

Current Status of Cost Pressures on Teacher Salaries in Wyoming

**Report to the
Joint Appropriations Committee and
the Joint Education Committee**

September 2024

Report prepared by Dr. Christiana Stoddard

Overview of Cost Indicators

The 2011 to 2023 reports “Cost Pressures on Teacher Salaries in Wyoming” included metrics for monitoring changes in cost pressures on teaching salaries. This report updates the most salient of these metrics to identify pressures related to labor market trends, demographic patterns, and teacher turnover. The indicators are summarized in **Table 1**. Details about each metric and figures reporting longer term trends follow.

SUMMARY

- **Teaching wages in Wyoming in May 2023 were about 81 percent of average annual wages in comparable occupations.** For neighboring states and North Dakota, the ratio was 71 percent, and it was 73 percent in the United States (U.S.) as a whole.
- **The ratio of teaching salaries to comparable occupations in Wyoming has consistently eroded over the last ten years.** Comparison of teacher wages to business and health occupations in Wyoming have experienced particularly sharp wage decreases in the last 2-3 years.
- **Average teaching salaries in Wyoming increased by 3 percent from 2022/23 to 2023/24,** similar to the growth rate in U.S. as a whole, but still somewhat slower than the average rate in adjacent states and North Dakota.
- As a result, teacher wages in Wyoming slipped again relative to adjacent states and North Dakota, and average salaries are now only 5 percent higher than the average in these states. **Wyoming’s advantage relative to the region has fallen by half since 2018/19.**
- Wyoming's 2023/24 K-12 education resource block grant model (model) teacher salaries are 93 percent of the average in the region. **Model salaries in 2023/24 were lower than the average teacher salary for every state in the region except for South Dakota.**
- **The exit rate of teachers remained relatively high, at about 12 percent.** Exit rates for retirement age teachers are at about the long term average, but exit rates for new teachers remain relatively high by historical standards, at 15 percent.
- **Demographic factors—student enrollment and teacher retirement—are not significant contributors to cost pressures** on salaries.
- The pipeline for new teachers shows signs of stress, with **a significant drop in the number of new graduates from the University of Wyoming in the last year.** The last publicly available year for pass rates on the teacher certification exam was 2021, and it also showed a significant drop from the previous year.

Table 1: Summary of Indicators of Cost Pressure Sources

| | Current Status | Previous Year | 10 Year Range And Average |
|--|-----------------------|----------------------|---|
| Average Teaching Wages, 2022/23 OEWS data | \$64,703 | \$62,009 | \$58,687-64,703 Average = \$59,636 |
| Average Teaching Wages, 2023/24 NEA data | \$62,823 | \$61,437 | \$56,583-\$62,823 Average = \$58,957 |
| Ratio of teaching wages to other professional/technical occupation wages in WY, 2022/23 OES data | .81 | .83 | .81 - .92 Average = .86 |
| Ratio of teaching wages to other professional/technical occupation wages in adjacent states, 2022/23 OEWS data | .71 | .72 | .71 - .76 Average = .74 |
| Ratio of WY average teaching salaries to average teaching salaries in adjacent states + ND, 2023/24 NEA data | 1.05 | 1.07 | 1.05-1.21 Average=1.13 |
| Percent new hires with BA from another state | 51% | 56% | 51%-58% Average = 55% |
| Past student enrollment change, Fall 2022 to Fall 2023 | -1.5% | -0.4%% | -2.0% - 1.7% Average = .4% |
| Projected student enrollment growth, Annual rate Fall 2024-Fall 2031 | | | -0.3% |
| Percent Teachers 60 and older, 2023/24 | 6.4% | 6.6% | 6.4-8.6% Average = 7.6% |
| Exit Rate all Teachers, 2022/23 | 11.6% | 11.3% | 9.0%-11.6% Average = 10.2% |
| Exit Rate Teachers Ages 60+, 2022/23 | 26.2% | 24.7%% | 24.1%-32.2% Average = 26.8% |
| Exit Rate Teachers with < 3 years' experience, 2022/23 | 15.3% | 15.3% | 11.9%-15.3% Average = 13.6% |
| Percent New Hires, 2023/24 | 10.6% | 12.2% | 7.1%-12.2% Average = 10.1% |

Current State of Model and Actual Teaching Salaries in Wyoming

Figure 1.1 shows that teacher salaries in Wyoming increased by about 3 percent in the last year to \$63,653, somewhat faster than the previous year’s increase of 2 percent and the long run rate of about 1 percent per year since 2014/15. Weighted average model salaries were essentially unchanged from 2010/11 to 2022/23 (at about \$53,500), before increasing by 4 percent to \$55,763 in 2023/24. The model weighted average salaries are projected to further increase to about \$58,100 in 2024/25. Average actual salaried currently exceed the model weighted average salaries by about 14 percent, as shown in **Figure 1.2**.

Figure 1.1: Actual Average Base and Model Weighted Average Teaching Salaries, 2010/11 – 2023/24 School Years.

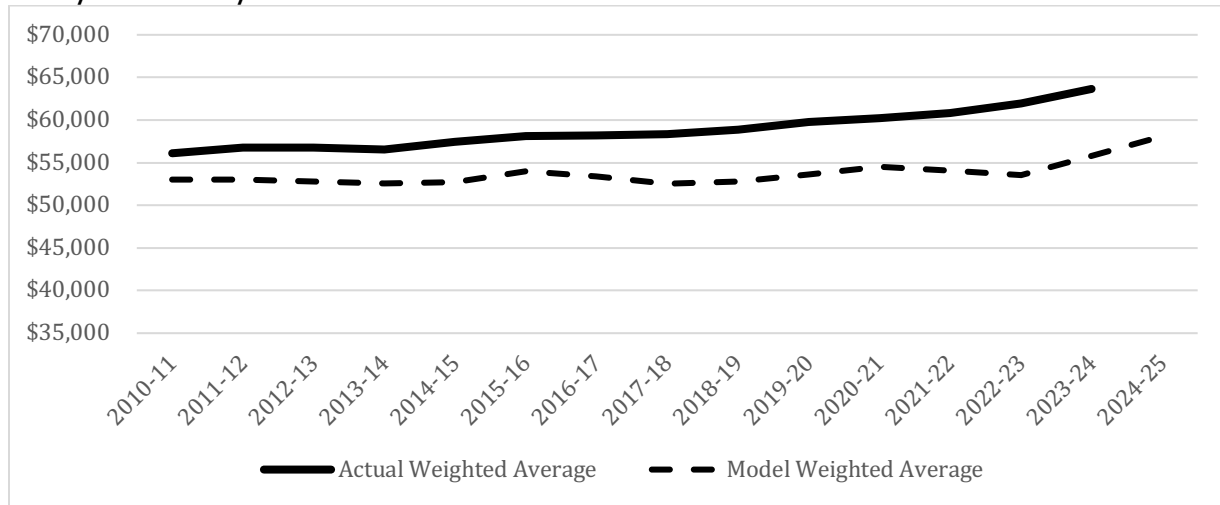
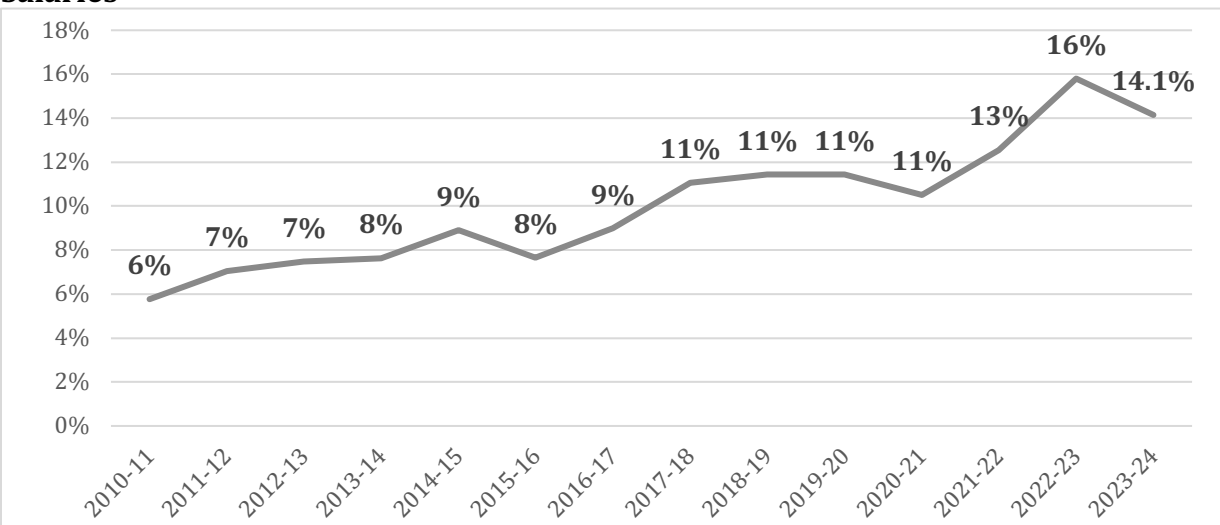


Figure 1.2 Percent Difference Between Actual and Model Weighted Average Teaching Salaries



Source: WY LSO and WY Department of Education.

INDICATOR 1: Ratio of Teaching Wages to Wages of Comparable Professionals

DATA SOURCES: The U.S. Department of Labor reports salaries by occupation in the Occupational Employment and Wage Statistics (OEWS) survey each November and May. The OEWS data is a survey of employers only, and it does not include personal characteristics of workers. As a result, these data cannot be used to adjust for workers' characteristics (e.g., work experience, education, hours of work) or benefits. The data in this report come from the May 2023 series, the most recent year available.

METRIC: *Teachers* include all elementary, secondary, and special education teachers. Wages of preschool teachers are not included in the teacher average, as these typically are not public employees. Trends in teaching wages are compared to trends in two other reference groups. *Professional and technical occupations* are defined by OEWS (OCC Codes 11-000 through 29-999). These include occupations in management, business operations, computers, legal professions, health care practitioners, social services, and other skilled profession fields. (Not included are retail or personal services, health care technicians, agricultural or manufacturing workers, food service workers and other similar occupations). *Comparable occupations* are a subset of these occupations with skills and attributes most like teaching.¹ These occupations are listed in Appendix A.

FINDINGS: **Figure 2** reports the trend in annual average wages for teachers, other professional and technical workers, and the subset of most comparable occupations; these are reported for Wyoming from May 2006 through May 2023. The figure shows that average teaching wages grew slowly from May 2012 to May 2022 but then increased by about 4 percent to \$64,703 in May 2023. However, wages in professional and technical occupations rose even more sharply to \$79,780, an increase of 6.3 percent. This extended the fast past of wage growth in Wyoming from the previous year.

