

Title	Regional Workforce Needs
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Synopsis	The Council is charged with analysis of statewide and regional needs for postsecondary education. WSAC Staff will provide an overview of employer need. Representatives from the Western Interstate Commission for Higher Education will highlight the specific educational needs of several Washington regions, including an analysis of regional economic trends, employer need, and student demand. A representative from the University of Washington will provide an analysis of education and training needs for Washington’s central Puget Sound.
Guiding questions	What are the common themes across regions of the state? What are some of the key differences among regions?
Possible Council Action	<input checked="" type="checkbox"/> Information/Discussion <input type="checkbox"/> Approve/Adopt <input type="checkbox"/> Other
Documents and Attachments	<input type="checkbox"/> Brief/Report <input checked="" type="checkbox"/> PowerPoint <input checked="" type="checkbox"/> Third-party materials <input type="checkbox"/> Other



Regional Workforce Needs Panel

OCTOBER 12, 2017

Staff: Randy Spaulding, Ph.D.

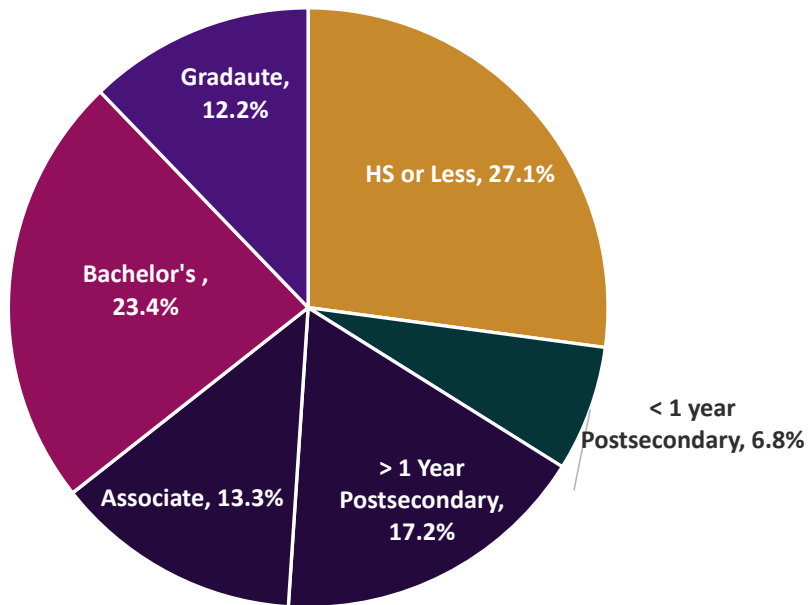
Background

The Council is charged with developing an ongoing assessment process to analyze the need of postsecondary education in Washington. Resources to address this charge include:

- The Skilled and Educated Workforce Report, developed jointly with the State Board for Community and Technical Colleges and the Workforce Training and Education Coordinating Board.
- Analysis of statewide and regional needs of students, employers, and communities.
- Collaboration with other organizations in understanding postsecondary needs in Washington.

2017 Skilled and Educated Workforce Report

Estimated Annual Openings by Education Level
2020-2025



Preliminary Results:

- 73% of projected openings will require some postsecondary education.
- Gaps persist at all levels.
- Persistent shortages in computer science, engineering, and health professions.

Regional Analysis

- Analysis of Regional Student, Employer, and Community Need for Postsecondary Education and Training.
 - Demarée K. Michelau, Ph.D., VP of Policy Analysis and Research, WICHE
 - Christina Sedney, M.P.P., Policy Analyst, WICHE
- Central Puget Sound Higher Education Capacity Study
 - Jenée Myers Twitchell, University of Washington



WICHE



Western Interstate Commission
For Higher Education

REGIONAL EDUCATION NEEDS ASSESSMENT FOCUS GROUP ENGAGEMENT

Presentation to Washington Student
Achievement Council

SEATTLE, WASHINGTON

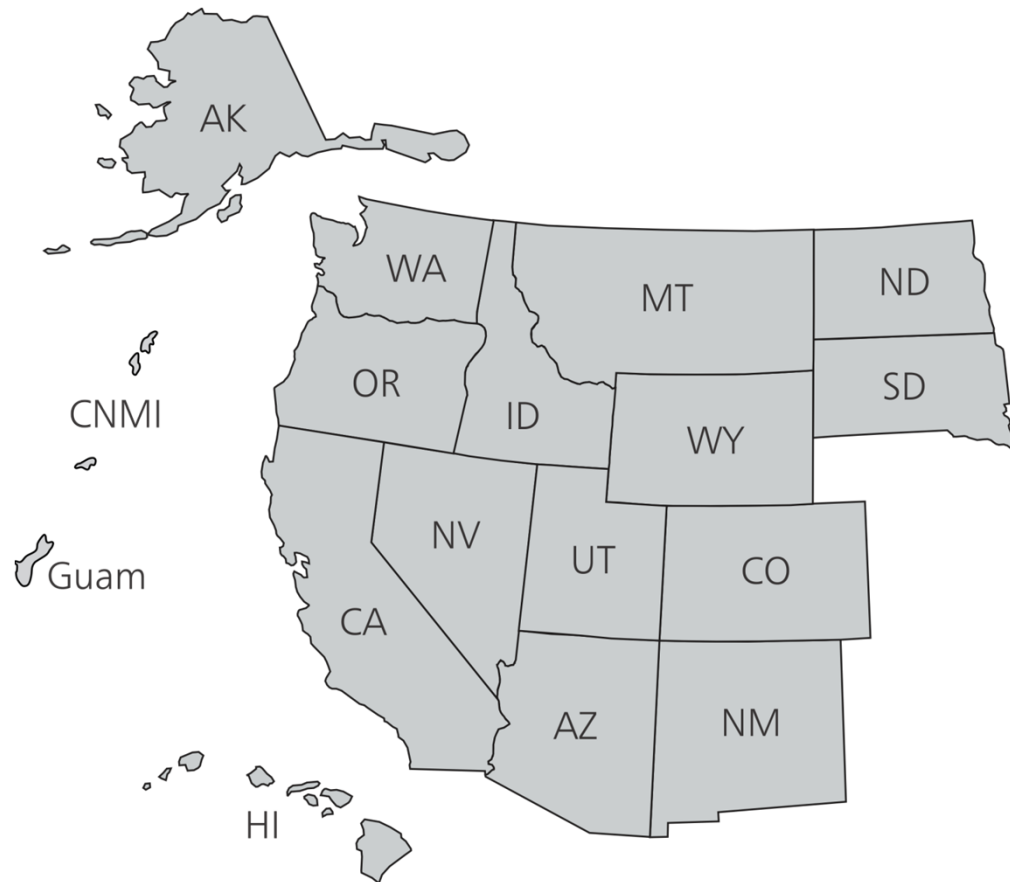
OCTOBER 12, 2017



ALASKA • ARIZONA • CALIFORNIA • COLORADO • HAWAI'I • IDAHO • MONTANA • NEVADA • NEW MEXICO • NORTH DAKOTA
OREGON • SOUTH DAKOTA • UTAH • WASHINGTON • WYOMING • U.S. PACIFIC TERRITORIES & FREELY ASSOCIATED STATES

WESTERN INTERSTATE COMMISSION FOR HIGHER EDUCATION (WICHE)

Promotes access and excellence in higher education for all citizens of the West



OVERVIEW OF PROJECT APPROACH AND METHODOLOGY

Western Interstate Commission for Higher Education

PROJECT COMPONENTS

- Focus Groups
- Key Informant Interviews
- Online Survey

Focus Group – Participant Recruitment

- Educational Service Districts
- Postsecondary Institutions
- Local Governments
- Workforce Development Councils
- Tribes
- Community Groups & Leaders
- Regional STEM Networks

Focus Group – Perspectives Represented

Perspective	Educational Service District								
	101	105	112	113	114	121	123	171	189
Higher Education	Green	Green	Green	Green	Green	Green	Green	Green	Green
K12	Green	Green	Green	Green	Green	Green	Green	Green	Green
Business/Industry/ Economic Development	Green	Red	Green	Green	Green	Green	Green	Green	Green
STEM Network	Green	Red	Green	Green	Red	Green	Red	Green	Red
Workforce Development Council	Green	Red	Red	Green	Green	Green	Light Green	Green	Light Green
Community/Nonprof it/ Government	Green	Green	Green	Green	Green	Green	Green	Green	Green
Tribal	Green	Red	Green	Green	Green	Red	Grey	Red	Green

Focus Group – Data Analysis

- Content analysis approach
 - Recorded and transcribed all focus groups
 - Three coders
 - QSR NVivo
- Identification of emergent themes
 - By focus group
 - By Educational Service District
 - Overall

Findings

Universal & Regional Themes

Focus Groups – Universal Themes

- Soft Skills & Communication
- Career Exploration Opportunities
- Workforce Shortages
 - Healthcare (especially nursing)
 - Teaching
- Childcare

Focus Groups – Universal Themes

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

“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.”

