle metropolitan area and the rest of the state. For example, stakeholders in the Eastern part of the state often discussed their graduates moving to “the West side,” and similarly those on the Olympic Peninsula talked about the Seattle area in a way that highlighted the key differences between the regions. While the specifics differed, the primary message that materialized in these conversations was clear: different areas have unique needs, and therefore require unique solutions.

While the distinction between the King County area and the rest of the state is perhaps the most readily apparent, more nuanced but just as important are differences within regions. The focus groups revealed that even as each ESD had a particular set of regional needs, differences within each ESD were just as significant as differences across regions. One of those clear distinctions was between population centers and more geographically dispersed communities. Every region includes a mix of urban centers and more rural and geographically isolated communities, and these different landscapes result in uneven educational needs and opportunities.

For example, hiring and retaining teachers is challenging nearly everywhere, but in urban areas the challenge is often limited to math and special education teachers. In rural communities and smaller districts, there is a teacher shortage in all subject areas, in addition to shortages in school counselors, mental health professionals, and other school personnel. Another example centers around work-based learning. Urban centers generally have a range of employers that are better equipped to offer the work-based learning opportunities participants in this study found so critical to developing career-ready graduates at the secondary and postsecondary levels. Those opportunities are much less available to students in rural areas. In practice, these distinctions mean that the unique challenges and needs that exist in rural areas must be met with solutions that are specific to those areas. The state should consider a rural education strategy that accounts for the unique assets and challenges of rural and remote communities to ensure that students have access to a full range of learning opportunities. A one-size-fits-all approach designed for population centers, and in particular, the Seattle metropolitan area, will not work for Washington statewide, and strategies for addressing these divides within regions will be critical to the development of any plan to meet regional needs.

Washington is a leader in dual credit for high school students, but there is more work to be done

According to a recent study by the Community College Research Center (CCRC) and the National Student Clearinghouse Research Center, in Washington about 20 percent of new fall enrollments participated in dual enrollment at community colleges in 2010 (compared to a national average of 15 percent), almost two-thirds of those students continued at a community college after high school, with 58 percent of those students earning a college degree or certificate (32 percent earned a bachelor's degree).¹⁶ Despite Washington's progress and commitment to dual credit for high school students, challenges and opportunities related to dual credit programs such as Running Start and College in the High School emerged as a theme in six of the nine ESDs.

Specifically, there was concern regarding the implementation of dual credit programs—in particular Running Start—often accompanied by concerns about the state's recently implemented 24-credit high school graduation requirement. Given the significant state investment in both these efforts, ongoing monitoring and evaluation of implementation and outcomes could provide greater clarity around these concerns and better inform policy. Clear communication regarding policy nuances and updates could be valuable, especially in relation to career and technical education options for earning dual credit and meeting graduation requirements. Addressing geographic issues related to dual credit delivery, specifically uneven access in rural areas, will also be important.

Further, given the prevalent apprehension regarding students' lack of clarity on postsecondary pathways, an additional consideration may be assisting those providing college and career guidance—whether parents, high school counselors, or college advisors—with easily navigable information on the variety of pathways available, their potential career trajectories, and their projected costs. Moreover, clarifying how opportunities at the secondary level, such as Running Start, fit into these pathways.

A comprehensive, evidence-based strategy for bolstering soft skills is needed

An additional area for further study may be the efficacy of programs seeking to instill soft skills in participants. Many K-12 schools are integrating programming designed to address the deficiencies in soft skills of their graduates, including project-based learning curricula, and some postsecondary programs (often in technical programs) are doing so as well. Work-based learning models, including internships and apprenticeships, are also promising strategies for instilling soft skills in students that will have a positive impact on their individual success as well as the workplace generally. Whether in K-12 or in postsecondary education, a successful strategy must involve a shift in pedagogy, not just additional courses. For example, pedagogical strategies designed to bolster soft skills might include learning-by-doing activities, learning from mistakes, attention to attendance and work habits, team-based projects, and collaborative learning strategies incorporated into existing courses. Finally, examining if and how these efforts are successful could provide useful guidance in addressing the soft skill deficit cited by so many stakeholders. Since the soft skill deficit is seen throughout the educational pathway a comprehensive, evidence-based strategy is needed.

Work-based learning is a promising approach, but requires a comprehensive strategy for implementation

Work-based learning is a promising approach to meeting many of the needs identified in this research. It is a way for students to improve soft skills, to apply what they learn in a classroom in a real-world-setting, and to take advantage of networking opportunities that can assist in securing employment upon graduation. Work-based learning is also critical in serving those students who need to work while going to school. Many students, particularly those who have been historically underserved (e.g., low-income, students of color) simply cannot afford to go to school without also earning money to support themselves and/or their families. Sometimes there are other circumstances that lead to working while enrolled in postsecondary education. Regardless of the reason, there are many students that when faced with a choice between earning and learning, will ultimately choose earning, so concurrent options must be available.

It was clear from this research, however, that work-based learning opportunities, whether they are internships, apprenticeships, or other forms, are unevenly provided across the state. Most often, they are more readily available in urban centers. Across the board, employers are not always able or willing to provide opportunities to students, and the partnerships that must be in place for work-based learning to be successful do not always exist. Potential solutions could include state work-study programs and freeing up institutional resources to forge the needed partnerships with business and industry. Ultimately, a successful strategy for work-based learning would be led by business and industry, supported by the state, and provide incentives for employers and education providers to participate. Importantly, people need to know about the opportunities that exist.

Further, recognizing the legitimate challenges that may stand in the way of large-scale work-based learning opportunities in less populated areas, business, industry, and education leaders will need to work together to identify approaches that work in various contexts. For instance, in some cases, given that work-based learning opportunities are more prevalent in more populated areas, partnerships could be established that would allow for those in smaller communities to participate. Technology-dependent, work-based learning opportunities, such as training simulations and virtual and augmented reality experiences, also have the potential to bring this much needed approach to underserved areas.

Preparing students for today's workforce, yet also to adapt to the jobs of the future should be a focus

Finally, an underlying thread throughout many of the conversations was the inherent tension between providing students with very specific, marketable skills which would prepare them to enter the workforce versus the need to teach students more difficult-to-quantify skillsets such as adaptability and the “ability to learn and relearn” that would prepare them for the jobs of the future. While no specific solutions were suggested, maintaining a focus on stackable credentials and an education system with multiple entry and exit points could help to bridge this gap.