This sustained wage increase also appears in the narrower set of comparable occupations for Wyoming, with an average salary in May 2023 of \$79,460. The particularly rapid growth in the last year was again fueled by another sharp rises in wages in health occupations (nurses, occupational therapists, and physical therapists) and business occupations (accountants, underwriters, human resource officers). This is shown in **Figure 2.2**. These occupations are particularly notable as the largest occupational groups that are comparable to teachers.

¹ See Allegreto, Corcoran and Mishel (2004) for more details. The U.S. Bureau of Labor Statistics National Compensation Survey reports the skills and attributes of occupations along 10 dimensions including factors such as knowledge required, supervision received, and complexity of the tasks.

Figure 2.1: Average Annual Wages for Teachers and Comparable Workers in Wyoming, May 2006 to May 2023

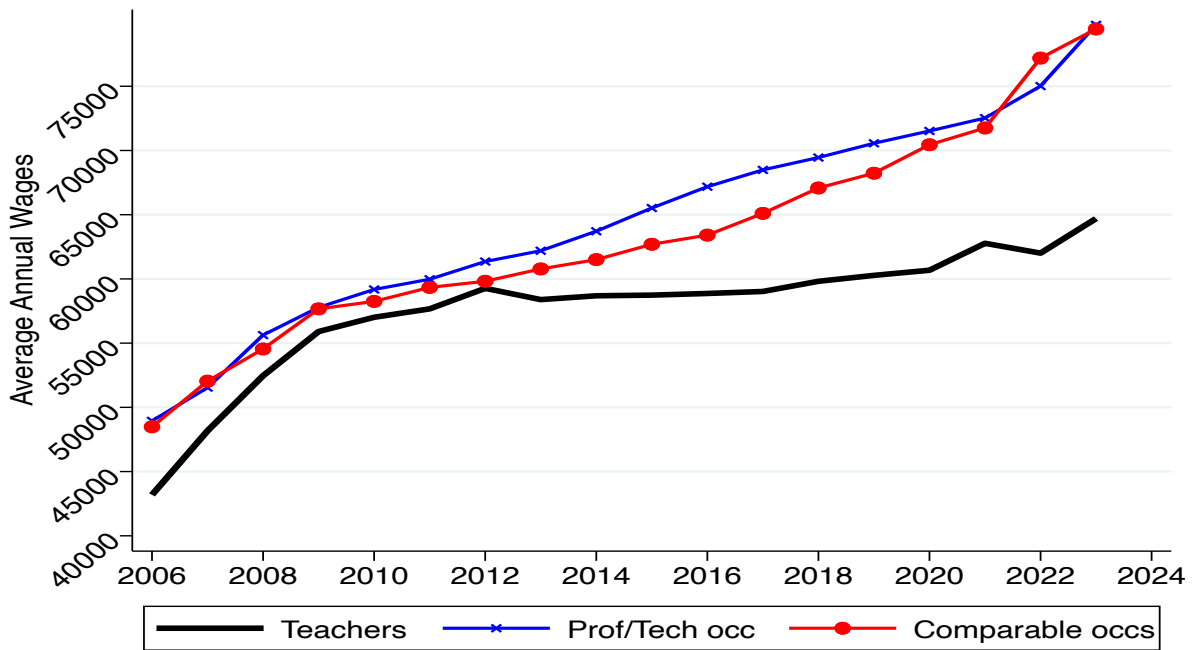
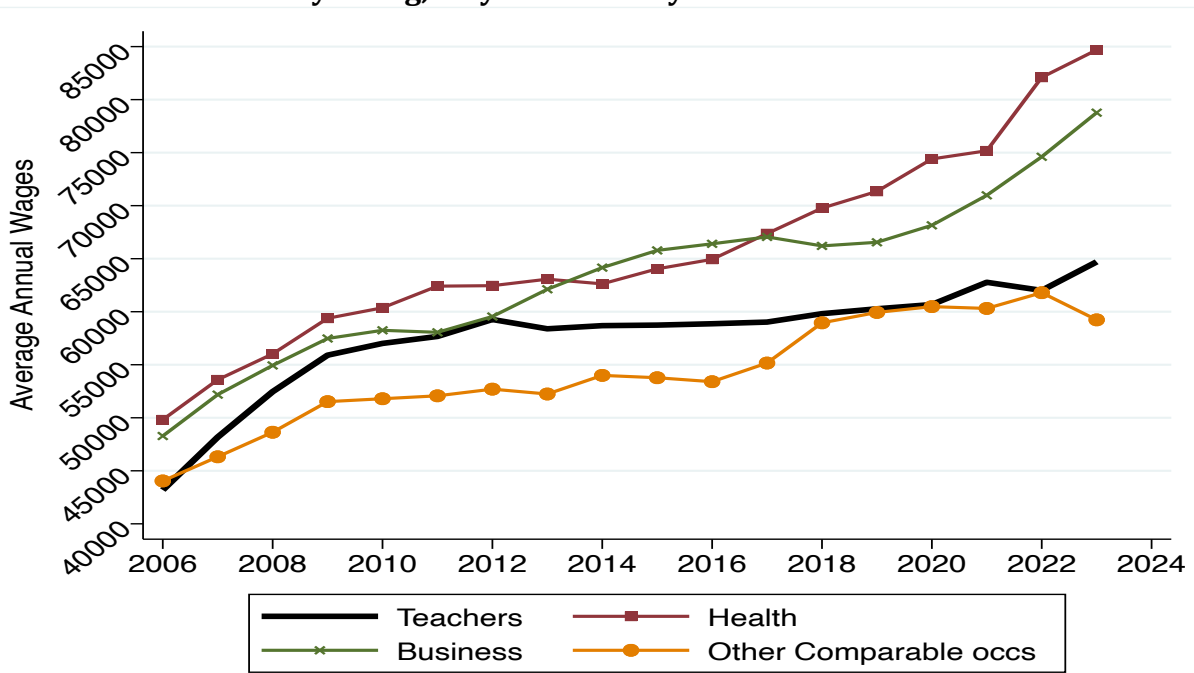


Figure 2.1: Average Annual Wages for Teachers and Comparable Health and Business Workers in Wyoming, May 2006 to May 2023



Source: U.S. Bureau of Labor Statistics May Quarterly Occupational Employment Statistics. All ownerships across all NAICS.

Figures 3.1 and 3.2 compare the Wyoming ratio of teaching wages to non-teaching wages to the corresponding ratio in other states. Average wages of teachers in Wyoming as of May 2023 were 81 percent of the average wages in other professional and technical occupations. In the U.S. as a whole, teaching wages are about 72 percent of the wages of other professionals. The ratio in neighboring states is about 71 percent. Note that these ratio are based on actual teaching salaries, not model salaries. The ratio of model salaries to the wages of professional and technical workers stood at 67 percent in 2023. This ratio is sharply lower than in 2022, when the ratio was 72 percent.

From 2018 to 2021, the ratio of model salaries to the wages of professional and technical workers in Wyoming had been vary close to the ratios of teaching salaries to the salaries of professional workers in the region. However, in 2023 the model ratio fell below the ratio in all other adjacent states except for Colorado.

Figure 3.1: Ratio of Teacher Wages to Wages in Professional/Technical Occupations, Wyoming and Surrounding States, May 2006 to May 2023

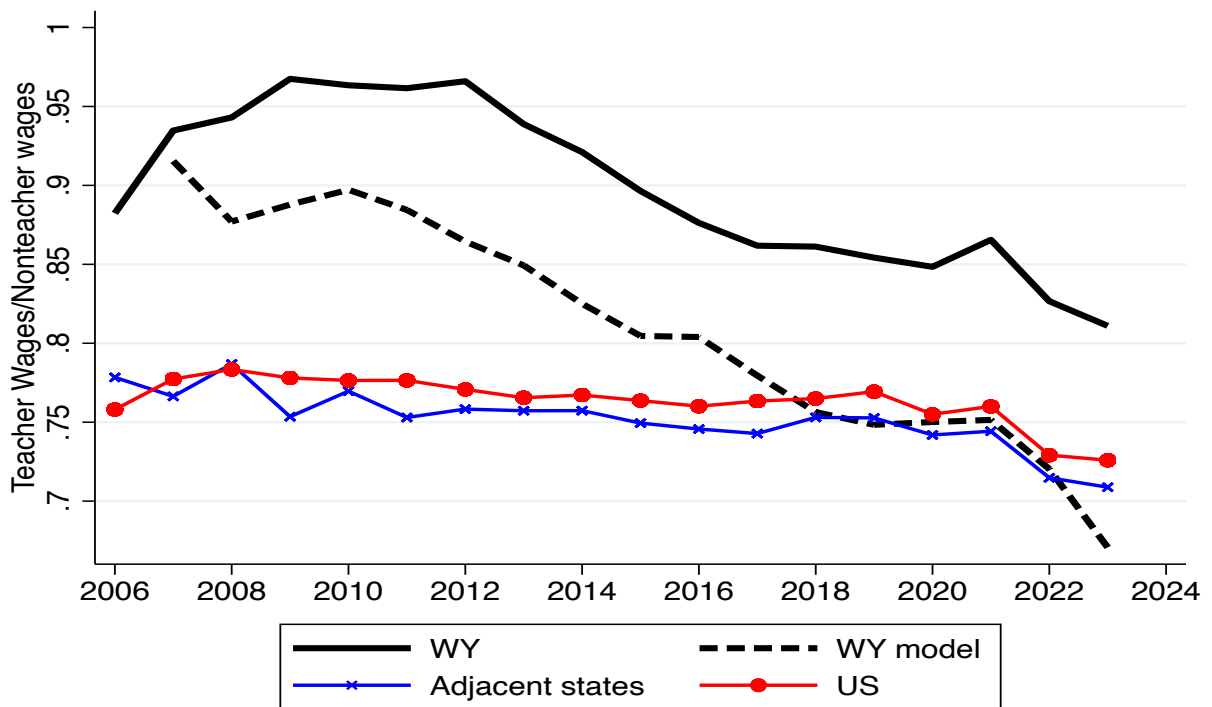
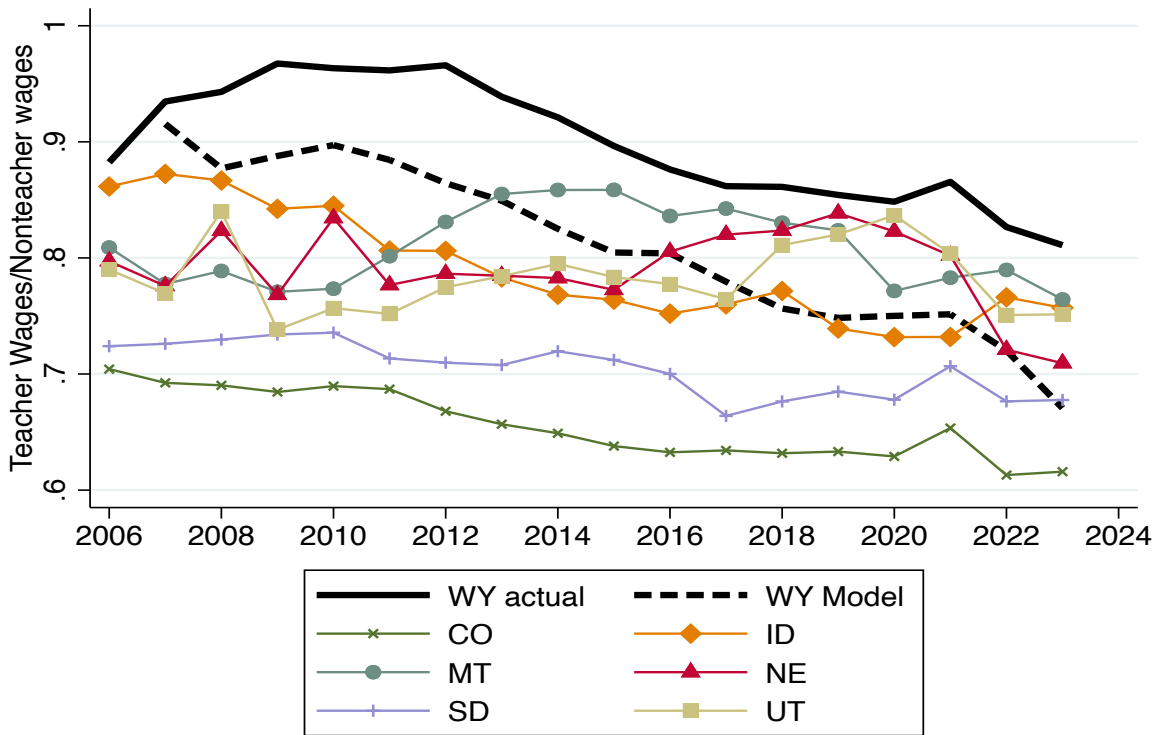


