

Current Status of Cost Pressures on Teacher Salaries in Wyoming

**(Scheduled for consolidation with
*Monitoring School District Human
Resource Cost Pressures in 2014*)**

A Report to the Wyoming
Joint Appropriations Interim Committee
and the Joint Education Interim Committee



Research & Planning
Wyoming Department of Workforce Services

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Wyoming Department of Workforce Services

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Introduction

The current report and previous editions, “Monitoring cost pressures on teacher salaries in Wyoming” (Stoddard, 2011) and “Current status of cost pressures on teacher salaries in Wyoming” (Stoddard, 2012) explored the factors that influence the availability of highly qualified teachers “to improve instruction and student achievement”(Statewide education accountability-phase II, 2013). With this in mind, it is important to study the cost pressures (in regard to teacher salaries) facing school districts in Wyoming.

School districts face competition for teachers from two major competitors: school districts in surrounding states, and nationally; and the potential for employment in other sectors of the economy. (Inter-district competition within Wyoming is not addressed in this report.)

Other factors that influence an individual’s decision regarding choices of geographic location and/or occupation are not discussed in this report such as: the relative cost of living in competing geographic areas, and non-monetary concerns such as quality of life considerations.

NOTES ON METHODOLOGICAL CHANGES

This is a transition year for this report. In contrast to past authoring, Research & Planning (R&P) shifts from using a mixture of data sources and moves toward consolidating to as few standard sources as possible. Past reports utilized Bureau of Labor Statistics (BLS) Occupational Employment Statistics (OES) reports and NCES wage information for teachers. The current report uses only OES data for wage information. See Appendix B for a detailed explanation of the OES survey (Research & Planning, 2013).

While prior reports utilized publically available OES wage and employment estimates, R&P, as agents of the Bureau of Labor Statistics, has access to OES estimates that contain confidential records that are not typically published. This means R&P can employ suppressed (not publically available) data in estimation processes. For example, when constructing an index of ‘comparable occupations’ to compare to teacher wages in Wyoming (Figure 1), the index is much more complete than had publically available OES data been utilized. This allows for a more appropriate comparison.

As publically available OES data are available for a longer time period, these data were employed where appropriate. Publically available OES data span all ownership categories (i.e. private sector and federal, state, and local government). These data are used in Figures 2, 3, and 4.

There have been two changes in methodology regarding the utilization of Wyoming Department of Education School District Staffing Files (WDE602). First, consistent with other reports from R&P, age data are drawn from Department of Motor Vehicles files for greater reliability, rather than the WDE602.

Starting with this report, the individuals in the WDE602 file were classified to Standard Occupational Classification (SOC) codes using OES guidelines. These guidelines are as follows:

Page XVI of the 2010 OES manual states “When workers in a single job could be coded in more than one occupation, they should be coded in the occupation that requires the highest level of skill. If there is no measurable difference in skill requirements, workers should be coded in the occupation in which they spend the most time. Workers whose job is to teach at different levels (e.g., elementary, middle, or secondary) should be coded in the occupation corresponding to the highest educational level they teach” (Office of Management and Budget, 2010).

Therefore, if an individual was a teacher and also an assistant principal they would be coded as an assistant principal (SOC 11-9032). This is a departure from prior reports in which an individual was classified as a teacher if any of the individual’s assignment code in the WDE602 file were a teaching assignment code (C. Stoddard, personal communication, September 19, 2013).

Calculation of Teacher Exits and New Hires

Calculating exits rates for teachers is defined as leaving teachers where teaching is the individual’s primary SOC code. For example, if an individual has been a teacher in previous years but then in 2012-2013 is classified as an assistant principal, that individual would be considered an exit (from teaching as their primary occupation).

An individual is defined as a ‘New Hire’ when they are employed as a teacher in a school year and were not employed as a teacher in a Wyoming public school the previous year. Therefore, for purposes of this report, an individual can be considered a new hire in more than one school year.

For example, an individual could be considered a new hire in the 2009-2010 school year then leaves teaching for two years and then accepts a teaching position for the 2012-2013 school year they would be considered a new hire.

As defined in this report new hires or exits are measured on a statewide basis. Therefore, an inter-district transfer would not be considered a new hire or exit.

Where methodology employed in the 2012 report yielded results such that the results are comparable to the current report, the results from the 2012 reports are included in tables 1, 2, and 3.

The Wyoming Department of Education Certified Staff Vacancy Application Information (WDE633) is used in creating Tables 5 and 6 as in previous reports.

Datasets used in the construction of the figures can be found in Appendix D.

Table 1: Summary of Indicators of Cost Pressure Sources

	OES May 2012	OES May 2011	Range 2009-2012	
	Status in 2012-13	Status in 2011-12		
Ratio of teaching wages to other professional and technical occupation wages in WY	0.96	0.95	.954	to .96
Ratio of teaching wages to comparable occupation wages in WY ¹	0.997	0.974	.983	.997
Ratio of WY teacher average salaries to teaching salaries in region	1.22	1.22	1.20	1.22
Student Enrollment growth (WDE)	1.7	1.5	.9	1.7
Percent Teachers 55 and older ²	21.9	22.7	21.9	22.7
Percent Teachers 60 and older ²	9.1	9.1	7.8	9.1
Exit Rate Teachers Ages 60+	23.3	23.2	16.9	23.3
Percent New Hires	11.0	10.0	8.3	11.0
Exit Rate New Teachers (0-3 years of experience)	32.4	32.7	28.3	38.2
Exit Rate Mid Career Teachers (greater than 3 years of experience)	8.9	9.1	6.8	9.1
Number of Applicants per Full Time Position	33.0	37.0	31	37
Percentage Hired First Choice, Full Time Position	93.7	92.7	93.9	93.9
Percent vacancies where report "very" or "somewhat" easy to hire high quality	61.9	65.8	65.8	78.4

Sources:

Wyoming Department of Education Staffing Files (WDE 602).
Wyoming Department of Education Vacancy Files (WDE 633).
Occupational Employment Statistics (OES) published data.

Overview of Cost Indicators

Previous reports, “Monitoring cost pressures on teacher salaries in Wyoming” (Stoddard, 2011) and “Current status of cost pressures on teacher salaries in Wyoming” (Stoddard, 2012) included several different metrics for monitoring changes in cost pressures on teaching salaries. This report updates these metrics.

The following indicators were compiled to provide signals about cost pressures related to labor market trends, demographic patterns, teacher turnover, and district reports about vacancies:

1. Changes in the ratio of teaching wages relative to wages of comparable professionals
2. Changes in the ratio of teaching wages in Wyoming to teaching wages in other states
3. The trends in student enrollment
4. The trends in teacher retirement
5. The percent of new hires among active teachers
6. Retention rates of current teachers
7. Number of applicants per full time position
8. Percent of districts hiring first choice applicant
9. Percent of districts reporting “very easy” or “somewhat easy” to hire high quality applicants

CONCLUSIONS

Overall, few indicators changed in significant ways since the two previous reports.