Acknowledgements

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In addition, several groups and individuals were instrumental in the project's implementation. In particular, we would like to thank:

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- **Washington STEM Network (Lee Lambert):** for connections with regional STEM Networks.
- **Focus Group Hosts:**
 - Big Bend Community College/Central Washington University – Moses Lake (Skye Field)
 - Central Washington University (Katherine Frank, Melanie Palm, Tina Gorman, Carol Faltus, Teri Olin, and Kim Hansen)
 - Clark College (Tim Cook)
 - Clover Park Technical College (Joyce Loveday, Mabel Edmonds, and Cal Erwin-Svoboda)
 - Columbia Basin College (Michael Lee and Brady Brookes)
 - Community Colleges of Spokane (Christine Johnson, Linda Graham, and Peggy Wold) with Spokane STEM and Greater Spokane Incorporated (Meg Lindsay)
 - Grays Harbor College (Jim Minkler and Sandy Zelasko)
 - Olympic College (David Mitchell and Shawna Bliss)
 - Peninsula College (Sharon Buck and Kelly Griffith)
 - Renton Technical College (Angel Reyna)
 - Seattle Central College (Sheila Edwards Lange, Angelique Odom, and Veronica Guajardo)
 - Seattle Metropolitan Chamber of Commerce (Maud Daudon and Jenny Holcomb)
 - South Puget Sound Community College (Timothy Stokes and Sam Kreiger)
 - Washington State University – North Puget Sound at Everett (Paul Pitre, Lynne Varner, and Cheryl Blackburn)
 - Washington State University – Tri-Cities (John Mancinelli and Karina Barajas)
 - Washington State University – Vancouver (Renny Christopher and Holly Beck)
 - Wenatchee Valley College/Central Washington University – Wenatchee (Skye Field) with Apple STEM Network (Sue Kane)
 - Whatcom Community College (Ed Harri and Laurie Starr)
 - Yakima Valley Community College/Central Washington University – Yakima (Skye Field)

Several individuals contributed feedback to the project over the course of its development. WICHE would like to express gratitude to this group, including:

- Jeremy Caci, Jenée Myers Twitchell, and Bill Zumeta of the University of Washington

- Paul Francis of the Council of Presidents
- Darby Kaikkonen of the State Board for Community and Technical Colleges
- Natalie Pacholl of SEH America
- Dave Pavelcheck and Dave Wallace of the Washington State Workforce Training & Education Coordinating Board
- Joel Getzendanner, Adam Lind, Steve Perry, and Anneliese Vance-Sherman of the Washington State Employment Security Department
- James McCafferty of Western Washington University

Finally, three WICHE staff members provided critical contributions to the project, specifically:

- Laura Ewing – project support, planning, and logistics management
- April Hendrickson – qualitative data analysis and methodology consultation
- Sarah Leibrandt – qualitative data analysis and methodology consultation

Appendix A. Methodology

The project team employed a mixed methods approach to solicit feedback from local stakeholders using in-person focus groups, supplemented by an online employer survey and key informant interviews. Guides and questions were informed by the quantitative data collected by the Washington Student Achievement Council and other relevant sources. The sections below provide an overview of the methodology and pertinent information related to the data collection and analysis.

Focus Groups

The objective of the project was to collect information via in-person focus groups across the state's nine educational service districts (ESDs). The process used for conducting the focus groups is outlined below.

Sampling

The Washington Student Achievement Council (WSAC) outlined nine key stakeholder groups to be included in each regional focus group:

- Educational leaders from the public and private K-12 and postsecondary sectors
- Employers
- Industry representatives
- Labor representatives
- Workforce Development Councils
- Washington Regional STEM Network representatives
- Community leaders
- K-12 students and parents
- Postsecondary students, including traditional age and returning adults.

In order to obtain the desired representation within the project timeline, the team used purposive samples—nonrepresentative subsets—from each of these groups.

To determine representatives within each region for the focus group participant categories, the project team conducted a review of relevant policy reports and literature and landscape analysis for each of the nine ESDs. These included examinations of relevant publications and resources prepared by national, state, and local organizations, academic researchers, and others related to regional trends. The team also relied on the quantitative data prepared by WSAC staff to the extent it was available for the project to inform the focus group sampling.

Participant Recruitment

To recruit focus group participants, project staff used this landscape analysis to compile a list of potential participants for each region to review at a project kickoff meeting held on May 4, 2017, with WSAC staff and stakeholders. WICHE worked collaboratively with WSAC staff and stakeholders to identify appropriate local contacts through feedback on the list of suggested contacts. Upon agreement on initial points of contact, the project team began electronic outreach, following up via phone, as needed, to recruit a robust pool of focus group participants from each sector.

In general, the project team approached recruitment in each ESD with a similar framework, but specific strategies were necessary to ensure the optimal participation depending on local conditions. The project team relied on the following contacts in each ESD to assist in initial outreach and recruitment:

K-12

To ensure that this research gathered the educational perspective from the public K-12 sector, the following initial contacts were made and used as a springboard for additional invitations.

Association of Education Service Districts (AESD)

Gene Sharratt, Executive Director of AESD/Office of the Superintendent of Public Instruction (OSPI) Network Initiatives, assisted the project team by sending a personal email to each ESD superintendent to inform him or her about the project. Project staff then sent a follow up email to either invite the superintendent to participate or in some cases to assist in identifying a site to convene the focus groups. In addition, the ESD superintendents were asked to invite their colleagues to participate in the scheduled focus groups once the dates and times were finalized. The ESD superintendents are listed below:

ESD 101 – Michael Dunn	ESD 121 – John Welch
ESD 105 – Kevin Chase	ESD 123 – Darcy Weisner
ESD 112 – Tim Merlino	ESD 171 – Rich McBride
ESD 113 – Dana Anderson	ESD 189 – Larry Francois
ESD 114 – Greg Lynch	

Regional STEM Networks

Lee Lambert, the STEM Network Director, sent a personal email to the regional STEM directors informing them about the project. There is not a regional STEM network in each ESD, but project staff reached out to those individuals where appropriate, invited him or her to participate and to invite their network members to participate in the focus groups. The regional STEM networks are listed below:

Apple STEM Network	South King County STEM Network
Mid-Columbia STEM Network	Southwest Washington STEM Network
Skagit STEM Network	Spokane STEM
Snohomish STEM Network	Tacoma STEM Network
South Central STEM Network	

Postsecondary Education

Project staff invited leadership (typically the president, provost, faculty leaders, and others) from both public and private postsecondary institutions in each of the ESDs and asked them to invite people from their campuses and networks to participate. Staff also individually identified other potential participants, including student leaders, via internet searches.

Government

WICHE staff identified elected local leaders, including City and County Council Members, mayors, port authority officials, and others. We solicited recommendations for participants from WSAC and the State Board for Community and Technical Colleges (SBCTC) and invited staff as appropriate.

Business and Industry

WICHE staff reviewed data on high-demand fields and searched for major employers in each of the nine regions, including WSAC data, Office of Financial Management data, and local Workforce Development Council data. When possible, WICHE then identified key employment and industry sectors for each region to guide the outreach strategy. WICHE engaged in internet searches to invite key business and industry leaders in the community, including those active in local chambers of commerce and rotary clubs.

Regional Workforce Development Councils

Project staff invited staff from the following regional workforce development councils and asked them to invite individuals from their networks. Workforce development councils in each of the ESDs are listed below:

ESD 101 – Eastern Washington Partnership	ESD 121 – Workforce Development Council of Seattle-King County, Workforce Central - Tacoma/Pierce County
ESD 105 – South Central Workforce Development Council	ESD 123 – Eastern Washington Partnership, Benton-Franklin Workforce Development Council
ESD 112 – Southwest Washington Workforce Development Council	ESD 171 – North Central Washington Workforce Development Council
ESD 113 – Pacific Mountain Workforce Development Council	ESD 189 – Northwest Workforce Council, Workforce Development Council Snohomish County
ESD 114 – Olympic Workforce Development Council	

Tribal Nations

Primarily through internet searches, WICHE staff identified key contacts within the tribal nations and extended invitations to education directors and leaders at tribal colleges. Tribes located in each of the ESDs are listed below:

ESD 101 – Colville Confederated Tribes, Kalispel Tribe, Spokane Tribe	ESD 121 – Muckleshoot Tribe, Snoqualmie Tribe, Puyallup Tribe
ESD 105 – The Confederated Tribes and Bands of the Yakama Nation	ESD 123 – N/A
ESD 112 – Cowlitz	ESD 171 – Colville Confederated Tribes
ESD 113 – Confederated Tribes of the Chehalis Reservation, Nisqually Tribe, Quinault Nation, Shoalwater Bay Tribe, Skokomish Tribe, Squaxin Island Tribe	ESD 189 – Lummi Nation, Nooksack Tribe, Samish Nation, Sauk-Suiattle Tribe, Stillaguamish Tribe, Swinomish Tribe, Tulalip Tribe, Upper Skagit Tribe
ESD 114 – Hoh Tribe, Jamestown S’Klallam Indian Tribe, Lower Elwha Klallam Tribe, Makah Tribe, Port Gamble S’Klallam Tribe, Quileute Tribe, Quinault Nation	

In each ESD, project staff implemented “snowball sampling,” asking initial, potential focus group participants to forward the email invitations to their colleagues and to identify other key stakeholders as potential participants.