Figure 3.2: Ratio Disaggregated for Surrounding States, May 2006 to May 2023



Source: U.S. Bureau of Labor Statistics May Quarterly Occupational Employment Statistics. All ownerships across all NAICS.

Projecting to 2024

The 2024 OEWS wage data for individual occupations have not been released yet. **Table 2** below shows several estimates of wage growth from other sources for 2024 that point to ongoing wage pressures. According to the Bureau of Labor Statistics' Quarterly Census of Employment and Wages, average weekly wages in Wyoming for all workers covered by unemployment insurance rose 2.8 percent from March 2023 to March 2024. This was significantly slower than the 7.8 percent growth rate in the previous year.

However, the state level growth rates for 2024 are currently only available for the state as a whole. National wage estimates show that there may be sharper increases for college educated workers. Nationally, the median wage of a college educated worker grew by about 6 percent to 2024, while wages for workers with less education grew less rapidly. This pattern is a reversal from the 2021 to 2022 and 2022 to 2023 periods. In these earlier years, wages for less educated workers grew faster, with growth rates for college educated workers lagging. This suggests that there may be another substantial widening between teaching wages and wages in comparable occupations once all the 2024 data is reported.

Table 2: Percent Changes in Weekly Wages 2022-2024

| State percent change in average weekly wage for all workers | | |
|---|--------------------------------------|--------------------------------------|
| | 1 st quarter 2022 to 2023 | 1 st quarter 2023 to 2024 |
| U.S. | 6.6% | 4.2% |
| Wyoming | 7.8% | 2.8% |
| Colorado | 7.1% | 3.5% |
| Idaho | 10.1% | 4.1% |
| Montana | 9.3% | 4.4% |
| Nebraska | 8.0% | 2.6% |
| North Dakota | 9.8% | 3.7% |
| Utah | 7.9% | 5.2% |
| National percent change in median usual weekly earnings of full-time wage and salary workers ages 25+, by Education | | |
| | 2 nd quarter 2022 to 2023 | 2 nd quarter 2023 to 2024 |
| BA or higher | 2.7% | 6.0% |
| Some college | 5.1% | 4.6% |
| HS only | 6.1% | 3.0% |
| Less than HS | 3.5% | 1.8% |
| All workers | 4.5% | 3.9% |

Source: Average weekly wages from Bureau of Labor Statistics Quarterly Census of Employment and Wages. <https://www.bls.gov/news.release/cewqtr.t03.htm>

Median usual weekly wages of full-time workers from BLS Current Population Survey.

<https://www.bls.gov/charts/usual-weekly-earnings/usual-weekly-earnings-over-time-by-education.htm>

Accounting for Weeks of Work and Benefits

The fact that teachers do not make 100 percent of the wages of other professional workers is partly related to lower weeks of work. Hours of work per week for teachers and other professionals are similar: according to the American Community Survey (ACS) census data, teachers report working an average of 44 hours per week compared to 45 hours per week for the average non-teacher.

However, teachers typically work fewer weeks. Based on the 185 contract days (or the hourly equivalent for schools with a 4-day week), teachers would be scheduled to work 37 weeks per year. However, this does not include any time spent preparing courses outside of contract days. In the ACS, individuals self-report their weeks of work. Of teachers who report working less than 52 weeks a year, about a third report 40 weeks of work a year. This could reflect very short part-time jobs, but it is also likely that this represents time spent preparing courses. Therefore, it seems like the average teacher works between 37 and 40 weeks a year at the school job.²

The Bureau of Labor Statistics' National Compensation Survey reports that the average private industry worker receives 15 days of paid vacation per year after 5 years of work and 20 days of paid vacation after 20 years of work.³ This translates into 48 to 49 weeks per year. Consequently, the largest ratio, assuming the highest weeks of work for teachers and the lowest for non-teachers, would be $(40/48 =)$ 83 percent. The smallest ratio, assuming the shortest number of weeks for teachers and the longest for non-teachers, would be 76 percent $(37/49)$. As **Figure 3.1** above showed, from 2007 through 2019, the national ratio of teacher pay to the pay on professional workers was about 77 percent, although the last four years have seen a significant erosion in the ratio.

Table 3 reports hourly compensation for teachers and other workers, including both wages and benefits. This comes from the Bureau of Labor Statistics' National Compensation Survey for March 2024. In the U.S. as a whole, hourly wages for teachers are 94 percent of hourly wages for professionals and 95 of the hourly wages of nurses. (Teachers and registered nurses were the only two professional occupations to be reported separately in the public use data.) Health and retirement benefits for teachers have historically been somewhat more generous, but the latest year of data shows that total compensation packages for teachers are still at 95 to 96 percent of the wages of these workers even when accounting for benefits. These data do not have large enough samples for state-level estimates, but they do indicate that national ratios tend to follow the market.

² Author analysis of ACS survey data.

³ <https://www.bls.gov/ebs/notices/2023/paid-sick-leave-paid-vacation-and-consolidated-leave-plan-provisions-in-the-united-states-december-2022.htm>

Table 3: Hourly Wages and Benefits by Occupation, March 2024

| | Primary, secondary and special education teachers | Management, professional, and related occupations | Registered nurses |
|---------------------------------|--|--|--------------------------|
| Hourly wages and salaries | \$46.24 per hour | \$49.36 per hour | \$48.68 per hour |
| Paid leave and supplemental pay | \$3.52 | \$9.12 | \$10.64 |
| Insurance | \$7.32 | \$5.58 | \$5.71 |
| Retirement and savings | \$9.98 | \$4.40 | \$3.78 |
| Legally required benefits | \$3.26 | \$4.47 | \$5.00 |
| Total compensation | \$70.32 | \$72.93 | \$73.80 |

Source: U.S. Bureau of Labor Statistics, "Employer Costs for Employee Compensation-March 2024" (Released June 16, 2024) <https://www.bls.gov/news.release/pdf/ecec.pdf>

Indicator 2: Teaching Salary Trends in Other States

DATA: The OEWS data above reported annual average teacher wages by state based on a random sample of employers. The NEA reports average teaching salaries for full time workers based on data reported by state education agencies. This data source is the most current source of teaching salary information across states, with one year of data beyond the OEWS estimates. The NCES uses these wage series in reports of teacher salaries.

METRIC: **Figure 4** reports the average teaching wages in Wyoming, in adjacent states and North Dakota, and in the U.S. as a whole for the 2010/11 through 2023/24 school years. **Figure 5** reports this for the individual states in the region.

FINDINGS: **Figures 4** and **5** show that actual average teaching salaries in Wyoming tracked average U.S. teaching wages from 2010 to 2016. Since 2016/17, teaching wages in Wyoming have fallen below the U.S. average. Teaching wages in Wyoming in 2023/24 were 5 percent higher than the average for adjacent states and North Dakota falling from the 14.5 percent premium five years prior in 2017/18.

Figure 5 presents the trend in teaching salaries in the individual surrounding states and North Dakota. The figure indicates that wage growth in Wyoming continued to be slower than in neighboring states.

Average weighted model salaries in 2023/24 (\$55,763) were significantly lower than the U.S. average salary for teachers at \$71,699. Model salaries in 2023/24 were also about \$5,000 lower than the actual average salaries of adjacent states, falling behind every state except for South Dakota. (Note that these other states do not have centralized funding models like Wyoming's, so there is no "model salary" in comparison states.)