- Teaching wages in Wyoming remained high relative to other occupations, at about 96% of wages in comparable occupations (i.e. teaching wages were 4% lower). The US average teaching wage remained at approximately 78% (as it has for the previous five years) while in the surrounding states the teaching – comparable occupation ratio has decreased slightly to 73%.
- Teaching salaries in Wyoming were approximately 22% higher than in neighboring states, reflecting no significant change over the last two years.
- The relatively high teaching wages in Wyoming may be instrumental in attracting and retaining teachers in the future as enrollment is expected to increase, thereby increasing the need for teachers.
- Student enrollment continued to increase slightly at an average growth rate of 1.2% per year over the last 5 years. Projected growth for the next 5 years is 0.7% per year.
- The rate of newly hired teachers relative to all active teachers has increased over the last two years to 11%.
- The exit rate for teachers 60 years of age and over has not changed considerably from 2011 to 2012 school years at 23.3%.

- The percentage of active teachers 55 years of age and older has remained relatively constant over the last 6 years at 21.9%.
- The exit rate of teachers with 3 years of experience or less was 32.4% in 2012 which was similar to the rate in 2011 of 32.7%. The exit rate of teachers with greater than 3 years of experience was much lower at 8.9%.
- The exit rate of teachers 60 years of age and over has remained unchanged from the two previous years (an exit rate of 23.3%). The number of projected exits are expected to remain steady over the next five years.
- The number of full time teaching vacancies can change substantially from year to year. For example, there were 700 full time vacancies in 2010. The number of vacancies increased to 1,010 in 2012.
- The two largest factors driving full time vacancies in 2012 were retirements (22.4%) and transfers within a district or a promotion (24.6%).
- Overall the availability of high quality teaching applicants has been very strong. On average, there were 33 applicants for each full-time position in 2012. Administrators have been able to hire their first choice about 93% of the time for the 2009, 2010, 2011, and 2012 school years.
- Administrators found it somewhat or very easy to attract high quality applicants 62% of the time in 2012 which is a steady decline from a rate of about 78% in 2009 and 2010.

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

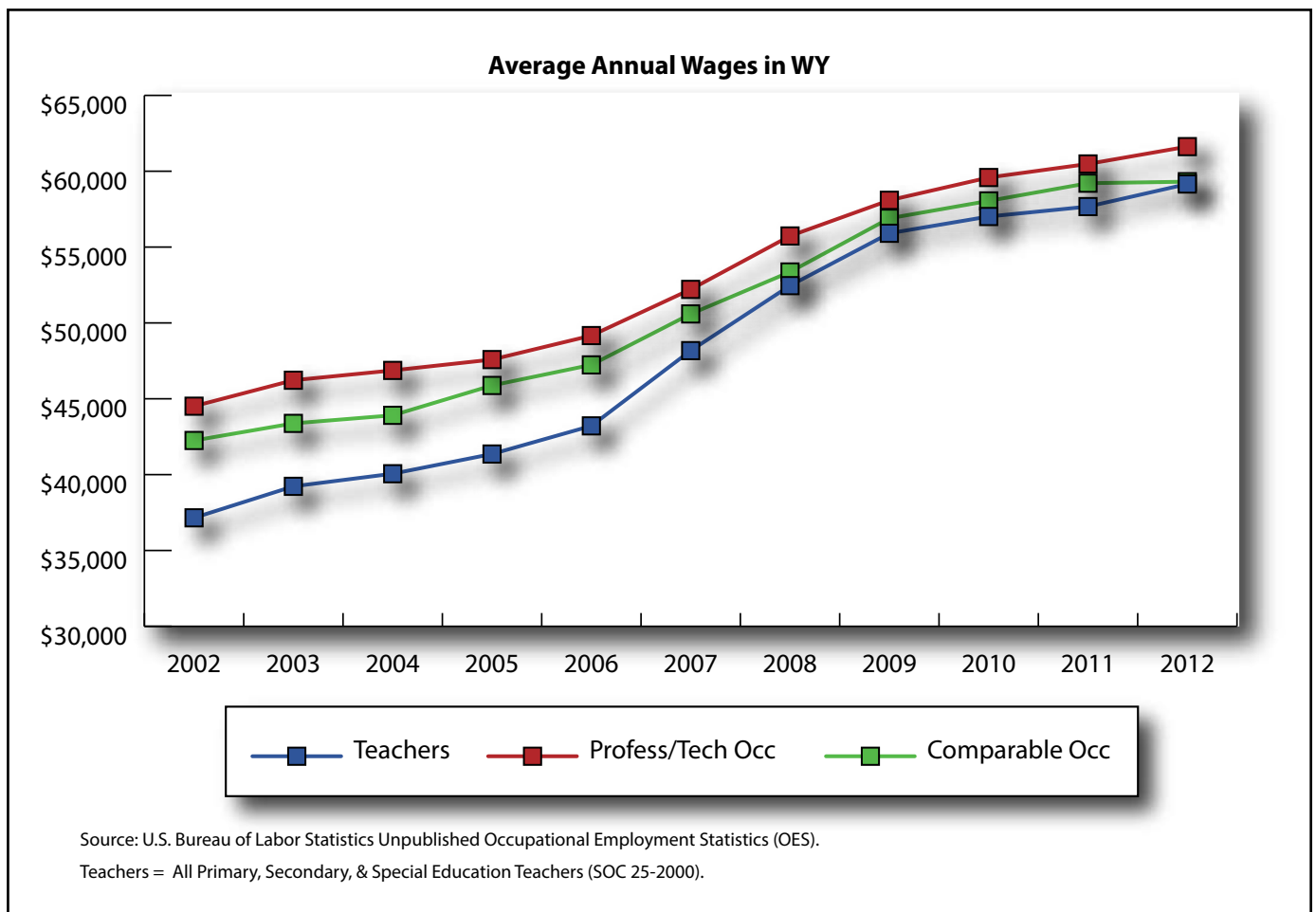
Data Sources: In prior years both Figure 1 and 2 were produced using publically available Occupational Employment Statistics (OES) data. These data span all ownership categories (i.e. private sector and federal, state, and local government).

Due to the unavailability of several of the comparable occupations (see Appendix A) within the publically available OES data, R&P utilized unpublished OES data to create the comparable occupation index for Figure 1.

These data were used to provide a more complete comparable occupation index. The series used in Figure 1 spans 2002 to 2012 as 2002 was the earliest year these unpublished data were available.

Metric: Figure 1 reports the average annual wages of teachers in Wyoming in comparison to all profession and technical, and comparable occupations (see Appendix A for the occupations that comprise these indices).

