

# Washington State Community and Technical Colleges: Salary Study Addendum

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## Executive Summary

This addendum to the Center for Economic and Business Research's (CEBR) full salary study for the State Board of Community and Technical Colleges addresses issues requested by the Legislature in addition to the study provided within the initial report. The topics addressed in this addendum inform the salary landscape but do not influence the findings within the salary study.

This purpose of this report is to discuss and inform relationships between the salary study conducted and overall salary trends in Washington State by industry while exploring how salaries in different industries and counties throughout the state have changed over time. For example, King County saw significant growth, especially in recent years, while rural counties like Wahkiakum have been on a steady decline since the late twentieth century.

This report also juxtaposes poverty thresholds set by the Federal Department of Housing and Urban Development (HUD) and salaries to illustrate that some industries pay comfortable wages while others struggle to deliver on that promise. This is consistent with the findings of the CEBR salary study which analyzed regional disparities in faculty and salary pay at community and technical colleges.

In addition, this addendum analyzes other comparable reports to the CEBR salary study to examine the methodological soundness of the CEBR report. A report from the Office of the Superintendent of Public Instruction (OSPI) proposes a regionalization technique for cost of living data in their K-12 salary study which we have endeavored to make more accurate, by accounting for the difference in where people work and where they live. While the OSPI report organizes cost of living by school district, the CEBR report views cost of living as representative of an entire workforce area, due to faculty and staff not always choosing to live within their defined district of employment. OSPI does not offer a comparison to schools outside of Washington.

A review of the salary study of all public employees in Washington State by the Office of Financial Management (OFM) is also included in this addendum. While that survey was larger in scope than the CEBR study, there are methodological similarities. Both studies utilize groups of peer states to analyze peer institutions in those states.

The similarities between the methodology of these two reports and the CEBR salary study offer precedent to CEBR's methodology and bolster its findings. CEBR's use of a cost of living formula, to shift to organization by workforce district, enhances the accuracy of cost of living data as compared to the OSPI report (which reported by school district) and past SBCTC salary studies (which reported a statewide number not weighted by population).

## Salary Trends

Economic activity within the core Puget Sound region (King, Snohomish, Pierce, and Kitsap counties) significantly influence salary data for Washington State. This region is home to 55.8% of the Washington state population and a majority of the state's employment. An examination of average salary data for the state is often misleading since the average reflects more upon the core Puget Sound than the remaining counties.

Looking at the average earnings per job for King and Wahkiakum Counties, the highest and lowest performing counties in the state, and comparing them to state and national averages, provides a better lens for examining the range of Washington salary trends.<sup>1</sup> From this perspective a more thorough examination is made between specific counties while keeping the broader range in mind.

In 2016<sup>2</sup>, King County's average earnings per job were \$81,484, compared to Wahkiakum's average of \$31,848. The state average was \$64,925, and the nation's was \$58,327. Historically, Washington has closely followed the national trend. However, around 2011 King County began to experience strong wage growth, significantly influencing the state average (see Figure 1). At the same time, other regions around the nation also experienced significant growth – influencing the national average – but with many regions' lack of robust growth, Washington and King County stood out from the national data. Wahkiakum, on the other hand, did not follow the trends of the state or nation overall before 2015. After 2015, it began to reflect the national dip in average earnings per job. While the county's decline in average earnings per job started in the 1980's, it reflects similar data trends for rural communities within Washington and others nationally. Both the state and national averages are heavily influenced by large metropolitan areas whereas rural areas fall below, and oftentimes significantly below, these benchmarks.