Figure 4: Average Teacher Salaries in WY and Surrounding States + ND, School Years 2010/11 to 2023/24

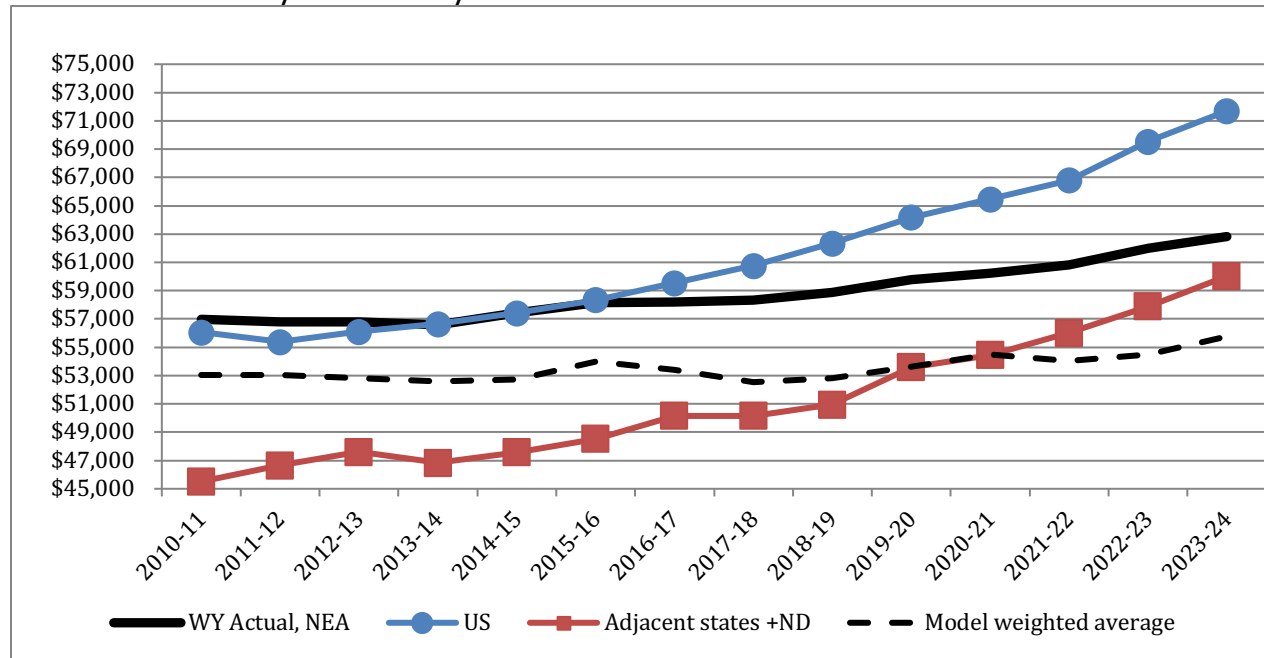
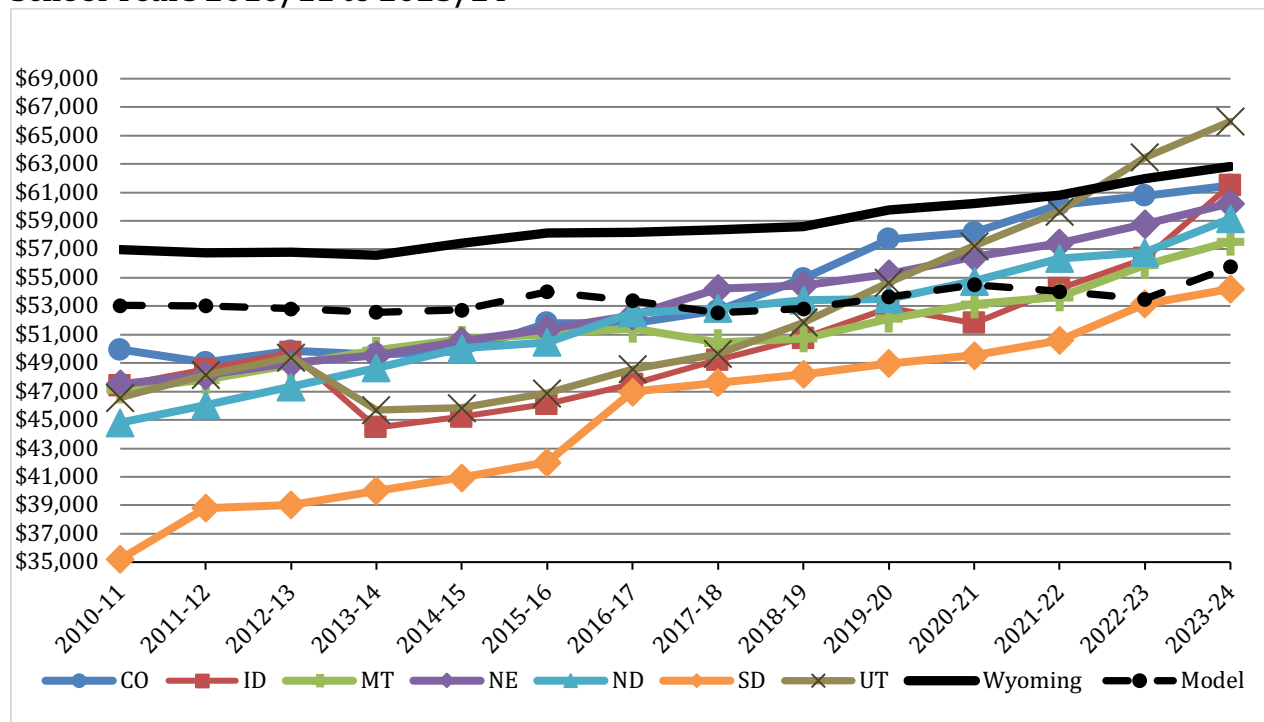


Figure 5: Average Teacher Salaries in Wyoming and Surrounding States + ND, School Years 2010/11 to 2023/24



Source: National Education Association, Estimates of School Statistics, 2024. Model salaries from Wyoming Legislative Service Office. The 2023/24 salary figures are estimates; all other years are actual.

Indicator 3: Trends in Teacher Recruitment and Training

DATA: Salary comparisons can help to indicate the relative attractiveness of Wyoming in recruiting a high quality teaching workforce. However, to measure whether this translates into actual hires, data on teacher quality is needed. Research has shown that teachers vary widely in their effectiveness in improving student outcomes, both on test scores and in future educational and labor force attainment. In many states, teacher quality indicators have been developed to measure the effectiveness of individual teachers. At present, Wyoming does not link student outcomes with individual teachers, making it difficult to evaluate whether higher salaries in Wyoming are bringing in more effective teachers.

In the Wyoming Department of Education’s fall staffing files, school districts report the education and training of teachers. Currently, this is one of the only ways to track how the qualifications of new hires compare with those in the past. Previous research has indicated that better student outcomes are correlated with teachers who trained at more selective institutions with better student outcomes.⁴ There are particular concerns about the quality of teacher training at for-profit or online universities.⁵ While advanced degrees have not generally been found to necessarily be related to student achievement,⁶ the percent of new hires with masters’ degrees may proxy for the ability of Wyoming to recruit higher quality teachers.

METRIC: **Table 4** reports the states where new hires obtained their first BA degree and the institutions where teachers obtained their first degree. **Table 5** reports the fraction of new hires with at least a master’s degree.

FINDINGS: **Table 4** indicates that the percentage of teachers being recruited from within Wyoming ranged from 42 to 49 percent during the 2015-2023 period. The bottom panel of **Table 5** reports the original state and institution where recent hires earned their first bachelor’s degree. This is reported for hires that earned their first bachelor’s degree within 5 years of being hired. Between 2019 and 2024, about 80 percent of new hires with a recent bachelor’s degree came from six universities: University of Wyoming, Western Governor’s University, Black Hills State University, Valley City State University, Chadron State University, and Grand Canyon University.

⁴ For example, see Ballou (1996), Clotfelter, Vigdor and Ladd (2006), Ehrenberg and Brewer (1994), Ferguson and Ladd (1996).

⁵ See Fox Garrity (2013) and Lincove, Osborne, Mills and Bellows (2015) for a discussion of the effectiveness of for-profit and online teacher training programs.

⁶ Rivkin, Hanushek, and Kain (2005) review some of the evidence on master’s degrees.

Table 4: Fraction of Wyoming New Hires, by State of First Bachelor’s Degree

| Year | From Wyoming | From Adjacent states | Other States |
|------|--------------|----------------------|--------------|
| 2016 | 44% | 40% | 16% |
| 2017 | 47 | 40 | 13 |
| 2018 | 45 | 40 | 15 |
| 2019 | 42 | 43 | 14 |
| 2020 | 49 | 39 | 12 |
| 2021 | 48 | 37 | 15 |
| 2022 | 44 | 41 | 15 |
| 2023 | 49 | 38 | 13 |

Teachers with BA degree earned in last 5 years hired 2020-2024 (N=1,640)

| Bachelor’s Degree Institution | Percent of 2019-2024 Hires from each institution |
|---|--|
| University of Wyoming | 47% |
| Western Governor’s University | 14 |
| Black Hills State University | 4 |
| Valley City State University | 5 |
| Chadron State | 4 |
| Grand Canyon University | 2 |
| 1-2% each from Brigham Young University Idaho, University of Northern Colorado, Utah State University | |
| Other Universities: 21% | |

Source: Based on Wyoming Department of Education Contract Files (WDE 602).

An advanced degree is another measure of the skills of newly hired Wyoming teachers. **Table 5** shows that more than a third of new hires have a master’s degree.

Table 5: Fraction of Wyoming New Hires with Master’s Degrees

| Year Hired | Percent with MA |
|------------|-----------------|
| 2016 | 40.0% |
| 2017 | 33.7% |
| 2018 | 34.4% |
| 2019 | 38.8% |
| 2020 | 37.3% |
| 2021 | 32.3% |
| 2022 | 36.8% |
| 2023 | 35.7% |

Source: Based on Wyoming Department of Education Contract Files (WDE 602).

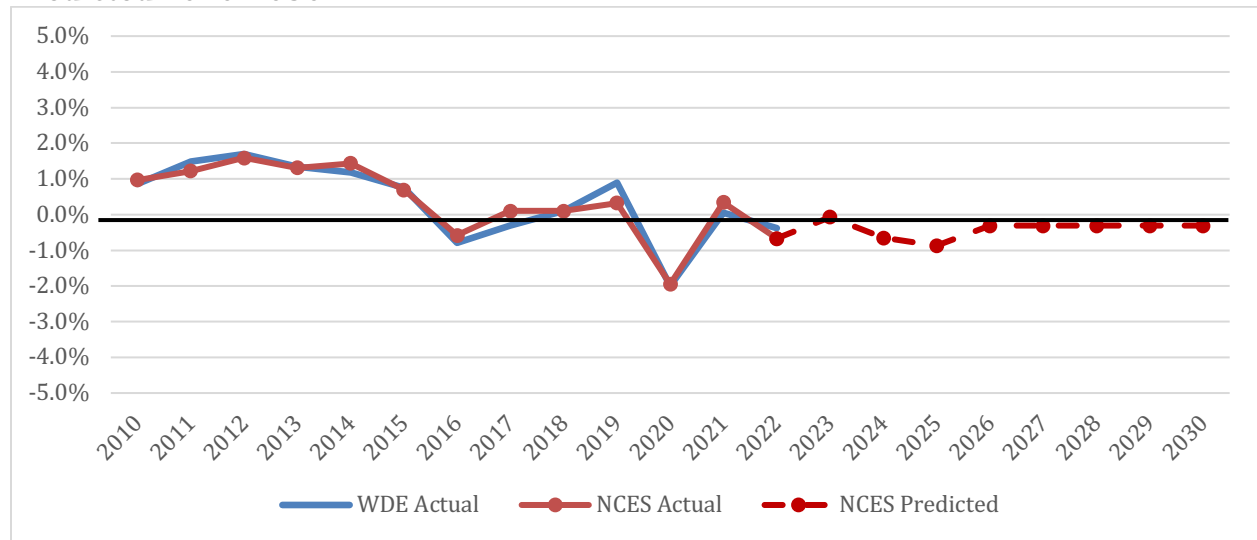
Indicator 4: Trend in Student Enrollment

DATA: The Wyoming Department of Education reports actual fall enrollment each year. The NCES also releases counts based on a slightly different methodology and produces projections of student enrollment through 2030.⁷ These should be interpreted with some caution as all projections are subject to error: a significant change in migration patterns across states, for example, would change these estimates.

