

Supply & Demand of Oregon Educators

Joint Task Force on Statewide Educator Salary
Schedules

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July 1, 2024

AGENDA

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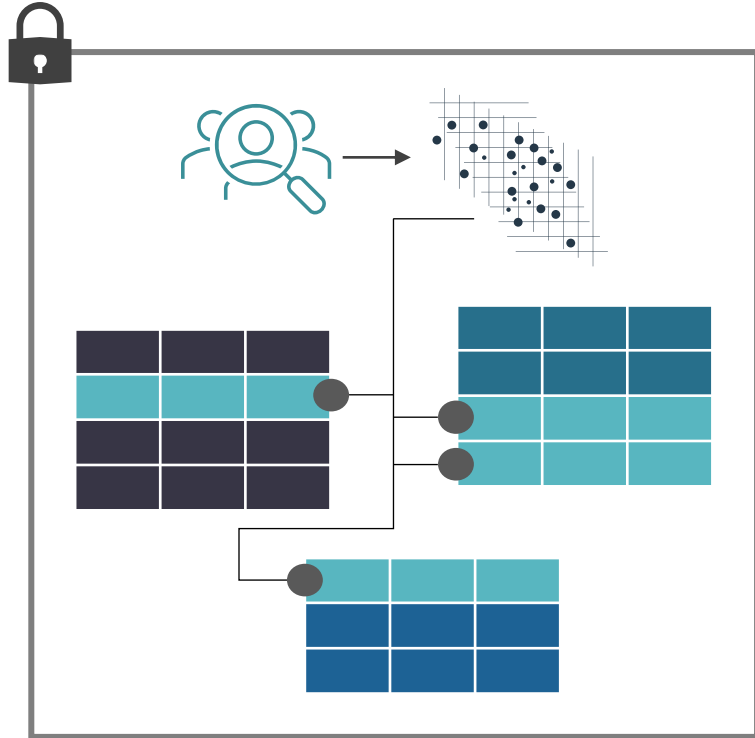
OLDC OREGON LONGITUDINAL DATA COLLABORATIVE

We are a state government program that **provides actionable data-supported policy recommendations that impact student learning, training, and workforce opportunities**

Data partner agencies share data with the OLDC



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Published research on Oregon's healthcare education shortage

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Addressing the nursing shortage in Oregon:
removing barriers in nursing education

Prepared by
Oregon Longitudinal Data Collaborative

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Publish date tbd
High-Level Findings and Recommendations from the Oregon Healthcare Education Shortage Study
<https://www.oregon.gov/highered/research/pages/oldc.aspx>

Study Overview

Hypotheses, sources, and methods

Hypotheses Tested

1. There is a shortage in the supply of graduates from Oregon educator preparation programs (EPPs)
2. There is not enough qualified applicants applying to Oregon EPPs
3. Starting pay for new teachers is less competitive than neighboring states
4. Regional pay and cost of living differences within Oregon cause differences in employment and student to teacher ratios within the state
5. Oregon's SPED inclusion time is higher than other states and may increase student teacher ratios
6. Oregon's unmet need for educators is linked to limits on school resources

Data Sources

- **Regional, longitudinal salary, teacher counts, graduation counts comparisons:** SLDS data from 2010-11 school year through 2022-23 school year
- **National education graduation counts:** Integrated Postsecondary Education Data System (IPEDS) 2020
*2019-2020 school year was selected to avoid effects of the COVID-19 pandemic
- **National teacher employment and salary:** The U.S. Bureau of Labor Statistics (BLS) 2022
- **Per capita adjustment of national data:** U.S. Census Bureau data
- **State to state cost of living salary adjustment, and inflation adjustment:** U.S. Bureau of Economic Analysis (BEA) 2021 Regional Price Parity (RPP), and Consumer Price Index (CPI) 2023
- **Regional cost of living adjustment within OR:** U.S. Department of Housing and Urban Development (HUD) 2023 Fair Market Rents (FMRs)
- **National Special Education (SpEd) inclusion time:** U.S. Department of Education IDEA Section 618 Data Products: State Level Data Files (2023)

Study Definitions

- The SLDS contains data shared directly from ODE to the OLDC, and this presentation primarily relies on data collected from them on current Oregon educators and student counts. However, the estimates in this presentation will differ from many of ODE’s reports because we are filtering our data differently.
- This presentation defines “**teacher**” as a “traditional classroom teacher.”
 - **Non-traditional schools** like charter schools, alternative schools, virtual schools, Department of Corrections schools, and LTCT are filtered from the data.
 - **Full time teachers** is only teachers that were employed > 0.75 FTE and worked at least two quarters are counted.
 - **Salary data** is standardized to 1 FTE, full school year contracts, and PERS adjusted.
 - **Employment data** from the OED is used to verify salary data in counties with low teacher counts.
- Oregon teacher salary data is adjusted for regional cost of living: Housing and Urban Development (HUD) Fair Market Rents 2 Bedroom (FMR2). FMR2 represents the cost to rent a 40th percentile (just below average cost) 2-bedroom apartment.

Disclaimer

- Please note that the findings, charts, and conclusions presented today are considered draft until they have been published
- The anticipated publish date is August 2024

National Trends

How does Oregon compare to other states and national medians?

Key Findings on National Trends

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1

Oregon's Educator Preparation Programs (EPPs) are not graduating as many educators per capita as national medians.

2

Oregon has higher student to teacher ratios across all levels of K-12 compared to national medians, and regional states.

3

Nationally, Oregon average teacher salaries and new teacher salaries are competitive.

4

New Oregon teacher salaries are less competitive than regional states.

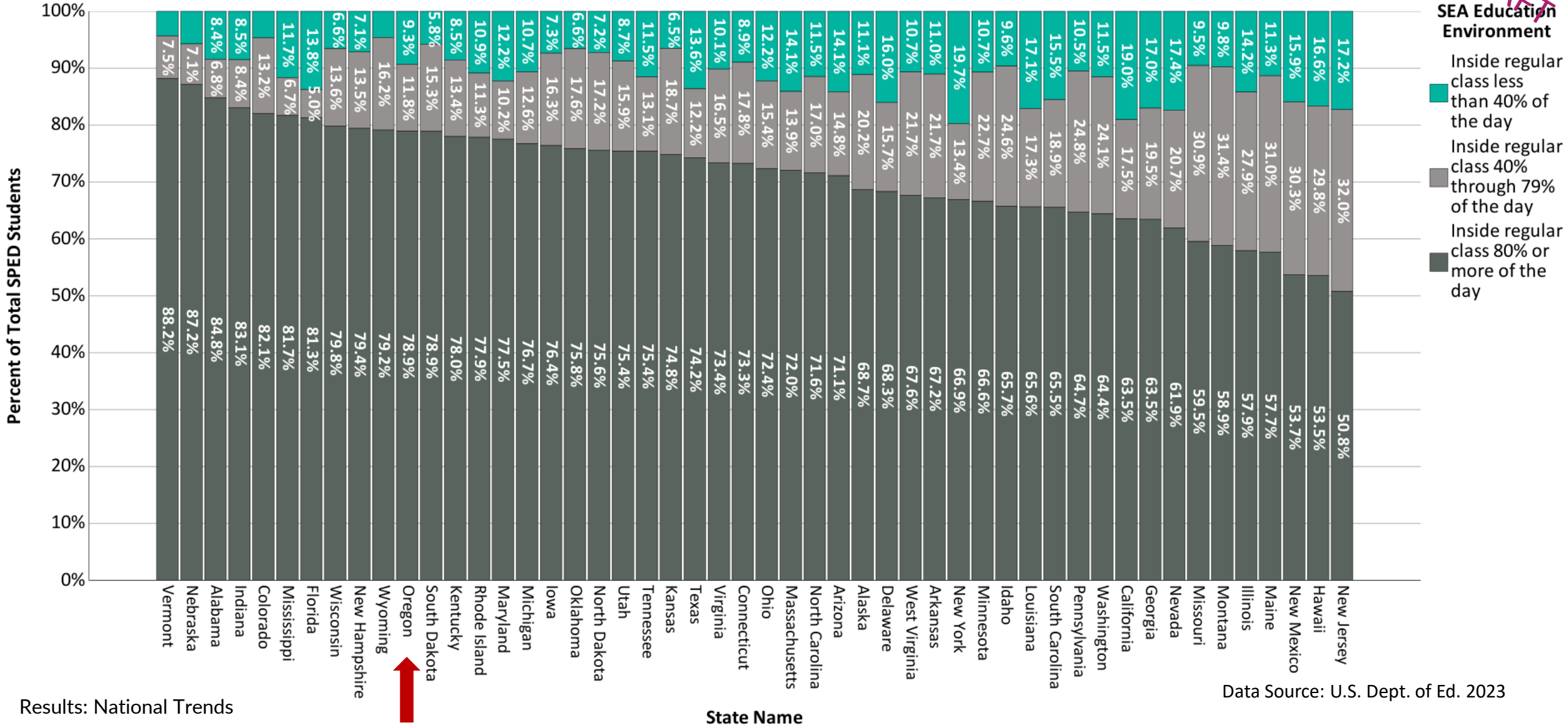
5

Oregon utilizes more inclusion time for SPED students than other states.

Finding 5: Oregon utilizes more inclusion time for SPED students than other states.

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Percent of SPED Students by Percent of Daily Inclusion Time by State (2022 Data)



Oregon's Supply of Educators

What is Oregon's current supply of teachers and where are Oregon teachers educated?

Key Findings on Oregon's Supply of Educators

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6

Oregon high school graduates often enroll in Educator Preparation Programs (EPPs) within the same region as their high school.

7

Roughly two thirds of Oregon's Public EPP graduates come from Oregon high schools.

8

Over 85% of Oregon Public EPP graduates remain and work in Oregon. Washington's public K-12 system attracts roughly one third of those that leave.

9

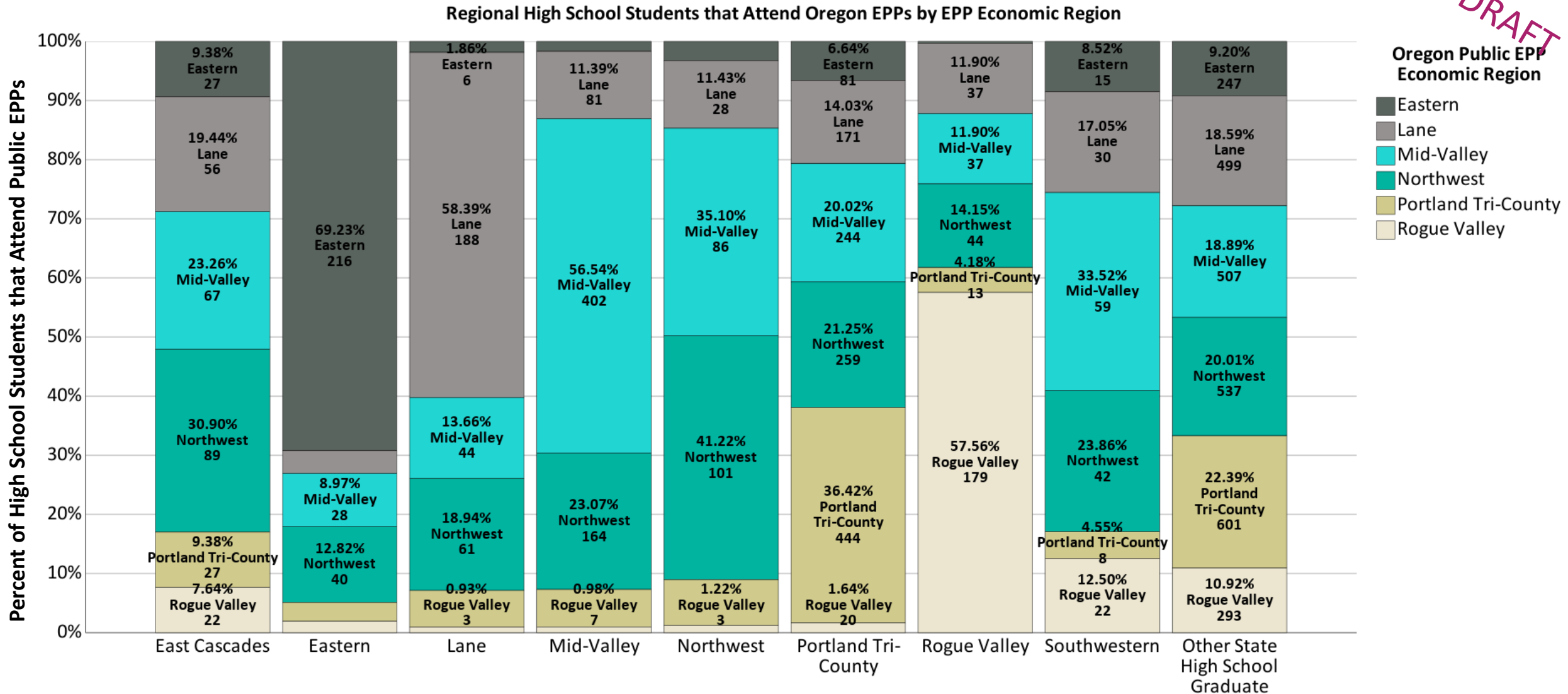
The majority of EPP graduates that later work in Oregon remain in the same region of Oregon as their program.

10

Historically the majority of new teachers employed come from Oregon EPPs. Oregon also attracts new and experienced teachers from other states.

Finding 6: Oregon high school graduates often enroll in Educator Preparation Programs (EPPs) within the same region as their high school.

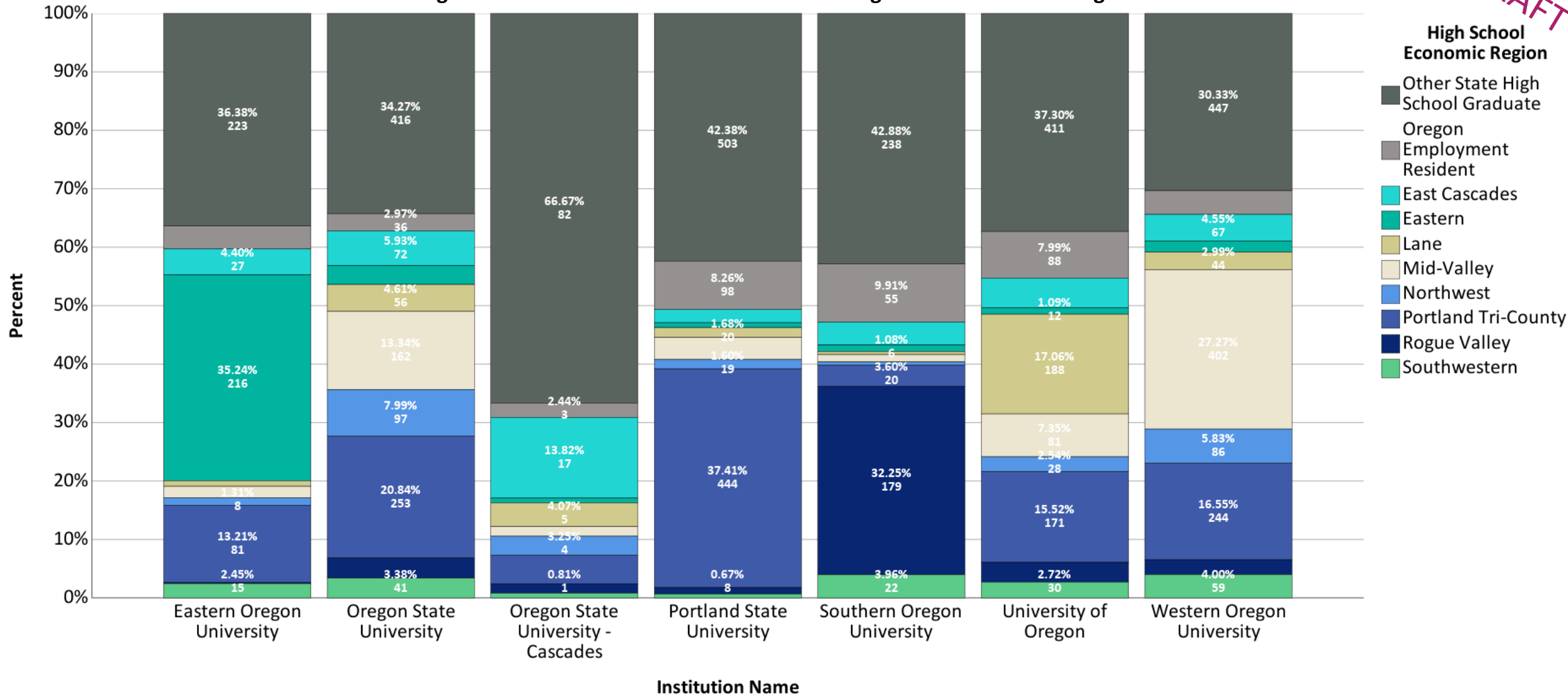
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Finding 7: Roughly two thirds of Oregon's Public EPP graduates come from Oregon high schools.