Figure 1: Average Annual Wages for Teachers and Comparable Workers in Wyoming, 2002-2012



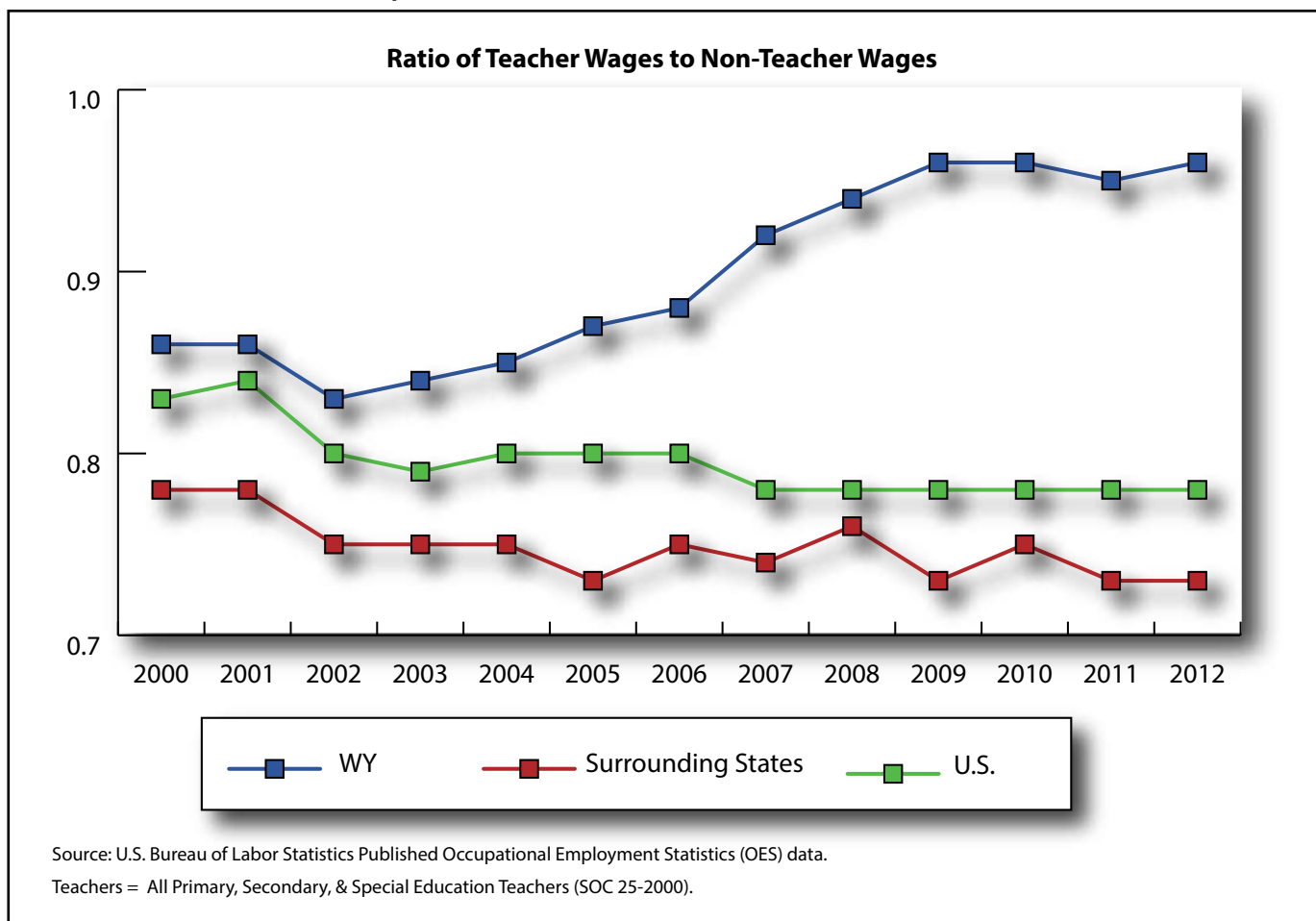
All Professional and Technical Occupations is an index spanning the 2 digit wage estimates according to the Standard Occupational Classification system. This spans Management occupations (SOC 11-0000) to healthcare practitioner and technical occupations (29-0000).

Comparable occupations are 18 occupations (21 SOC codes) as defined by the Economic Policy Institute (EPI). These occupations are shown in Appendix A. Allegretto et al., (2004) compiled these occupations based on methodology that in part, employed the Bureau of Labor Statistics (BLS) National Compensation Survey (NCS) occupational leveling criteria. Ten factors were used to compare the relative skills of various occupations.

In this report, an index weighted by employment was then created from these occupations and used in comparison to teacher wages.

Figure 2 reports the ratio of teaching wages to wages of all professional and technical occupations in Wyoming, the entire U.S., and the states surrounding Wyoming.

Figure 2: Ratio of Teacher Wages to Non-Teacher Wages in Professional/Technical Occupations, Wyoming, Surrounding States, and the U.S., 2000-2012 (All Ownerships)



An example of this ratio calculation is:

Annual average teaching wage (\$59,168 in 2012) divided by the annual average wage of all professional and technical occupations (\$61,624 in 2012). The resulting ratio equals 0.96.

Conclusions: Figures 1 and 2 have shown little change from the results of the last two years.

The relationship between teacher wages and all professional and technical occupations has not changed.

Relative to the comparable wage index, teachers have had a higher growth rate from 2011 to 2012.

While comparable occupation wages were still slightly higher, by \$154 on average, the growth rate for teachers was higher (2.6%) than the growth rate of comparable occupations (0.2%). Thus, the annual average wage difference has decreased from 2011 to 2012 (Figure 1).

The ratio of teacher wages to all professional and technical occupations in Wyoming (0.96), the U.S.(0.78), and surrounding states (0.72) has remained unchanged over the last four years (Figure 2).