Protocol Development

WICHE and NCHEMS staff developed the focus group protocol, informed by the initial literature review, landscape analysis, and consultation with WSAC staff. The protocol included nine questions plus two that were specific to employers. Focus group sessions were designed to last 60 to 120 minutes. The protocol began with one to two introductory questions designed to engage participants, centered around a main question set designed to explore participants' views and experiences regarding workforce, community, and education needs in their region, and concluded with one to two wrap-up questions. See Appendix B for Focus Group Protocol.

Scheduling

Given the compressed timeline, WICHE staff simultaneously identified contacts for each region while also scheduling locations and times to hold the focus groups in convenient central locations. The team ran multiple groups per day in each location to accommodate as many participants as possible as well as to minimize project team travel costs.

Focus Group Implementation

The focus groups took place between May 23, 2017 and July 14, 2017. In total, WICHE held 27 focus groups statewide (two to five per ESD) (see Table A.1); the number of participants in each focus group ranged from one to 15, with a cross-sector sample of participants.

Table A.1. Number of Focus Groups Conducted by ESD

	Number of Focus Groups
ESD 101	3
ESD 105	2
ESD 112	2
ESD 113	3
ESD 114	3
ESD 121	5
ESD 123	3
ESD 171	3
ESD 189	3

Table A.2 outlines the schedule and locations for the focus groups.

Table A.2. Focus Group Schedule and Locations

	Focus Group 1	Focus Group 2	Focus Group 3	Focus Group 4	Focus Group 5
ESD 101	May 23 (Spokane Falls Community College)	May 23 (Spokane Falls Community College)	May 24 (Spokane Community College)		
ESD 105	June 20 (Central Washington University – Yakima)	June 20 (Central Washington University)			

ESD 112	May 31 (Clark College)	May 31 (Clark College)	June 2 (Washington State University – Vancouver)		
ESD 113	June 1 (Grays Harbor College)	June 1 (South Puget Sound Community College)	June 1 (South Puget Sound Community College)		
ESD 114	June 29 (Peninsula College)	June 29 (Olympic College)	June 29 (Olympic College)		
ESD 121	June 28 (Clover Park Technical College)	June 28 (Clover Park Technical College)	June 28 (Renton Technical College)	July 13 (Seattle Central College)	July 13 (Seattle Metropolitan Chamber of Commerce)
ESD 123	June 19 (Columbia Basin College)	June 20 (Columbia Basin College)	June 22 (Washington State University – Tri-Cities)		
ESD 171	June 21 (Central Washington University – Wenatchee)	June 21 (Central Washington University – Moses Lake)			
ESD 189	July 12 (Whatcom Community College)	July 12 (Whatcom Community College)	July 14 (Washington State University North Puget Sound at Everett)		

The compressed timeline for conducting the focus groups in many cases did not allow for ideal lead time to extend the invitations, but despite this challenge, participation was strong and the cross-sector representation met expectations.

Project staff conducted focus groups according to industry best practices. Each focus group was conducted according to the pre-determined protocol, but still allowed for flexibility so the participants could explore multiple facets of various topics and take the conversation in unanticipated, relevant directions. The project team staffed all focus groups with a minimum of two staff members, a facilitator, and a note-taker/recorder, and each session was recorded for transcription. Project staff brought significant facilitation experience, ensuring each group was led by an experienced moderator. Moreover,

WICHE and NCHEMS staff brought extensive experience in education and economic development policy issues, meaning each group’s moderator brought deep subject-matter expertise.

Key Informant Interviews

WICHE supplemented the focus groups with individual key informant interviews as needed – project staff conducted 7 interviews total of this type. These were conducted using a similar protocol to the focus groups. The addition of key informant interviews allowed the project team to connect with certain stakeholders whose schedules did not allow them to participate in the focus groups, yet whose perspective the project team—in consultation with WSAC staff—considered important to building a comprehensive overview of a region’s local conditions. Project staff also interviewed individuals recommended by focus group participants who felt a certain perspective was missing but would be useful to the research. The interviews were conducted via phone. Data analysis for the key informant interviews was conducted using the same methodology as for the focus groups.

Table A.3 shows the perspectives represented in the focus groups and key informant interviews in each of the ESDs. Green indicates that the perspective was represented in either a focus group or key informant interview, while red indicates that the perspective was not. The light green box in ESD 123 and ESD 189 indicates that one of the two workforce development councils was represented, and the grey box indicates that there was no tribe to contact in ESD 123.

Qualitative Data Analysis

WICHE used a content analysis approach to analyze data from the focus groups. WICHE staff had each focus group recording professionally transcribed and analyzed the data internally. Focus group

Table A.3. Perspectives Represented in Focus Groups

Perspective	Educational Service District								
	101	105	112	113	114	121	123	171	189
Higher Education									
K-12									
Business/Industry/ Economic Development									
STEM Network									
Workforce Development Council									
Community/Nonprofit/ Government									
Tribal									

transcriptions were analyzed for emergent themes and when appropriate, done so by two coders in order to ensure inter-rater reliability. The coding was done using the qualitative data analysis software QSR NVivo. Additionally, project staff collaboratively reviewed the focus group notes to identify key themes by focus group, by ESD, and overall. The project team synthesized major findings and insights to craft presentations and reports for WSAC staff, council members, and other key stakeholders.

Online Survey of Employers

WICHE developed an online survey instrument using Survey Monkey's online tool to elicit perspectives from a wider range of local employers and select community leaders than could be reached through focus groups and key informant interviews. Most of the questions were closed-ended and had Likert-scale response options. This was intended to minimize the respondent burden of completing the survey. Since it is important to provide respondents the opportunity to share their perspectives on conditions affecting workforce, community, and educational needs in their region, a small number of open-ended items were also included. Early drafts of the survey were shared with WSAC staff and key stakeholders to solicit feedback, and the survey was field tested with four individuals to identify any issues and allow for the opportunity to correct problems prior to the survey's launch. The final version of the survey can be found in Appendix C.

With the generous assistance from staff from the Association of Washington Business (AWB), WICHE administered the survey an email to a list of 5,128 employers from across Washington on July 14, 2017. Staff sent a reminder email on July 25, 2017, and a final reminder on August 17, 2017. The survey was closed on August 21. The survey elicited 190 responses (four percent response rate); responses were collected from each of the nine ESDs and 26 of the 39 counties.