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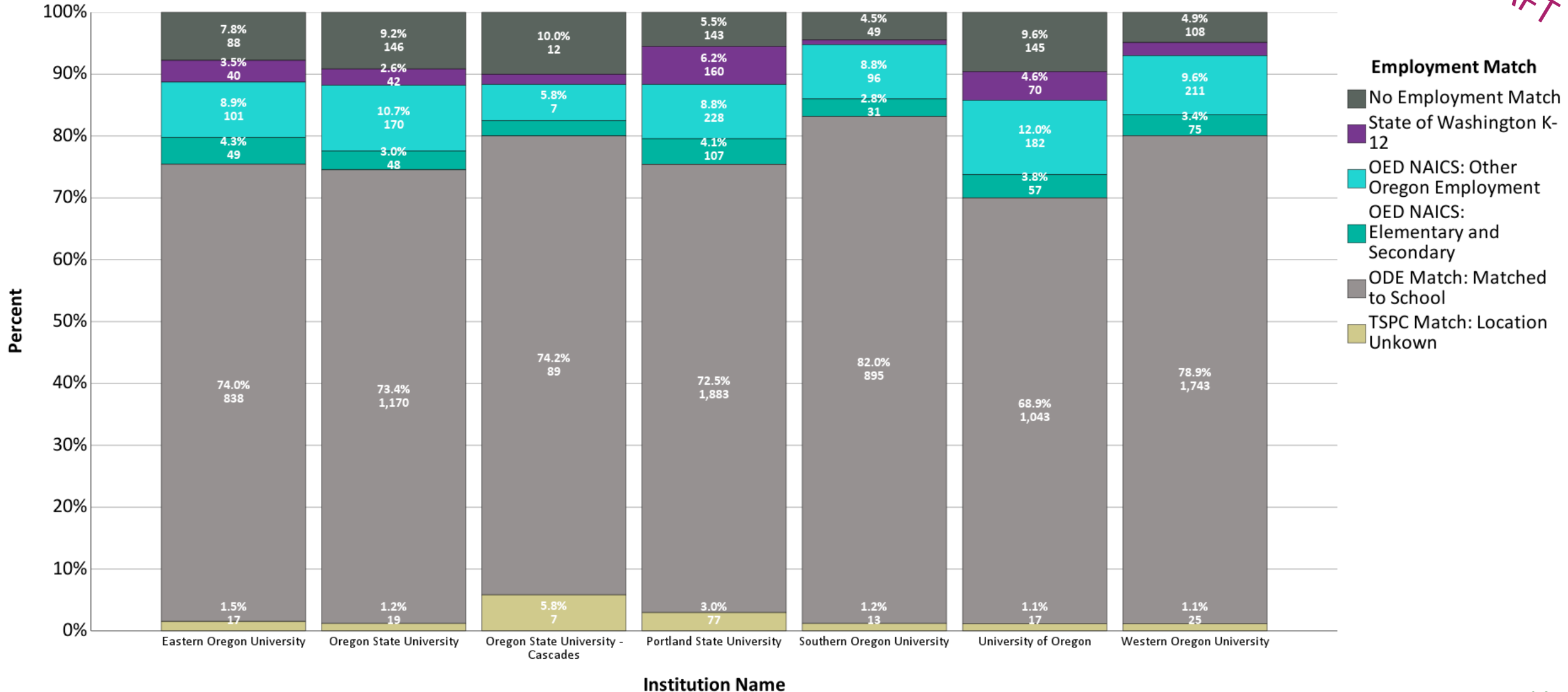
Percent of Oregon Public EPP Graduates that Come from High School Economic Regions



Finding 8: Over 85% of Oregon Public EPP graduates remain and work in Oregon.

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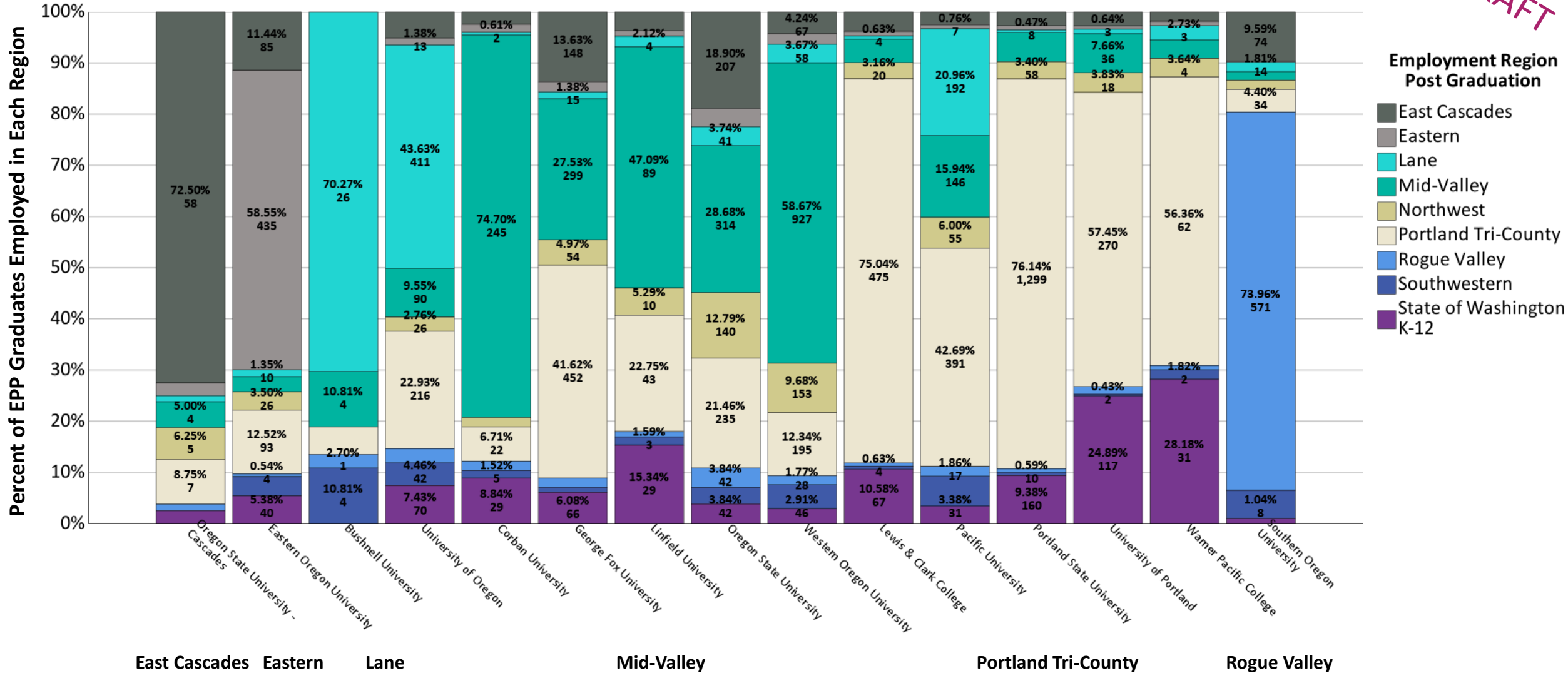
Oregon Public EPP Teacher Recommendation Post-Graduation Employment Match (2010-11 to 2022-2023)



Finding 9: The majority of EPP graduates that later work in Oregon remain in the same region of Oregon as their program.

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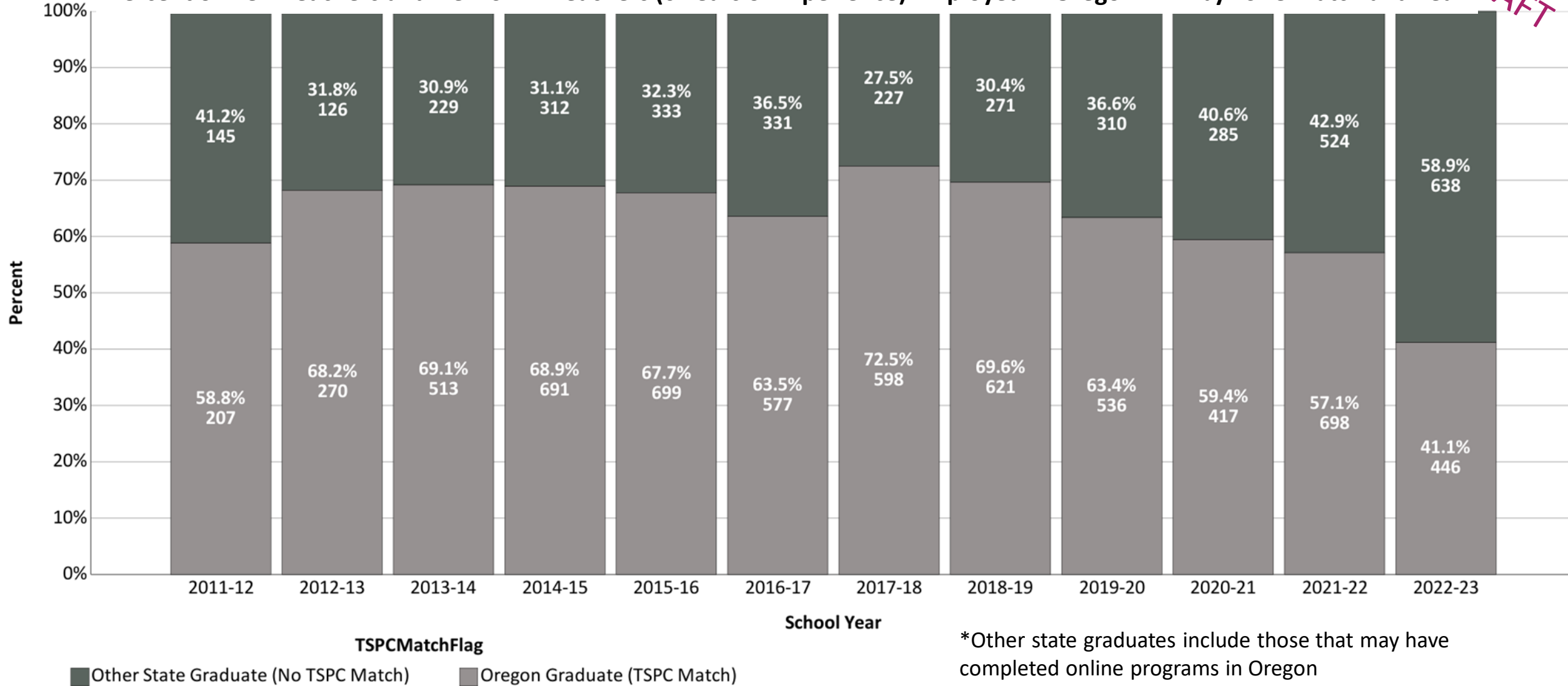
2010-11 through 2022-23 Post-Graduation Teacher Employment Region by Institution (ODE and State of Washington Matches)



Finding 10: Historically the majority of new teachers employed come from Oregon EPPS. Oregon also attracts experienced teachers from other states.

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Percent of New Teachers and New SPED Teachers (0 Years of Experience) Employed in Oregon K-12 by TSPC Match and Year

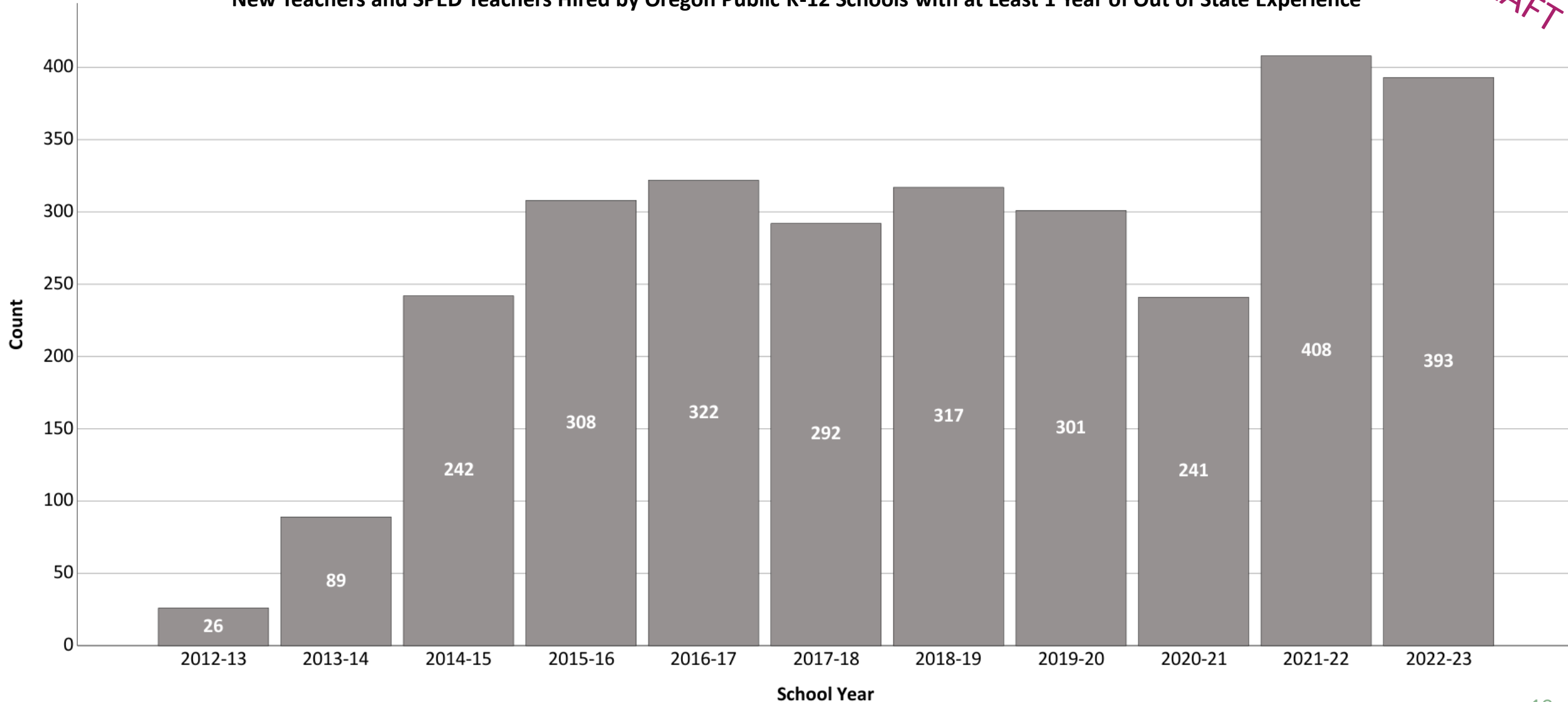


*Other state graduates include those that may have completed online programs in Oregon

Finding 10: Historically the majority of new teachers employed come from Oregon EPPS. Oregon also attracts experienced teachers from other states.

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New Teachers and SPED Teachers Hired by Oregon Public K-12 Schools with at Least 1 Year of Out of State Experience



Oregon's Demand for Teachers

What is Oregon's Unmet Need for
Teachers?

Key Findings on Oregon's Demand for Teachers

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11

Oregon's projected teacher job openings are primarily replacement openings.

12

Oregon has a measurable unmet need for more teachers.

13

New teachers in a third of Oregon counties could not afford to rent an average cost 2-bedroom apartment.

14

Expanding the supply of teachers would require more qualified students looking to enter programs. Oregon EPPs currently accept 90-100% of qualified applicants.

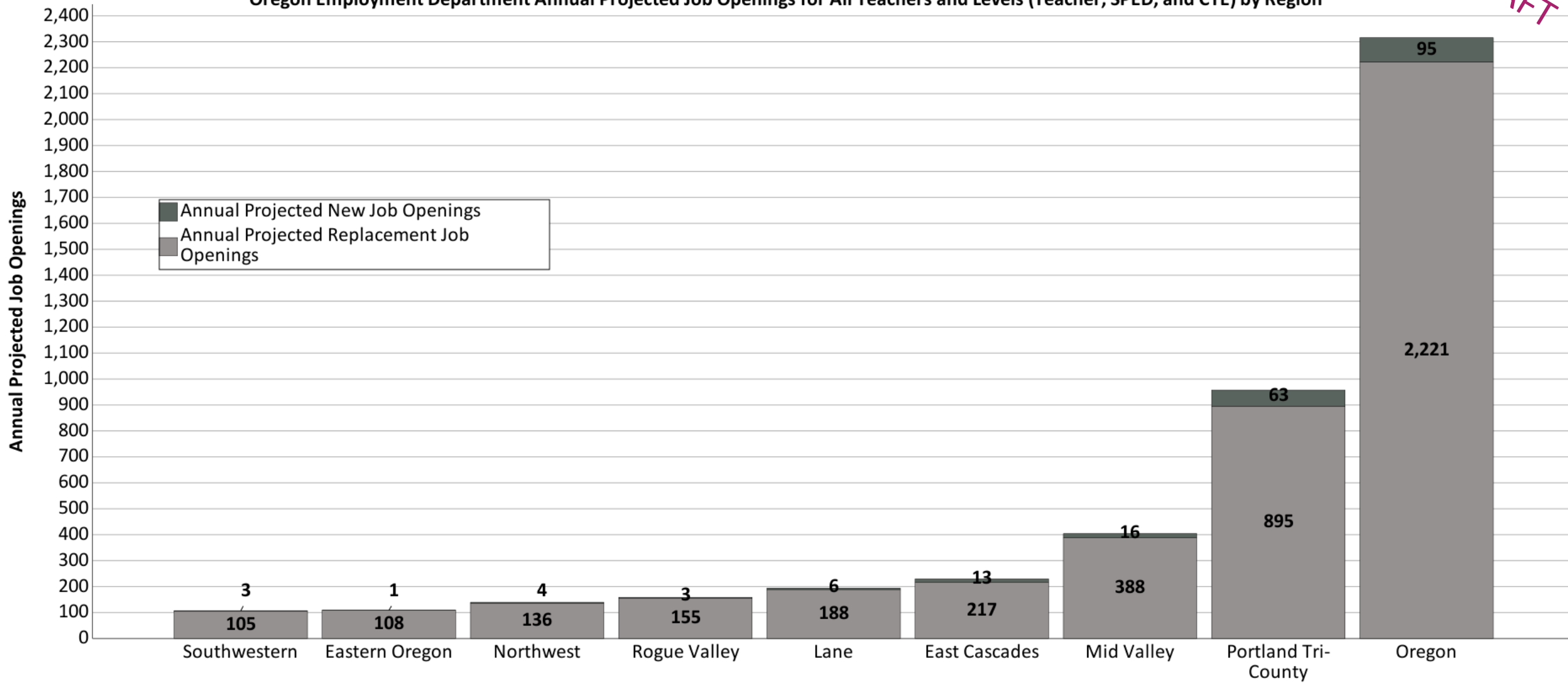
15

Oregon's unmet need for educators, as represented by higher student teacher ratios, is likely due to limits on resources to hire more educators.

Finding 11: Oregon's projected teacher job openings is primarily replacement openings.