Indicator 2: Teaching Salary Trends in Other States

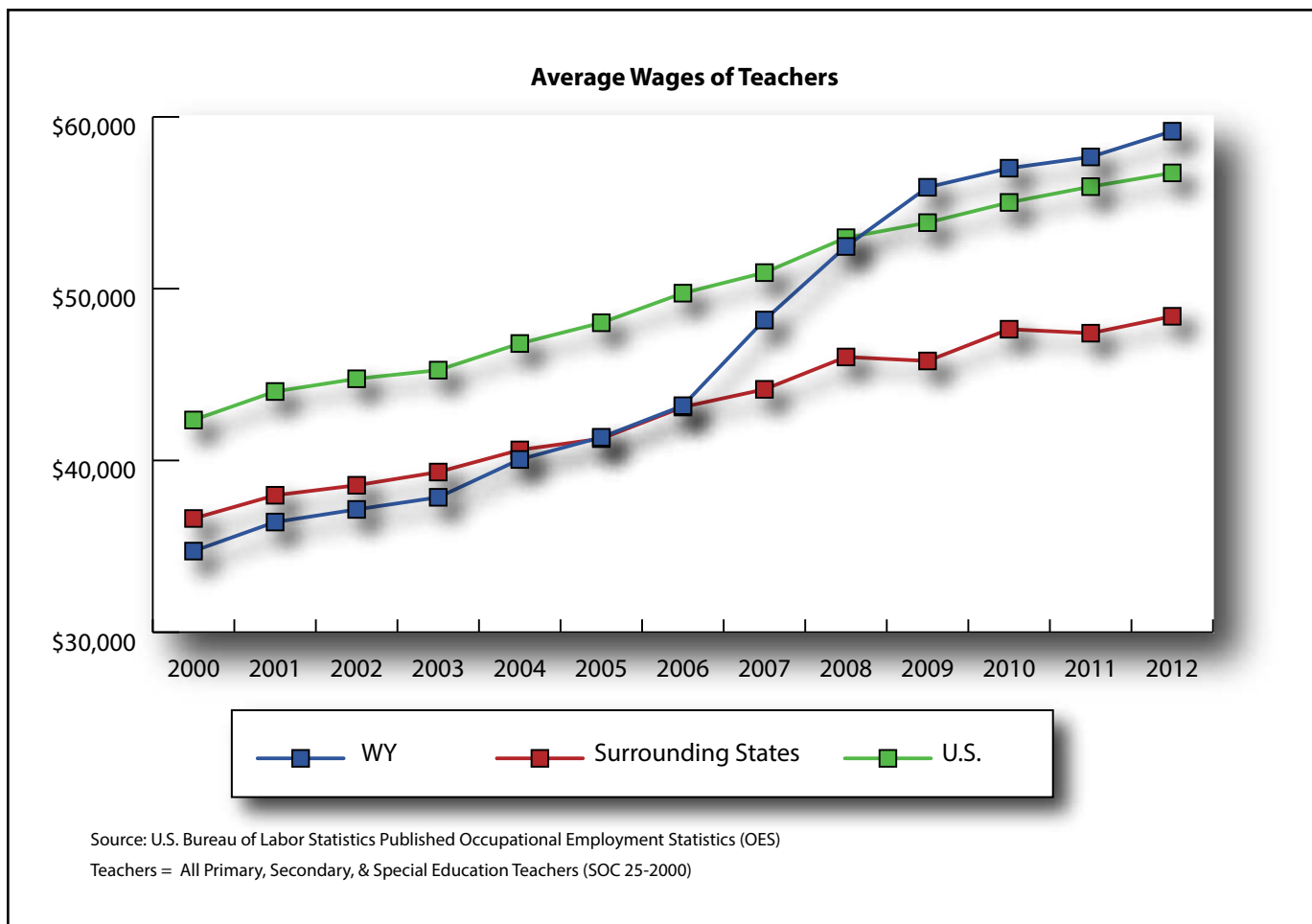
Data Sources: Figures 3 and 4 are based on published (publically available) OES data. This is a change from previous analyses, which used NCES data. The reason for this change is to move toward common data sources as much as possible to avoid confusion.

Metric: Figure 3 reports the average annual teaching wages in Wyoming, an index of surrounding states, and the U.S. Figure 4 displays the average annual teaching wages in Wyoming to the surrounding states individually.

Conclusions: Figure 3 shows that Wyoming teaching wages have exceeded the U.S. by approximately 4% for the last four years. Against the surrounding states index, Wyoming's teaching wages remained approximately 22% higher over the last four years.

Figure 4 demonstrates that in comparison to the surrounding states individually, Wyoming widened its wage advantage against all states with the exception of Utah, where the wage disparity dropped by 4% since the 2012 report. However, Wyoming teacher wages were still 19% higher than Utah teaching wages. The largest wage gap is between Wyoming

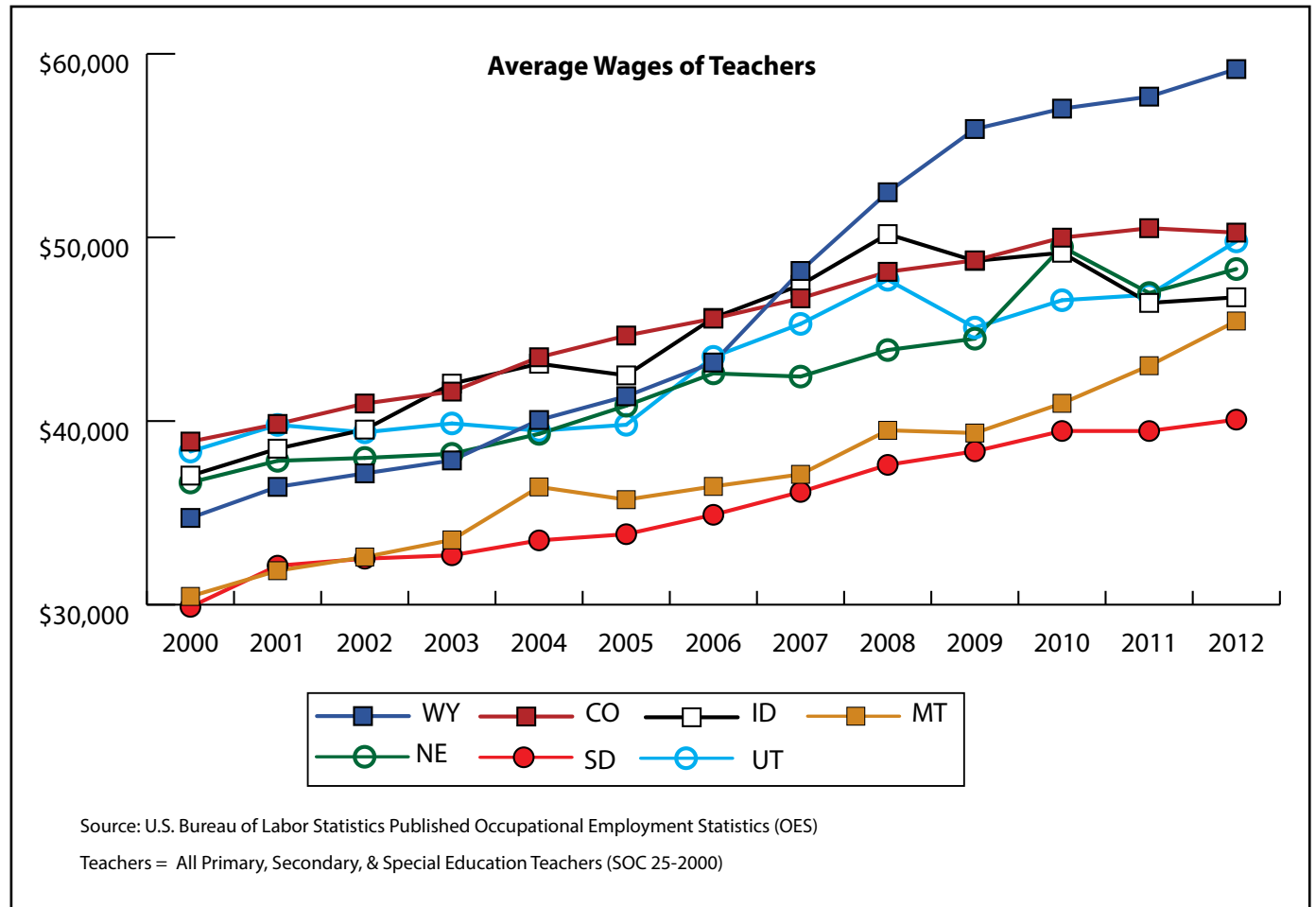
Figure 3: Annual Teacher Wages in Wyoming, the U.S., and Surrounding States Index, 2000-2012



and South Dakota with Wyoming's wages being 48% higher.