METRIC: Stress on salary is generated through a combination of how many people are interested in teaching and how many districts need to hire. One source of new positions is rising student enrollment. One source of fewer positions is decreasing student enrollment.

FINDINGS: Figure 6 shows the past trends and future projections for student enrollment. Based on NCES projections, student enrollment is predicted to decline slightly over the next 2 years and then stabilize through 2030.

Figure 6: Trend in Student Enrollment Growth Rate in Wyoming, Actual and Predicted 2010-2030



Source: National Center for Education Statistics, Digest of Education Statistics.

⁷ The Wyoming State Construction Department's School Facilities Division also projects student enrollment, but does not adjust for the age profile of the state. The NCES projections incorporate the age structure of the Wyoming population.

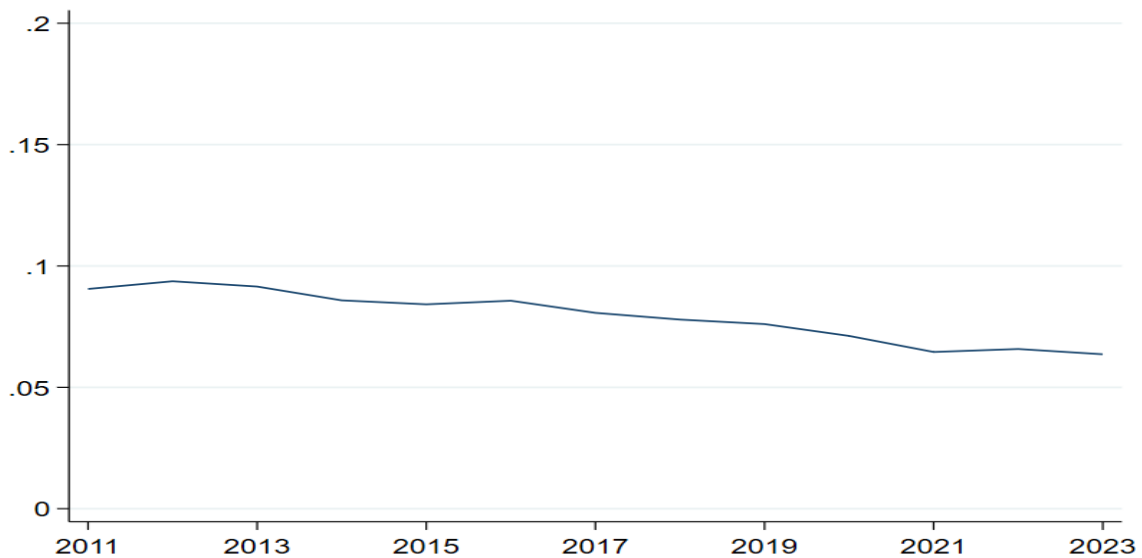
Indicator 5: Trend in Teacher Retirements

DATA: The Wyoming Department of Education Staffing Files (WDE 602) include the age of teachers. By merging these staffing files across years, the data indicate when a teacher of retirement age left teaching.

METRICS: Figure 7 shows fraction of teachers ages 60 and older for 2011/12 through 2023/24.

FINDINGS: Figure 7 shows that the percentage of teachers ages 60 and older has been steadily declining. Currently, about 6 percent of teachers are 60 or older. Because of this decline, retirement pressures for the future are expected to be similar to (or slightly lower than) those of the past 5 years. The age profile of teachers has shifted towards younger replacements, reducing replacement pressures due to retirements.

Figure 7: Fraction of Wyoming Teachers of Age 60+, Fall 2011 – Fall 2023



Source: Wyoming Department of Education Staffing files (WDE 602).

Indicator 6: Percent of New Hires

DATA: Wyoming Department of Education Staffing Files (WDE 602).

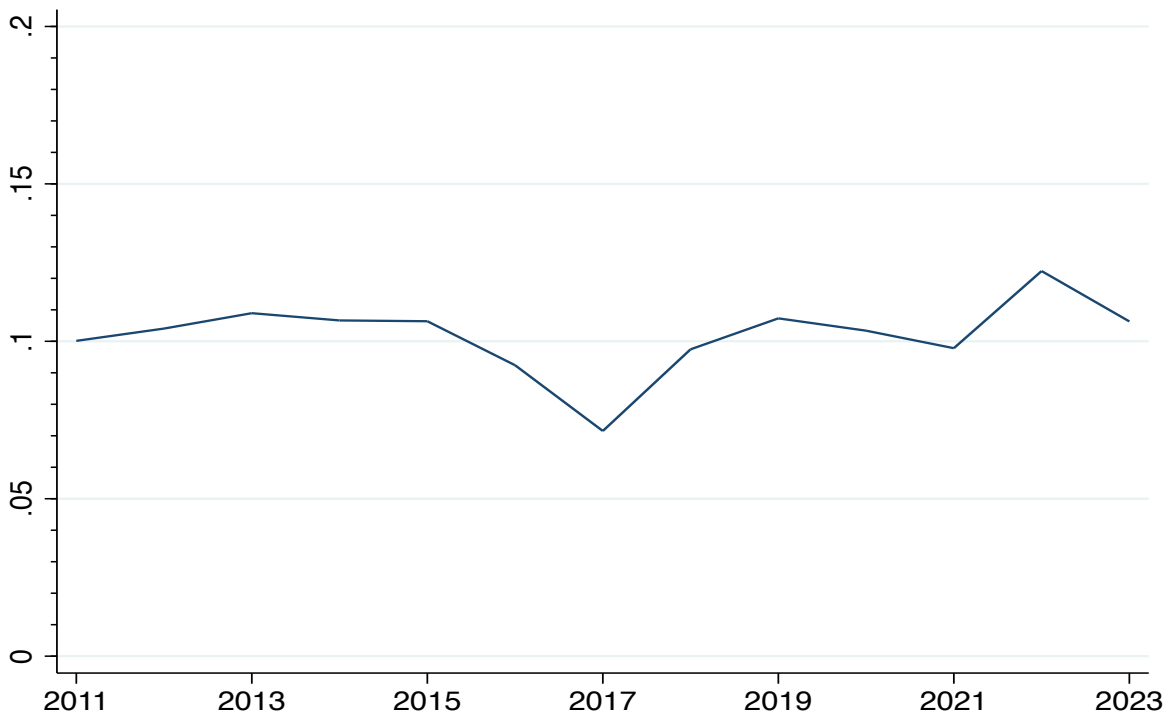
METRIC: The net combination of student enrollment, teacher retirements, and teacher exits for other reasons results in the percentage of new hires. Policy changes, like class size reductions, would also influence this percentage. An abrupt increase in the percent of new hires may therefore warrant more monitoring of salaries to ensure that salaries are sufficient to recruit these additional teachers.

New hires in this report are defined as teachers in Wyoming who were not working as a teacher in the previous year. Transfers from one district to another are not counted as new hires. Teachers who left employment for at least a year and then later returned to employment are included in new hires. This is because teachers who were rehired after a year or more of leave would be filling a vacant position.

Figure 8 reports the past pattern of new hires.

FINDINGS: The fraction of teachers who are a new hire ranged between 9 and 11 percent since 2011. The current rate of 10.6 percent similar to the average during this period.

Figure 8: Percent of Wyoming Teachers who are New Hires, Fall 2011-2023



Source: Wyoming Department of Education Staffing files (WDE 602) Years 2011/12 - 2023/24

Indicator 7: Retention Rates of Current Teachers

DATA: Wyoming Department of Education Staffing Files (WDE 602).

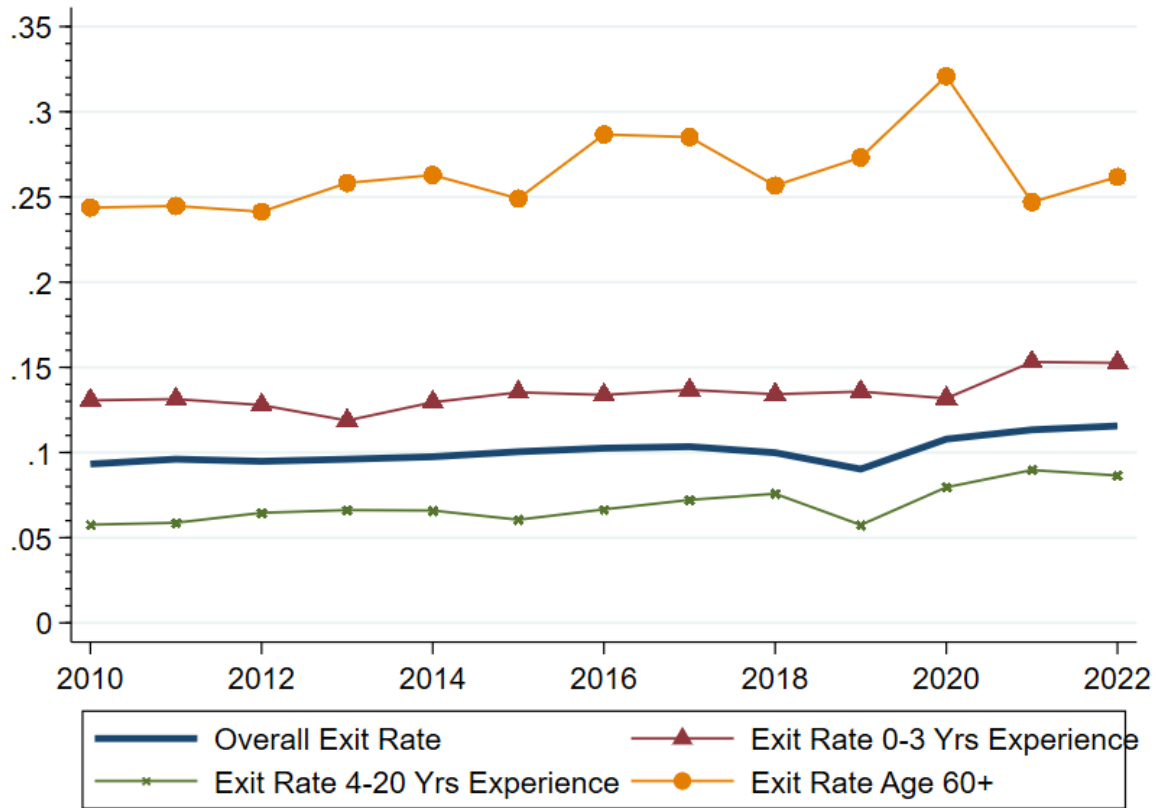
METRIC: Some turnover is inevitable, and even desirable, as it takes some experience in the classroom to determine if teaching is a good fit, and retaining less effective teachers is not an optimal outcome. Nevertheless, a sizable increase in turnover rates could indicate changing labor market conditions for teachers.