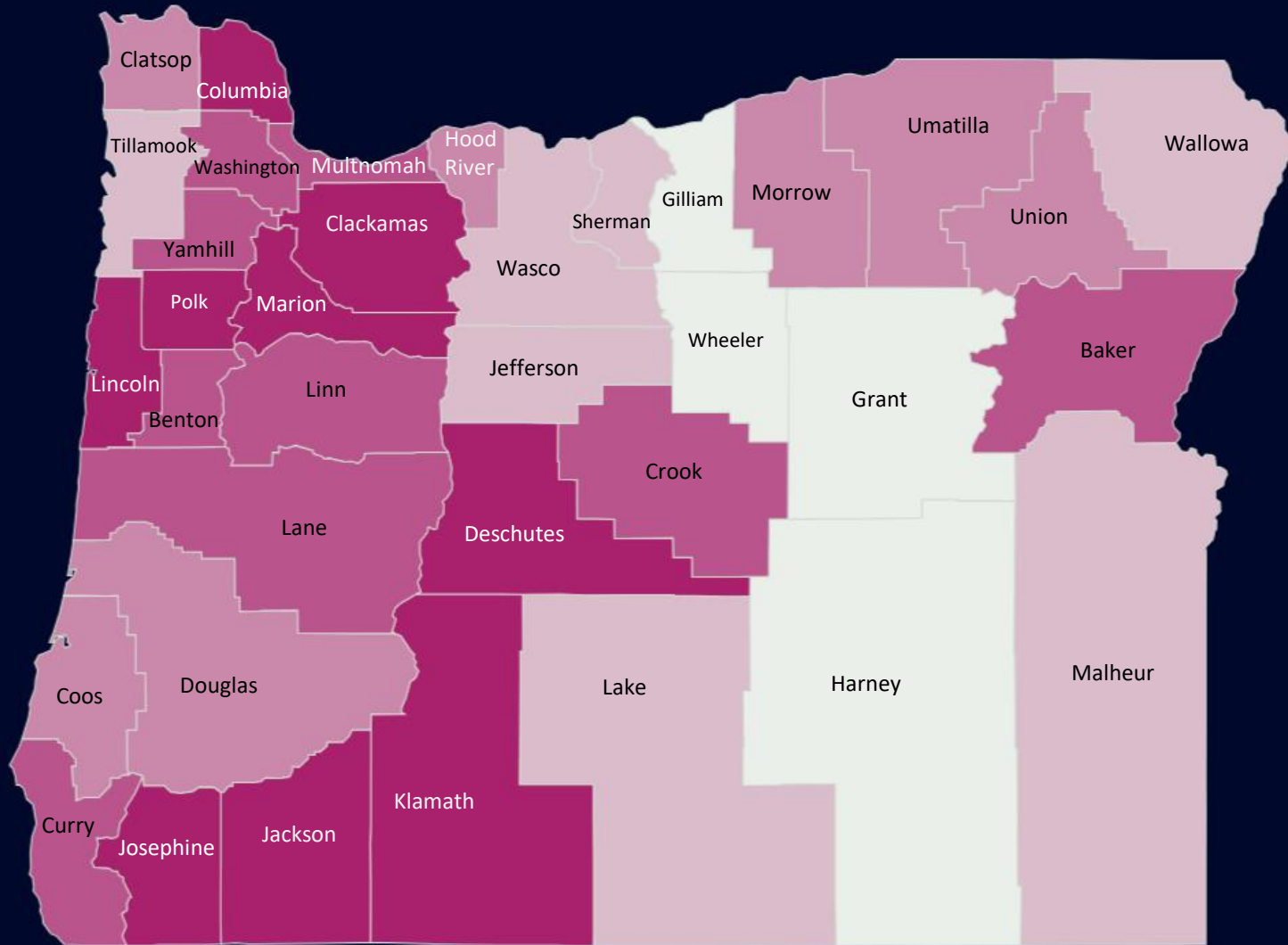
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Oregon Employment Department Annual Projected Job Openings for All Teachers and Levels (Teacher, SPED, and CTE) by Region



Finding 12: Oregon has a measurable unmet need for more educators (National average student/teacher ratio = 16.55)

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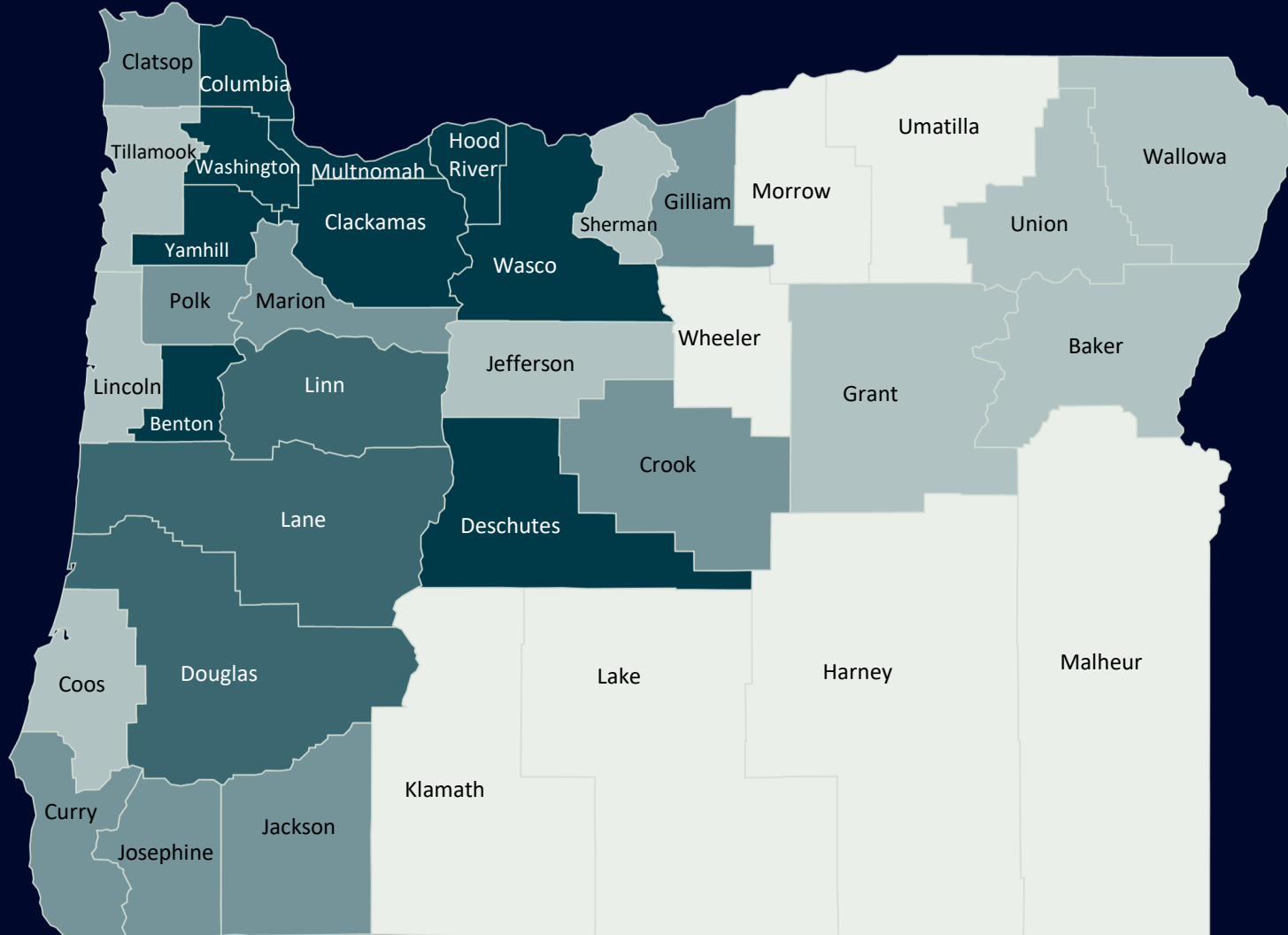


Student to Teacher Ratio

- Less than 15 students per teacher
- 15 to 17.9 students per teacher
- 18 to 19.9 students per teacher
- 20 to 21.9 students per teacher
- 22 or more students per teacher

Finding 13: New teachers in a third of Oregon counties could not afford to rent an average 2-bedroom apartment.

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Percent of Income Required to Rent a 2 Bedroom Apartment (FMR2)

- 20% to 24.9%
- 25% to 27.9%
- 28% to 33.9%
- 34% to 39.9%
- 40% to 45%

Exceeds housing affordability threshold

Source: SLDS 2022-23, HUD 2023
* (Wallowa County 2021-22 School Year)

Finding 14: Expanding the supply of teachers would require more qualified students looking to enter programs.

A brief survey was sent to all public and private EPPs in Oregon. 11 of the 15 universities (73%) with at least one educator preparation program replied, encompassing 18 individual programs within the 11 universities. The programs were asked to respond about their acceptance rate of qualified applicants and to explain barriers that they, and their students, faced if the programs were to expand.

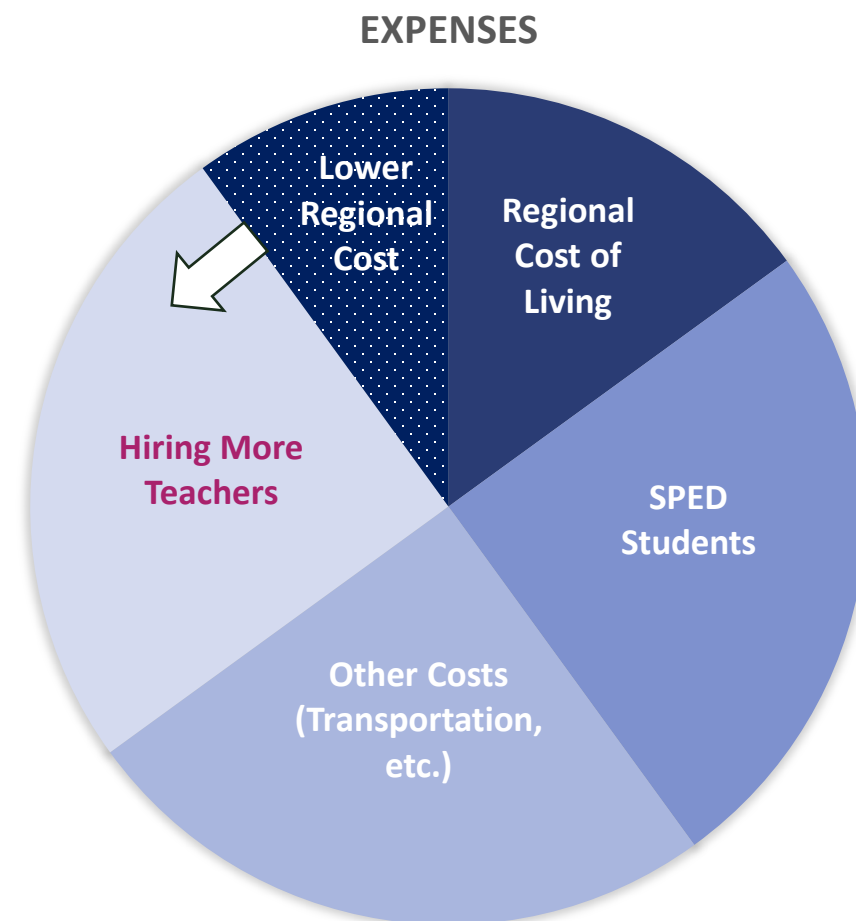
Please rate the following barriers to program expansion and student recruitment:							
1. Strongly disagree 2. Somewhat disagree 3. Neither agree nor disagree 4. Somewhat agree 5. Strongly agree							
Lack of qualified student interest is a barrier to expansion	Student teaching causes financial barriers to students	Student teaching causes barriers to student recruitment	Difficult to find and recruit faculty	Lack of University resources is a barrier to expansion	Public perception of the teaching profession is a barrier to student recruitment	Lack of flexible learning options is a barrier to students	Tuition/ financial aid, program cost is a barrier to students
4.00	3.87	2.88	2.44	3.06	4.22	2.39	4.11
18 programs across 11 Universities responded to the survey							
All programs reported accepting 89% to 100% of qualified applicants							

Finding 15: Oregon's unmet need for educators, as represented by higher student teacher ratios, is likely due to limits on resources to hire more educators.

If we assume that schools and districts have limited resources, then they must make a trade off between expenses.

Examples:

1. Areas with higher regional cost of living require higher salaries per individual teacher to attract teachers and this can reduce the total number of teachers that can be hired. For example: Regions with lower cost of living may be able to hire more teachers.
2. Schools with more SPED students require more resources for SPED supports than schools with fewer SPED students, this can reduce the total number of classroom teachers that can be hired.
3. Controlling for regional cost of living and the number of SPED students, schools that spend less on teacher salaries per student due to other limits on resources (higher transportation costs, for example) may also reduce the number of teachers that can be hired.



Finding 15: Oregon's unmet need for educators, as represented by higher student teacher ratios, is likely due to limits on resources to hire more educators.

Regression analysis was performed with all variables statistically significant (Appendix Slide 60):

1. As regional rental costs increase, student teacher ratios increase as fewer teachers can be hired
2. As the number of SPED students increases, student teacher ratios increase as fewer teachers can be hired
3. Controlling for regional cost of living and the number of SPED students: As average per student teacher salary expenditures increase, student teacher ratios decrease as more teachers can be hired

Much of the variation in unmet need for teachers is correlated with regional cost of living differences, differences in per student teacher salary expenditures, and differences in the number of SPED students.

Conclusions

Conclusions

1. Regionalization is important in the supply of high school students into Oregon's EPPs, and the supply of EPP graduates into K-12 employment.
2. Oregon salaries are competitive both regionally and nationally, except for starting teacher salaries compared to neighboring states.
3. Oregon has an unmet need for more educators as measured by student-to-teacher ratios and the national mean and median.
4. When combined with the numbers of out of state teachers and those from out of state programs, Oregon's EPPs are producing enough teachers to meet Oregon Employment Department projections. However, Oregon's EPPs do not currently produce enough teachers for Oregon to be nationally competitive with student-to-teacher ratios.
5. To increase the supply of educators, Oregon would need an increase in the number of students interested in becoming educators.
6. Oregon's unmet need for educators appears to be linked to limits on resources rather than to the current supply of educators.

Questions?

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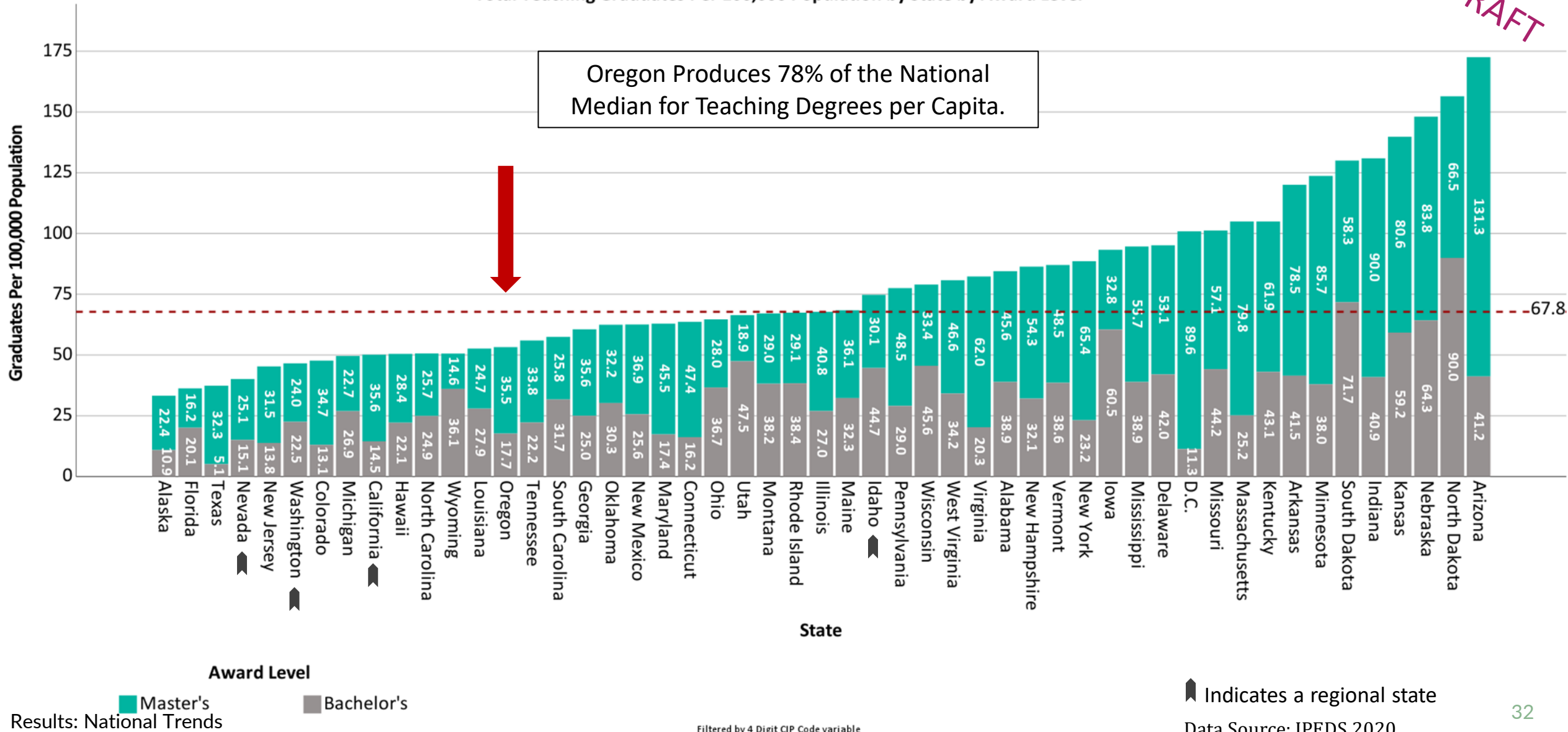
Appendix

National Trends (Draft Findings)

Finding 1: Oregon's Educator Preparation Programs (EPPs) are not graduating as many educators per capita as national medians.