While Wyoming has the highest overall teaching wages, the pupil-teacher ratio as of 2010 was the lowest of any of the surrounding states at 12.5. Utah had the highest ratio of 22.8 (National Center for Education Statistics, 2012).

Figure 4: Average Annual Teacher Wages in Wyoming and Surrounding States, 2000-2012 (All Ownerships)



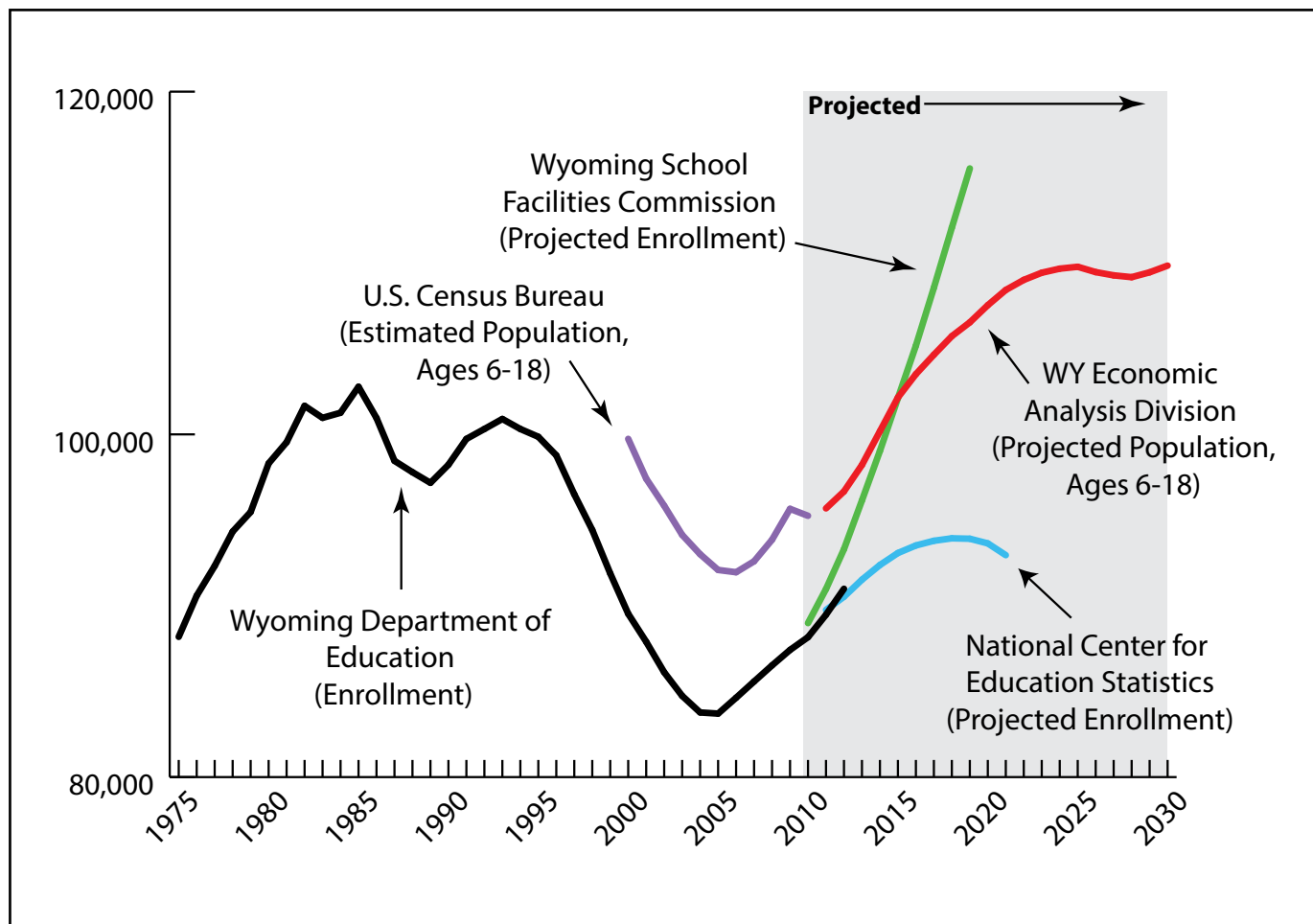
Indicator 3: Trend in Student Enrollment

Metric: The primary drivers of change in the demand for teachers are changes in student enrollment and replacement need (i.e. retirement and other reasons teachers exit the profession). This section of the narrative examines historic and projected student enrollment in Wyoming.

Figure 5 displays both historic and projected Wyoming population data for individuals between the ages of 6 and 18 and student enrollment in Wyoming public schools. the source of historic population data was the U.S. Census Bureau (2000-2010). Population projections were conducted by the Wyoming Economic Analysis Division (2011-2030). The WYEAD data by single year of age was not publically available but was provided to R&P with the agreement that the data only be used in summary form (W. Liu, personal communication, August 29, 2013). For the purposes of this report, a summation of population ages 6 through 18 from both of these sources was used as a proxy for possible student enrollment.

Historic student enrollment was provided by the Wyoming Department of Education

Figure 5: Wyoming Student Enrollment and Population Ages 6-18, 1975-2030



(WDE) (1975-2012) while two different projections of student enrollment are displayed. The purpose of displaying these different projections is to highlight the uncertainty of future student enrollment and in turn, the demand for teachers.

The first projection was conducted by the Wyoming School Facilities Commission (WYSFC) while the second projection is provided by the National Center for Education Statistics (NCES).

Conclusions: Comparing historic population and student enrollment data demonstrates that these two series tend to move together over time. The population of individuals 6 through 18 years of age is greater than student enrollment due to factors including but not limited to: students graduating or receiving a GED prior to their 18th birthday, private school enrollment, and homeschooling.

Projected population growth and the NCES projected student enrollment growth tend to move together through 2019 with a divergence occurring beginning in 2020. Population forecasts indicate continued growth, while NCES enrollment estimates predict enrollment to decline.

The WYSFC enrollment projection displays a much steeper growth rate than both the WYED population and NCES enrollment projections. The WYSFC growth rates exceeded NCES growth rates by 2-3% per year through 2019.

These differences among data sources indicate possible future uncertainty of teacher demand and additional school facility financing. Thus, decision makers should take care when utilizing these projections.

An examination of the various methodologies employed in the construction of these projections could be examined. How these various forecasts perform over time may have substantial logistic and cost implications.