WICHE staff initially used Survey Monkey's built in analysis tools and then conducted subsequent in-depth analysis using SPSS, to review and analyze data from the online survey. Project staff mined the data for key themes and synthesized findings for reporting purposes.

Appendix B. Focus Group Protocol

Welcome

Hello and welcome to our focus group session. Thank you for taking the time to join us to talk about regional educational needs. My name is [INSERT NAME HERE] and assisting me is [INSERT NAME HERE]. We're with the Western Interstate Commission for Higher Education "WICHE" [AND IF APPLICABLE the National Center for Higher Education Management Systems "NCHEMS"]. For those of you who may be unfamiliar with our organizations, WICHE is a federal compact of the 16 Western states and US Pacific territories and freely associated states working to increase access to high-quality higher education for all citizens of the West. NCHEMS is a private nonprofit (501)(c)(3) organization whose mission is to improve strategic decision making in higher education for states and institutions in the United States and abroad. Both of our organizations are based in Boulder, Colorado, and have a long history of working together and in Washington state.

Overview

The Washington Student Achievement Council—a state agency created by the state Legislature in 2012 to support increased student success and higher levels of educational attainment in Washington—has commissioned WICHE to conduct regional focus groups to provide a more complete picture of the educational needs within each of the state's Education Service Districts or "ESDs." You have a map at your seat to give you a sense of the regional breakdowns. The goal of these discussions is to identify the current and evolving education needs in your area, including emerging economic trends, employers' long-term planning, student demand, and community needs. Your insights will contribute to a regional data profile, offering more detailed and nuanced perspectives on regional needs than data alone can provide.

We are having discussions like this with groups throughout the state. You were invited because you are a key stakeholder in [INSERT EDUCATIONAL SERVICE DISTRICT], whether as a student, parent, educator, community leader, employer, labor or industry representative. A report on the key themes from this focus group, as well as key informant interviews and an online survey of employers, will go to the Washington Student Achievement Council staff, the Council itself, and key policymakers, including the Governor and the state legislature. It will also be posted publicly on the Student Achievement Council website. Your comments and insights that you provide today will be collected in the aggregate and will not be attributed to you personally. The report will include a list of the types of stakeholders who participated (e.g., educator, community leader, student, parent, etc.) and identify the region. If we incorporate a direct quote, we will not use your name.

Ground Rules

Before we begin, we would like to review a few ground rules. We expect the discussion to take about an hour to an hour and a half. Please keep in mind that there are no wrong answers to the discussion questions that we'll ask today, though there may be differing points of view. Feel free to share your thoughts even if they differ from what others have said. Keep in mind that we're interested in everyone's unique perspective on the region's education needs.

You may have noticed the recorder. We're tape recording the session because we don't want to miss any of your comments. We often can't write fast enough to get all of your important comments and insights down, so this is a tool for us to make sure we don't miss anything. We'll be using first names only for today, and we've placed name cards on the table in front of you to help us remember each other's names.

Let's start with finding out some more about each other by going around the table.

Questions

Engagement Question

1. Please share your first name, the organization you represent, and how long you have lived or worked in [INSERT ESD].

Exploration Questions

2. Do you feel the [INSERT REGION] offers the educational opportunities you are looking for—whether for yourself, your children, your students, your community, your company, your employees, or your members—as you think about your long-term needs?

Follow-up questions

- a. Why or why not?
 - b. Can you provide specific examples?
3. Which postsecondary institutions are most important in meeting the needs of this region? Your personal needs? In other words, which institutions do you depend on?

Follow-up questions

- a. Are there any specific programs that you rely on most?
4. Can you think of any barriers to education that exist for different groups of people (e.g., gender, age, race, location)?
 5. How could educational opportunities in the region be improved?
 6. What industry sectors are most important to your region today and what sectors do you think will be important in the future? Who are the major employers in the region?

7. Are you aware of any employers currently in the area or coming to the area that are planning to increase the number of jobs available? Anyone anticipating lay offs or job reductions?

Follow-up questions

- a. What are some of the factors that affect workforce demand in your region?
8. What are some of the recent emerging developments, events, or trends in your region's economy that are important for us to know about?
9. What types of postsecondary skills or credentials do you anticipate people in your community will need over the next six months?

FOR EMPLOYERS

1. *Have you hired anyone recently?*

Follow-up questions

- a. *If yes, are any of those new hires recent college graduates?*
- b. *How well prepared were they for their jobs?*
- c. *If not well-prepared, what was missing in their preparation?*
2. *What kinds of jobs are hard to fill? In other words, who can't you hire? Are there programs that exist that provide the kinds of workers you need, but they aren't big enough? Do the programs not exist? Are the types of programs and the graduates they produce just right?*

Exit Questions

1. If you had a magic wand, what additional education options would you like to see offered in the area?

Follow-up question

- a. What are the barriers to achieving this ideal scenario?
2. Do you have any final thoughts you didn't have an opportunity to share?

We want to thank you for taking the time to share your thoughts and perspectives with us today. We know that you are busy, and we appreciate your willingness to participate. If there is anyone else in the region who you think would be important to speak with so that we better understand the area's educational needs, please list their name on this sheet of paper or feel free to email us with their name and contact information. We will be happy to follow up. Once again, thank you for your time.

Appendix C. Online Survey of Employers: Survey Instrument

Introduction

The Washington Student Achievement Council is working with the Western Interstate Commission for Higher Education (WICHE) to gather perspectives on the educational needs in each of Washington's nine Educational Service Districts in order to inform public policy. The insights garnered through this process will contribute to regional data profiles, offering more nuanced perspectives on regional needs than quantitative data alone can provide. A report on the key themes from this survey of employers, as well as regional focus groups and interviews with cross sector stakeholders, will go to the Washington Student Achievement Council staff, the Council itself, and key policymakers, including the Governor and the state legislature. It will also be posted publicly on the Student Achievement Council website.

All individual responses will be kept confidential; themes will only be reported in the aggregate. We appreciate you taking the time to contribute to this important research. The survey should take approximately 10 minutes to complete.

Background Information

*** 1. Organization**

Name of organization or company

*** 2. Organization Location**

Street Address, City, Zip Code

Role

3. Select the option which best describes your role

Owner

Senior Executive

Manager

Support Staff

Human Resources Professional

Other (please specify)

Organization Size

***4. Select the total size of your company or organization**

1-4 employees

5-9 employees

10-19 employees

20-49 employees

50-99 employees

100-249 employees

250-499 employees

500-999 employees

1,000 or more employees

Organizational Information

***5. About what percentage of your employees are full-time workers?**

Under 25%

26% to 50%

51% to 75%

76% to 99%

100%

Unsure

Employees' Educational Background

*6. What is the highest level of education held by the majority of your employees?

No degree
High School/GED
Certificate
Associates (e.g. AA, AS)
Baccalaureate (e.g. BA, BS)
Masters
Doctorate or Professional (e.g. MD, JD)
Unsure

Employees' Educational Background

*7. In what field(s) did your employees earn their credentials?

Check all that apply

Information Technology (IT)
Healthcare
Natural Sciences
Business
Engineering
Liberal Arts (e.g., English Literature, Modern Languages, History, Economics, Geography, Political Science, Sociology, Philosophy, Anthropology, etc.)
Skilled Trades
Unsure
N/A (Most employees have high school diploma/GED)
Other (please specify)

Hiring

*8. Do you currently have difficulty finding employees with particular skill sets?