- Employer
Central Washington

Focus Groups – Universal Themes

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

“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.”

- K-12 Parent
Central Washington

Focus Groups – Universal Themes

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

“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.”

- Workforce Development Council Representative
Eastern Washington

Focus Groups – Universal Themes

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

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

- Community College Administrator
Northwest Washington

Focus Groups – Regional Themes

Educational Service District

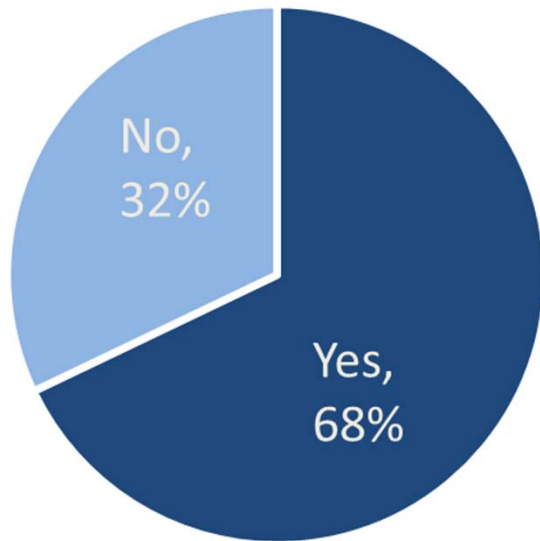
Theme	101	105	112	113	114	121	123	171	189
College & Career Guidance	✓	✓	✓		✓	✓	✓		✓
Dual Credit	✓			✓	✓	✓	✓		✓
Shifting Economies	✓	✓			✓	✓	✓	✓	
Program Approval Process		✓		✓	✓	✓	✓	✓	
High School Grad. Requirements	✓			✓	✓	✓	✓		
Academic Structure		✓		✓	✓		✓		✓
Flexible Course Offerings	✓	✓						✓	✓
Transportation					✓	✓	✓		✓
Cost of Living						✓	✓		✓

Online Survey of Local Employers

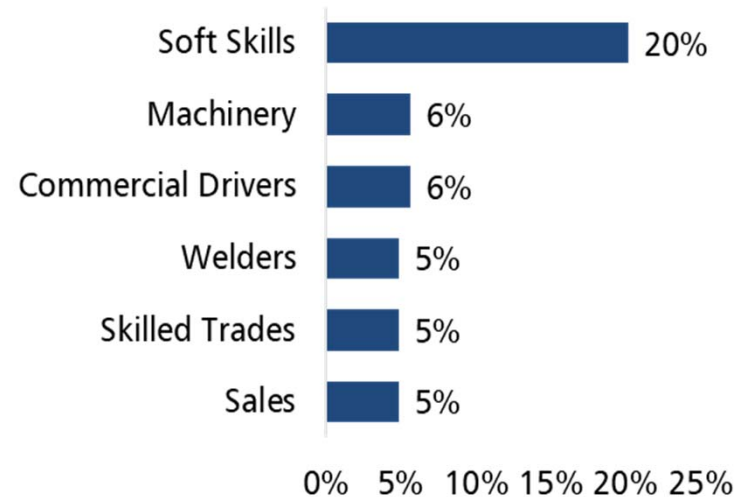
- Partnered with Association of Washington Business (AWB)
- Sent online survey to 5,128 employers across Washington (July 14-August 21, 2017)
- 190 responses (4 percent response rate)
 - Respondents from across all 9 ESDs
 - 26 of 39 counties represented

Current Skill Sets Employers Struggle to Find Locally

68% of employers stated they have difficulty finding particular skills



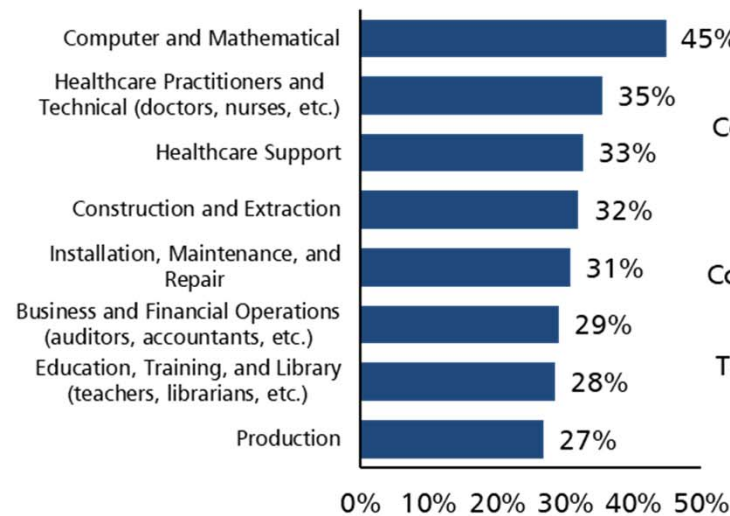
Top skills employers struggle to find locally



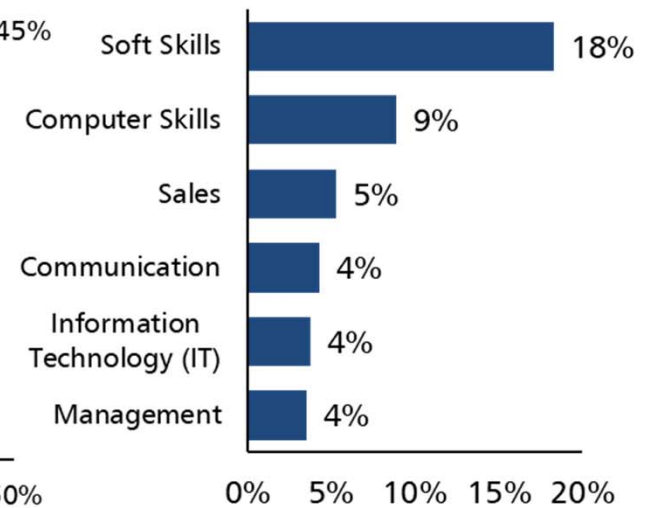
Anticipating Future Workforce Needs Over the Next One to Five Years

98%
of respondents
anticipate their
workforce staying
the same or
expanding over the
next one to five
years.

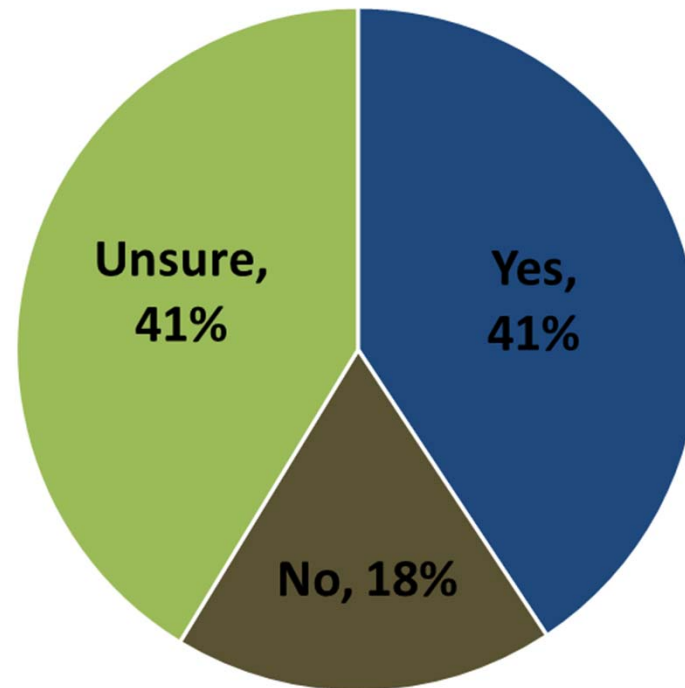
Top occupations employers
anticipate will be most important
to their community's economy.



Top skills employers anticipate
employees will require.



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



Why?

In-House Training

“We have an excellent internal training program for our main position, production operator.”

Location

“We have access to many students from local institutions and live in a desirable part of the state where people want to live.”

Access to Higher Education Institutions

“Having CWU down the street provides us with a remarkable pool of talent that other communities our size don't have.”

“UW is in close proximity and feeds us a fair number of new hires.”

Why not?

Lack of Soft Skills

“Education is generally failing to meet our needs. Kids coming out of school are terrible communicators, don't know how to write, can't figure out simple problems, lack common sense.”