Regardless of the projection utilized, enrollment is expected to increase, thereby increasing the need for teachers. The relatively high teaching wages in Wyoming may be instrumental in attracting and retaining teachers in the future.

Indicator 4: Trend in Teacher Retirements

Data: The Wyoming Department of Education 602 files contains copious amounts of information regarding teachers and other employees including: age, ethnicity, education, salary, and experience.

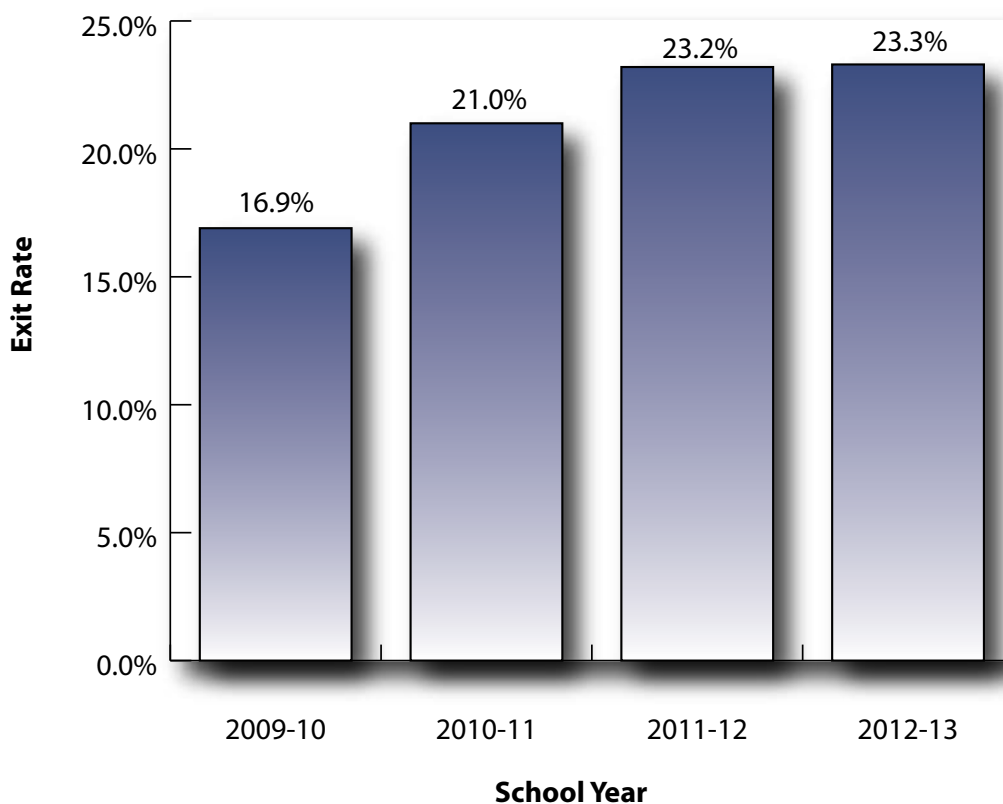
R&P employed drivers' license records to obtain age information if there is a discrepancy between these two data sources.

Metric: Figure 6 shows the exit rate of teachers aged 60 and older. Figure 7 shows the same data grouped into age ranges.

Note that while Figure 7 displays both the 2008 and 2012 age profiles for the sake of completeness, there is only a five year time span between the two. One would not expect the age profiles to change drastically over this time span. Therefore, rather than focus on the changes between the two, the most current year available (2012) is discussed.

Table 2 shows the percentage of Wyoming teachers near retirement age (55+, 60+, 65+

Figure 6: Exit Rate as for WY Teachers Ages 60 and Older, 2009-10 to 2012-13



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

Teachers = All Primary, Secondary, & Special Education Teachers (SOC 25-2000)

years of age).

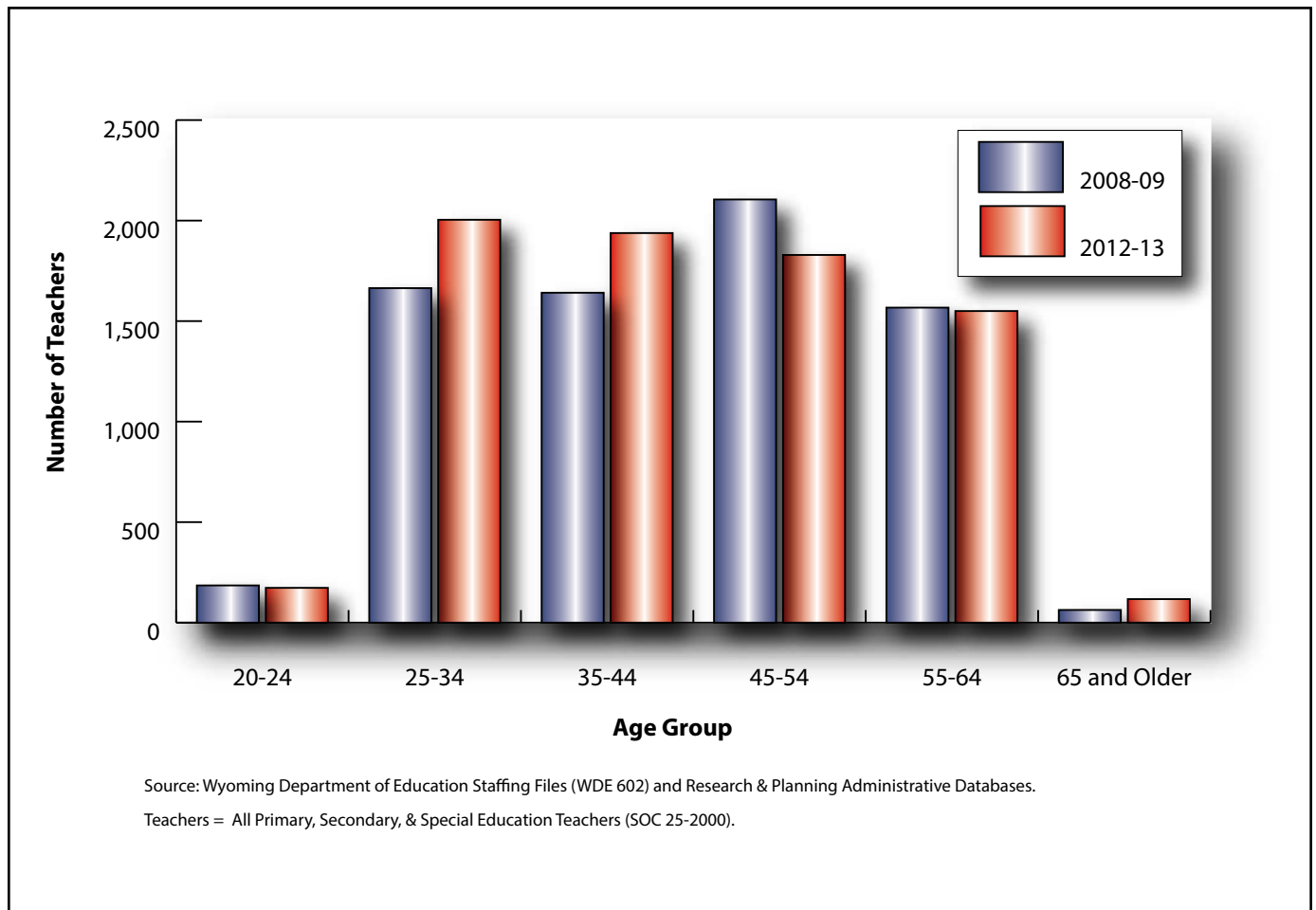
The projection of teacher exits at retirement age (Table 3) employs the same methodology as in the 2012 report (see Appendix C). This projection is based on historic exit rates of teachers 55 years of age or over.