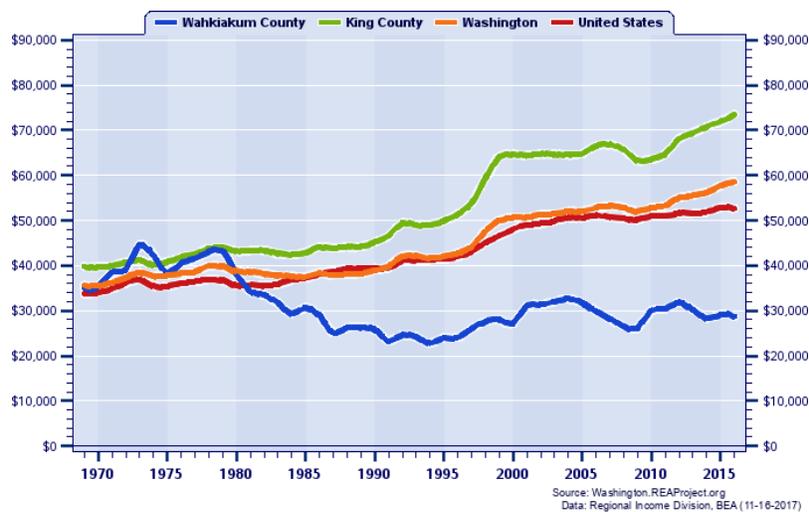


Figure 1: Real average earning per job. Washington State REAProject, data collected on September 22, 2018

<sup>1</sup> [https://washington.reaproject.org/analysis/comparative-trends-analysis/average\\_earnings\\_per\\_job/tools/530069/530033/](https://washington.reaproject.org/analysis/comparative-trends-analysis/average_earnings_per_job/tools/530069/530033/)

<sup>2</sup> More current data is not available from the Regional Economic Analysis Project. Data is updated annually in November.

There are many factors that play into the difference in earnings between regions. Just a few of these factors are cost of living, population, population density, types of industries, and sizes of industries. These factors may seem straightforward on the surface, but once you begin to analyze them they quickly become more complicated.

Population size and density, for example, can influence the cost of living, which in turn can affect population size. For example, a sudden increase in population may drive up housing costs, which are a factor in the cost of living. Higher housing costs may discourage additional people from moving to the region, or if they are drastic enough residents may move away from the region.

### Population and Average Salary

Large populations have large workforces. Employers in regions with a large workforce experience many benefits that they can pass on to their employees in the form of a higher salary. Two of these benefits are a thick employment market and knowledge spillover.

A thick market, as mentioned in Enrico Moretti's *"The New Geography of Jobs,"* refers to a market that has many buyers and sellers. In this case that is many employers and potential employees. When there is an abundance of options, it is easier to find the employee with the unique skill set that best meets your needs. This unique skill set can result in higher productivity for the firm, and so they will pay that employee more.

Knowledge spillover tends to occur when several firms that are a part of the same industry are clustered together. Not only are these firms more likely to build off one another's innovations, but due to their proximity employees of different firms are more likely to talk to and get ideas from one another. This leads to increased efficiency for all firms involved, and more successful firms pay more.

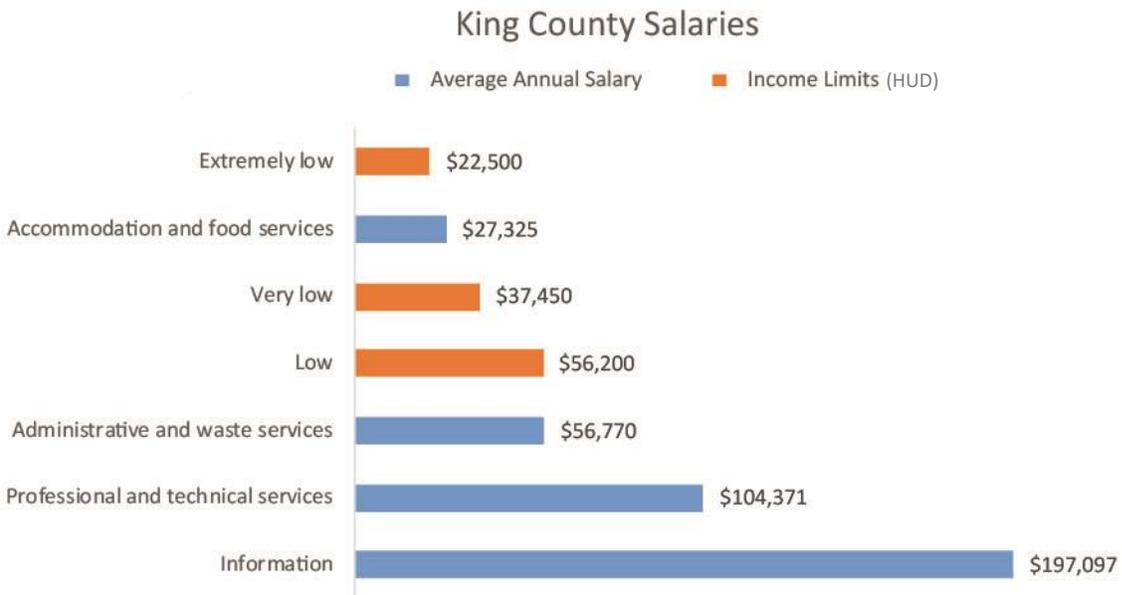
Thick markets and knowledge spillover benefit employers so much that they tend to cluster together in places like Seattle or Silicon Valley despite high operating costs. These clusters of firms coincide with regions of high population, and this leads to the idea that larger populations tend to have higher paying jobs. These high paying jobs will pull up the average earnings per job, and so King County with its cluster of firms in Seattle has a higher average earnings per job than Wahkiakum, the state or even the nation, which have a lower density of populations and firms.