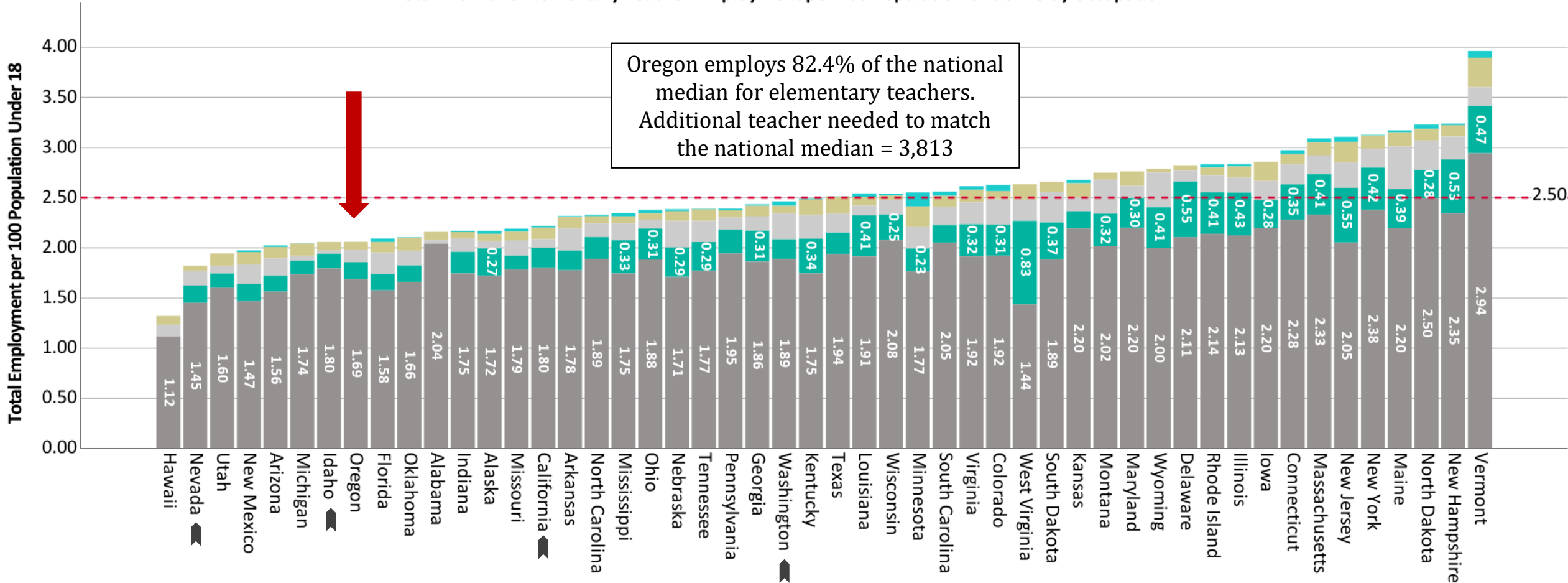
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Total Teaching Graduates Per 100,000 Population by State by Award Level



National Trends in Teacher Employment

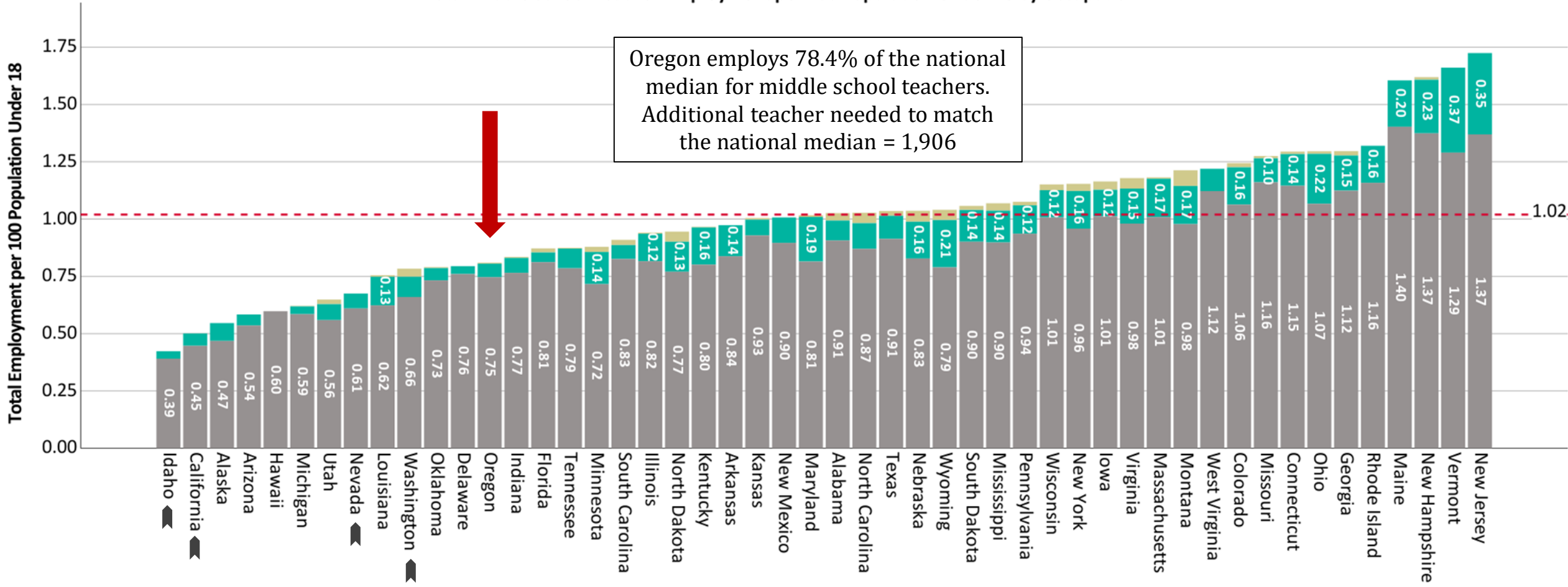
Total Pre-k and Elementary Teacher Employment per 100 Population Under 18 by Occupation



- 🏠 Indicates a regional state
- 🟢 Special Education Teachers, Kindergarten and Elementary School
- 🟡 Preschool Teachers, Except Special Education
- 🟠 Kindergarten Teachers, Except Special Education
- 🟣 Special Education Teachers, Preschool
- 🟤 Elementary School Teachers, Except Special Education

National Trends in Teacher Employment

Total Middle School Teacher Employment per 100 Population Under 18 by Occupation



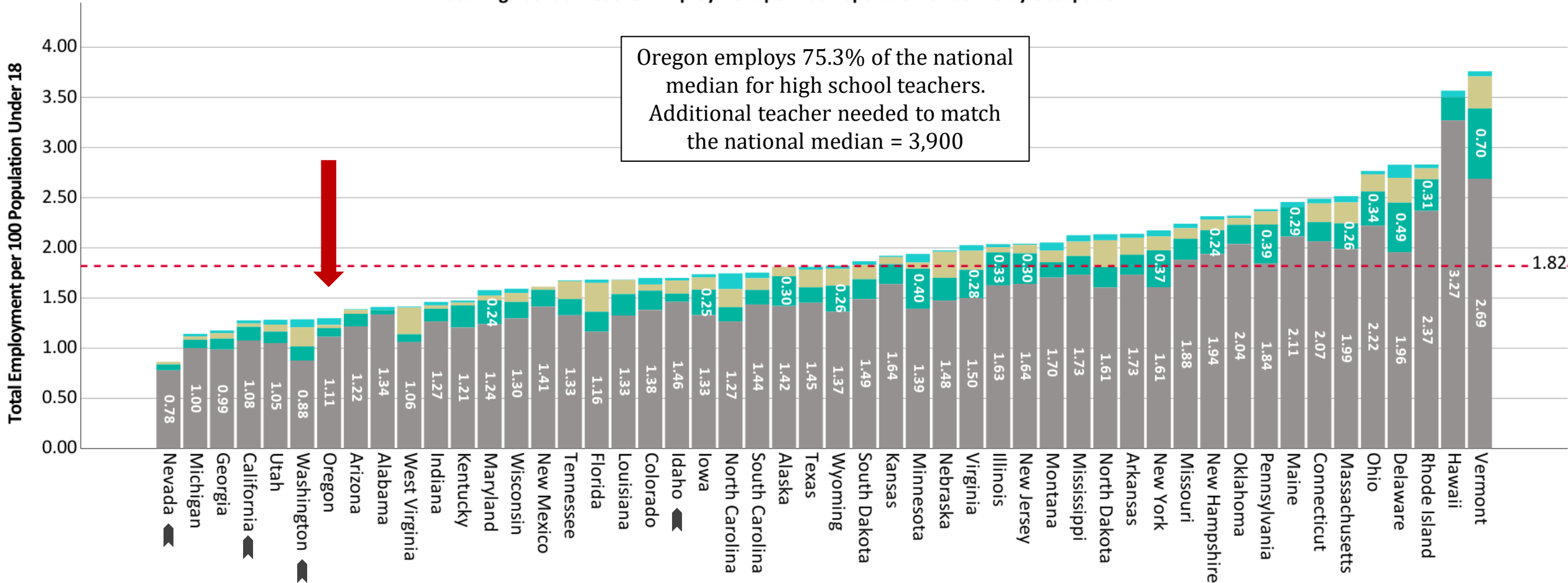
Occupation

- Career/Technical Education Teachers, Middle School
- Special Education Teachers, Middle School
- Middle School Teachers, Except Special and Career/Technical Education

▣ Indicates a regional state

National Trends in Teacher Employment

Total High School Teacher Employment per 100 Population Under 18 by Occupation



Oregon employs 75.3% of the national median for high school teachers. Additional teacher needed to match the national median = 3,900

Total Employment per 100 Population Under 18

State

Occupation

- Adult Basic Education, Adult Secondary Education, and English as a Second L
- Career/Technical Education Teachers, Secondary School
- Special Education Teachers, Secondary School
- Secondary School Teachers, Except Special and Career/Technical Education

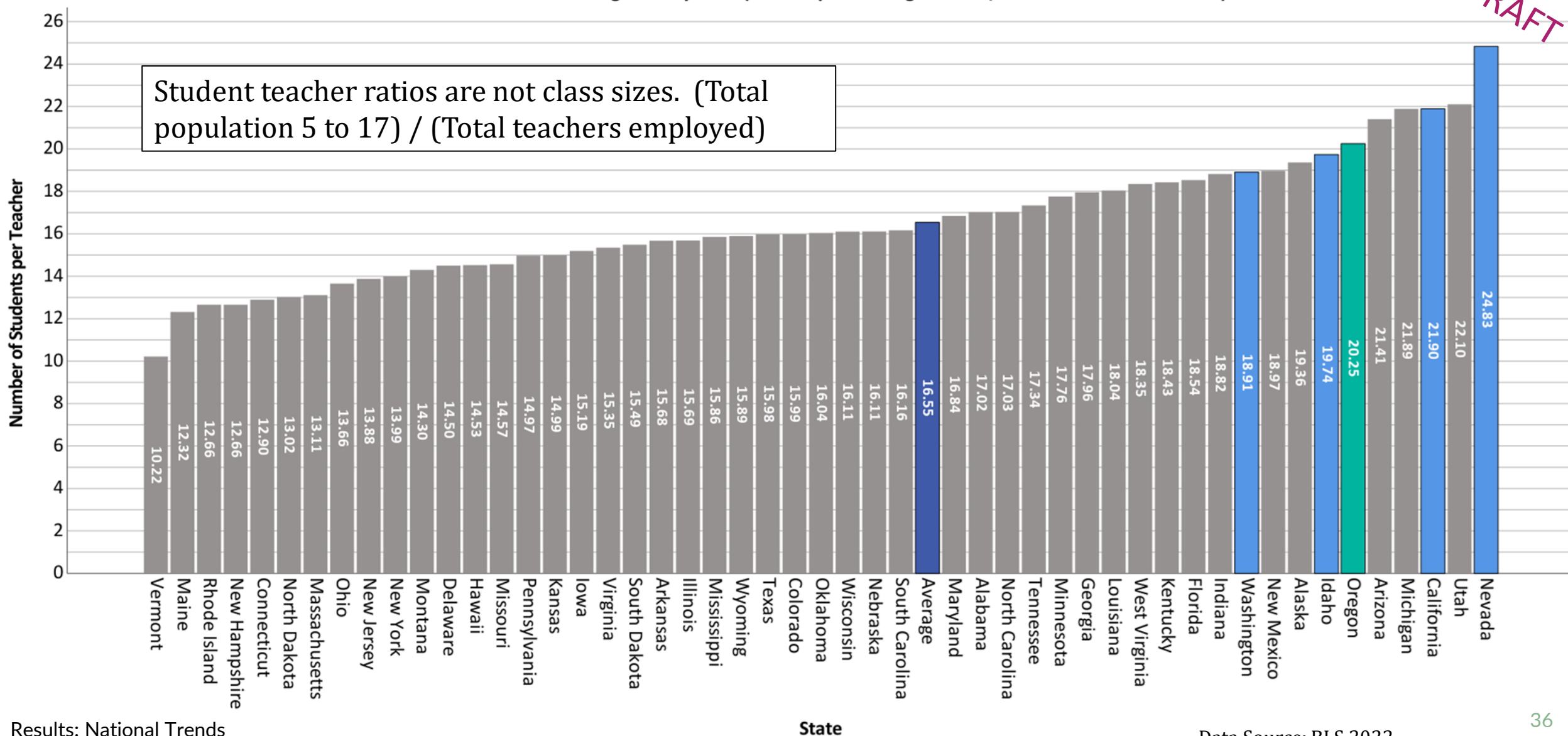
▲ Indicates a regional state

Data Source: BLS 2022

Finding 2: Oregon has higher student to teacher ratios across all levels of K-12 compared to national medians, and regional states.

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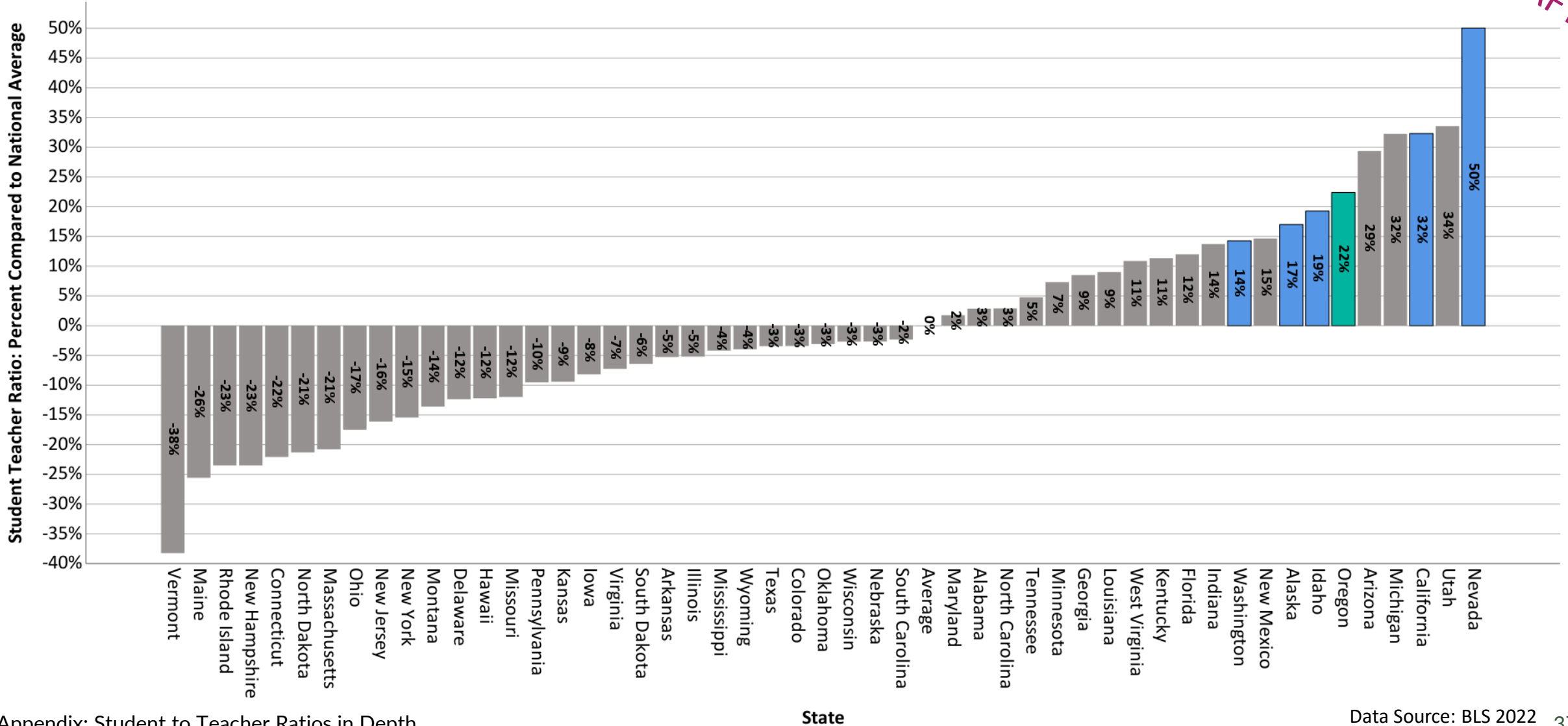
Student Teacher Ratio Excluding SPED by State (State Population Age 5 to 17 / Total Number of Teachers)