Conclusions: Figure 6 demonstrates that the exit rate of teachers 60 years of age or older has risen from 16.9% in 2009 to 23.2% in 2011. This rate was maintained in 2012.

Figure 7 and Table 2 reiterate the finding in the 2012 report that “the baby-boom bubble has flattened over time through attrition” (Stoddard, 2012). The 2012 report also indicated that “the fraction of teachers of age 55 and older doubled between 2000 and 2007, but has remained relatively constant since then”(Stoddard, 2012). Table 2 shows that this trend continued into 2012.

While the ‘baby boom’ generation is moving toward or has arrived at retirement age, the overall average age of teachers decreased slightly from 2008 (44.2 years of age) to 2012 (43.3 years of age). This is partially due to the fact that often when an individual retires the

Figure 7: Number of Teachers in Wyoming by Age Group, 2008-09 and 2012-13.



result is the hiring of a teacher roughly one-third the age of the retiring individual.

Table 3 indicates that the number of teachers 55 years of age and over leaving teaching, in many cases retiring, has steadily risen from 127 individuals in 2000-2001 to 284 in 2012-2013. Projections indicate that exits will slowly decrease over the next five years.

The number of teachers 60 years of age and over leaving teaching has increased nearly four-fold over the 2000-2001 to 2012-2013 time period (41 to 162 individuals). Projected exits are expected to remain relatively steady over the next five years.

Table 2: Percentage of Wyoming Teachers Near Retirement Age

School Year	Percent Ages 55+	Percent Ages 60+	Percent Ages 65+	School Year
2000/01	11.7%	2.4%	0.2%	Data from the 2012 report
2001/02	13.2%	2.8%	0.3%	
2002/03	15.2%	2.9%	0.2%	
2003/04	16.5%	3.6%	0.3%	
2004/05	17.8%	4.2%	0.4%	
2005/06	19.2%	4.8%	0.6%	
2006/07	20.8%	5.9%	0.7%	
2007/08	22.0%	6.5%	0.9%	
2008/09	22.6%	7.2%	0.9%	Data from the current report
2009/10	22.6%	7.8%	1.2%	
2010/11	22.7%	8.6%	1.4%	
2011/12	22.7%	9.1%	1.4%	
2012/13	21.9%	9.1%	1.5%	

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

Teachers = All Primary, Secondary, & Special Education Teachers (SOC 25-2000).

Table 3: Actual and Projected Number of Exits of Teachers of Retirement Age

School Year	Number Exiting Ages 55+	Number Exiting Ages 60+	School Year
2000/01	127	41	Exits from the 2012 report
2001/02	144	50	
2002/03	145	39	
2003/04	148	51	
2004/05	154	56	
2005/06	176	64	
2006/07	183	88	
2007/08	265	110	
2008/09	202	89	Exits from the current report
2009/10	213	98	
2010/11	247	134	
2011/12	280	157	
2012/13	284	162	Projected Exits
2013/14	242	148	
2014/15	236	153	
2015/16	226	162	
2016/17	225	177	
2017/18	215	182	

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

Teachers = All Primary, Secondary, & Special Education Teachers (SOC 25-2000).

Indicator 5: Percent of New Hires

Data: Wyoming Department of Education Staffing Files (WDE602).

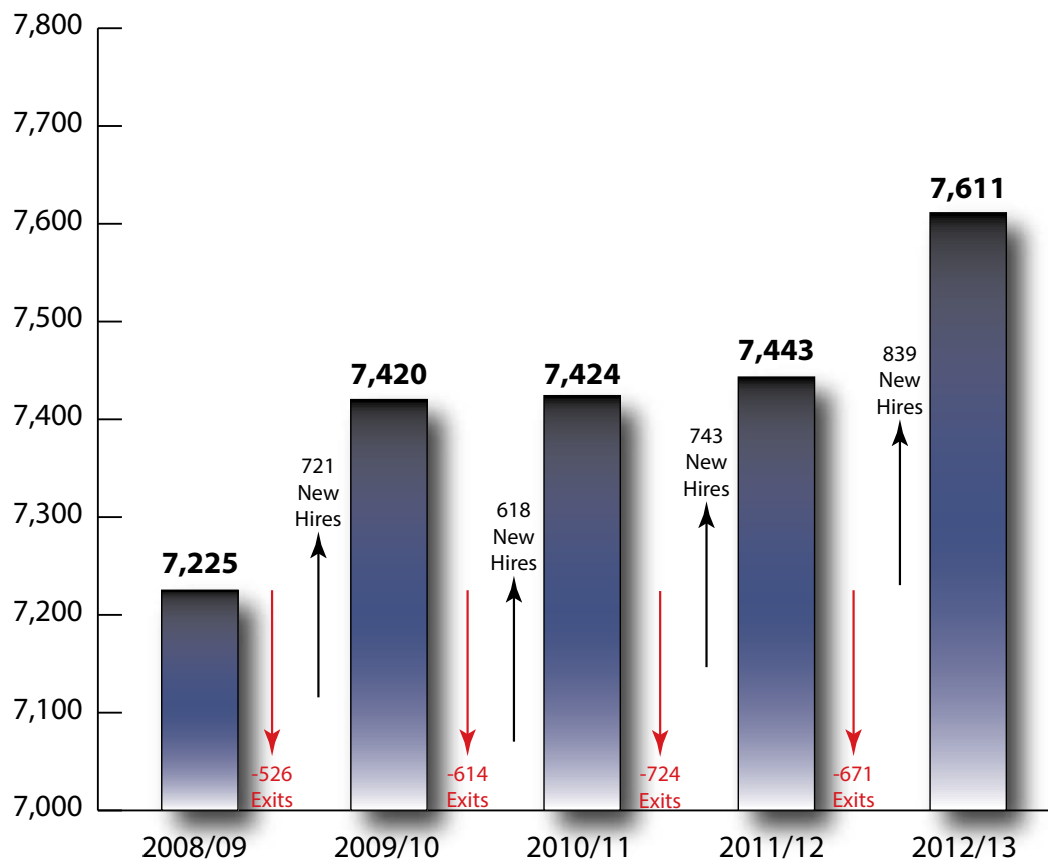
Metric: Figure 8 presents the number of new hires, exits, and the net change for the 2009-2013 time frame.