Lack of Vocational Skills Training

“For our marine skilled trades (welders, electricians, mechanics, deckhands and boat operators), there is not an education model in the high schools, vocational schools or colleges that provide a path towards working in the maritime industry.”

“Decreased education within the high school education within the areas of skilled labor (carpentry).”

Location

“We are in a rural area without specific training available.”

QUESTIONS

Western Interstate Commission for Higher Education

CONTACT INFORMATION

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WA STATE REGIONAL EDUCATION-TO- WORKFORCE PATHWAYS

BOTTLENECKS &
OPPORTUNITIES

Jenée Myers Twitchell

Jeremy Caci, Elizabeth Meza, Mikel Poppe, Bill Zumeta, Lavenoor Aulk,
Bryna Hazelton & Ariel Rokem

October 12, 2017| WSAC Council Meeting

UNIVERSITY *of* WASHINGTON

ROADMAP

- > Central Puget Sound Profile
- > Determining institutional and regional capacity
- > Equity Gaps & Demand-Supply Gaps
- > Summary & Recommendations
- > Profiles for rest of WA

ACKNOWLEDGEMENTS

Contributors: Gates Foundation | JPMorgan Chase & Co. | Education Research & Data Center | WA State Employment Security Department | State Board of Community & Technical Colleges | Office of the Superintendent of Public Instruction | Washington Student Achievement Council | Seattle Region Partnership | Seattle Metro Chamber of Commerce | Washington Roundtable | Western Governors University | UW eSciences Institute

ERDC Data Disclaimer: The research presented here utilizes confidential data from the Education Research and Data Center (ERDC), located within the Washington Office of Financial Management (OFM). Committed to accuracy, ERDC's objective, high-quality data helps shape Washington's education system. ERDC works collaboratively with educators, policymakers and other partners to provide trustworthy information and analysis. ERDC's data system is a statewide longitudinal data system that includes de-identified data about people's preschool, educational, and workforce experiences. The views expressed here are those of the author(s) and do not necessarily represent those of the OFM or other data contributors. Any errors are attributable to the author(s).

WORDS AND TERMS

> **Credentials**

- Any/all *accredited* degrees, certificates, & program completions
 - > Apprenticeships, Certificates, 2-year Associates, 4-year Bachelors
 - > We will not be including graduate and professional degrees for this report, unless otherwise noted
 - > Does not include industry-based training programs that are unaffiliated with or not accredited by a higher ed. institution

> **“KSP”**

- Shorthand for King, Snohomish, & Pierce Counties, one region
- We will note when we are talking about individual counties

> **Living Wage**

- \$35,000 annually, unless otherwise noted; ability to live without relying on public assistance; average of wage needed as a single adult w/o kids

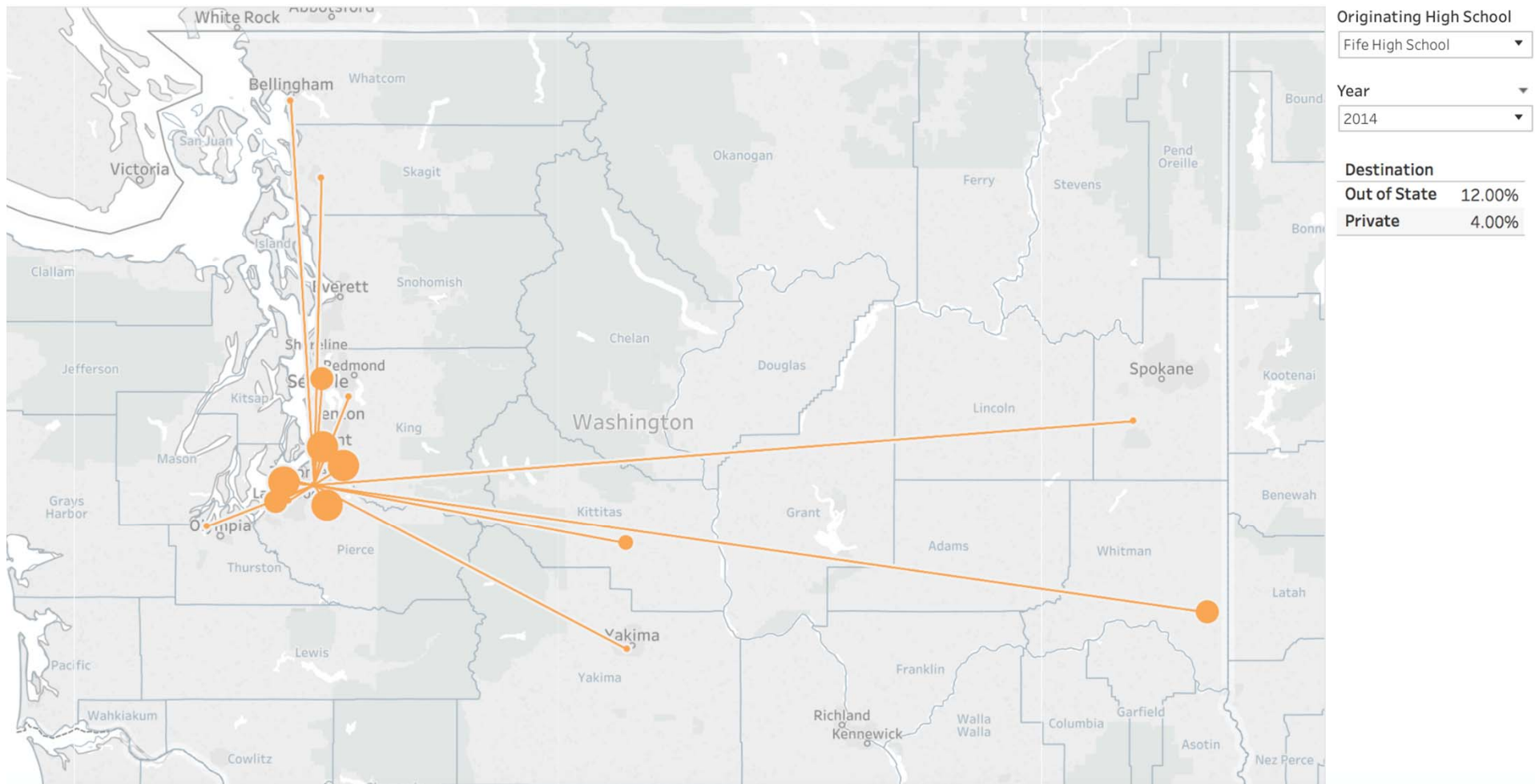
HIGHER EDUCATION TRAVEL DISTANCES, NATIONALLY

- > **Students. Stay. Really. Local.**
- > **70-80% stay within 100 miles of their home address for higher education**
 - 4-year college direct enrollment after HS=55% stay local
 - > Adult returners to 4-year colleges=90% stay local
 - > Students of color & low-income students more likely to stay local
 - 2-year & tech institution enrollment (any)=90% stay local
- > **Economic initiatives & higher ed capacity efforts MUST consider geographically-bound populations**