### Uneven Salary Distribution

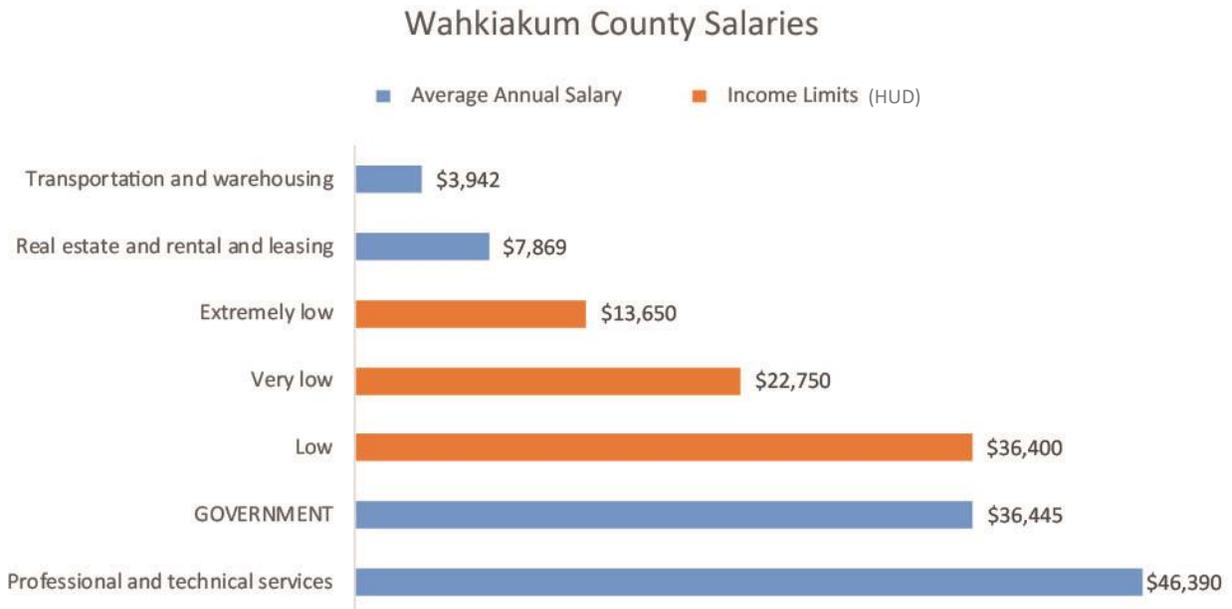
The winners and losers in a thick market are much more pronounced. There are those within the labor market who earn high salaries and those that earn much lower salaries – often to the point of not being able to afford to reside within the core job market due to an unattainable cost of living. In place of a traditional three-class market (low, middle- and upper-class incomes) a two-class system appears with those that can afford to reside within the market and those that cannot.

To better illustrate this, a comparison is shown using data on the two highest and lowest average annual salaries by NAICS industry classification for King and Wahkiakum Counties and the income limits set by the Department of Housing and Urban Development (HUD). The limits indicate the amount of housing subsidies that families qualify for through HUD section 8. Extremely low indicates the highest subsidy, and low indicates the lowest subsidy.

In King County, this uneven salary distribution is evident.<sup>3</sup>



In Wahkiakum County a similar trend is evident, but it is not as pronounced. However, poverty is clearly more widespread.



<sup>3</sup> <https://www.huduser.gov/portal/datasets/il/il2018/2018summary.odn>

Keeping in mind that the economic activity of 146 of the 3,100 US counties heavily influences the US average data, a similar trend appears. As national scale HUD income limit data does not exist, the calculation of national income limits uses the US median income and HUD’s methodological framework.