Exits in this report are defined as teachers in Wyoming who were not working as a teacher in the subsequent year. Transfers from one district to another are not counted as exits. Teachers who left employment for at least a year and then later returned to employment would be counted as an exit in the year they first left. This definition is used because an exit of a year or more leads to a position that districts need to fill.

Some individuals have more than one occupational assignment. Following OEWS guidelines, this analysis only includes individuals where teaching was the occupation that required the highest level of skill. For example, if an individual was a teacher and an assistant principal, he or she would be coded as an assistant principal. An individual whose assignment changed to include an administrative component would therefore be counted as an “exit.”

FINDINGS: Figure 9 shows that exit rates were relatively steady, at about 10 percent, from 2010/11 to 2019/20. Since then, exit rates for teachers before retirement age have risen. Of those teaching in 2022/23, 11.6 percent did not return in 2023/24 school year. More strikingly, the exit rate for new teachers (less than 3 years of experience) is 15.3 percent, similar to the previous year, but a 2-percentage point jump from 2021/22. Exit rates for mid-career teachers were also around 9 percent, similar to the previous year but again elevated compared to the historical average of about 7 percent. Exit rates for teachers close to retirement are similar to their historical average.

Figure 9: Percent of Wyoming Teachers Exiting the Profession, 2010/11 - 2022/23



Source: Wyoming Department of Education Staffing Files (WDE 602).

The Pipeline for Future Teachers

DATA: University of Wyoming reports the number of individuals majoring in education and awarded a BA in education in each year. All states now report both traditional and alternative teacher certification programs for Title II of the Federal Higher Education Act. These are reported to the U.S. Department of Education. States report the number of individuals enrolled in teacher preparation programs, the number of completers, the number of individuals taking teacher certification exams, and the number passing the exams. These are reported in October for the previous year.

METRIC: An increasing national conversation concerns the “pipeline” for future teachers. In Wyoming, the main teacher preparation program is the traditional coursework-based program at the University of Wyoming. Note that while Wyoming is expanding alternative pathways to certification, these remain small.

FINDINGS:

Figures 10A and 10B show that the number students with education degrees fell between 2010 and 2016 plateaued until 2023, but then fell again sharply in the last year. In 2023, 182 students (8.6 percent of all degrees) were awarded BA degrees in education, but in 2024, only 146 students earned an education bachelor’s degree, reducing the fraction of BAs awarded in education to 7.6. There has not been as large of a drop in education majors.

Figure 10A: University of Wyoming Bachelor's Degrees Awarded in All Education Related Majors

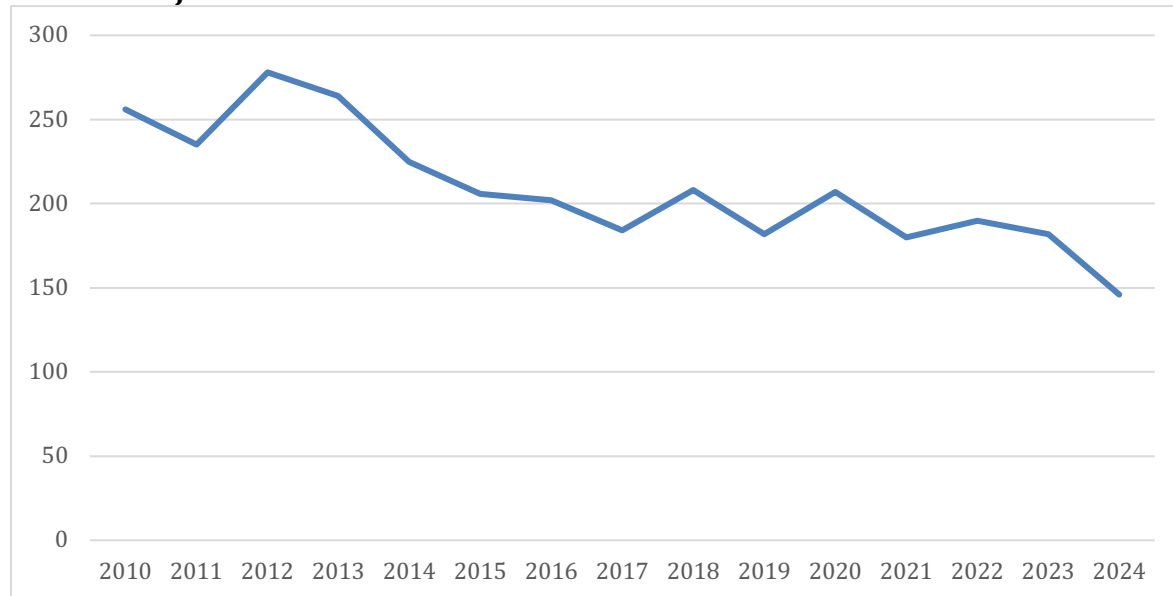
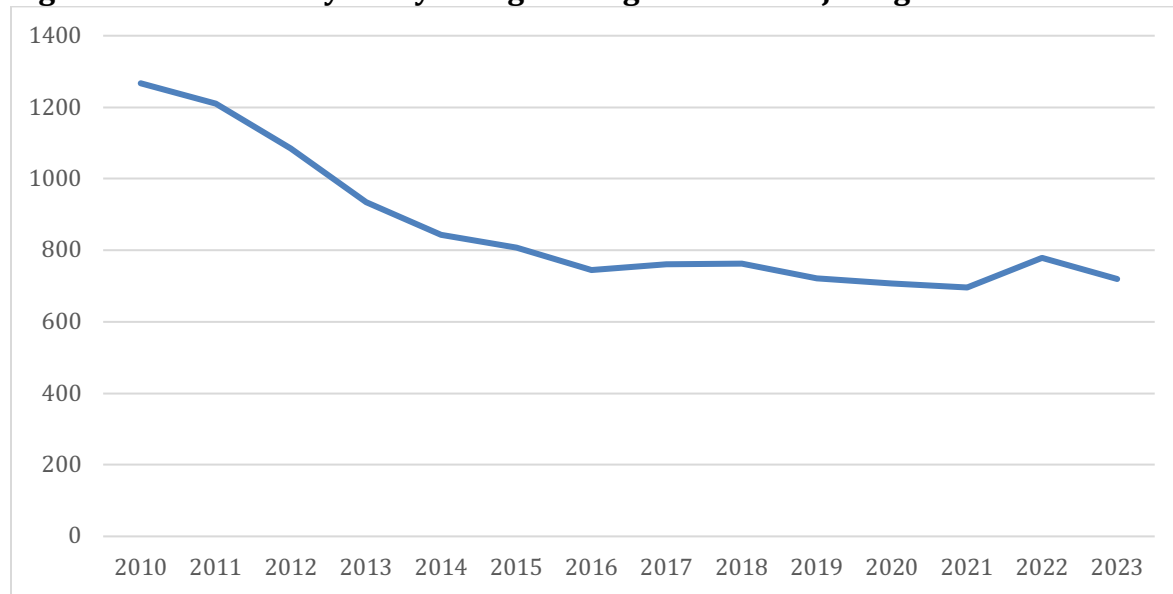


Figure 10B: University of Wyoming Undergraduates Majoring in Education

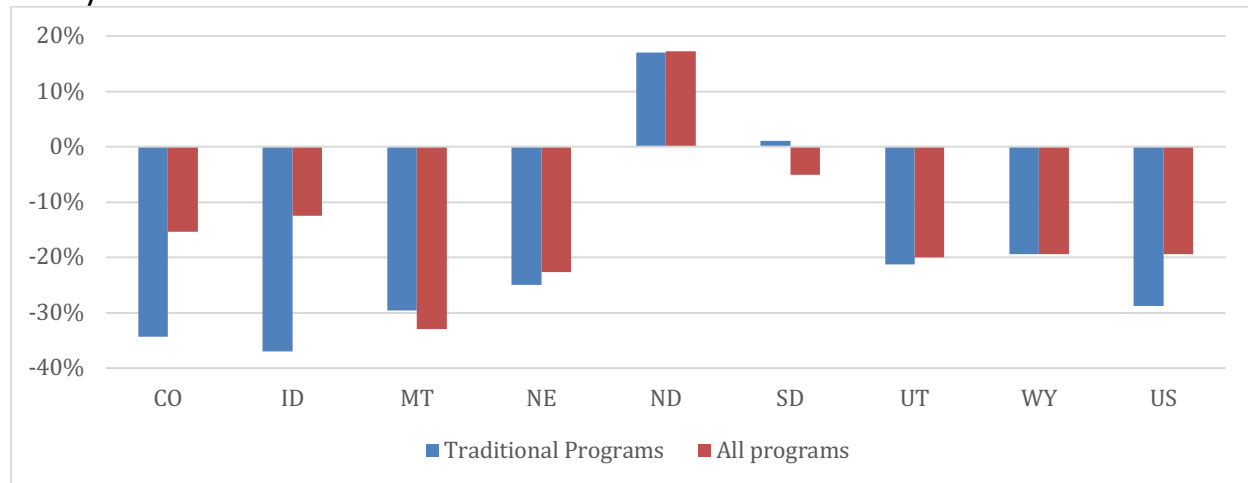


Source: University of Wyoming Banner Information System. Degrees and majors in education include a CIP code of 13. Note that 2024 totals are preliminary and will be finalized Oct 2024.