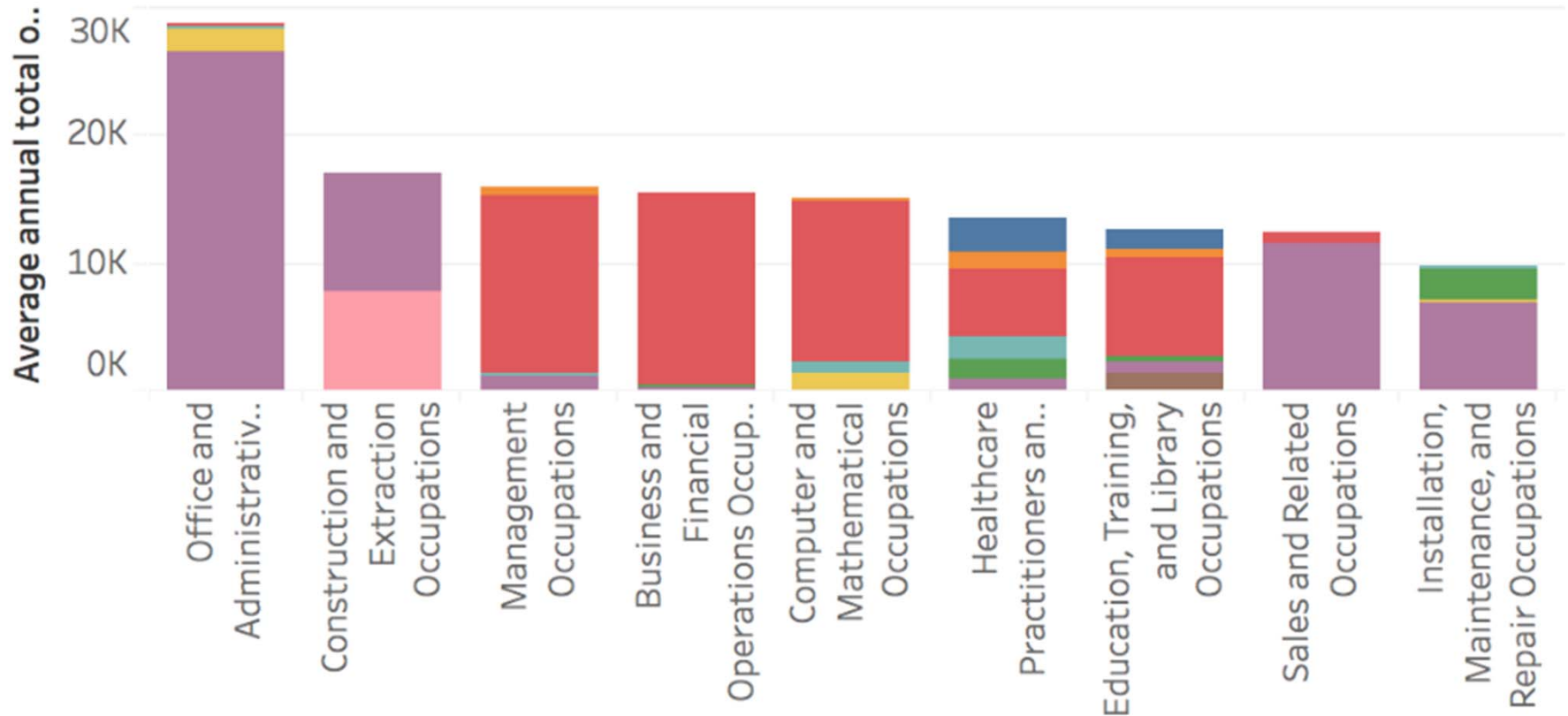
Source: Eagan, et al. (2016). *The American Freshman: 50 Year Trends 1966-2015*, Cooperative Institutional Research Program, Higher Education Research Institute, UCLA.

STUDENTS STAY LOCAL

FIFE HS (PIERCE)

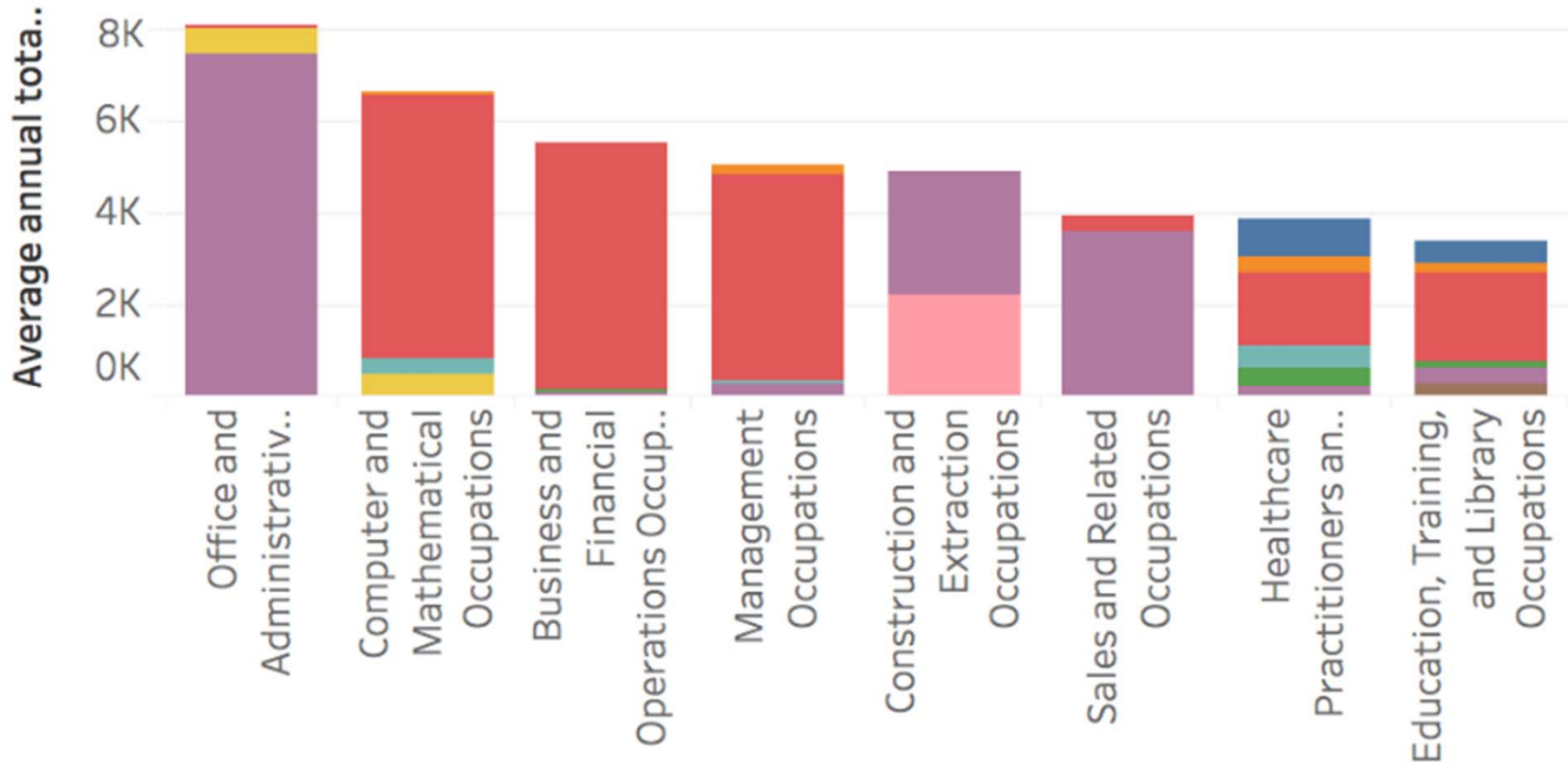


WA STATE TOP JOB OPENINGS BY ED LEVEL (\$35k+)



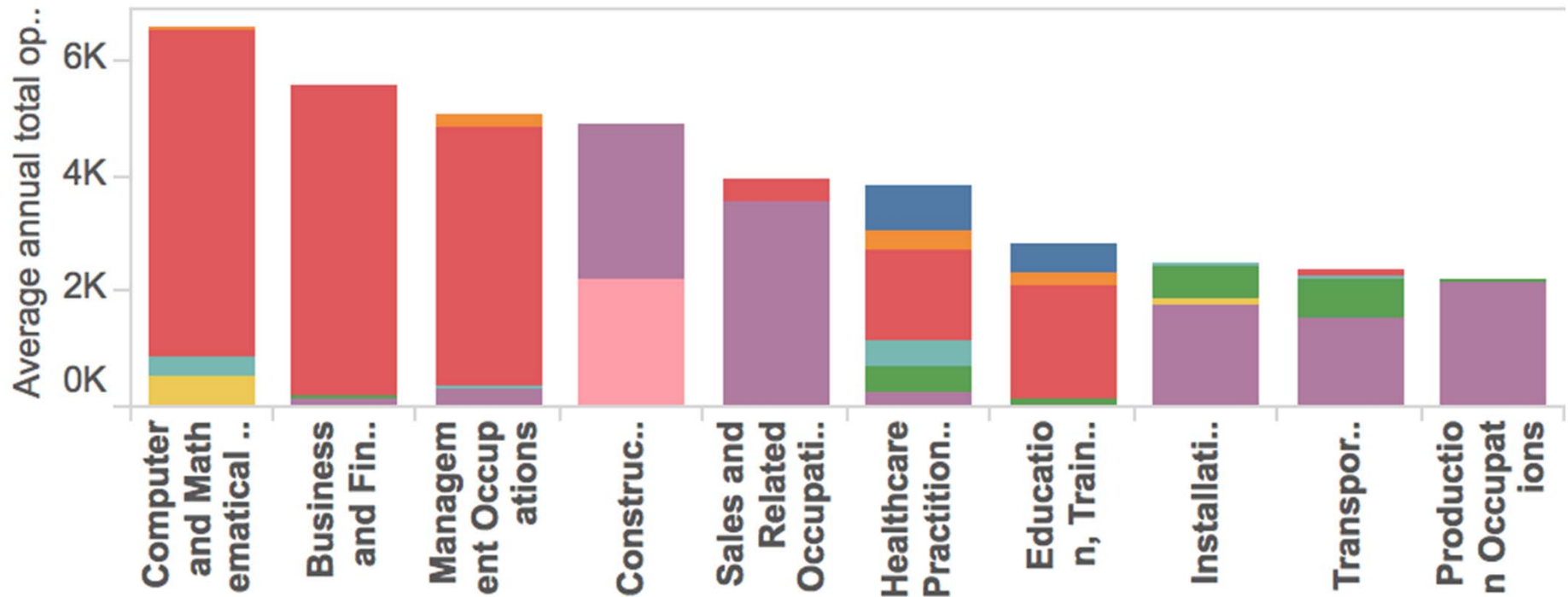
Source: WA State Employment Security Dept.