On the national level, the differences between the highest and lowest salaries are more comparable to that of King County, while the income limits are similar to those in Wahkiakum. This is because the 146 counties with strong higher wages, driven by clusters of industries, impact national salaries far more than income limits. The 2954 counties with lower wages impact income limit data heavily.

### Employment by Industry

Some industries have a stronger presence in certain areas over others and the industry makeup of the region impacts its average earnings per job. Salaries differ by industry, with some such as retail trade paying less than manufacturing. It follows from this that an increase in manufacturing employment will have a larger impact on overall average earnings per job than a similar increase in retail trade. This is important to understand when examining why some regions have higher earnings per job than others.

The following table shows employment growth by major SIC industry between 1970 and 2001. The breakout of the 2001 data is particularly useful as it shows the growth rate of each industry. Total employment shrank by -0.35%, and the industries that were growing like agriculture and services are not industries known for high pay. This corresponds to Figure 1, which shows effectively no growth in the average earnings per job.

**Employment Growth by Major SIC Industry  
Washington, 2001 and 1970-2001**

Major Industry	2001 Growth				1970-2001 Growth			
	Growth Rate	CC <sup>3</sup>	National Growth Rate	<sup>4</sup> Local - National Growth	Average Annual Growth Rate	CC <sup>3</sup>	National Average Annual Growth	<sup>4</sup> Local - National Annual Growth
Farm Employment	-0.49	-0.01	-1.83	1.34	0.55	0.02	-0.79	1.34
Agricultural Services, Forestry, and Fishing	1.73	0.03	0.66	1.07	4.72	0.07	4.4	0.33
Mining	1.24	0	7.19	-5.95	3.35	0.01	0.62	2.73
Construction	-1.33	-0.08	2.11	-3.44	3.5	0.18	2.5	1
Manufacturing	-3.7	-0.39	-4.66	0.96	0.83	0.1	-0.33	1.16
Transportation and Public Utilities	0.02	0	0.69	-0.67	2.47	0.11	1.75	0.72
Wholesale Trade	-6.79	-0.32	-4.11	-2.68	2.54	0.13	1.81	0.73
Retail Trade	-1.54	-0.26	0.06	-1.6	3.09	0.49	2.21	0.87
Finance, Insurance, and Real Estate	0.17	0.01	0.45	-0.27	2.75	0.21	2.56	0.19
Services	1.51	0.45	1.51	0	4.51	1.06	3.68	0.83
Federal Civilian	-4.68	-0.09	-5.67	0.99	0.34	0.01	-0.19	0.53
Military	0.79	0.02	0.19	0.59	-0.77	-0.06	-1.52	0.75
Other/Suppressed Industries*	2.36	0.28	2.08	0.28	U	U	U	
<b>Total Employment</b>	<b>-0.35</b>	<b>-0.35</b>	<b>0.09</b>	<b>-0.44</b>	<b>2.64</b>	<b>2.64</b>	<b>1.89</b>	<b>0.75</b>

**3** CC (Component Contribution) - Each industry's individual contribution to the total growth of employment in Washington.

**4** Difference between the national growth rate and the growth in Washington for each major industry.

\*The "Other/Suppressed Industries" category portrayed in this table represents a combined total of those industries for which data were unavailable due to confidentiality restrictions. Those industries that are combined include: State Government; Local Government

Note: Percent growth figures may not add due to rounding by a factor of ± 0.1%

**Source:** Calculations by the United States Regional Economic Analysis Project (US-REAP) with data provided by the U.S. Department of Commerce, Bureau of Economic Analysis

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Table 1 United States REAPProject, Data collected September 22, 2018

## Changing Roles in Employment

In the past two decades, companies have sought any and all cost savings. One effort undertaken by many companies is in effect the unbundling of jobs. Historically, tasks of various economic value to the company fill the day of the employee. In the name of efficiency, employers have tightened what a single employee does so that a larger percentage of their daily activities better align with their economic costs. For example, an engineer being paid \$120,000 per year would not be expected to do work that could be done by a \$40,000 employee or contractor.

The results of unbundling have concentrated higher paid work (fewer overall employees) while also increasing the demand for lower paid work through either employee or subcontracted efforts. An additional impact of unbundling is a shift in the location of work. Agglomeration has occurred as specific talent sets define certain areas in the US. Engineers are present in high volumes in specific locations and given that their work is unbundled from other company activities, companies focus specific talent geographically in work centers.