Teaching degrees do not translate perfectly into new teachers. In many states, there are alternative pathways to become a teacher other than through a typical university education. Furthermore, potential teachers must pass certification exams, and not all test takers pass.

Figure 11 shows that most states have seen significant declines in the number of traditional teacher preparation program completers over the last 10 years, as indicated by the blue bars. Wyoming’s decline of about 20 percent for traditional program completers is smaller than the national decline and the declines in many states in the region. However, Wyoming did not have an alternative certification path, which helped increase the number of completers in many other states.

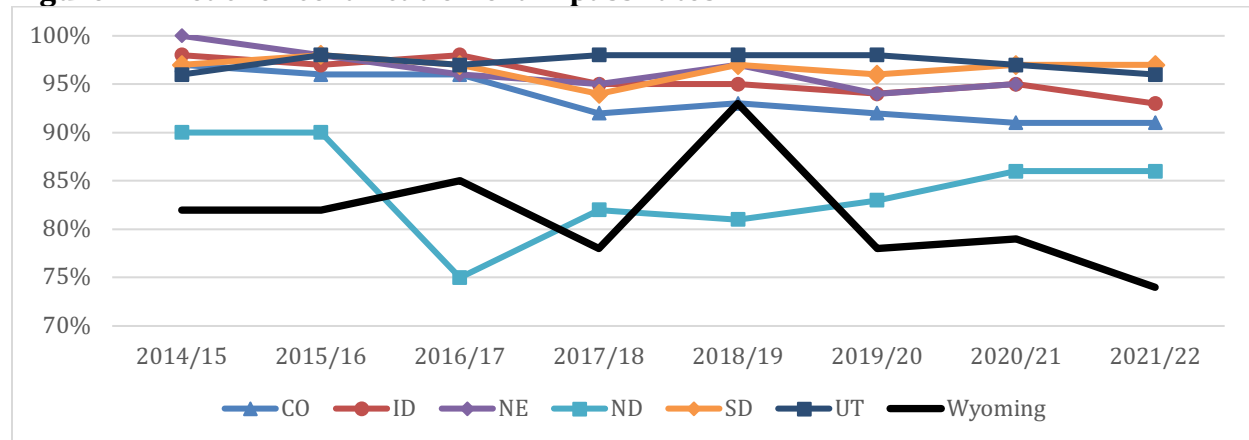
Figure 11 Change in completers of teaching preparation programs, 2011/12–2021/22



Source: US Department of Education. <https://title2.ed.gov/Public/Home.aspx>. Accessed 9/01/2024

One ongoing concern for teacher preparation in Wyoming is a relatively low pass rate on the teacher certification exam. Completers of teacher preparation programs do not always become certified. Certification often requires passing an exam, usually the PRAXIS exam. In Wyoming, only elementary school teachers and social science teachers need to pass the exam. Title II data report the number of individuals who sit for the exam and the number who pass. Completers from programs located in the state as well as individuals from other states can sit for the certification exam. The pass rate in Wyoming has historically been lower than all of the other states in the region except for North Dakota. However, North Dakota’s pass rates have improved over the last several years, but Wyoming’s pass rate has continued to decline. These findings are shown in **Figure 12** below.

Figure 12: Teacher certification exam pass rates



Source: US Department of Education. <https://title2.ed.gov/Public/Home.aspx>. Accessed 9/01/24. Montana did not report exam data.

References

- Allegreto, S., Corcoran, S, and Mishel, L. (2004). How does teacher pay compare? Methodological challenges and answers. Washington, D.C.: Economic Policy Institute.
- Bullard, David (2021) Job Openings and Unemployment: A comparison of Wyoming and Neighboring States. In *Wyoming Labor Force Trends August 2021*, Wyoming Department of Workforce Services.
- Fox Garrity, B. K. (2013). Enrollment of education majors at public, not-for-profit, and for-profit postsecondary institutions: An empirical analysis. *Educational Studies*, 49(6), 522-539.
- Lincove, J. A., Osborne, C., Mills, N., & Bellows, L. (2015). Teacher preparation for profit or prestige: Analysis of a diverse market for teacher preparation. *Journal of teacher education*, 66(5), 415-434.
- National Center for Education Statistics (2024). Projections of Education Statistics. Washington, D.C.: U.S. Department of Education, Institution of Education Services, National Center for Education Statistics.
- National Education Association Research (2024). Rankings and Estimates: Rankings of the States 2023 and Estimates of School Statistics 2024. Release Date: April 2024.
- Nguyen, T., Lam, C., & Bruno, P. (2022). Is there a national teacher shortage? A systematic examination of reports of teacher shortages in the United States. (EdWorkingPaper: 22-631).

Player, Dan. (2018) Review of Teacher Salaries, Regional Cost Adjustment, and External Cost Adjustment: Report to the Select Committee on School Finance Recalibration.

Podgursky, M and Tongrut, R. (2006). "(Mis)-Measuring the Relative Pay of Teachers." Education Finance and Policy. Vol. 1. No. 4 (Fall, 2006), pp. 425-440.

Research and Planning, Wyoming Department of Workforce Services. (2013) Monitoring school district human resource cost pressures: A report to the Wyoming Joint Education Committee.

Research and Planning, Wyoming Department of Workforce Services. Analysis and personal communications from Tom Gallagher, Tony Glover, David Bullard, Patrick Harris, Michele Holmes, Lisa Knapp, Patrick Manning, and Michael Moore during September and October 2014.

Stoddard (2011). Monitoring cost pressures on teacher salaries in Wyoming. Final Report to the Joint Appropriations Interim Committee and the Joint Education Interim Committee.

Stoddard (2012). Current status of cost pressures on teacher salaries in Wyoming. Final Report to the Joint Appropriations Committee and the Joint Education Committee.

Stoddard (2016). Current status of cost pressures on teacher salaries in Wyoming. Final Report to the Joint Appropriations Committee and the Joint Education Committee.

Stoddard (2018). Current status of cost pressures on teacher salaries in Wyoming. Final Report to the Joint Appropriations Committee and the Joint Education Committee.

Stoddard (2019). Current status of cost pressures on teacher salaries in Wyoming. Final Report to the Joint Appropriations Committee and the Joint Education Committee.

Stoddard (2021). Current status of cost pressures on teacher salaries in Wyoming. Final Report to the Joint Appropriations Committee and the Joint Education Committee.

Stoddard (2022). Current status of cost pressures on teacher salaries in Wyoming. Final Report to the Joint Appropriations Committee and the Joint Education Committee.

Stoddard (2023). Current status of cost pressures on teacher salaries in Wyoming. Final Report to the Joint Appropriations Committee and the Joint Education Committee.

Appendix A: Comparable Professional and Technical Occupations

Teacher salaries reported in the Occupational Employment Statistics are compared to the salaries of other professional and technical occupations. These include occupation in the following categories:

- Management Occupations (11-0000)
- Business and Financial Operations Occupations (13-0000)
- Computer and Mathematical Occupations (15-0000)
- Architecture and Engineering Occupations (17-0000)
- Life, Physical, and Social Science Occupations (19-0000)
- Community and Social Services Occupations (21-0000)
- Legal Occupations (23-0000)
- Educational, Instruction and Library Occupations (25-0000) excluding elementary, secondary, and special education teachers (25-2012 through 25-2054)
- Arts, Design, Entertainment, Sports, and Media Occupations (27-0000)
- Healthcare Practitioners and Technical Occupations (29-0000)

The Economic Policy Institute (EPI) identified professional and managerial occupations that it determined to be similar to teaching based on Bureau of Labor Statistics skill ratings.

These occupations are:

- Accountants and auditors
- Underwriters
- Personnel training and labor relations specialists
- Inspectors and compliance officers, except construction
- Architects
- Forestry scientists
- Conservation scientists
- Registered nurses
- Occupational therapists
- Physical therapists
- Educational, Guidance, and Career Counselors and Advisors
- Archivists and curators
- Clergy
- Technical writers
- Editors and reporters, news analysts, journalists
- Computer programmers

Appendix B: Data Used in Select Figures

Figure 1: Actual Average Annual Wages and Weighted Teacher Model Salaries in Wyoming, 2010/11 to 2023/24

| School Year | Actual Average Salary | Model Weighted Average | Percent Difference |
|---------------------|-----------------------|------------------------|--------------------|
| 2010/11 | \$56,105 | \$53,046 | 5.8% |
| 2011/12 | \$56,775 | \$53,036 | 7.0% |
| 2012/13 | \$56,775 | \$52,824 | 7.5% |
| 2013/14 | \$56,583 | \$52,567 | 7.6% |
| 2014/15 | \$57,414 | \$52,724 | 8.9% |
| 2015/16 | \$58,140 | \$54,010 | 7.6% |
| 2016/17 | \$58,187 | \$53,387 | 9.0% |
| 2017/18 | \$58,352 | \$52,535 | 11.1% |
| 2018/19 | \$58,861 | \$52,819 | 11.4% |
| 2019/20 | \$59,876 | \$53,648 | 11.6% |
| 2020/21 | \$60,234 | \$54,503 | 10.5% |
| 2021/22 | \$60,819 | \$54,036 | 12.6% |
| 2022/23 | \$61,962 | \$53,506 | 15.8% |
| 2023/24 | \$63,653 | \$55,763 | 14.1% |
| 2024/25 (estimated) | | \$58,099 | |

Source: Wyoming Department of Education staffing files. Model salaries from Wyoming Legislative Service Office. Teachers in calculated actual average include only those with regular K-12 classroom assignments. Salaries include only regular salary.

Figure 2: Average Annual Wages for Teachers and Comparable Workers in Wyoming, May 2011 to May 2023

| School Year | Teachers | Comparable Occupations | | Professional and Technical Workers | |
|---------------|--------------|------------------------|---------------------------|------------------------------------|----------------------------|
| | Average Wage | Average Wage | Ratio Teaching/Comparable | Average Wage | Ratio Teaching/Prof & Tech |
| 2010/11 | \$57,669 | \$59,340 | 97.2% | \$59,976 | 96.2% |
| 2011/12 | \$59,268 | \$59,819 | 99.1% | \$61,355 | 96.6% |
| 2012/13 | \$58,390 | \$60,779 | 96.1% | \$62,194 | 93.9% |
| 2013/14 | \$58,687 | \$61,504 | 95.4% | \$63,713 | 92.1% |
| 2014/15 | \$58,739 | \$62,699 | 93.7% | \$65,523 | 89.6% |
| 2015/16 | \$58,867 | \$63,412 | 92.8% | \$67,182 | 87.6% |
| 2016/17 | \$59,023 | \$65,103 | 90.7% | \$68,488 | 86.2% |
| 2017/18 | \$59,814 | \$67,080 | 89.2% | \$69,452 | 86.1% |
| 2018/19 | \$60,277 | \$68,230 | 88.3% | \$70,561 | 85.4% |
| 2019/20 | \$60,668 | \$70,447 | 86.1% | \$71,519 | 84.8% |
| 2020/21 | \$62,774 | \$71,753 | 87.5% | \$72,528 | 86.6% |
| 2021/22 | \$62,009 | \$77,196 | 80.3% | \$75,015 | 82.7% |
| 2022/23 | \$64,703 | \$79,460 | 81.4% | \$79,780 | 81.1% |
| 10 yr Average | \$60,557 | \$68,688 | 88.5% | \$70,376 | 86.2% |

Source: Bureau of Labor Statistics May Quarterly Occupational Employment Statistics. All ownerships across all NAICS.