KSP TOP JOB OPENINGS BY ED LEVEL (\$35k+)



Source: WA State Employment Security Dept.

KSP TOP JOB OPENINGS BY ED LEVEL (\$45k+)



■ Master's
 ■ Bachelor's

■ Associates

■ HS

■ >1 year cert.

■ Diploma/No HS/formal ed

■ <1 year cert.

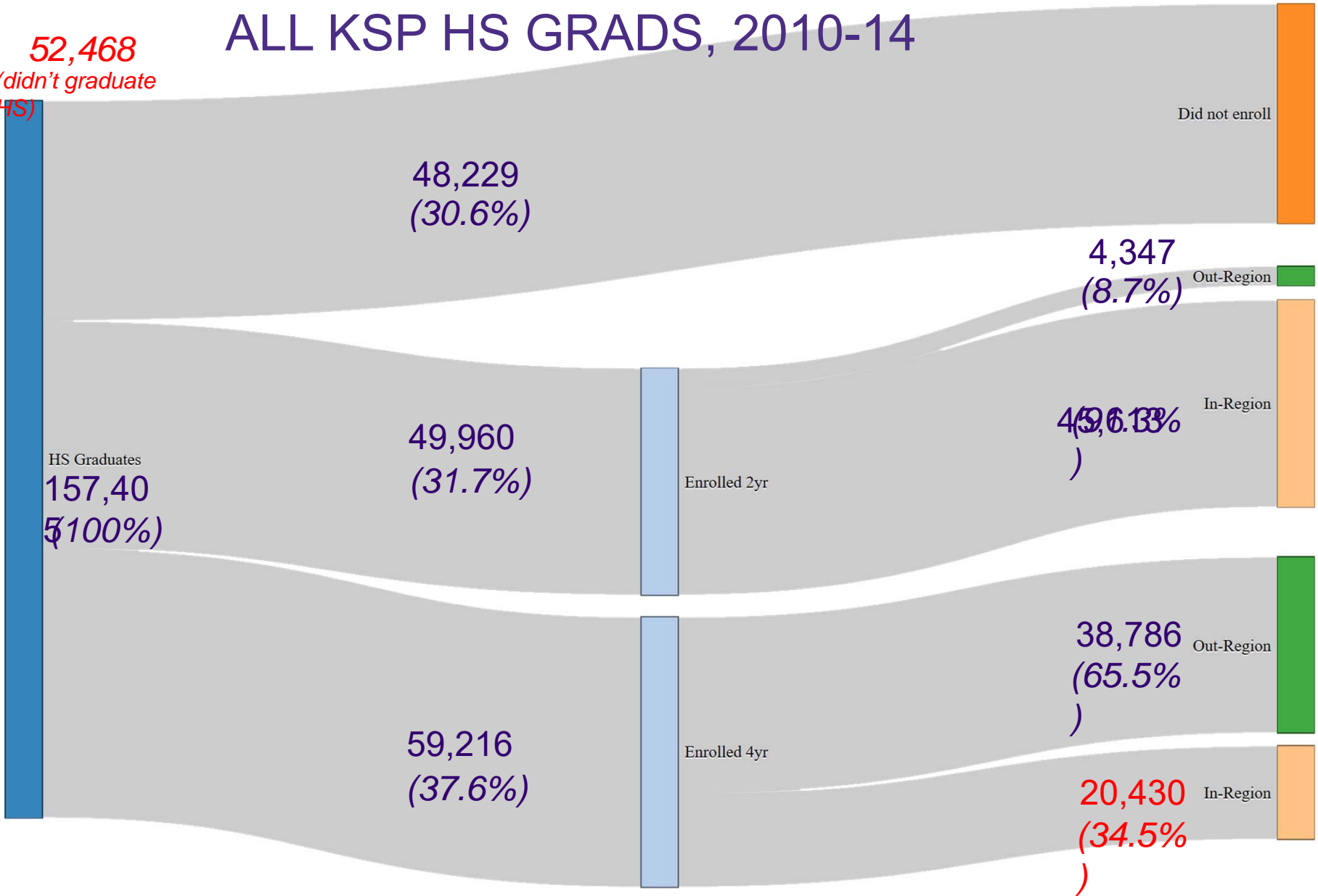
Source: WA State Employment Security Dept.

STUDY CONTEXT + BIG QUESTION

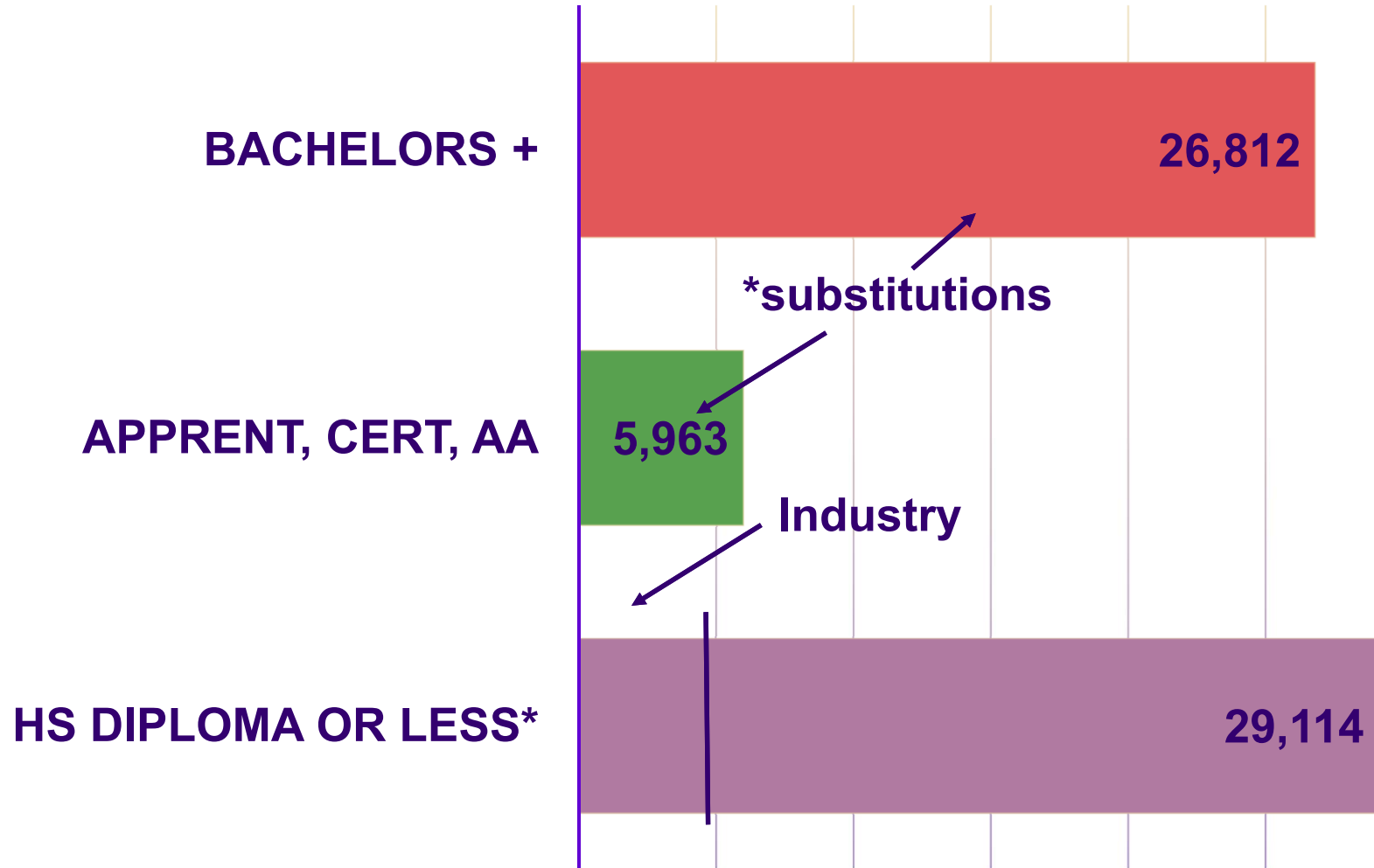
- > National stats for travel distances to higher ed & jobs
- > Unique higher ed. landscape of the Puget Sound Region
- > Growth in economic development and job opportunities
- > What opportunities exist in the KSP region to ensure that local students, especially underserved students, are prepared for, access, and complete credentials in fields that show employer demand and provide living wages?