Yes
No

*9. Describe the skill sets you struggle to find locally

10. Have you hired one or more new employees in the past 12 months?

Yes
No

Recent Hires

11. For which types of occupations did you hire in the past 12 months?

Check all that apply

Management
Business and Financial Operations (auditors, accountants, etc.)
Computer and Mathematical
Architecture and Engineering
Life, Physical, and Social Science
Community and Social Services
Legal
Education, Training, and Library (teachers, librarians, etc.)
Arts, Design, Entertainment, Sports, and Media
Healthcare Practitioners and Technical (doctors, nurses, etc.)
Healthcare Support
Protective Service
Food Preparation and Service
Building and Grounds Cleaning and Maintenance
Personal Care and Service
Sales
Office and Administrative Support
Farming, Fishing, and Forestry
Construction and Extraction

Installation, Maintenance, and Repair
Production
Transportation and Material Moving
Military
Other (please specify)

***12. In your hiring process, were you generally able to hire the talent that you needed locally?**

Yes, we can hire locally for any position we need
Somewhat, we can hire some of the talent we need locally
No, we generally cannot hire talent locally

If you cannot hire talent locally, are there common areas you recruit from? (e.g. other cities/counties, neighboring states, nationally, etc.)

***13. Are your new hires predominantly recent graduates or experienced professionals?**

Recent graduates
Experienced Professionals
A mix of recent graduates and experienced professionals
Unsure

14. What type(s) of educational institutions do your recent graduate hires typically come from?

High school
Community college
Four-year college or university (public)
Four-year college or university (private)
For-profit college
Other (ex. nontraditional education provider such as a tech bootcamp)
Unsure

If you tend to hire graduates from specific schools (e.g. Washington State University, local community college, WGU-Washington, etc.), please list those schools here.

Continuing Education & Training

If you answered yes or sometimes, please describe the education or training required.

15. Does your organization or profession require employees to obtain continuing education or training to advance?

*

Yes
Sometimes
No

Continuing Education & Training

***16. Are your employees able to access continuing education and training opportunities locally?**

Yes
No
Unsure

17. Who provides the continuing education or training your employees utilize?

Check all that apply
Local four-year institution
Local two-year institution
Online postsecondary institution
On-the-job or other in-house training
An industry organization or professional association
Unsure
Other (please specify)

Looking Forward

18. How do you anticipate the size of your workforce changing over the next 1 to 5 years?

Significantly expanding
Moderately expanding
Staying about the same
Moderately decreasing
Significantly decreasing
Prefer not to answer

19. What are the key skills that you anticipate your employees will require over the next 1 to 5 years?

1.
2.
3.

*20. Will your community's current education and training offerings meet the needs of your organization over the next 1 to 5 years?

Yes
No
Unsure

Why or why not?

*21. Which occupations do you anticipate being most important to your community's economy over the next 1 to 5 years?

Management
Business and Financial Operations (auditors, accountants, etc.)
Computer and Mathematical
Architecture and Engineering
Life, Physical, and Social Science
Community and Social Services
Legal
Education, Training, and Library (teachers, librarians, etc.)
Arts, Design, Entertainment, Sports, and Media Occupations
Healthcare Practitioners and Technical (doctors, nurses, etc.)
Healthcare Support
Protective Service
Food Preparation and Service
Building and Grounds Cleaning and Maintenance
Personal Care and Service
Sales
Office and Administrative Support
Farming, Fishing, and Forestry
Construction and Extraction
Installation, Maintenance, and Repair
Production
Transportation and Material Moving
Military
Other (please specify)

Optional - Participant Information

22. Name & Title (Optional)

First Name
Last Name
Title

Appendix D. Additional Findings from the Online Survey of Employers

3. Select the option which best describes your role									
	101	105	112	113	114	121	123	171	189
Owner	6	4	3	9	4	39	3	6	10
Senior Executive	2	2	3	7	0	19	2	1	5
Manager	6	1	2	0	1	11	1	3	6
Support Staff	0	0	0	1	0	2	2	0	0
Human Resource Professional	2	0	0	0	1	5	3	2	0
Book keeper	0	0	0	0	0	1	0	0	0
Controller	0	0	0	0	0	0	1	0	0
CTE Administrator	0	0	0	0	0	1	0	0	0
Managing Member	0	0	0	0	1	0	0	0	0
Managing Principal	0	0	0	0	0	0	0	0	1
President	0	1	0	0	0	0	0	0	0
Total	16	8	8	18	7	79	12	12	22

4. Select the total size of your company or organization									
	101	105	112	113	114	121	123	171	189
1-4 employees	2	1	1	3	1	11	0	2	1
5-9 employees	2	2	0	4	1	14	1	2	7
10-19 employees	5	1	4	6	1	13	1	3	5
20-49 employees	2	2	0	3	3	20	2	1	4
50-99 employees	0	0	1	1	0	8	1	1	1
100-249 employees	4	2	0	0	0	6	2	2	2
250-499 employees	1	0	2	0	1	3	2	1	1
500-999 employees	0	0	0	0	0	1	0	0	1
1,000 or more employees	0	0	0	0	0	2	3	0	0
Total	16	8	8	17	7	78	12	12	22

5. About what percentage of your employees are full-time workers?									
	101	105	112	113	114	121	123	171	189
Under 25%	0	0	0	0	0	4	0	0	2
26% to 50%	2	0	0	0	2	11	0	2	3
51% to 75%	1	0	0	1	0	6	1	1	2
76% to 99%	8	4	3	13	2	37	6	3	6
100%	5	4	5	3	3	20	5	6	9

Total	16	8	8	17	7	78	12	12	22
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6. What is the highest level of education held by the majority of your employees?

	101	105	112	113	114	121	123	171	189
No degree	0	0	0	1	0	0	1	0	0
High School/GED	8	5	5	8	6	23	5	7	12
Certificate	1	0	0	0	0	12	1	0	2
Associates (e.g. AA, AS)	2	1	0	0	1	10	2	0	1
Baccalaureate (e.g. BA, BS)	3	2	1	6	0	24	1	4	5
Masters	1	0	2	1	0	5	0	0	2
Doctorate or Professional (e.g. MD, JD)	0	0	0	0	0	3	1	0	0
Unsure	1	0	0	1	0	1	1	1	0
Total	16	8	8	17	7	78	12	12	22

7. In what field(s) did your employees earn their credentials?

	101	105	112	113	114	121	123	171	189
Information Technology (IT)	3	1	0	2	1	10	3	3	0
Healthcare	0	2	0	2	1	11	1	0	0
Natural Sciences	1	1	1	0	0	7	2	2	3
Business	6	4	3	8	1	23	4	6	5
Engineering	4	0	0	1	0	9	3	1	3
Liberal Arts (e.g., English Literature, Modern Languages, History, Economics, Geography, Political Science, Sociology,	1	2	2	5	1	26	2	2	2
Skilled Trades	5	3	1	5	3	21	9	6	6
Unsure	2	0	1	1	0	4	1	0	1
N/A (Most employees have high school diploma/GED)	7	3	3	6	3	20	5	5	8
Total	16	8	7	16	6	74	12	11	21