National Comparison of Student to Teacher Ratios

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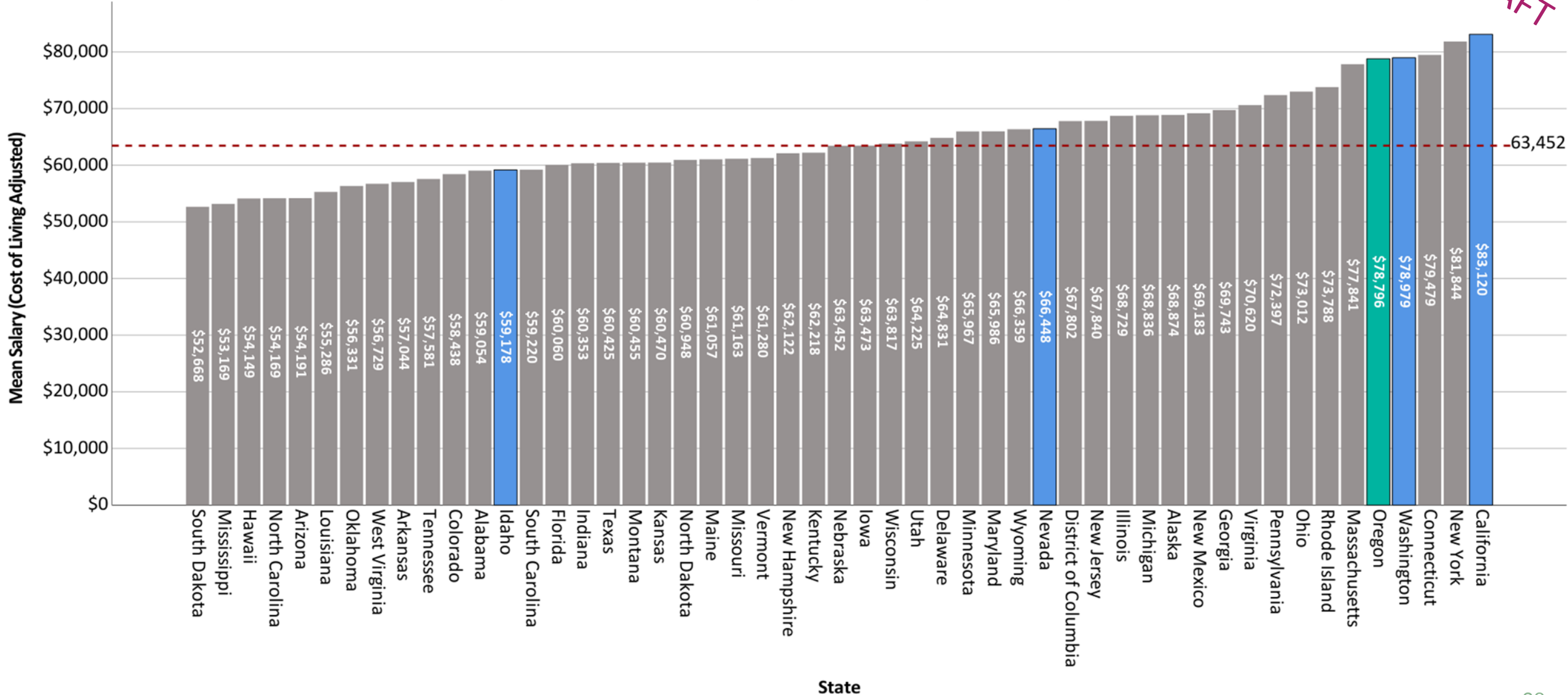
Average K-12 Student Teacher Ratio: Percent Compared to National Average by State



Finding 3: Nationally, Oregon average teacher salaries and new teacher salaries are competitive.

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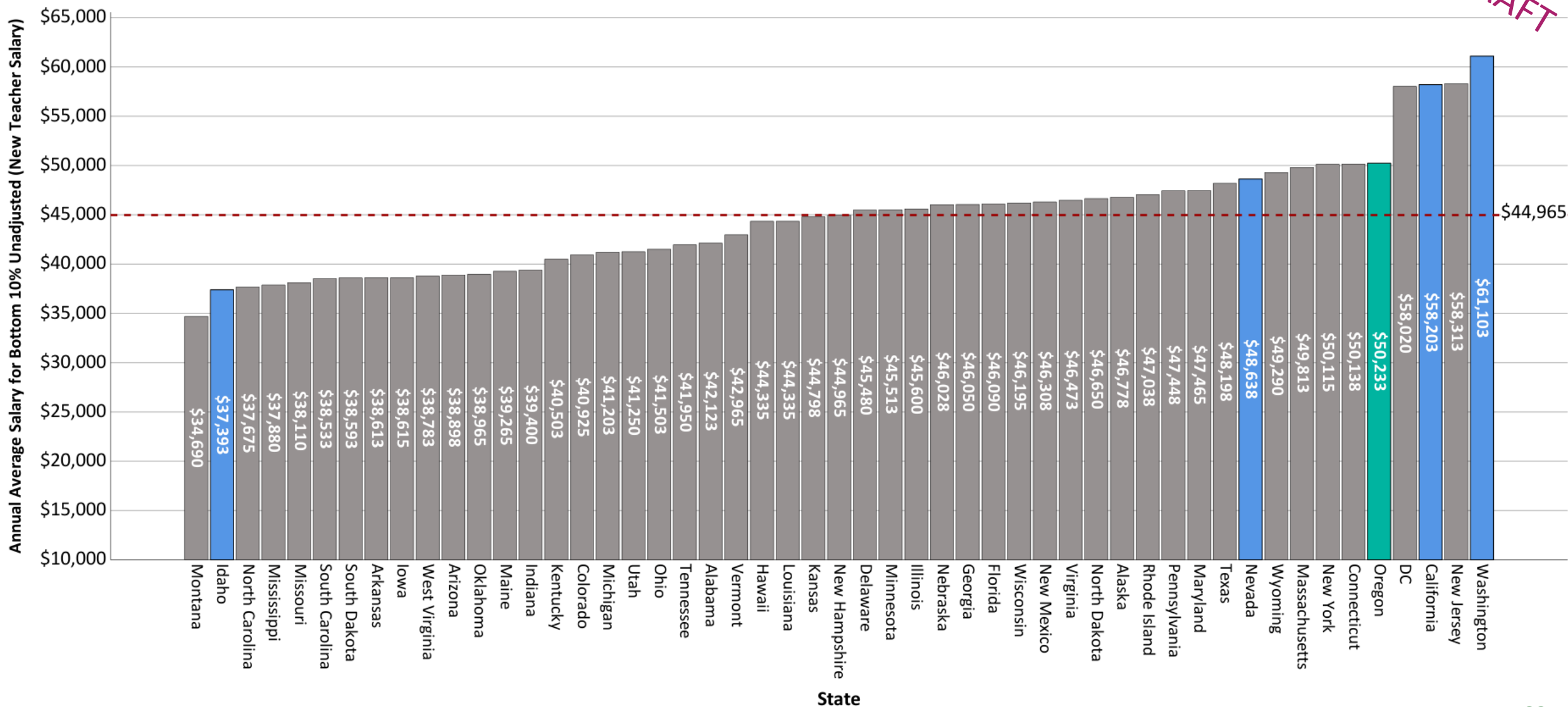
Average Teacher Salary (Cost of Living Adjusted) Excluding CTE and SPED by State



Finding 4: New Oregon teacher salaries are less competitive with regional states.

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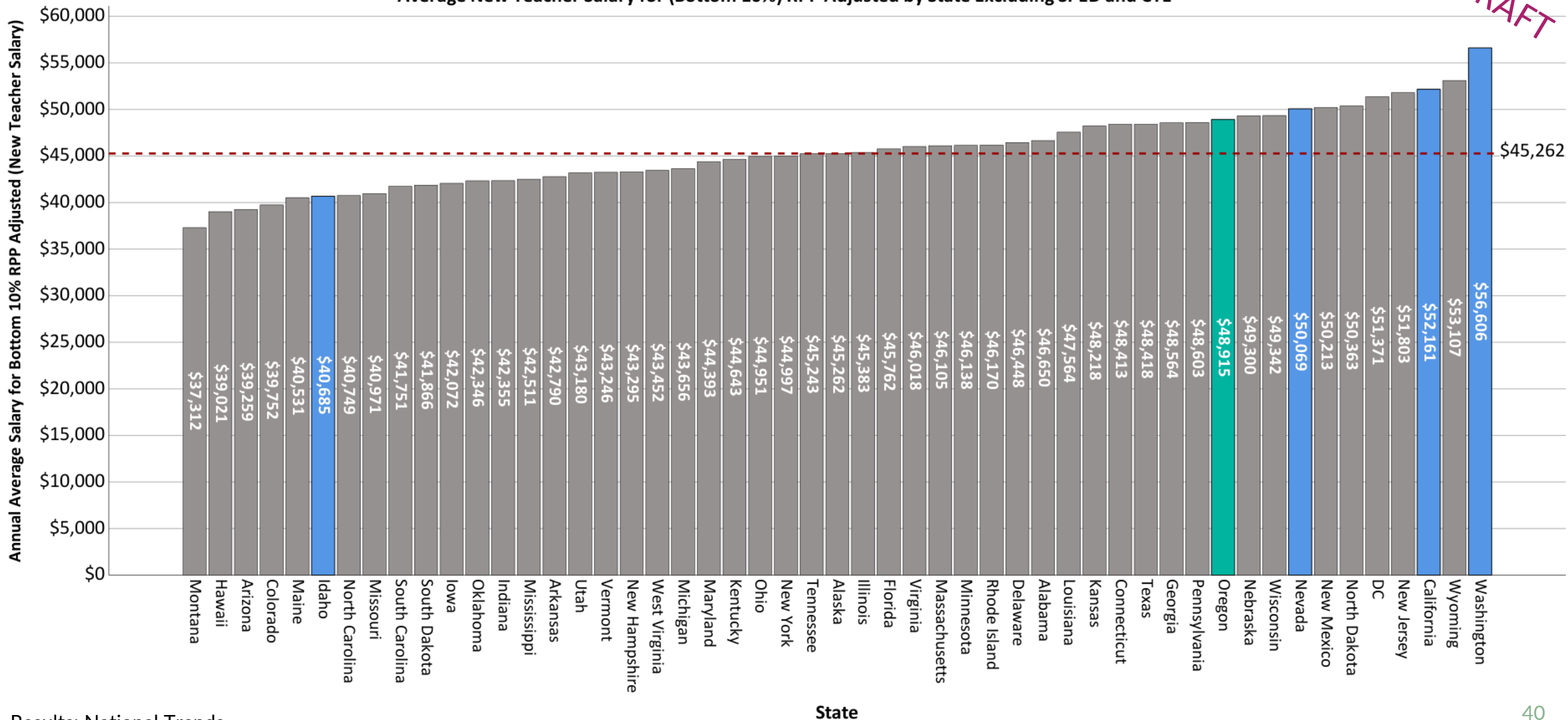
Average Unadjusted New Teacher (Bottom 10%) Salary by State Excluding SPED and CTE



Finding 4: New Oregon teacher salaries are less competitive with regional states.

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Average New Teacher Salary for (Bottom 10%) RPP Adjusted by State Excluding SPED and CTE



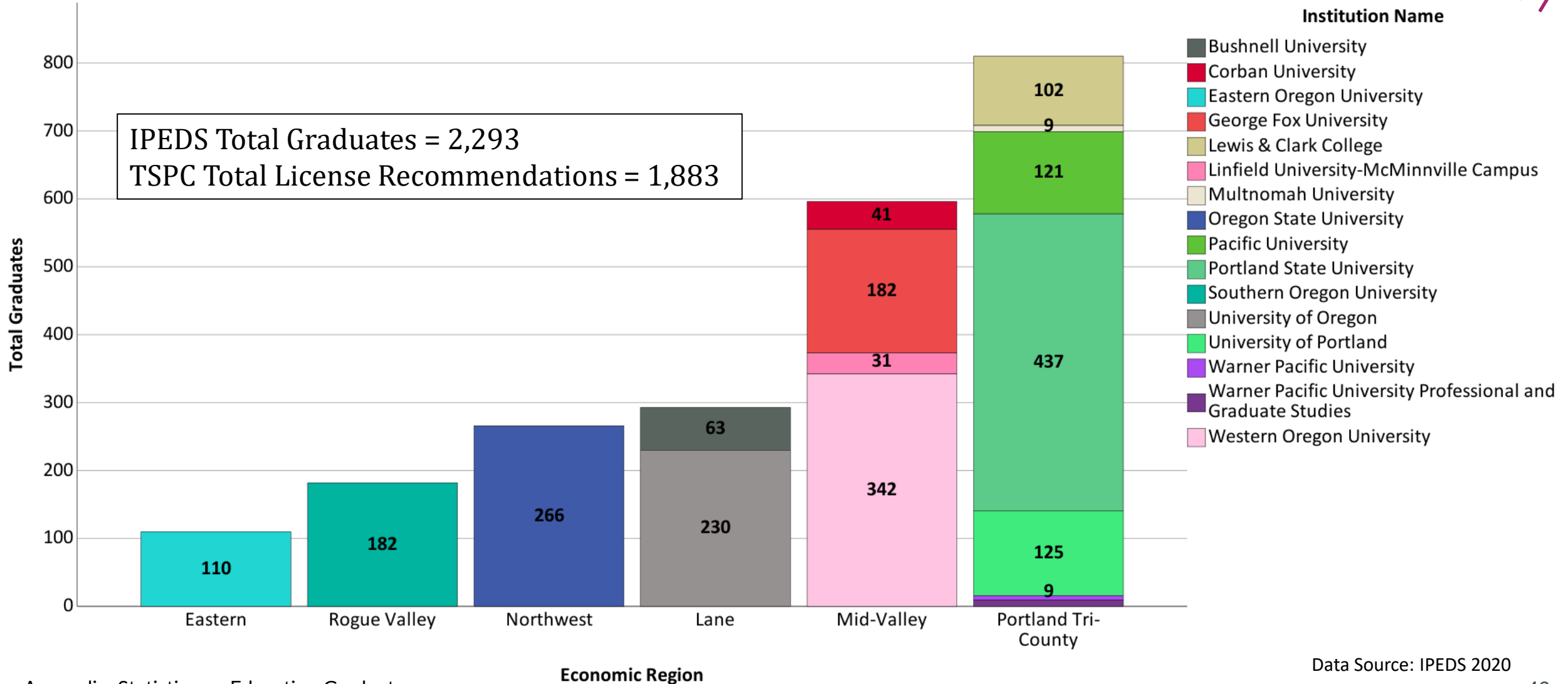
Appendix

Oregon's Supply of Educators
(Draft Findings)

Total Education Graduates in Oregon

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Total Graduates any 13 CIP, Bachelor's and Master's Level by Institution (2020) and Region