ALL KSP HS GRADS, 2010-14

52,468
(didn't graduate
HS)



KSP ANNUAL JOB OPENINGS BY EDUCATION LEVEL (\$35k+) = 62,000



PREDICTORS OF WAGES, KSP GRADS



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- > **Model explains/predicts 30% of variance in wages 1-2 years after earning a credential**
 - Factors: race, school district, higher education institution, major/program, type of credential, industry of employment 1-2 years after earning credential
- > **Geography/school district of origin matters:**
 - geographic origin of the student predicts amount of wages better than if they earned a certificate or associates degree.
 - > Ex: Lake Wa, Bellevue, Kent and Issaquah districts predict higher than average wages while Puyallup and Tacoma predict lower than average wages.

PREDICTORS OF WAGES, CONT



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eScience Institute

Race predicts wage:

- > Identifying as Asian or White predicts higher than average wages.
- > Average wages for students of other races are still lower than the average of the entire population, even if they have a bachelor's degree.
- > However, a bachelor's degree predicts increased wages in this group by \$1.40 per hour while a bachelors degree for the entire population predicts \$0.90 higher than average.

Source: Education Research & Data Center

PREDICTORS OF WAGES, CONT



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Industry matters:

- > Engineering, healthcare, and manufacturing do a good job of predicting higher wages, while retail predicts lower

Credential/major matters:

- > Information technology, healthcare, and technical services emerge as predictors of higher than average wages

PREDICTORS OF WAGES, CONT



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Bachelor's degree matters:

- > Of all the degree types, only bachelor's degree shows up as a unique predictor of wages 1-2 years after graduation

Certificate and associates degrees:

- > Least likely factor to predict wages & have almost no effect on wages

PREDICTORS OF WAGES, CONT



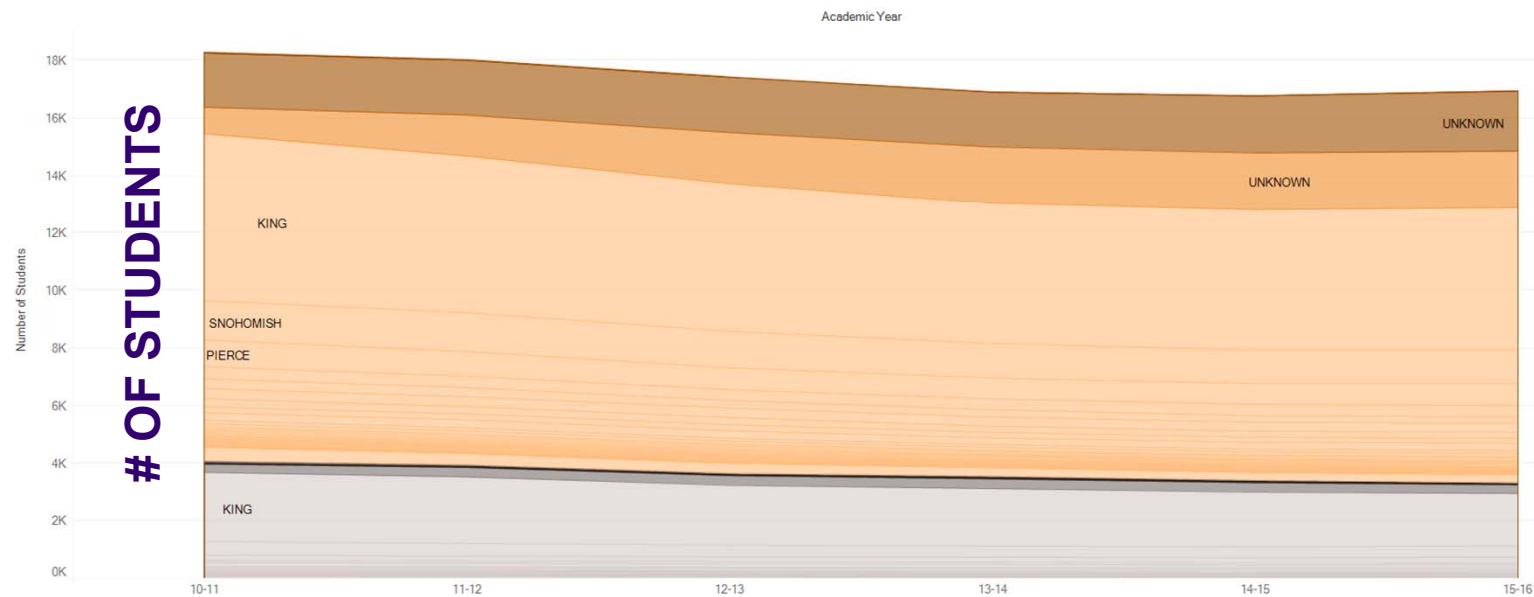
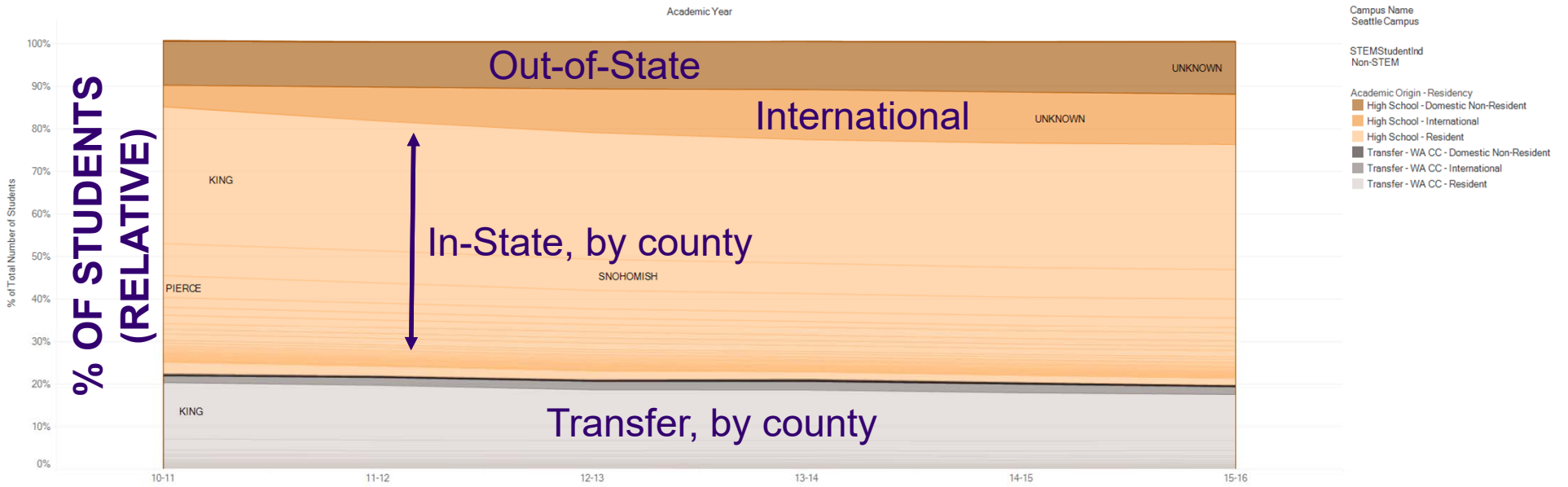
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Emerging **locations + industries/employers** partnerships