8. Do you currently have difficulty finding employees with particular skill sets?

	101	105	112	113	114	121	123	171	189
Yes	10	4	6	11	6	54	9	8	15
No	6	4	2	6	1	24	3	4	6
Total	16	8	8	17	7	78	12	12	21

9. Describe the skills you struggle to find locally.

	101	105	112	113	114	121	123	171	189
No Response	7	4	2	7	1	26	4	4	7
Soft Skills	2	1	1	3	3	6	0	4	4
Commercial Drivers	1	0	0	0	0	5	1	0	0
Machinery	0	0	0	0	0	4	1	0	2
Sales	0	1	1	0	0	3	0	0	1
Welders	2	0	2	0	0	1	0	0	1
Skilled Trades	0	1	0	0	0	3	1	0	0
Electrician	0	0	0	0	0	0	0	1	2
Engineering	0	0	1	0	0	1	0	0	1
HVAC Mechanic	1	0	0	0	0	1	1	0	0
Math Skills	0	1	1	0	0	1	0	0	0
Mechanical	1	0	0	0	0	0	1	1	0
Accounting	0	0	0	1	0	0	0	0	1
Analytics	0	0	0	0	0	2	0	0	0
Architecture	0	0	0	0	0	1	0	1	0
Carpentry	0	0	0	0	1	0	0	0	1
Computer Skills	0	0	0	0	0	2	0	0	0
CTE Educators	0	0	0	0	0	1	1	0	0
Heavy Equipment Operators	0	0	0	1	0	1	0	0	0
Information Technology (IT)	0	0	0	0	0	2	0	0	0
Legal	0	0	0	1	0	1	0	0	0
Nursing	0	0	0	0	0	2	0	0	0
Plumbing	0	0	0	1	1	0	0	0	0
Production	0	0	0	0	0	1	0	0	1
Trained RV Technician or Auto Repair Technicians	0	0	0	1	0	1	0	0	0
Business	1	0	0	0	0	0	0	0	0
Changes depending on need	0	0	0	0	0	1	0	0	0
Coding	0	0	0	0	0	1	0	0	0
Communication	0	0	0	1	0	0	0	0	0
Computer Science	0	0	0	0	0	0	1	0	0
Construction	0	0	0	0	0	1	0	0	0
Court Reporters	0	0	0	0	0	1	0	0	0
Fiber Artist	0	0	0	0	0	1	0	0	0
Hospitality	0	0	0	0	0	0	0	1	0
Industry Knowledge	0	0	0	0	0	1	0	0	0
Installers and Estimators	0	0	0	0	0	1	0	0	0
Labor	0	0	0	0	0	1	0	0	0
Licensing Knowledge	0	0	0	0	0	1	0	0	0
Low voltage and car audio installer	0	0	0	0	0	0	1	0	0

Mechanic	1	0	0	0	0	0	0	0	0
Mobile device testing and automation development	0	0	0	0	0	1	0	0	0
Optical Dispensing	0	0	0	0	1	0	0	0	0
Printing and Bindery	0	0	0	0	0	0	0	0	1
Project Management	0	0	0	1	0	0	0	0	0
Social Work	0	0	0	0	0	1	0	0	0
Technical aptitude	0	0	0	0	0	1	0	0	0
Technicians, sales professionals, managers	0	0	0	0	0	1	0	0	0
Underwriters	0	0	0	0	0	1	0	0	0
Video and New Production	0	0	0	1	0	0	0	0	0
Total	16	8	8	18	7	79	12	12	22

10. Have you hired one or more new employees in the past 12 months?									
	101	105	112	113	114	121	123	171	189
Yes	13	4	8	14	6	62	11	11	19
No	2	3	0	3	1	12	0	1	2
Total	15	7	8	17	7	74	11	12	21

11. For which types of occupations did you hire in the past 12 months?									
	101	105	112	113	114	121	123	171	189
Office and Administrative Support	6	5	1	5	2	25	4	3	5
Sales	6	0	1	4	1	20	1	1	4
Management	3	1	2	4	1	16	4	3	3
Production	5	1	0	3	1	14	2	3	5
Business and Financial Operations (auditors, accountants, etc.)	2	3	1	4	0	11	4	1	5
Installation, Maintenance, and Repair	0	1	0	2	1	7	5	3	2
Computer and Mathematical	3	1	0	1	0	10	3	0	1
Transportation and Material Moving	3	0	0	0	1	10	3	0	2
Construction and Extraction	1	1	0	0	2	7	3	2	1
Food Preparation and Service	0	0	0	0	1	8	0	1	3
Building and Grounds Cleaning and Maintenance	1	1	1	1	1	3	1	1	2
Architecture and Engineering	2	0	0	1	0	2	1	2	3
Education, Training, and Library (teachers, librarians, etc.)	0	1	0	1	0	5	1	0	0
Arts, Design, Entertainment, Sports, and Media	0	0	0	1	0	5	0	0	1
Legal	1	0	0	1	0	4	0	0	0
Life, Physical, and Social Science	0	0	0	1	1	1	1	0	1
Healthcare Support	0	0	0	0	1	4	0	0	0

Healthcare Practitioners and Technical (doctors, nurses, etc.)	0	1	0	0	0	2	1	0	0
Farming, Fishing, and Forestry	0	1	0	1	1	0	0	1	0
Community and Social Services	0	0	0	0	0	2	0	0	0
Protective Service	0	0	0	0	0	1	1	0	0
Military	0	0	0	0	0	1	0	0	0
Total	13	5	5	14	6	59	11	11	18

12. In your hiring process, were you generally able to hire the talent that you needed locally?									
	101	105	112	113	114	121	123	171	189
Yes, we can hire locally for any position we need	5	1	1	2	2	34	3	4	9
Somewhat, we can hire some of the talent we need locally	7	4	6	12	4	27	7	4	10
No, we generally cannot hire locally	1	0	0	0	0	3	1	3	0
Total	13	5	7	14	6	64	11	11	19

13. Are your new hires predominantly recent graduates or experienced professionals?									
	101	105	112	113	114	121	123	171	189
Recent Graduates	2	1	2	0	0	8	2	1	2
Experienced Professionals	2	1	1	4	0	13	0	0	4
A mix of recent graduates and experience professionals	5	1	3	8	3	35	7	7	9
Unsure	4	2	1	2	3	8	2	3	4
Total	13	5	7	14	6	64	11	11	19

14. What type(s) of educational institutions do your recent graduate hires typically come from?									
	101	105	112	113	114	121	123	171	189
High school	3	1	1	2	3	13	2	3	6
Community college	4	2	0	1	2	17	4	1	3
Four-year college or university (public)	3	0	5	3	1	13	2	4	4
Four-year college or university (private)	2	0	1	1	0	9	2	1	0
For-profit college	0	0	0	0	0	1	0	0	0
Other (ex. nontraditional education provider such as a tech bootcamp)	0	0	0	1	0	3	3	2	0
Unsure	0	0	0	0	0	5	0	1	1
Total	7	2	5	7	3	42	9	7	11

15. Does your organization or profession require employees to obtain continuing education or training to advance?									
	101	105	112	113	114	121	123	171	189
Yes	2	2	1	5	2	20	3	2	5
Sometimes	4	2	1	7	3	21	6	4	8
No	9	4	5	5	2	34	2	5	8
Total	15	8	7	17	7	75	11	11	21