The unintended consequence of unbundling is that the geographic locations with skill clusters create an intense pressure on salary whereas the tasks that were unbundled often have the reverse effect.

## Two-Year College Salaries

In Washington, an analysis of trends in salaries within the two-year college system is inclusive given that these salaries are overwhelmingly established by legislation and not reflective of the labor market.

Additionally, due to the large distances between colleges, thick markets are not achievable and very little knowledge spillover occurs between them.

However, we can observe that when searching for an increase in pay, it may be easier for employees at a two-year college to seek similar skill positions within the private sector than it is for them to move to another region to work at a different college. By switching to the private sector, they may be able to obtain higher pay without the hassle of moving to a new city or state. Furthermore, as two-year colleges are fairly spread out, the regional employment market that exists within the private sector may not be comparable between colleges depending upon location.

Following the Engrossed Senate Substitute House Bill 2261 (RCW 28A.400.201), an education reform bill from 2009, the Employment Security Department (ESD) put together a Compensation Technical Working Group Report<sup>4</sup>. The report made recommendations for the salaries and further training of K-12 teachers. As a part of this report, a comparison was made between similar careers and it was recommended that the salaries of these carriers be used to make teaching a more competitive career. It is not made clear in the report what criteria other than education levels when into the selection of these similar careers. Due to differences between K-12 teachers and employees at two-Year Colleges, these careers are not directly comparable. A version of this report for two-year college salaries would be useful in future discussions.

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## Related Reports and Methodology

The following section details reports conducted by the Office of Superintendent of Public Instruction and the Office of Financial Management. As they covered similar topics – namely, studies on salary rates for employees in the public sector in Washington State – their methodology is contrasted with that of the salary study conducted by CEBR that this report is an addendum to.

### Office of Superintendent of Public Instruction Salary Study

Following the 2012 McCleary Decision, the Supreme Court of Washington State found the Washington State Legislature neglected its constitutional obligation by failing to adequately fund basic education. The K-12 Salary system conducted by the Office of Superintendent of Public Instruction (OSPI) attempted to remedy in part the issues surrounding the McCleary decision.

The state requires OSPI to develop the state’s learning standards.<sup>5</sup> The guidelines associated with the learning standards are an ongoing, collaborative effort by various private institutions and public agencies. The implementation of these learning standards relies heavily on the ability of the OSPI to attract talented and knowledgeable educators and competent and experienced staff to run the daily operations.

To this end, the K-12 Salary system attempts to provide “fair market-based salary allocations”<sup>6</sup> for the education of Washington State’s workforce and “maintain comparable wage levels through an annual cost of living adjustments”<sup>7</sup> determined through a taskforce created by the OSPI. According to the K-12 salary report summary, the State of Washington will determine salaries based on a state-wide average. An example of the data from the K-12 study is included below.

Staff Category	Current Average State Allocation (2016-17 SY)	Minimum Salary Allocation (To be Adjusted for 2017-18 SY Inflation)	Range of State Salary with Regionalization
Instructional Staff	\$54,062	\$64,000	\$66,194-\$82,081
Administrative Staff	\$61,752	\$95,000	\$98,257-\$121,839
Classified Staff	\$33,299	\$45,912	\$47,486-\$58,883

*Table 2: Data from OSPI New Salary System – A Summary*

The salary system will ensure the maintenance of a standardized baseline salary for all educators throughout the State. The adjustments of salaries, known as regionalization, will be determined based on the average residential values within each district. The State grants more expensive districts a slightly higher allocation of monies and less expensive ones receive less; however, less expensive districts are not penalized under this new system. Regionalization allows the State to adjust salaries based on the

<sup>5</sup> OSPI, <http://www.k12.wa.us/CurriculumInstruct/learningstandards.aspx>

<sup>6</sup> Compensation Technical Working Group Report, p. 13

<sup>7</sup> Ibid p. 14

underlying cost of living in each respective district. The K-12 System also increases and adjusts the salaries of the administrative and classified staff according to the educational and experience of each member.

Additional adjustments will be determined largely based on local collective bargaining agreements within each district.