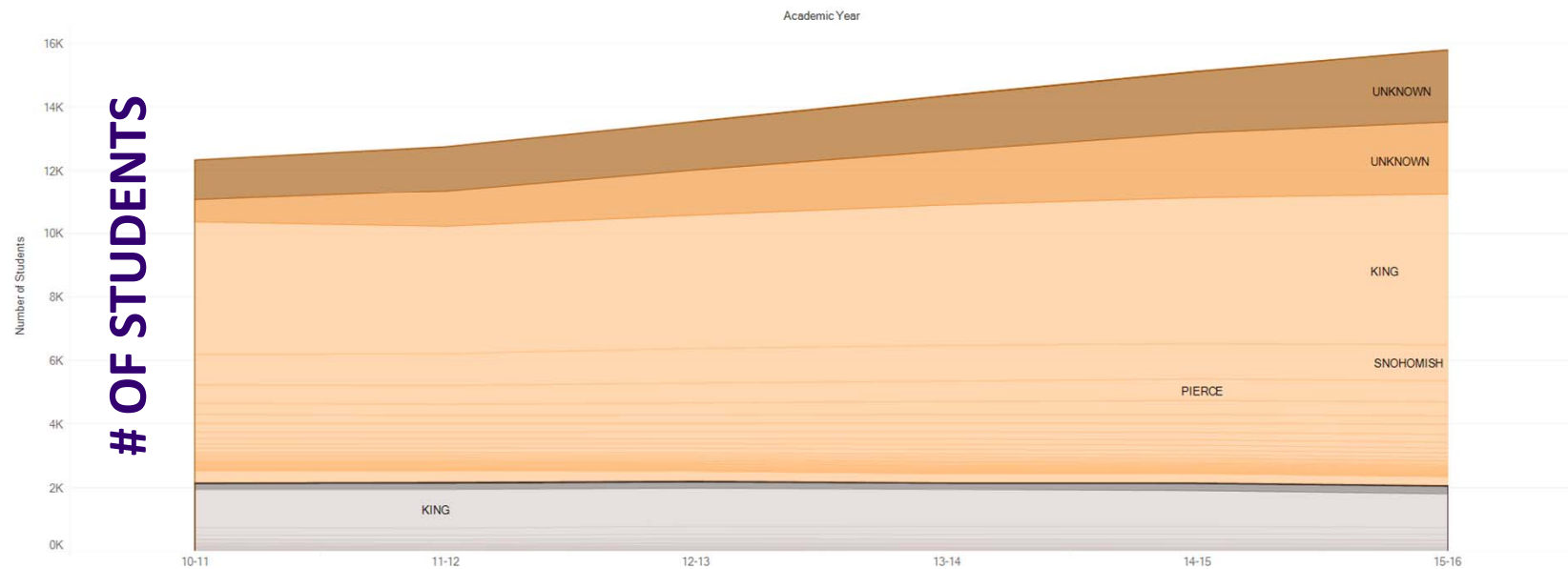
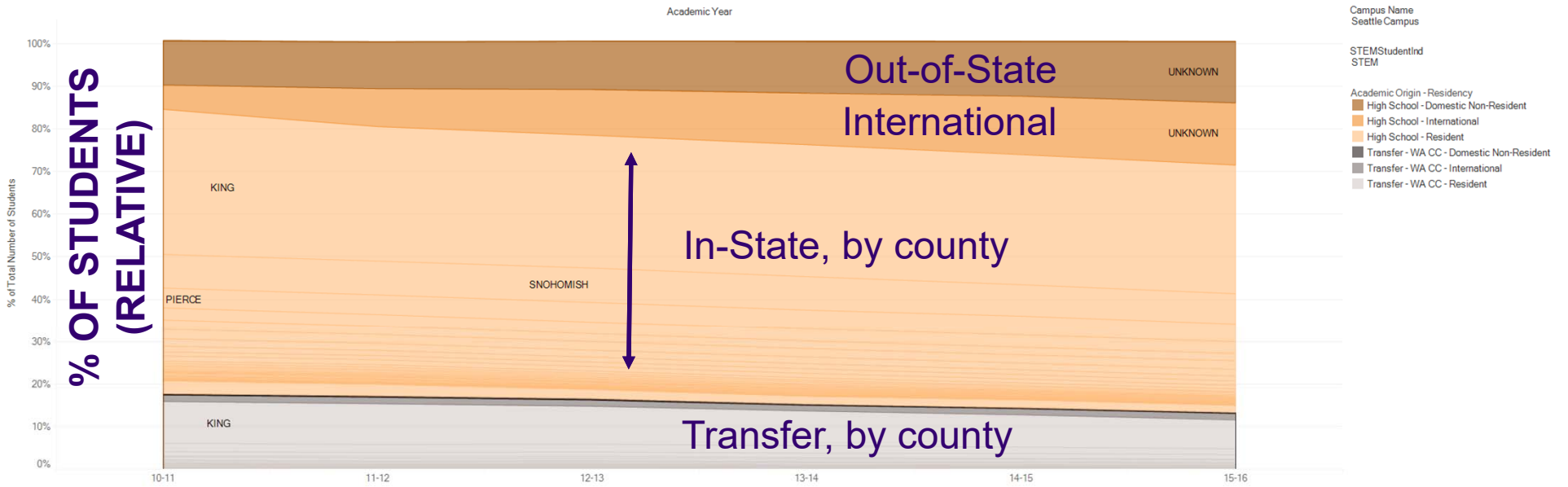
> Example: Kent + Manufacturing

> Need longer stretch of longitudinal data to do better predictive modeling

UW SEATTLE UNDERGRADUATE NON-STEM ENROLLMENT, BY STUDENT ORIGIN



UW SEATTLE UNDERGRADUATE STEM ENROLLMENT, BY STUDENT ORIGIN



OPPORTUNITY: BA GROWTH

> Targeted BA/BS growth

- Nursing, Computer Science, etc

> Applied Baccalaureate & Satellite Programs

- Alignment to economic demand

- > Support start-up costs for new degrees & growth of current programs

- Consider ROI on current programs that may not meet economic or living wage demand

> Increased enrollment in online or hybrid models

- WGU, City U, UW Bothell, UW Tacoma

OPPORTUNITY: TRANSFER SUPPORT

- > **Transferring to a bach degree is not happening at high enough rates to meet state goals**
 - Competition, particularly for high-demand degrees
 - Lack of space in BA programs; lowest transfer rate in US but highest rates of completion for those who do transfer
 - Need for well-articulated pathways (i.e., Guided Pathways)

OPPORTUNITY: AA AND CERTS

- > **#s of completers of high demand certificate, AA, and applied bacc degrees is just a trickle so far**
 - We have great programs, we need to investigate (Capacity increase? Communication/outreach? Equity?)
 - **Funding** is not set up to incentivize high-demand degrees

OPPORTUNITY: SPACE FOR TRANSFER

> **Space and support for transfer students**

- UW Seattle turns away between 800-1,800 WA 2yr transfer applicants per year ~(20-40%)
- For all three campuses, UW turned away 2,300 WA 2yr transfer applicants

> **Bolster support for high-demand transfer degrees**

- STEM transfer degrees
- 15-16k AA degrees produced in our region annually
- 90%+ of those students will stay in our state for a job, and most likely in our region

OPPORTUNITY: CAREER CREDENTIALS

- > Targeted Support for Additional Capacity in Terminal AA & Certificate Programs
 - Healthcare
 - > Nursing
 - > Dental
 - > Medical Assistants
 - Trucking and transportation
 - Industry-led and accredited apprenticeships (manufacturing)
 - On-the job career ladder positions in manufacturing, maritime, etc.

OPPORTUNITY: K-12 SUPPORT

> **Geographically Targeted Investments in STEM**

- Assessments of capacity in middle and high school STEM coursework
- Overall high school master schedule capacity assessments
 - > Identify geographical and equity discrepancies

> **Geographically Targeted Postsecondary Communications**

- Marketing of high-demand, local education and training pathways
- Deepened support of mentoring, financial aid completion, summer melt, and transition and orientation programs

RECOMMENDATIONS FOR UW

- > **UW Campuses take on a lot of local students**
- > **However, preliminary indication that students from this region are underrepresented in high-demand majors**
 - “differential admission” for in-state vs. out-of-state students for entry, but not for majors
 - Pierce students highly underrepresented in STEM
 - Transfer students are very underrepresented STEM
 - Opportunity for targeted growth at Bothell & Tacoma where STEM % are low