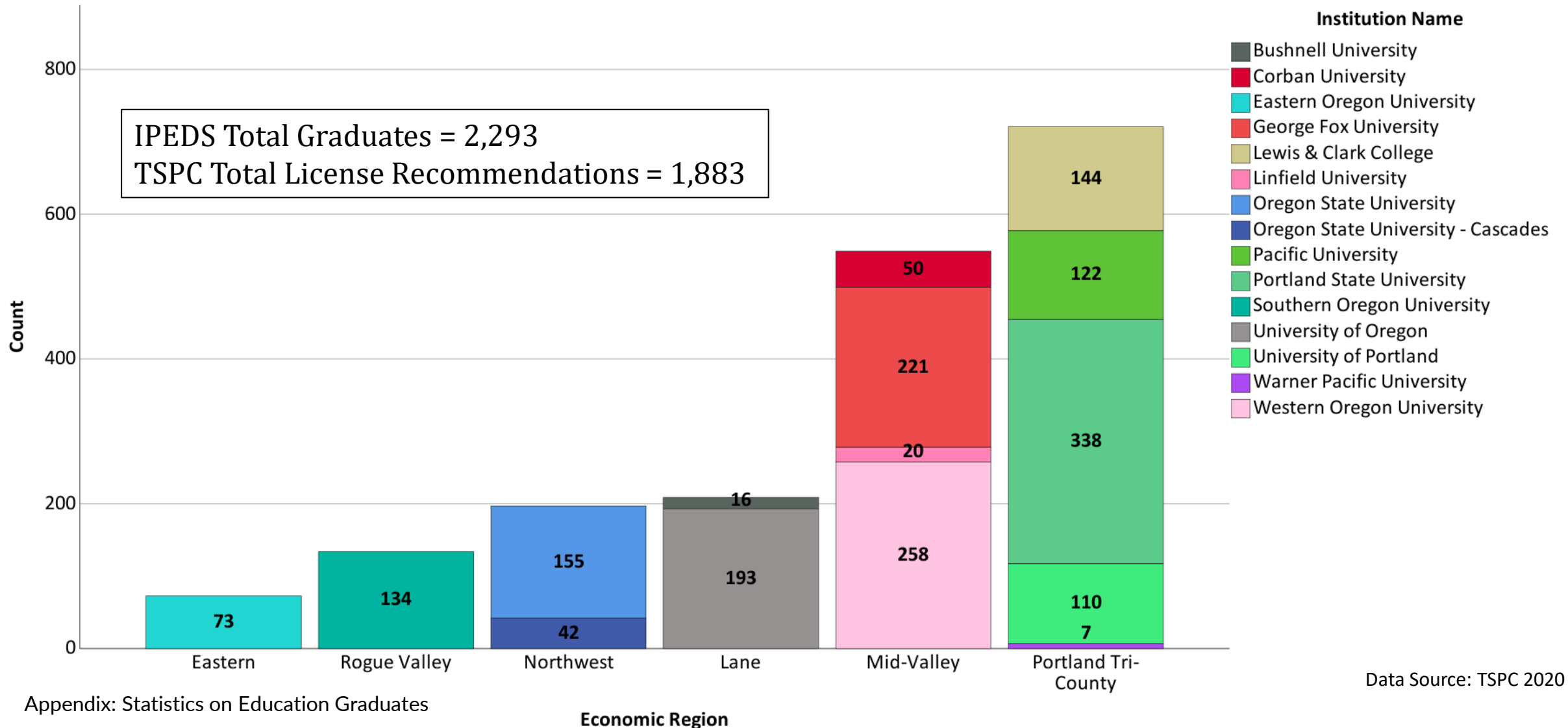


Data Source: IPEDS 2020

Total Education License Recommendations in Oregon

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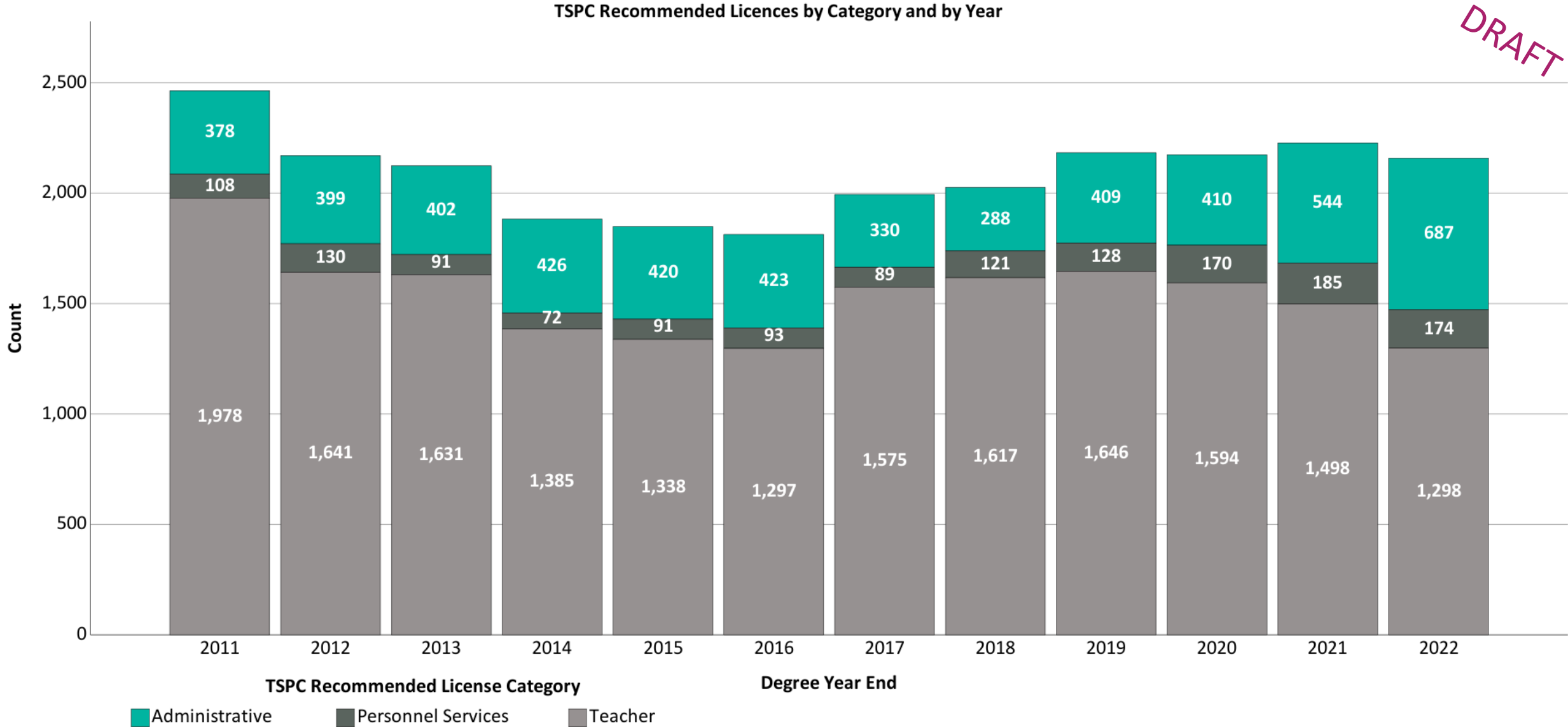
2020 TSPC Total Recommended Licenses by Economic Region and Institution



Data Source: TSPC 2020

Education License Recommendations Over Time

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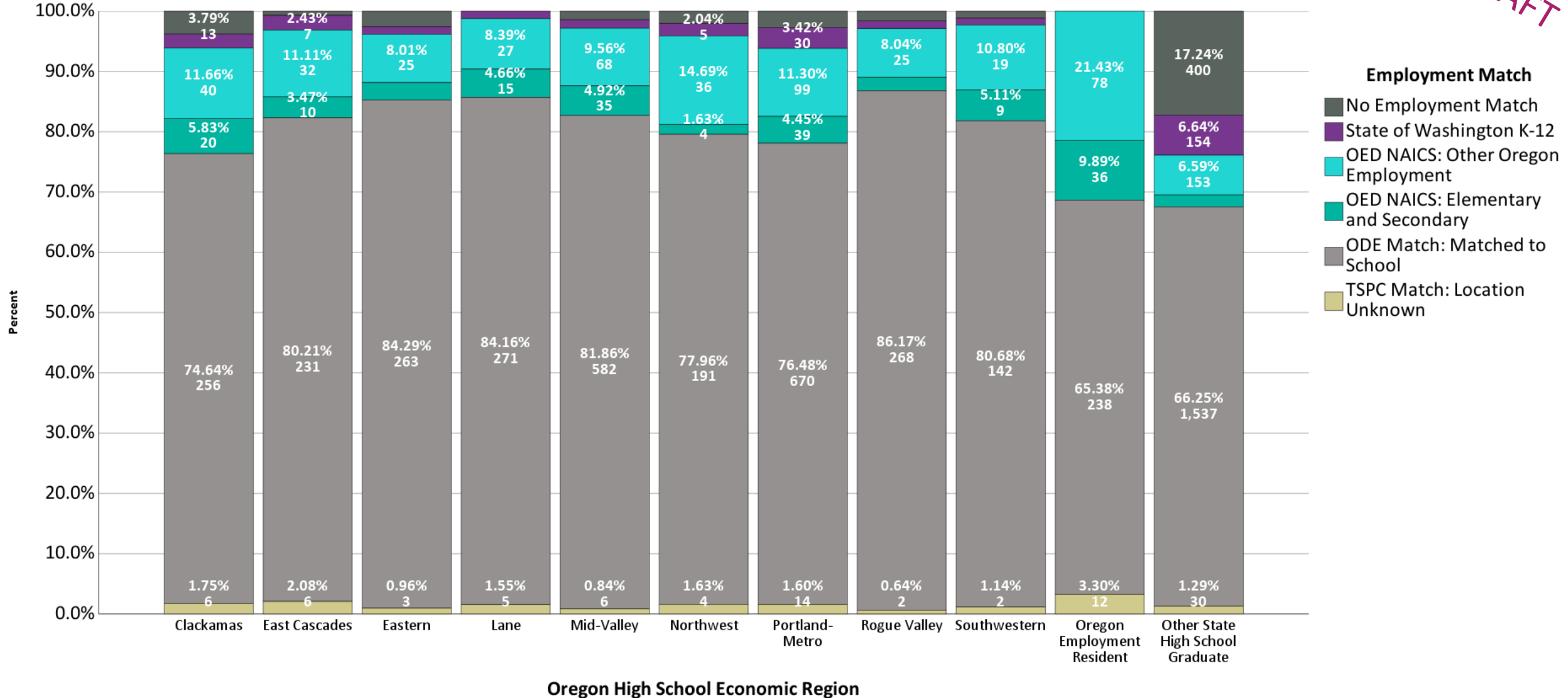


Data Source: TSPC 2023

Where Oregon High School Educated Public Educator Preparation Programs get Employed Post Graduation (2010-11 through 2022-23)

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Oregon High School Graduates Post Public EPP Graduation Employment Match



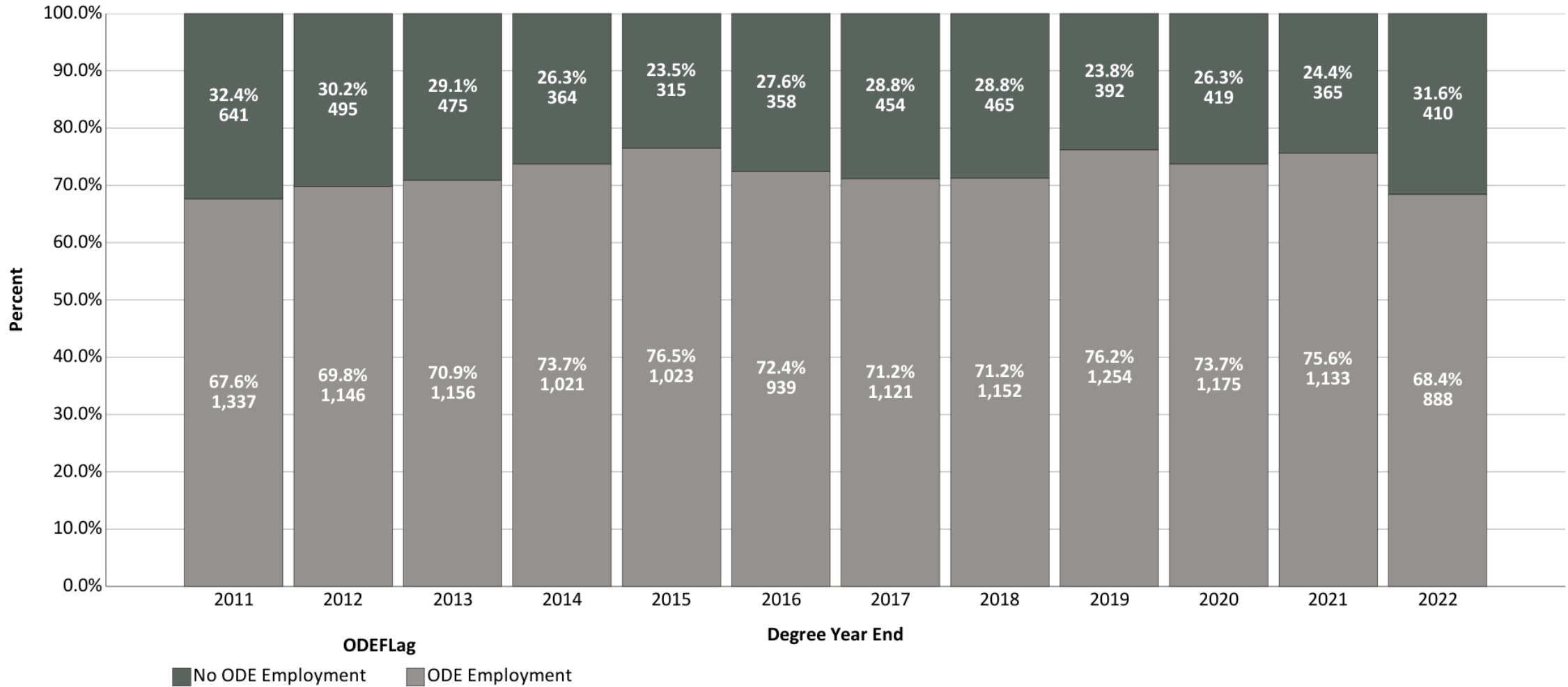
Filtered by AgeCohortHS, Institution Type variable

Source: SLDS 2024

TSPC Preliminary Teaching Recommended Licenses by Year and ODE Employment Match

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Percent of Oregon EPP Preliminary Teacher Recommendations that Become Employed with ODE

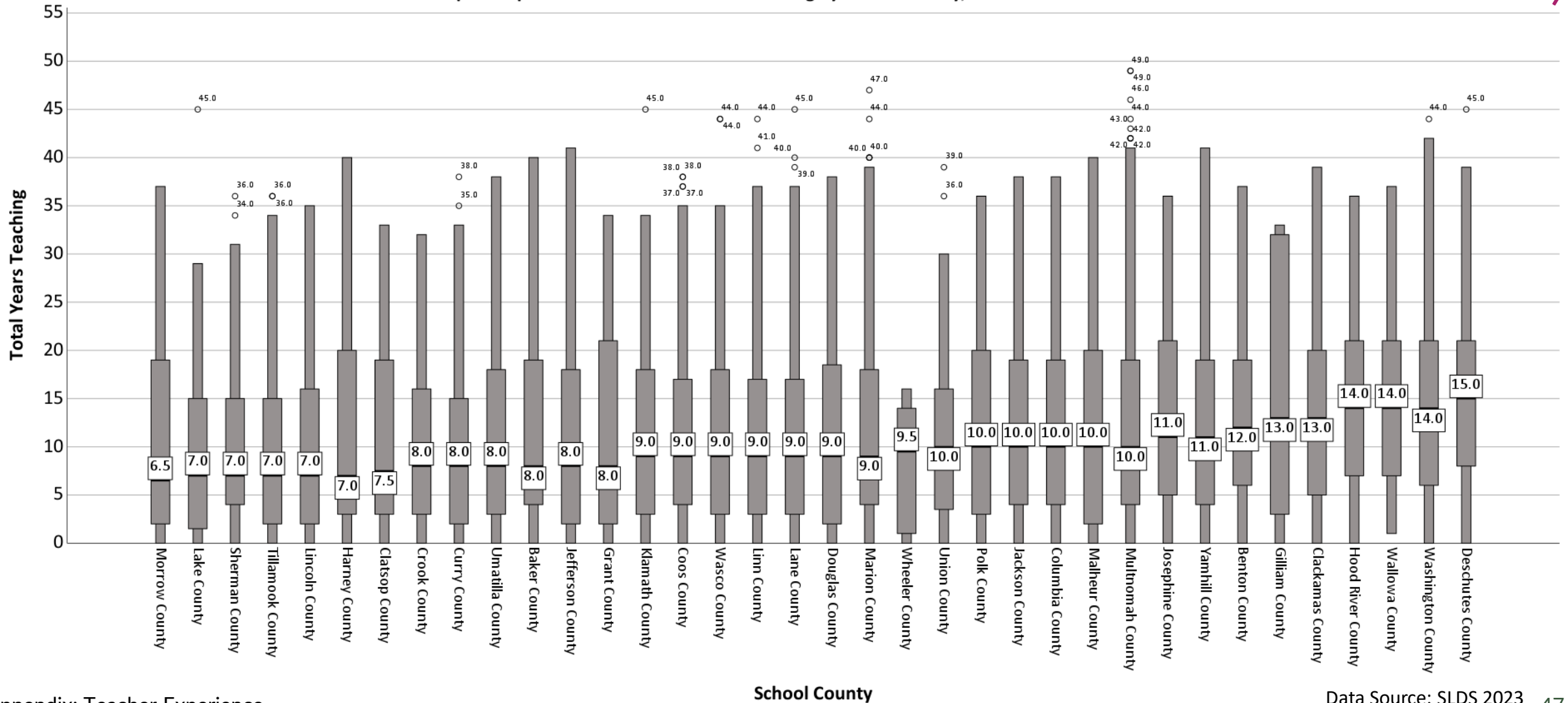


Filtered by TSPC_RecommLicenseCat_mapped.1 variable

Distribution of Years of Experience of Teachers by County

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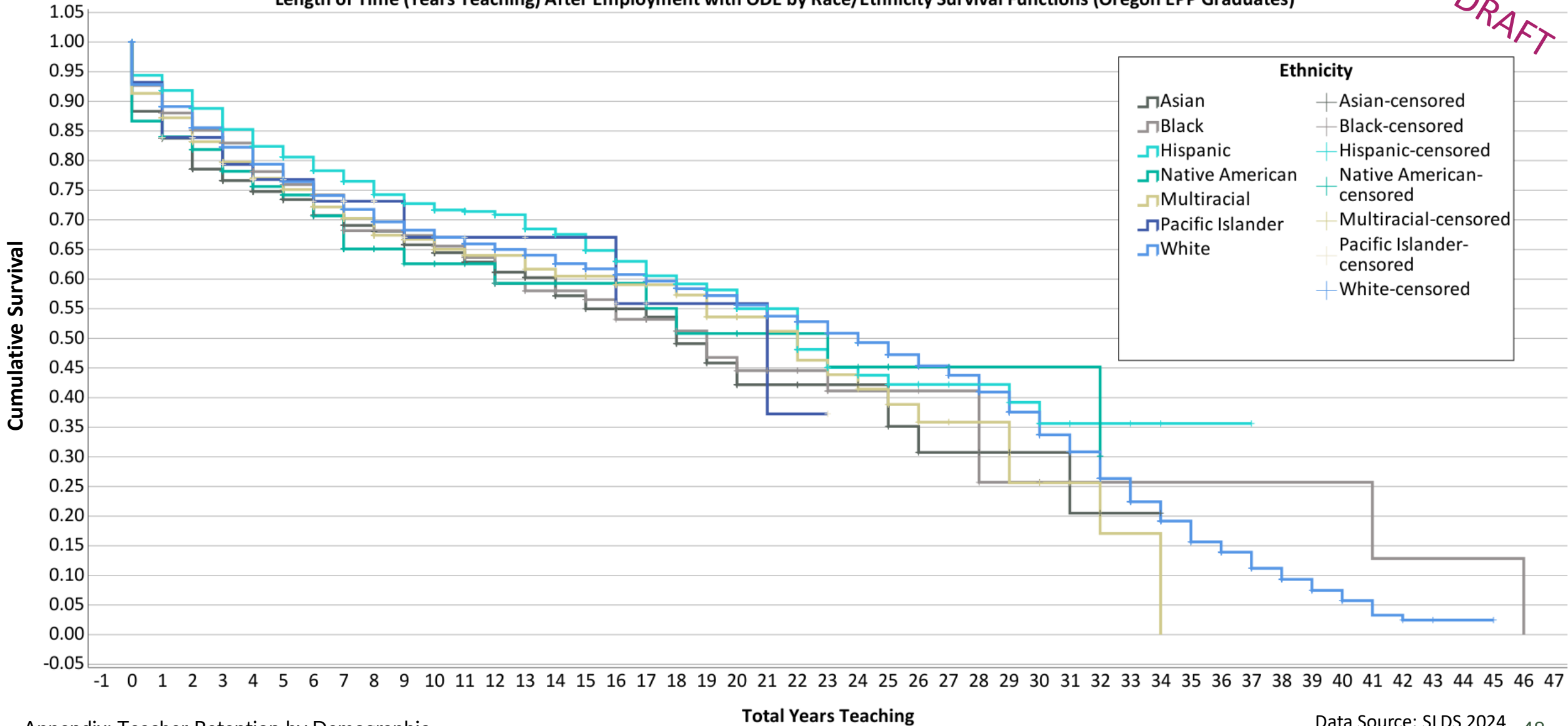
Simple Boxplot of Median Total Years Teaching by School County, 2022-23 School Year