16. Are your employees able to access continuing education and training opportunities locally?									
	101	105	112	113	114	121	123	171	189
Yes	6	3	0	11	3	38	8	2	12
No	0	0	2	1	2	0	0	2	0
Unsure	0	1	0	0	0	3	1	2	1
Total	6	4	2	12	5	41	9	6	13

17. Who provides the continuing education or training your employees utilize?									
	101	105	112	113	114	121	123	171	189
Local four-year institution	0	0		1	0	10	1	0	4
Local two-year institution	0	2		3	0	7	2	2	1
Online postsecondary institution	0	0		2	1	16	2	1	0
On-the-job or other in-house training	3	1		10	1	21	3	2	8
An industry organization or professional association	5	3		7	1	30	4	1	8
Unsure	0	0		0	0	1	0	0	1
Total	6	3		11	3	37	7	2	12

18. How do you anticipate the size of your workforce changing over the next 1 to 5 years?									
	101	105	112	113	114	121	123	171	189
Significantly Expanding	0	1	1	4	0	7	0	1	1
Moderately Expanding	10	3	4	6	7	34	6	5	11
Staying about the same	4	3	2	7	0	31	5	5	9
Moderately Decreasing	0	0	0	0	0	2	0	0	0
Significantly Decreasing	1	1	0	0	0	0	0	0	0

Total	15	8	7	17	7	74	11	11	21
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19. What are the key skills you anticipate your employees will require over the next 1 to 5 years?									
	101	105	112	113	114	121	123	171	189
Soft Skills	1	4	2	9	0	31	3	8	9
Computer Skills	2	4	1	3	0	20	2	1	1
Sales	2	0	1	1	1	13	0	0	3
Communication	0	0	1	5	0	6	1	0	4
Information Technology (IT)	3	0	0	3	1	5	1	1	1
Management	1	0	1	2	2	2	0	1	4
Math Skills	2	1	2	1	0	3	1	0	3
Machinery	2	0	0	1	0	4	1	0	2
Accounting	0	0	1	0	1	5	0	0	1
Construction	0	0	1	0	0	5	1	1	0
Engineering	0	0	1	0	0	3	1	1	2
Mechanical	1	0	0	0	1	2	0	3	1
Customer Service	0	0	1	0	0	3	0	0	3
Marketing	1	1	0	0	0	4	0	0	1
Skilled Trades	2	1	0	0	1	1	2	0	0
Electrician	0	0	0	0	0	0	0	4	2
Production	3	0	0	0	0	1	0	1	1
Project Management	0	0	0	2	1	3	0	0	0
Design/Drafting	0	0	0	2	0	1	0	0	2
Education Requirements	0	0	0	0	0	4	0	1	0
Analytics	0	1	0	0	0	1	0	0	2
Business	1	0	1	1	0	1	0	0	0
Office and Administrative Support	0	0	1	0	0	3	0	0	0
Welding	1	0	0	1	0	2	0	0	0
Critical Thinking	0	0	0	0	0	3	0	0	0
Food Preparation/Safety	0	2	0	0	1	0	0	0	0
Industry Knowledge	0	0	0	0	0	2	0	0	1
Labor	0	0	0	0	2	1	0	0	0
Nursing	0	0	0	0	0	3	0	0	0
Plumbing	0	0	0	0	0	2	0	0	1
Social Media	0	0	1	1	0	1	0	0	0
Supply Chain	0	0	0	0	0	2	0	0	1
Teaching	0	0	0	0	0	3	0	0	0
Automation	0	0	0	0	0	1	0	0	1
Carpentry	0	0	0	0	1	0	0	0	1
Coding	1	0	0	0	0	1	0	0	0
Commercial Driving	0	0	0	0	0	2	0	0	0

Field Technicians	0	0	0	0	0	2	0	0	0
Financial Management	1	0	0	0	0	1	0	0	0
Foreign Language	0	1	0	0	0	1	0	0	0
HVAC Mechanic	1	0	0	0	0	1	0	0	0
Legal	0	0	0	0	0	2	0	0	0
Strategic Thinking	0	0	0	0	0	1	0	0	1
Advanced Composite Manufacturing Engineering	0	0	0	0	0	0	0	0	1
Advertising	0	0	0	0	0	1	0	0	0
Aquaculture sciences	0	0	0	0	1	0	0	0	0
Attention to Detail	0	0	0	0	0	1	0	0	0
Automotive Repair	0	0	0	0	0	1	0	0	0
Boat Operations	0	0	0	1	0	0	0	0	0
Bookkeeping	0	0	0	0	1	0	0	0	0
Business and Financial Operations (auditors, accountants, etc.)	0	0	0	0	1	0	0	0	0
Chemical Handling	1	0	0	0	0	0	0	0	0
Chemistry	0	0	0	0	0	1	0	0	0
Clerical	0	0	0	0	0	1	0	0	0
Database Management	0	1	0	0	0	0	0	0	0
DOL Licensing Knowledge	0	0	0	0	0	1	0	0	0
Drug Free	0	1	0	0	0	0	0	0	0
Earth Sciences	0	0	0	0	0	0	0	0	1
Event Management	0	0	0	1	0	0	0	0	0
Fitness	0	0	0	0	1	0	0	0	0
Fundraising	0	0	0	0	0	1	0	0	0
G&A	0	0	0	0	0	1	0	0	0
Geographic Location	0	0	0	1	0	0	0	0	0
Global Awareness	0	0	0	0	0	0	1	0	0
Healthcare	0	0	0	0	0	1	0	0	0
Heavy Equipment Operator	0	0	0	0	0	1	0	0	0
Manufacturing Design	0	0	0	0	0	0	0	0	1
Optical Dispensing	0	0	0	0	1	0	0	0	0
PLC work	0	0	0	1	0	0	0	0	0
Prior Work Experience	0	0	0	0	0	0	1	0	0
Problem Solving	0	0	0	0	0	0	0	1	0
Product Knowledge	0	0	0	0	0	0	0	0	1
Professional continued education	0	0	0	0	0	1	0	0	0
Proposal Development/Estimating	0	0	0	1	0	0	0	0	0
Putting the company first	0	1	0	0	0	0	0	0	0
Regulatory Compliance	0	0	1	0	0	0	0	0	0
Service Technician	1	0	0	0	0	0	0	0	0
Skilled Bindery	0	0	0	0	0	0	0	0	1

Skilled Watchmaking	0	0	0	0	0	1	0	0	0
Social Work	0	0	0	0	0	1	0	0	0
Software Development	0	0	0	0	0	1	0	0	0
Technology	0	0	0	0	0	0	0	0	1
Television Production	0	0	0	1	0	0	0	0	0
Training	0	0	0	0	0	0	1	0	0
Trustee and Guardianship work	0	0	0	0	0	1	0	0	0
Underwriting	0	0	0	0	0	1	0	0	0
US Coast Guard Requirements	0	0	1	0	0	0	0	0	0
Web Design	0	0	0	0	0	0	0	0	1
Total	11	7	6	13	6	61	7	10	20

20. Will your community's current education and training offerings meet the needs of your organization over the next 1 to 5 years?