COMPETITION LIMITS GROWTH

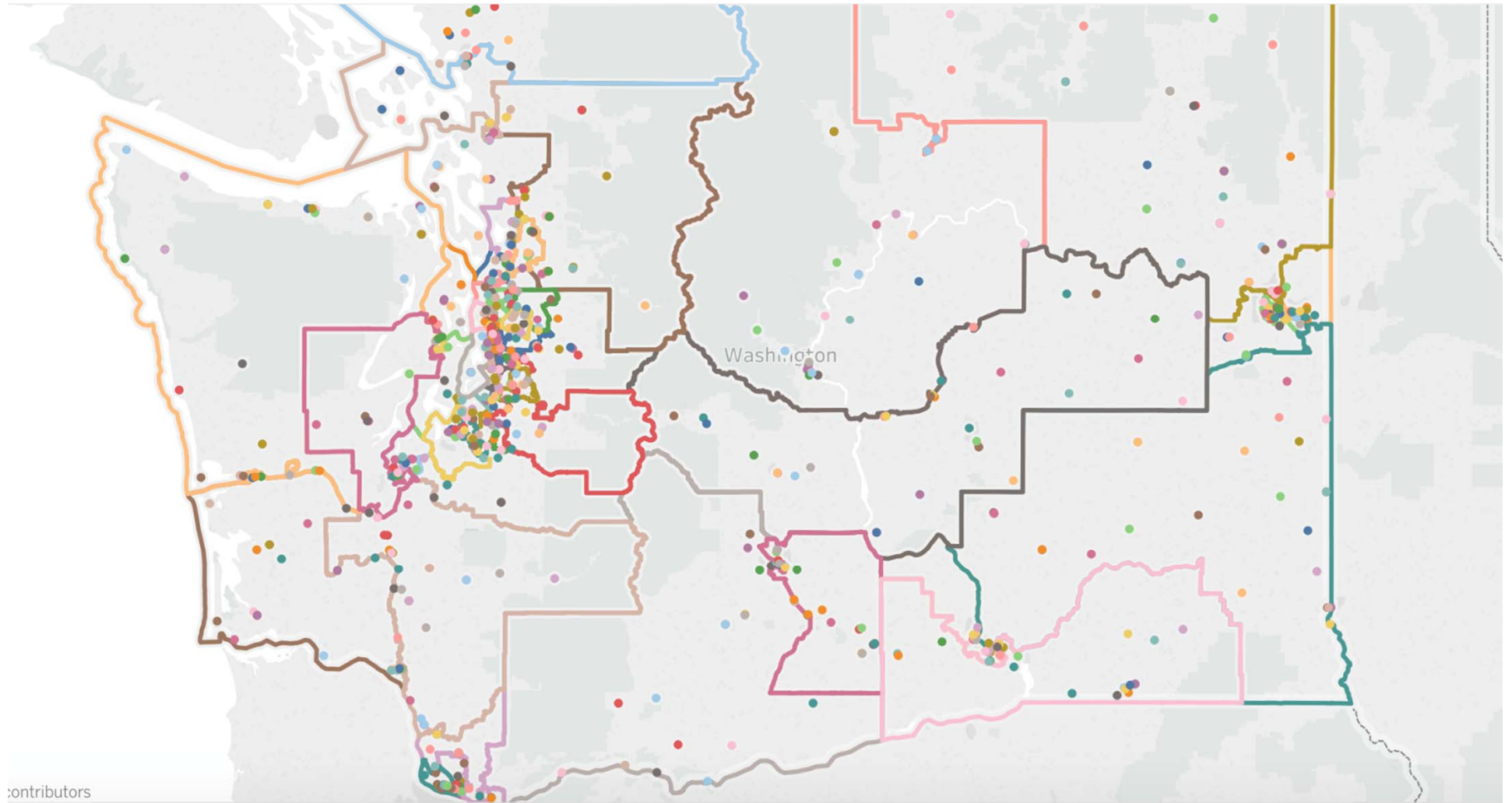
- > **Opportunity desert due to competition**
 - Especially for students who are already less likely to complete higher ed (geographically further away from institutions, race/ethnicity, etc)
- > UW Bothell, Tacoma + applied Baccs are pressure valves
 - Expansion of only targeted programs (perhaps only online/hybrids)
- > Consideration of regional transfer pathways with emphasis on applied baccalaureates and satellite programs as well as WGU and well-funded private options

DATA QUALITY AND ALIGNMENT

- > Institutions report to same agencies but with different data definitions (example: IPEDS CIPs)
- > ERDC has too little capacity to collect, clean, integrate, and produce the analyses needed to hold ourselves accountable
- > Many researchers reproduce the same sets of data rather than having those sets “open-sourced” for all
- > Data usability matters; visualizations can help a lot; many agencies need more capacity for this (WSAC, ESD, ERDC...)

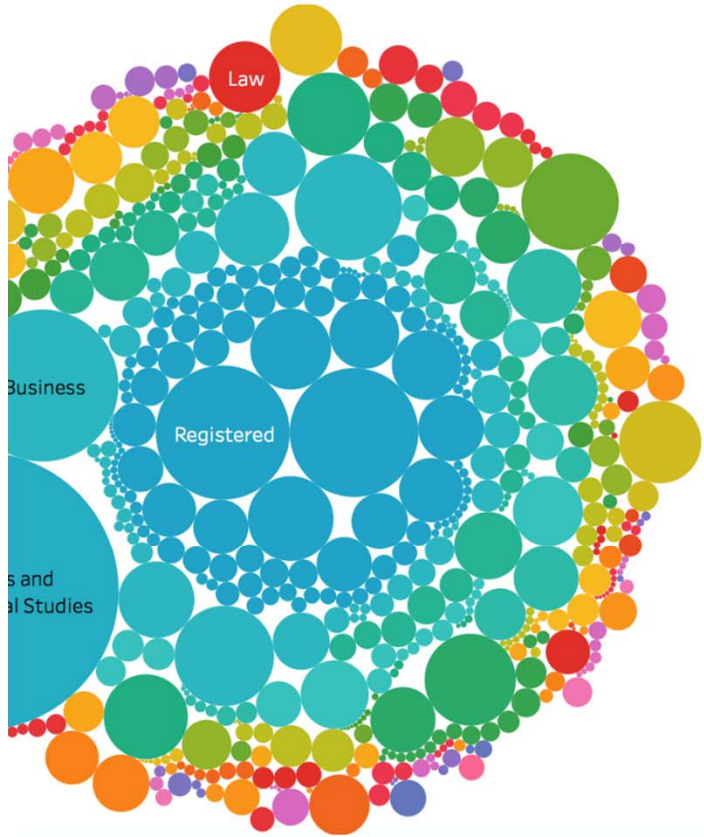
NEXT STEPS

- > Visualizations of this data
 - (a few sneak peeks in this deck and in next few slides)
- > Region-by-region report + recommendations
 - Close work with WICHE & WSAC (and many others)
 - By Education Service District, but with flexible geographic boundary spanning
- > Support for reports & data distribution/use

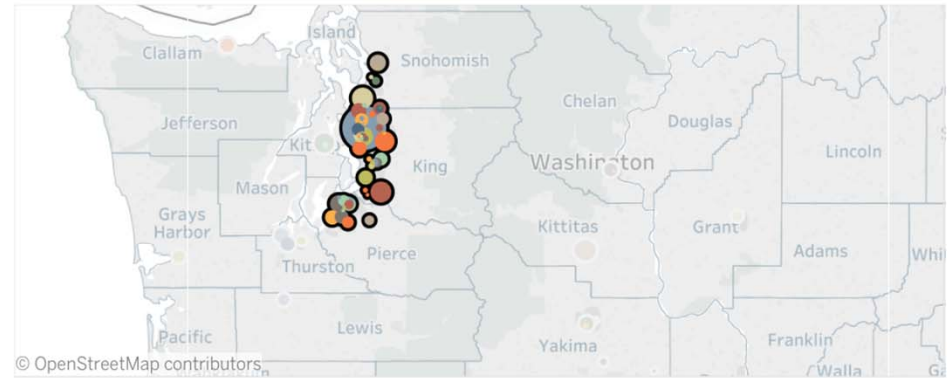


Contributors

Additional Programs



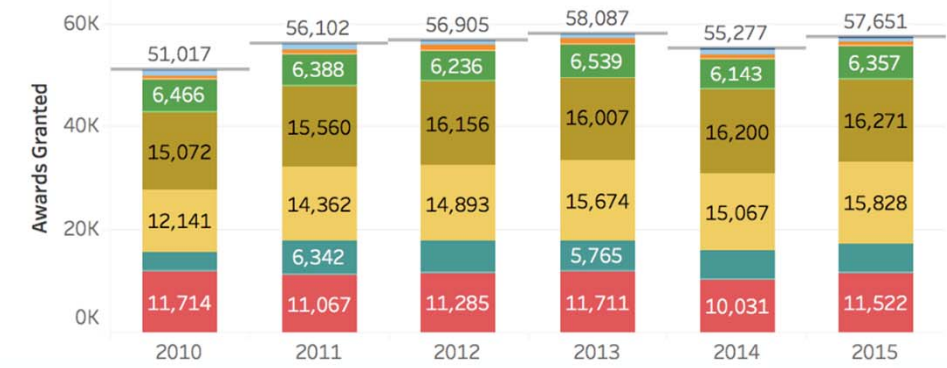
Institutions



Filters

- Academic Year: 2010
- Institution Name: (All)
- Award Levels: (All)
- Program Series: (All)
- Program Title: (All)

Award Levels



Legends

- Award Levels:
 - Doctor's c (Dark Blue)
 - Doctor's c (Light Blue)
 - Doctor's c (Orange)
 - Post-mast (Light Orange)
- Program Series:
 - HEALTH P (Teal)
 - BUSINESS (Light Teal)
 - LIBERAL A (Light Blue)
 - COMPUTE (Green)

THANKS!



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