### Comparing OSPI and SBCTC Salary Analysis

While OSPI conducted the K-12 study, the Center for Economic and Business Research (CEBR) undertook a similar study on behalf of the State Board of Community and Technical Colleges (SBCTC). The study examined the salaries of faculty and staff at community and technical colleges.

Communities view the colleges under the purview of the SBCTC as ladders of opportunity, as they are accessible and affordable to many non-traditional students. These institutions provide job-retraining, professional certification, an affordable first two years of college, or a space to build skills and explore interests. However, the workforce faculty at these colleges are often industry professionals who have clear options for employment in the private sector. The system has had a difficult time competing for such faculty.

One issue identified was a lack of growth in faculty salaries to match national salary figures. The CEBR study found that in order to analyze how competitive Washington faculty and staff salaries are, comparisons to faculty salaries at peer institutions in other states are necessary. The CEBR report identified criteria that identified peer states – one group contained other Western states, another contained groups with similar metrics to Washington as defined by the Information Technology and Innovation Foundation, while a final group looked at comparable college systems in other states to build a list of peer states. The OSPI report did not pursue the role of outside actors in its analysis, choosing instead to focus on regionalization of salaries within the state.

While both reports looked at regionalization of salaries, the CEBR study approached cost of living data differently. The OSPI study built cost-of-living estimates by school district, and earlier versions of the SBCTC report not conducted by CEBR only used state cost of living, with no regionalization of the data. In the CEBR report, the estimation of cost of living utilized a formula known as the Workforce Development Area Cost of Living average (WD-COL).

Washington State has twelve distinct workforce regions that work closely with the community and technical college districts to promote “collaboration at the local-level in order to serve regional economies more effectively.”<sup>8</sup> The formula developed by CEBR utilizes the weighted average cost of living index for each workforce areas multiplied by the population and then divides the population within the same workforce area to generate the Workforce Distribution COL. The WD-COL allows for a

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<sup>8</sup> State Salary for Community & Technical Colleges Salary Study 2018, CEBR, p. 6

more accurate representation of purchasing power by allowing for cost of living adjustments to reflect the unique regions holistically.

This strikes a happy medium between the old SBCTC reports and the OSPI report. On one hand, the OSPI report was too specific, drawing arbitrary bounds around cost of living by school district that did not accurately reflect where people work and live; for example, teachers may not live in the school district that they teach in. On the other hand, a state cost of living – as supplied by previous SBCTC reports – is too broad, not reflective of the dynamic economic landscape that Washington State contains, with affluent population centers and rural counties experiencing wildly different economic realities. The CEBR report walks this thin line by developing the WD-COL, to contain both the work-shed and home-shed of faculty and staff at community and technical colleges in the state. The WD-COL can assist state legislators in making the necessary and appropriate salary adjustments to attract and retain quality faculty and administrative staff at Community and Technical Colleges throughout the State – just as the OSPI report used district COL estimates.

### [Office of Financial Management State Salary Survey Review](#)

The Office of Financial Management (OFM) is required to conduct salary surveys to determine whether prevailing pay rates for jobs are comparable to state government jobs.<sup>9</sup> This survey is one of the few on-going tools many used to ensure fair employee compensation given their skill and education attainments. Public and private employer data concerning salary and benefit packages both in Washington State and around the United States comprise the bulk of the survey.

Similarly to the CEBR salary study, this report collected information on peer states and institutions to develop an estimated market value for positions throughout the state government. However, the OFM report also considered competitive private sector jobs that could impact salaries in the public sector by drawing away talent – this was not a consideration of CEBR’s report.

The 2018 survey conducted by the OFM discovered employment benefits offered by the State are largely comparable to the private sector. High skilled professions within the State receive compensation above the average state salary range. The pay range for many employees is at or less than the private market, with most competition occurring at the bottom of the state salary pay range. The salary survey notes “13% of surveyed state salary range midpoints are at or above the estimated market value (EMV); 48% are more than 25% below the EMV”<sup>10</sup>

### [Washington State Community and Technical Colleges MOU Review](#)

John Boesenberg, Deputy Executive Director of Business Operations for the SBCTC, contacted the OFM on behalf of CEBR to request data coming out of the MOU with WFSE. He was informed that no data was produced by that work.

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<sup>9</sup> 2018 State Salary Survey Executive Summary, Published June 4 2018, p. 1

<sup>10</sup> Ibid.