Teacher Retention by Race/Ethnicity

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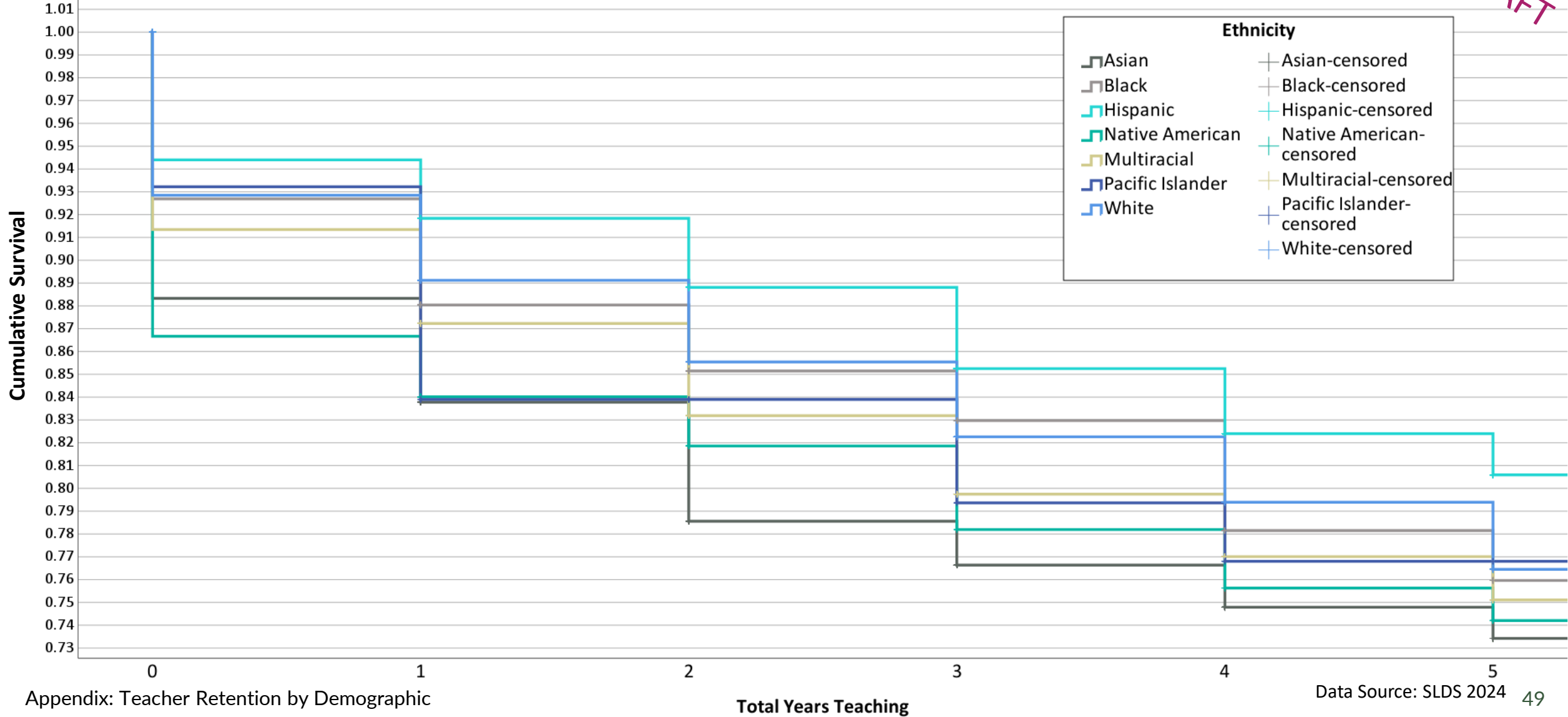
Length of Time (Years Teaching) After Employment with ODE by Race/Ethnicity Survival Functions (Oregon EPP Graduates)



Teacher Retention by Race/Ethnicity (1st five years)

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Length of Time (Years Teaching) After Employment with ODE by Race/Ethnicity Survival Functions (Oregon EPP Graduates)



Teacher Retention Survival Analysis Model

Means and Medians for Survival Time

Ethnicity	Mean ^a				Median			
	Estimate	Std. Error	95% Confidence Interval		Estimate	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound			Lower Bound	Upper Bound
Asian	17.749	1.005	15.778	19.720	18.000	1.711	14.647	21.353
Black	20.841	1.859	17.197	24.484	19.000	2.231	14.628	23.372
Hispanic	21.853	0.736	20.410	23.295	22.000	1.150	19.747	24.253
Native American	18.814	1.755	15.374	22.254	23.000	5.245	12.720	33.280
Multiracial	18.687	1.014	16.700	20.674	22.000	2.062	17.959	26.041
Pacific Islander	15.367	1.563	12.304	18.429	21.000	4.648	11.890	30.110
White	20.955	0.206	20.550	21.359	24.000	0.445	23.128	24.872
Overall	20.969	0.204	20.570	21.368	24.000	0.412	23.193	24.807

a. Estimation is limited to the largest survival time if it is censored.

Overall Comparisons

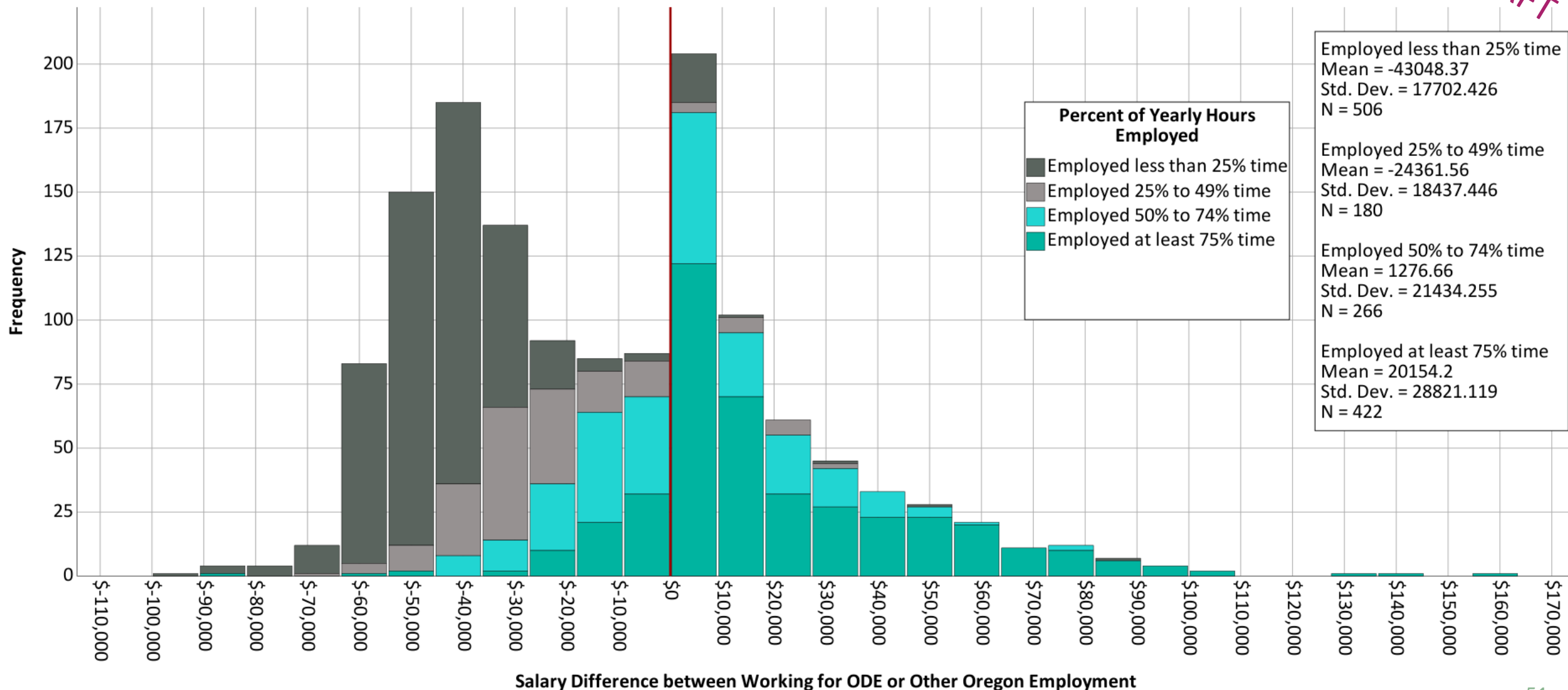
	Chi-Square	df	Sig.
Log Rank (Mantel-Cox)	21.727	6	0.001
Breslow (Generalized Wilcoxon)	29.667	6	<0.001
Tarone-Ware	26.526	6	<0.001

Test of equality of survival distributions for the different levels of Ethnicity.

Most teachers that leave for other full-time employment in Oregon leave for more money.

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Salary Difference between Teaching and Other Employment for Teachers that Left Employment with ODE by Employment Percent

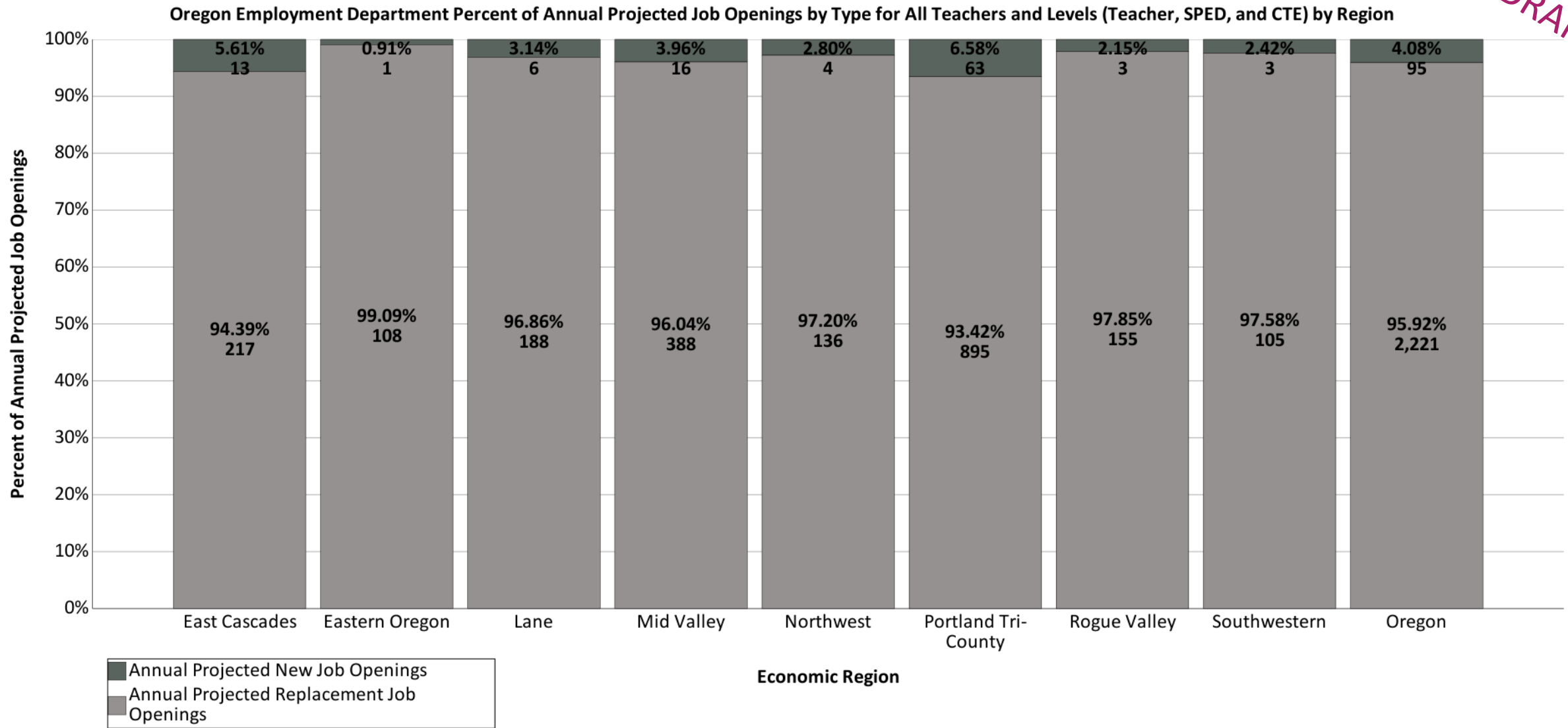


Appendix

Oregon's Demand for Educators (Draft Findings)

OED Projected Annual Teacher Job Opening Projections

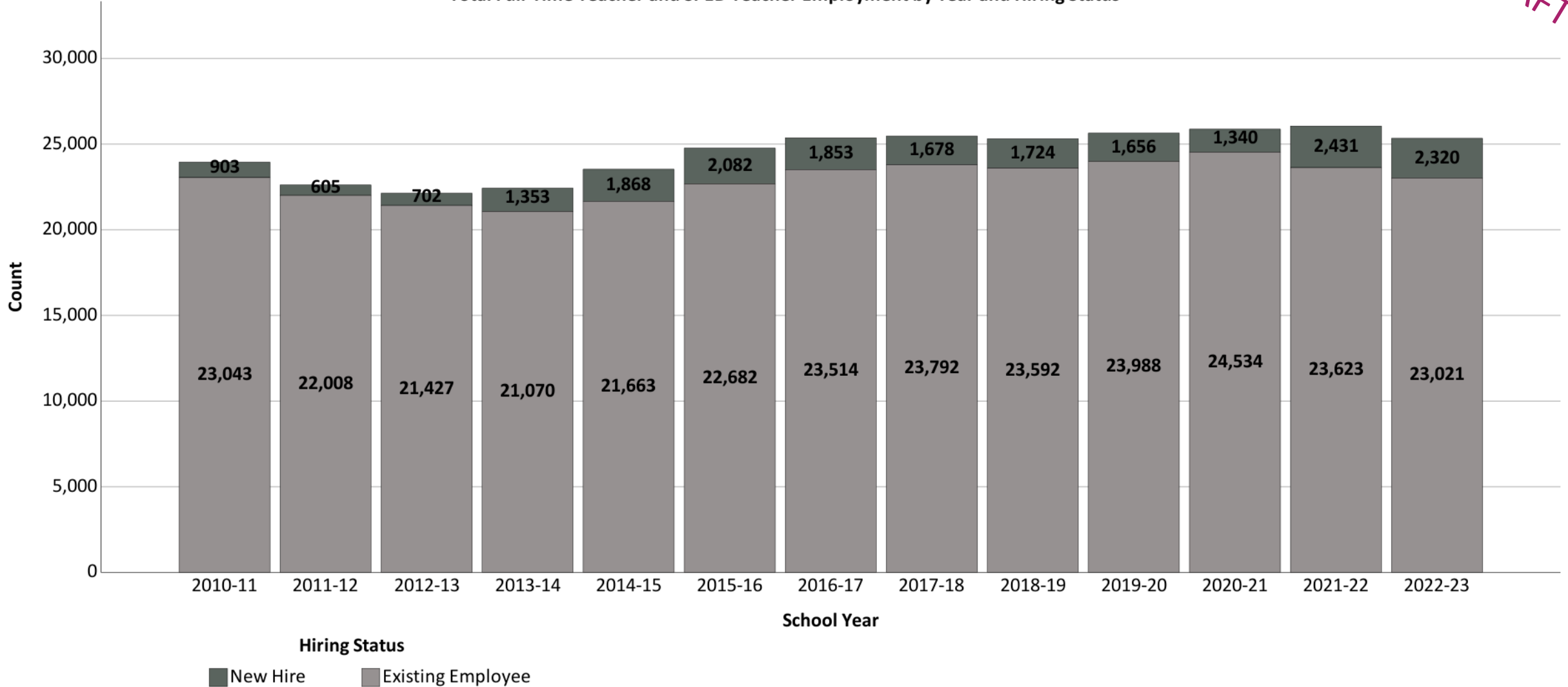
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Oregon's Historical Teacher Employment by Hiring Status

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Total Full-Time Teacher and SPED Teacher Employment by Year and Hiring Status



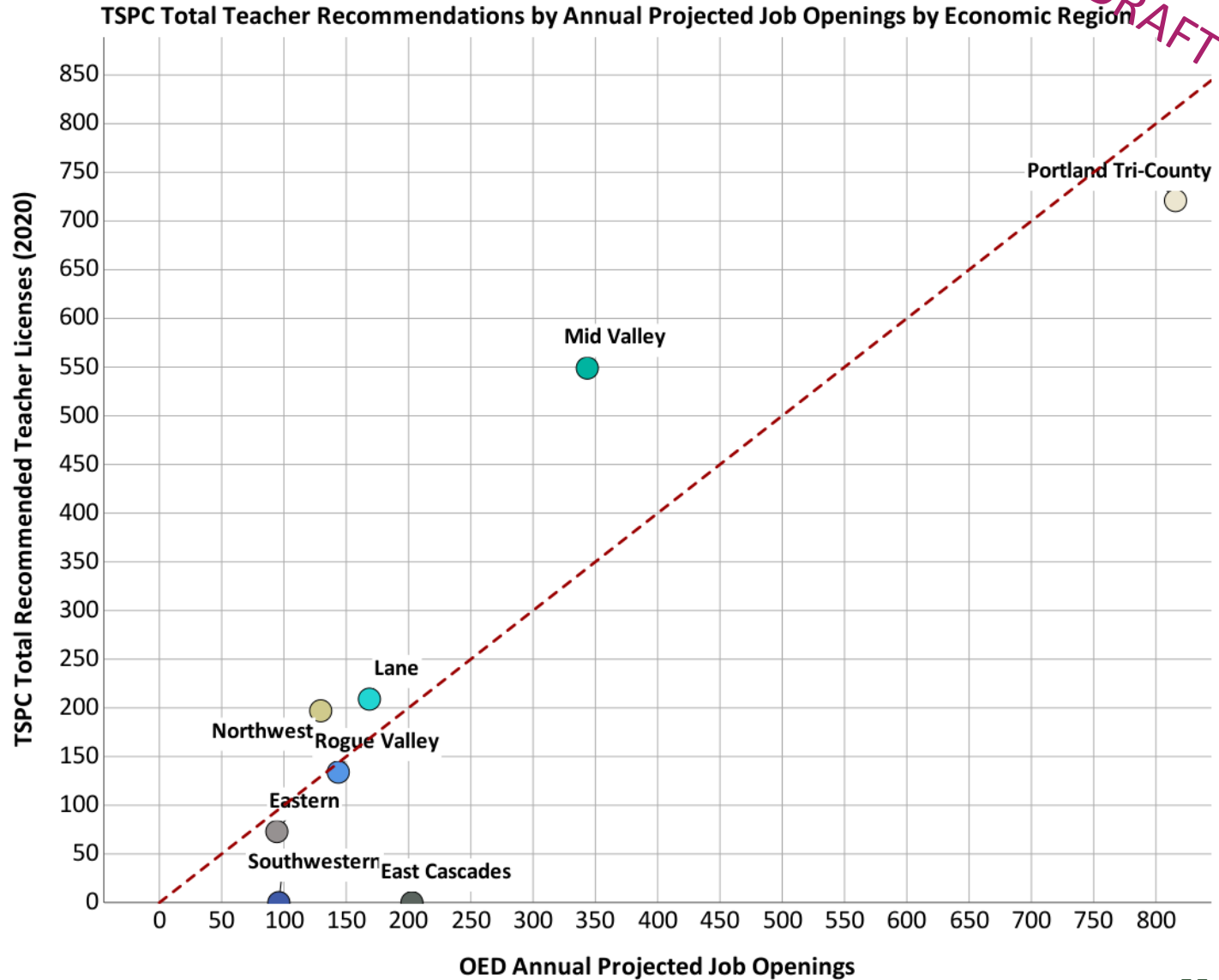
Finding 11: Oregon’s projected teacher job openings is primarily replacement openings.