Figure 3: Ratio of Teacher Wages to Wages in Professional/Technical Occupations, Wyoming and Other States, May 2011 to May 2023

| School Year | Ratio in Wyoming | Ratio in Surrounding States | Ratio in United States |
|-----------------|------------------|-----------------------------|------------------------|
| 2010/11 | 96.2% | 75.3% | 77.6% |
| 2011/12 | 96.6% | 75.8% | 77.1% |
| 2012/13 | 93.9% | 75.7% | 76.5% |
| 2013/14 | 92.1% | 75.7% | 76.7% |
| 2014/15 | 89.6% | 74.9% | 76.4% |
| 2015/16 | 87.6% | 74.6% | 76.0% |
| 2016/17 | 86.2% | 74.3% | 76.3% |
| 2017/18 | 86.1% | 75.3% | 76.5% |
| 2018/19 | 85.4% | 75.3% | 76.9% |
| 2019/20 | 84.8% | 74.2% | 75.5% |
| 2020/21 | 86.6% | 74.4% | 76.0% |
| 2021/22 | 82.7% | 71.5% | 72.9% |
| 2022/23 | 81.1% | 70.9% | 72.6% |
| 10 year-Average | 86.2% | 74.1% | 75.6% |

Source: Bureau of Labor Statistics May Quarterly Occupational Employment Statistics. All ownerships across all NAICS.

Figures 4 and 5: Average Teacher Salaries in WY and Surrounding States Plus ND, 2010/11 to 2023/24

| Year | WY | US | CO | ID | MT | NE | ND | SD | UT |
|---------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| 2010/11 | \$56,978 | \$56,069 | \$49,938 | \$47,416 | \$47,132 | \$47,521 | \$44,807 | \$35,201 | \$46,571 |
| 2011/12 | \$56,774 | \$55,389 | \$49,049 | \$48,551 | \$47,839 | \$48,154 | \$46,058 | \$38,804 | \$48,159 |
| 2012/13 | \$56,775 | \$56,103 | \$49,844 | \$49,734 | \$48,855 | \$48,997 | \$47,344 | \$39,018 | \$49,393 |
| 2013/14 | \$56,583 | \$56,648 | \$49,615 | \$44,465 | \$49,893 | \$49,539 | \$48,666 | \$48,666 | \$45,695 |
| 2014/15 | \$57,414 | \$57,420 | \$49,828 | \$45,218 | \$50,670 | \$50,525 | \$50,025 | \$50,025 | \$45,848 |
| 2015/16 | \$58,140 | \$58,353 | \$51,233 | \$46,122 | \$51,034 | \$51,386 | \$51,223 | \$42,025 | \$46,887 |
| 2016/17 | \$58,187 | \$59,660 | \$51,808 | \$47,504 | \$51,422 | \$52,338 | \$52,968 | \$46,979 | \$48,576 |
| 2017/18 | \$58,352 | \$60,477 | \$52,701 | \$49,225 | \$50,449 | \$54,213 | \$52,850 | \$47,631 | \$49,655 |
| 2018/19 | \$58,861 | \$62,355 | \$54,935 | \$50,757 | \$50,721 | \$54,470 | \$53,434 | \$48,204 | \$51,858 |
| 2019/20 | \$59,786 | \$64,133 | \$57,706 | \$52,875 | \$52,135 | \$55,267 | \$53,525 | \$48,984 | \$54,678 |
| 2020/21 | \$60,234 | \$65,456 | \$58,183 | \$51,817 | \$53,133 | \$56,463 | \$54,755 | \$49,547 | \$57,226 |
| 2021/22 | \$60,819 | \$66,745 | \$60,130 | \$54,232 | \$53,628 | \$57,420 | \$55,666 | \$5,0592 | \$59,671 |
| 2022/23 | \$61,979 | \$69,544 | \$60,775 | \$56,365 | \$55,909 | \$58,763 | \$56,792 | \$53,153 | \$63,481 |
| 2023/24 | \$62,823 | \$71,699 | \$61,490 | \$61,516 | \$57,556 | \$60,239 | \$59,160 | \$54,211 | \$65,998 |

Source: National Education Association, Estimates of School Statistics, 1959-60 through 2023-24. The 2023/24 figures are estimates.

Figure 5: Trend in Student Enrollment in Wyoming, 2000-2031

| Fall | Enrollment | Growth Rate | Projection Status |
|-------------|-------------------|--------------------|--------------------------|
| 2000 | 89,531 | | Actual Growth |
| 2001 | 87,897 | -1.8% | Actual |
| 2002 | 86,117 | -2.0% | Actual |
| 2003 | 84,741 | -1.6% | Actual |
| 2004 | 83,772 | -1.1% | Actual |
| 2005 | 83,705 | -0.1% | Actual |
| 2006 | 84,629 | 1.1% | Actual |
| 2007 | 85,578 | 1.1% | Actual |
| 2008 | 86,519 | 1.1% | Actual |
| 2009 | 87,420 | 1.0% | Actual |
| 2010 | 88,165 | 0.9% | Actual |
| 2011 | 89,476 | 1.5% | Actual |
| 2012 | 90,993 | 1.7% | Actual |
| 2013 | 92,218 | 1.3% | Actual |
| 2014 | 93,303 | 1.2% | Actual |
| 2015 | 94,002 | 0.7% | Actual |
| 2016 | 93,261 | -0.8% | Actual |
| 2017 | 92,976 | -0.3% | Actual |
| 2018 | 93,029 | 0.1% | Actual |
| 2019 | 93,832 | 0.9% | Actual |
| 2020 | 91,938 | -2.0% | Actual |
| 2021 | 91,992 | 0.1% | Actual |
| 2022 | 91,640 | -0.4% | Actual |
| 2023 | 90,297 | -1.5% | Actual |
| 2024-2031 | | -0.3% | Projected Annual Change |

Source: Wyoming Department of Education Actual Enrollment for Fall 1990-2022. Projected Enrollment 2023-2031 from National Center for Education Statistics, Digest of Education Statistics.

Figure 6: Fraction of WY Teachers of Age 60+, 2014/15 to 2023/24

| Year | Percent of Teachers 60+ | Exit rate of Teachers 60+ |
|------------------------|--------------------------------|----------------------------------|
| 2014/15 | 8.6% | 26.3% |
| 2015/16 | 8.5% | 24.9% |
| 2016/17 | 8.6% | 28.8% |
| 2017/18 | 8.2% | 28.5% |
| 2018/19 | 7.9% | 25.6% |
| 2019/20 | 7.6% | 27.3% |
| 2020/21 | 7.1% | 32.1% |
| 2021/22 | 6.5% | 24.7% |
| 2022/23 | 6.6% | 26.2% |
| 2023/24 | 6.4% | -- |
| 10-year Average | 7.6% | 26.8% |

Source: Wyoming Department of Education Staffing files (WDE 602)

Figure 8: Percent of Wyoming Teachers who are New Hires, Fall 2013-2022

| Year | Hire Rate |
|------------------------|------------------|
| 2014/15 | 10.6% |
| 2015/16 | 10.5% |
| 2016/17 | 9.2% |
| 2017/18 | 7.1% |
| 2018/19 | 9.7% |
| 2019/20 | 10.7% |
| 2020/21 | 10.3% |
| 2021/22 | 9.8% |
| 2022/23 | 12.2% |
| 2023/24 | 10.6% |
| 10-year Average | 10.1% |

Source: Wyoming Department of Education Staffing files (WDE 602)

Figure 9: Percent of Wyoming Teacher Exiting the Profession After School Year, 2012/13 – 2022/23

| Year | All teachers | Less than 3 Years Experience | Midcareer (4-20 years exp.) |
|------------------------|---------------------|-------------------------------------|------------------------------------|
| 2013/14 | 9.6% | 11.9% | 6.6% |
| 2014/15 | 9.8% | 13.0% | 6.6% |
| 2015/16 | 10.1% | 13.5% | 6.1% |
| 2016/17 | 10.3% | 13.4% | 6.7% |
| 2017/18 | 10.4% | 13.7% | 7.2% |
| 2018/19 | 10.0% | 13.4% | 7.6% |
| 2019/20 | 9.0% | 13.6% | 6% |
| 2020/21 | 10.8% | 13.2% | 8.0% |
| 2021/22 | 11.3% | 15.3% | 9.0% |
| 2022/23 | 11.6% | 15.3% | 8.7% |
| 10 Year Average | 10.2% | 13.6% | 7.2% |

Source: Wyoming Department of Education Staffing files (WDE 602)

Figure 10: Bachelor's Degree graduates from the University of Wyoming

| Year | Education BA Degrees Awarded | All UW BA Degrees | Ed as Percent of Degrees |
|-------------|-------------------------------------|--------------------------|---------------------------------|
| 2010 | 256 | 1,783 | 14.4% |
| 2011 | 235 | 1,853 | 12.7% |
| 2012 | 278 | 2,062 | 13.5% |
| 2013 | 264 | 2,053 | 12.9% |
| 2014 | 225 | 2,007 | 11.2% |
| 2015 | 206 | 2,022 | 10.2% |
| 2016 | 202 | 2,159 | 9.4% |
| 2017 | 184 | 2,204 | 8.3% |
| 2018 | 208 | 2,127 | 9.8% |
| 2019 | 182 | 2,228 | 8.2% |
| 2020 | 207 | 2,295 | 9.0% |
| 2021 | 180 | 2,205 | 8.2% |
| 2022 | 190 | 2,121 | 9.0% |
| 2023 | 182 | 2,126 | 8.6% |
| 2024 | 146 | 1,919 | 7.6% |

Source: University of Wyoming Banner Information System. Degrees in education include a CIP code of 13. Note that 2024 figures are preliminary and will be confirmed Oct 1, 2024