	101	105	112	113	114	121	123	171	189
Yes	7	4	1	6	1	34	6	3	6
No	1	2	3	2	3	7	4	3	4
Unsure	6	2	3	9	3	31	1	4	9
Total	14	8	7	17	7	72	11	10	19

21. Which Occupations do you anticipate being most important to your community's economy over the next 1 to 5 years?

	101	105	112	113	114	121	123	171	189
Management	4	0	1	8	2	15	3	1	5
Business and Financial Operations (auditors, accountants, etc.)	4	2	3	7	0	21	3	2	5
Computer and Mathematical	8	4	3	5	2	34	4	3	11
Architecture and Engineering	2	1	2	2	4	11	3	1	6
Life, Physical, and Social Science	2	1	1	2	1	6	2	0	2
Community and Social Services	2	2	0	7	2	19	0	2	7
Legal	1	1	0	3	1	7	0	0	2
Education, Training, and Library (teachers, librarians, etc.)	1	2	2	6	2	23	2	2	7
Arts, Design, Entertainment, Sports, and Media Occupations	0	1	0	1	0	4	0	0	2
Healthcare Practitioners and Technical (doctors, nurses, etc.)	8	3	3	9	1	21	3	3	6
Healthcare Support	6	3	2	6	4	24	2	1	5
Protective Service	0	2	0	1	0	6	0	0	1

Food Preparation and Service	1	2	2	3	0	5	0	1	3
Building and Grounds Cleaning and Maintenance	0	1	1	1	0	2	1	1	1
Personal Care and Service	2	1	0	2	1	6	0	0	3
Sales	1	2	1	4	3	17	1	0	4
Office and Administrative Support	2	1	1	8	3	20	2	1	4
Farming, Fishing, and Forestry	2	5	1	3	1	5	1	6	4
Construction and Extraction	3	2	3	6	5	18	6	2	7
Installation, Maintenance, and Repair	3	3	1	7	3	20	4	4	4
Production	3	2	4	3	1	17	1	6	7
Transportation and Material Moving	2	2	3	2	1	19	1	1	1
Military	2	0	0	3	2	6	0	0	1
Total	14	7	6	17	7	66	11	10	17

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Appendix F. Educational Service Districts, Counties, and PUMAs

Regions			
Defined by Educational Service Districts and Included Counties and PUMAs			
Region	Educational Service District	Counties	PUMA Codes and Counties
Northeast	ESD 101	Whitman Adams* Ferry Lincoln Pend Oreille Spokane Stevens	10400 Stevens, Okanogan, Pend Oreille, & Ferry 10501-10504 Spokane
South Central	ESD 105	Kittitas Yakima Klickitat* Grant*	10800 Grant & Kittitas 10901-10902 Yakima
Southwest	ESD 112	Pacific* Clark Cowlitz Klickitat* Skamania Wahkiakum	11101-11104 Clark 11200 Cowlitz, Pacific, & Wahkiakum 11000 Lewis, Klickitat, & Skamania
Capital	ESD 113	Mason* Grays Harbor Lewis Pacific* Thurston	11300 Grays Harbor & Mason 11401-11402 Thurston
Olympic	ESD 114	Clallam Jefferson Kitsap* Mason*	11801-11802 Kitsap 11900 Clallam & Jefferson
Puget Sound	ESD 121	King Kitsap* Pierce	11601-11616 King 11501-11507 Pierce
Southeast	ESD 123	Asotin Benton Columbia Franklin Garfield Walla Walla Adams*	10701-10702 Benton & Franklin 10703 Walla Walla 10600 Whitman, Asotin, Adams, Lincoln, Columbia, & Garfield

North Central	ESD 171	Chelan Douglas Okanogan Grant*	10300 Chelan & Douglas
Northwest	ESD 189	Island San Juan Skagit Whatcom Snohomish	10100 Whatcom 10200 Skagit, Island, & San Juan 11701-11706 Snohomish
<i>*Only part of this county is included in the region.</i>			

Endnotes

¹ Quantitative data from the Office of the Superintendent of Public Instruction (demographics of K-12 students) is collected by ESD. ESD's population education attainment data from the American Community Survey is collected by U.S. Census public use microdata areas (PUMAs) and economic data from Economic Data Modeling Specialists, Inc. (EMSI) is collected by county. The alignment of counties and PUMAs with ESD geographic boundaries is detailed in the chart in Appendix F.

² Economic Modeling Specialists, Inc. (EMSI) data was used for the regional economic profiles in the report because their platform provided the flexibility to isolate the various geographic areas of the state, allowing WSAC staff to work with a consistent set of regions at the county level that approximate the educational service districts.

³ Washington State Human Resources Council, "Employer Perspectives on Soft Skills: 2014 Survey Report," accessed September 26, 2017, <https://wastatecouncil.shrm.org/sites/wastatecouncil.shrm.org/files/Soft%20Skill%20Survey%20Rpt%20-%20Sum%20of%20Findings%20-%2020031615.pdf>, 5.

⁴ On the employer survey question associated with Table 3, respondents provided a varying number of key skills (respondents had the option to list up to three responses) and in some cases provided the same key skill across all responses. To account for all responses provided, WICHE staff calculated the response percentage based on the 393 total responses from 146 respondents.

⁵ Washington State Human Resources Council, "Employer Perspectives on Soft Skills: 2014 Survey Report," 9.

⁶ Washington Education Association, "Blog: Legislature Approved Budget; big changes coming to educator pay and bargaining," accessed September 27, 2017, <https://www.washingtonea.org/ourvoice/post/legislature-approves-budget-big-changes-coming-to-educator-pay/>.

⁷ Susan M. Skillman, C. Holly A. Andrilla, Linda Tieman, and Andrea McCook, *Washington State Registered Nurse Supply and Demand Projections: 2011-2031*, WWAMI Center for Health Workforce Studies, accessed September 27, 2017, http://depts.washington.edu/uwrhrc/uploads/CHWS_FR134_Skillman.pdf, 4.

⁸ Ibid, 5.

⁹ Anthony P. Carnevale, Nicole Smith, and Artem Gulish, "Nursing Supply and Demand through 2020," Washington, DC: Georgetown Center on Education and the Workforce, 2015, accessed September 27, 2017, <https://cew.georgetown.edu/wp-content/uploads/Nursing-Supply-Final.pdf>, 5.

¹⁰ Ibid, 16.

¹¹ Child Care Aware of Washington, "WA's Child Care System Under Strain Due to Combined Impacts of Low State Subsidy Reimbursement Rates, Long-Term Effects of Recession and Increased Minimum Wage," accessed October 27, 2017, <http://www.childcarenet.org/news/washington2019s-child-care-system-under-strain-due-to-combined-impact-of-low-state-subsidy-reimbursement-rates-long-term-effects-of-recession-and-increased-minimum-wage>.

¹² Child Care Aware of Washington, "2016 Data Report: Trends, Child Care Supply, Cost of Care, & Demand for Referrals," accessed October 27, 2017, <http://www.childcarenet.org/about-us/data/cca-of-wa-2016-child-care-data-report>.

¹³ Ibid.

¹⁴ Ibid.

¹⁵ Child Care Aware of America, "2017 State Child Care Facts in the State of Washington," accessed September 26, 2017, http://usa.childcareaware.org/wp-content/uploads/2017/07/WA_Facts.pdf.

¹⁶ John Fink, Davis Jenkins, and Takeshi Yanagiura, "What Happens to Students Who Take Community College 'Dual Enrollment' Courses in High School?" *Community College Research Center and National Student Clearinghouse Research Center*, accessed October 31, 2017, <https://ccrc.tc.columbia.edu/media/k2/attachments/what-happens-community-college-dual-enrollment-students.pdf>.