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Oregon’s EPPs currently provide enough teaching graduates to meet current projected job demand.

Oregon’s projected job openings matches the historical trends in teacher staffing from ODE data, with higher turnover more recently during the pandemic.

As was seen above, not all Oregon EPP graduates stay and work in Oregon. However, Oregon is also attracting out of state EPP graduates and experienced teachers to fill vacancies.

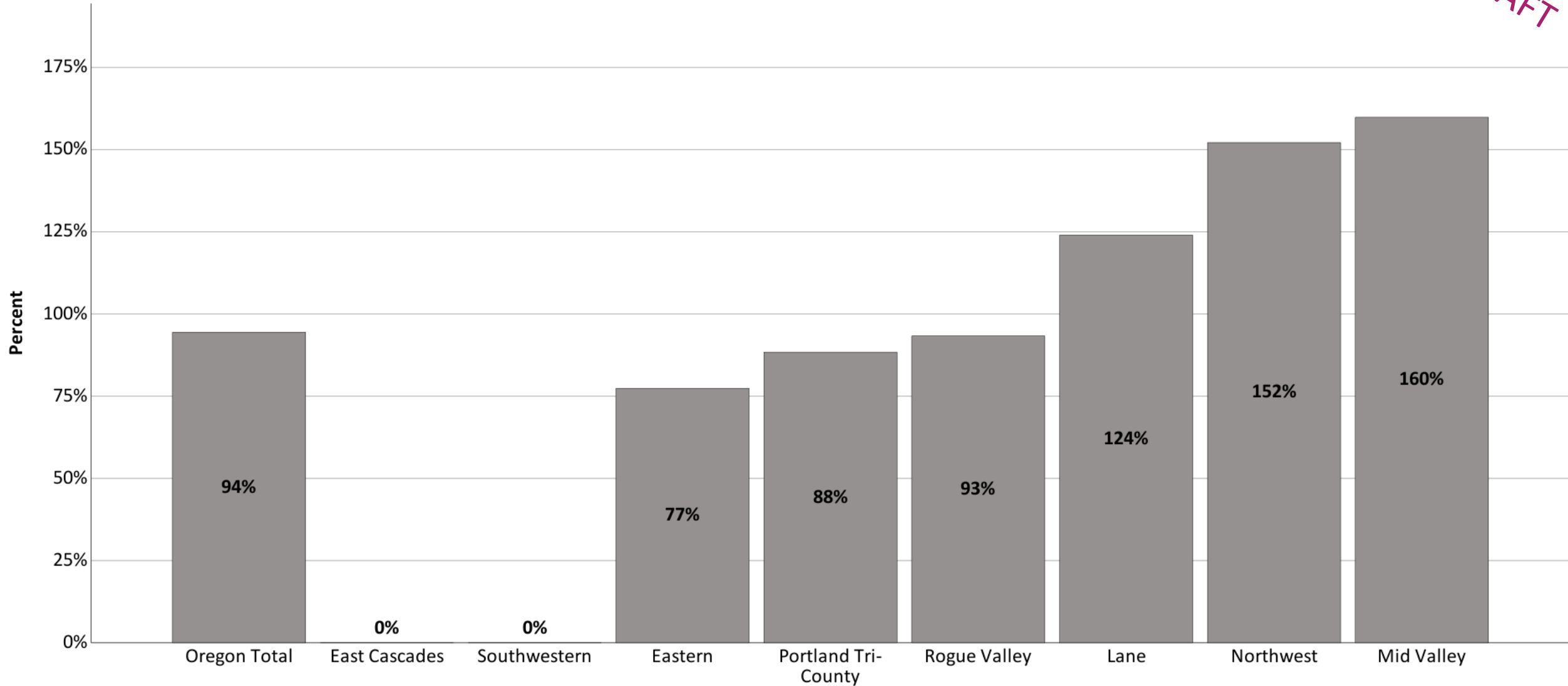


Source: SLDS 2024

Finding 11: Oregon's projected teacher job openings is primarily replacement openings.

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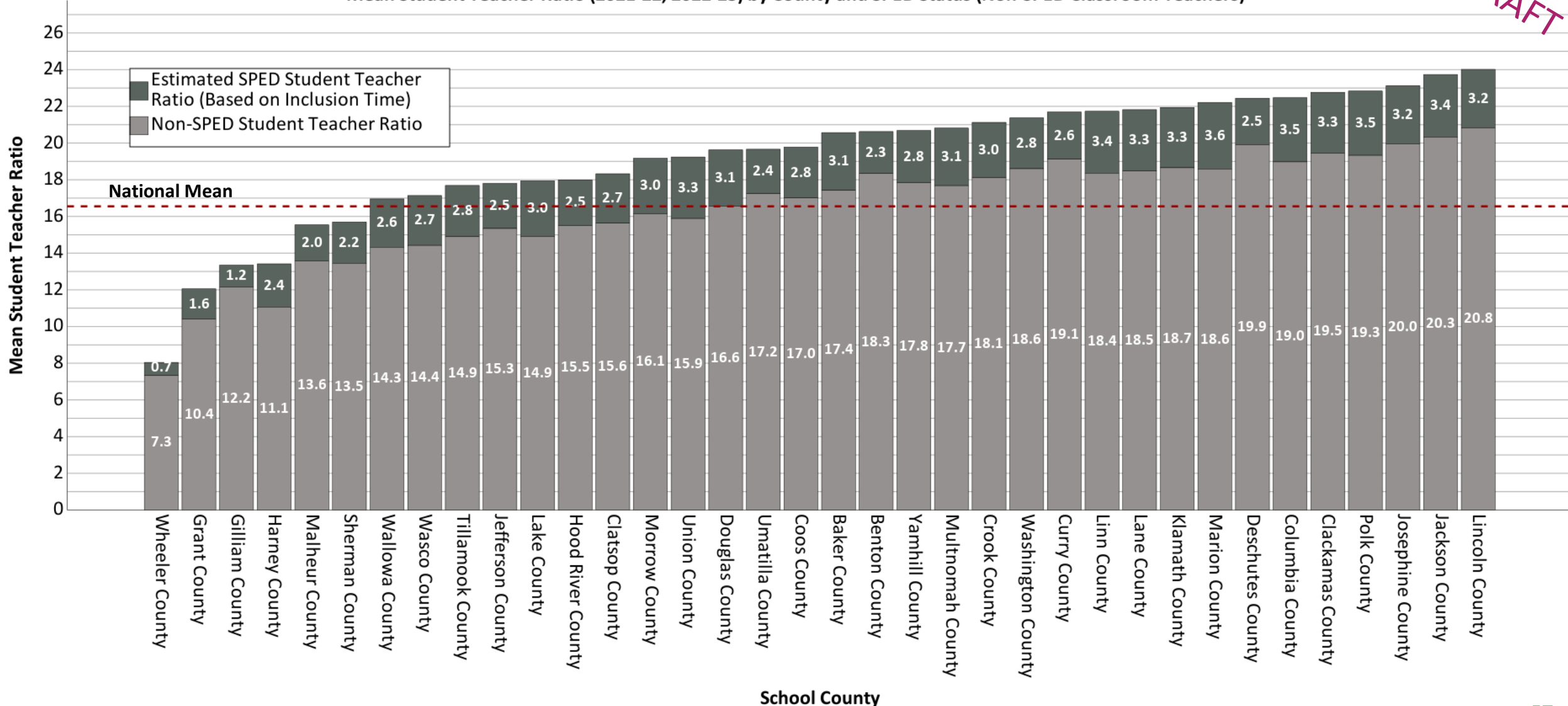
Percent of OED Projected Job Vacancies Filled By TSPC (2020) Recommended Teacher Licenses



Finding 12: Oregon has a measurable unmet need for more educators that is not reflected in current job openings.

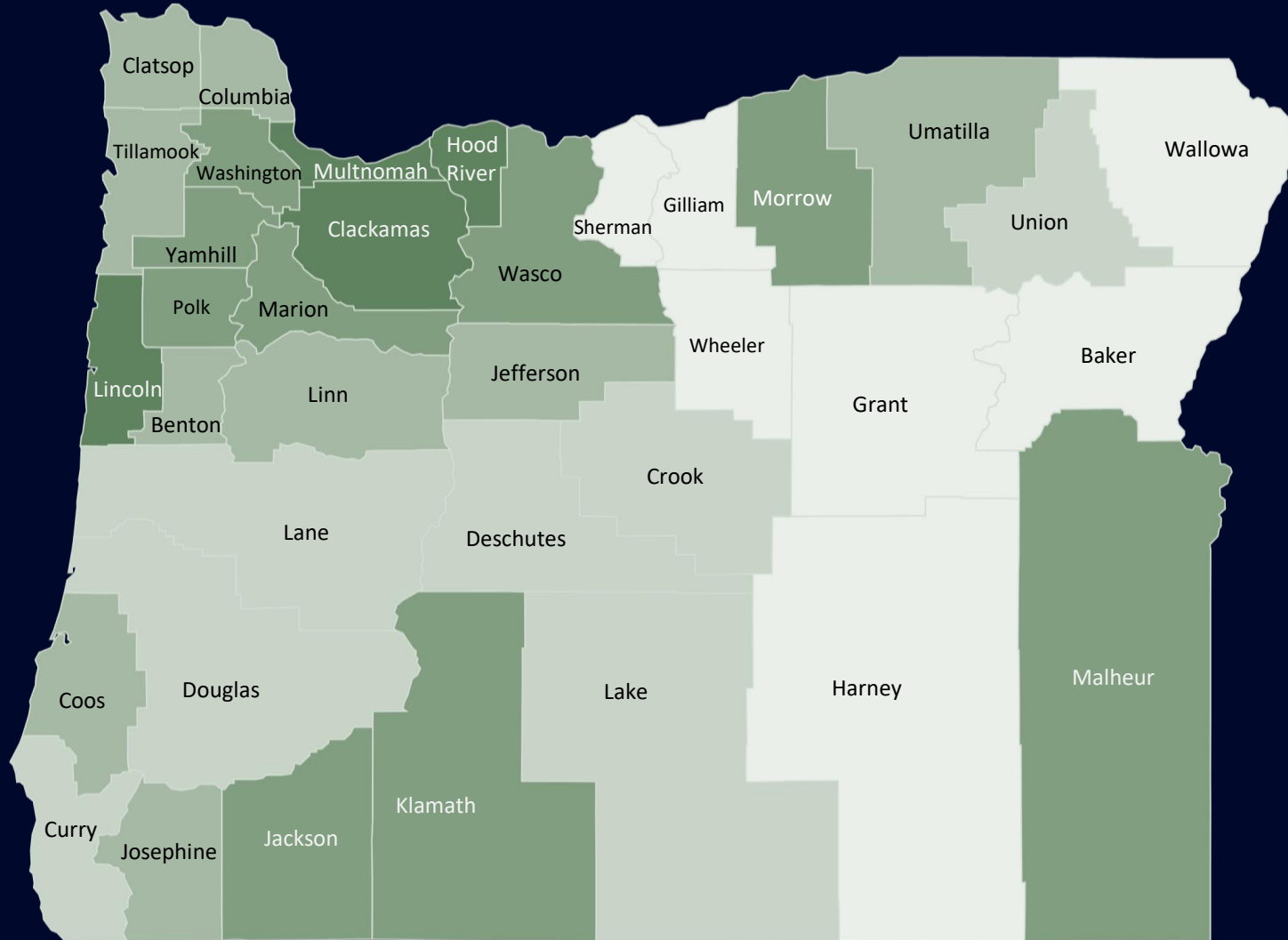
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Mean Student Teacher Ratio (2021-22, 2022-23) by County and SPED Status (Non-SPED Classroom Teachers)



New teacher salaries

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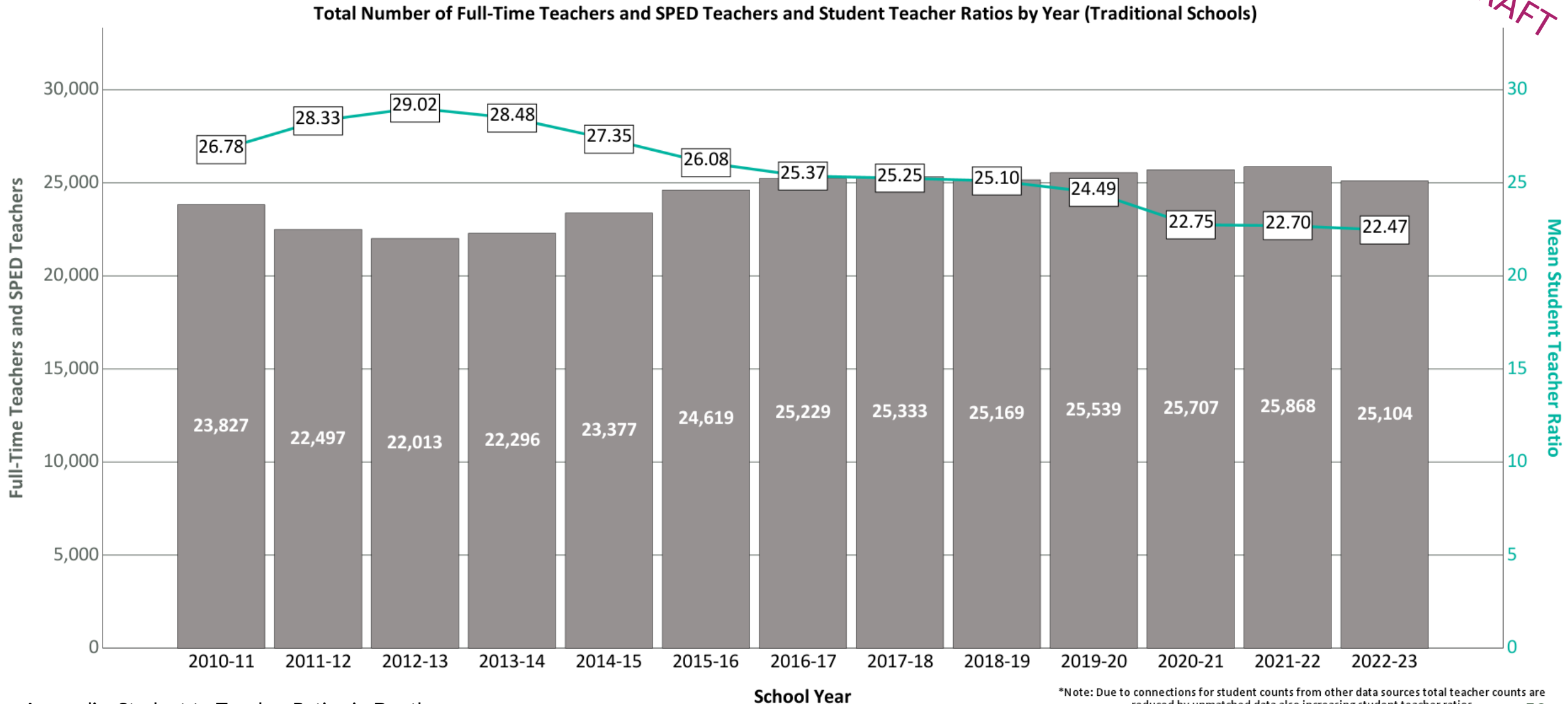


Average New Teacher Salary

- \$41,500 to \$44,999
- \$45,000 to \$47,499
- \$47,500 to \$49,999
- \$50,000 to \$52,499
- \$52,500 to \$57,500

Oregon Student to Teacher Ratios Over Time

DRAFT



Finding 15: Oregon’s unmet need for educators, as represented by higher student teacher ratios, is likely due to limits on resources to hire more educators.

Regression analysis was performed:

1. As regional rental costs increase, student teacher ratios increase as fewer teacher can be hired
2. As the number of SPED students increases, student teacher ratios increase as fewer teachers can be hired
3. Controlling for regional cost of living and the number of SPED students: As average per student teacher expenditures increase, student teacher ratios decrease as more teachers can be hired

Much of the variation in unmet need for teachers is correlated with regional cost of living differences, differences in per student teacher expenditures, and differences in the number of SPED students.

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
	School Type filter = Traditional Schools (Selected)			
1	0.934 ^a	0.873	0.873	6.40568

a. Predictors: (Constant), Per pupil teacher salary, FMR 2 rental costs, SPED student inclusion

Coefficients ^{a,b}						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	6.323	1.053		6.007	0.000
	FMR 2 rental costs	0.001	0.001	0.024	2.164	0.031
	SPED student inclusion	5.542	0.069	0.916	80.009	0.000
	Per pupil teacher salaries	-0.001	0.000	-0.075	-6.535	0.000

a. Dependent Variable: Student Teacher Ratio
 b. Selecting only cases for which School Type filter = Traditional Schools