Conclusion: Changes in student enrollment, teacher retirements, individuals exiting the teaching profession in Wyoming, and policy changes (e.g. pupil – teacher ratio changes) all effect the demand for ‘new hire’ teachers.

As stated in the 2012 report, new hires tend to be approximately 10% of active teachers in any given year. Figure 8 shows that this continued to hold true for the 2011-2012 school year and 2012-2013 (11%) school years.

Figure 8 shows that new hires exceeded exits every year over the 2008 through 2012 time period. The net growth for this time period was 386 positions. Again, this is based on employing OES methodology to define teachers.

Figure 8: Number of Year-to-Year New Hires, Exits, and Net Change Among Wyoming Teachers, 2008-09 to 2012-13



Teachers = All Primary, Secondary, & Special Education Teachers (SOC 25-2000).

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

Indicator 6: Retention Rates of Current Teachers

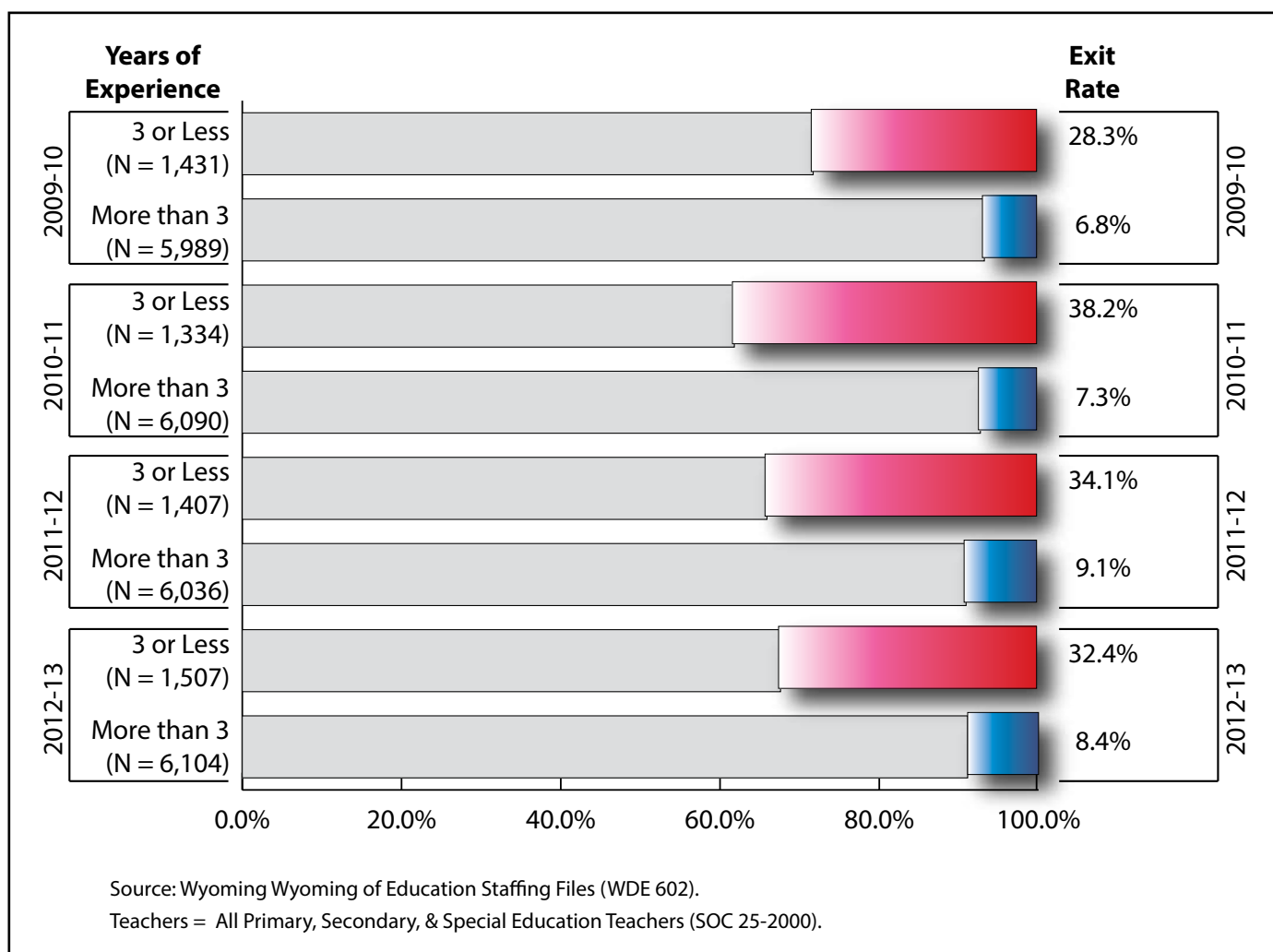
Data: Wyoming Department of Education Staffing Files (WDE 602) and Vacancy Files (WDE 633).

Metric: Many factors can affect the retention rates of current teachers in Wyoming. Factors include:

- Competition for teachers from other states.
- Competition from other industries.
- The age profile of active teachers.

Individuals that are new to the profession may decide that teaching is not the career for them. Therefore, Figure 9 presents the percentage of overall exits of active teachers and exits by level of experience.

Figure 9: Exit Rates of Active Teachers by Years of Experience, 2009-10 to 2012-13



The two experience levels are defined as:

- 0-3 years of experience
- More than 3 years of experience

Table 4 includes the information from Figure 10 as well as the new hire rate and the exit rate of teachers age 60 and up to summarize the new hire/exits rate dynamic. Table 5 examines the causes of position vacancies that have occurred over the last four school years.

Conclusions: As stated in the 2012 report, the overall exit rate has stayed fairly constant. Over the 2009 to 2013 time period the annual average exit rate was 8.5%. The highest overall exit rate was in 2011 at 9.7%.

As would be expected, the exit rate of teachers 60 years of age and over exceeded the overall exit rate by a factor of approximately 2.5 over the 2009 to 2012 time period.

Teachers with 3 or less years of experience had much higher exit rates than those with greater than 3 years of experience. Over the 2009 to 2013 time period, the teachers of the lower experience level had exit rates approximately 4 times higher than the more experienced teachers.

Given that exit rates are highest for teachers 60 years of and or over (with the premise that the majority of these individuals have high levels of experience) and for those with three or less years of experience (with the premise that the majority of these teachers were relatively young) indicates that districts with a high proportion of teachers fitting these profiles may face higher replacement costs (e.g. recruitment) than those districts that do not.

Previous research described similar findings. Struck and Robinson, 2006 states, “This research points to a U-shaped curve of teacher experience and quits: Younger teachers have a higher rate of turnover, which declines as teachers hit middle age/ experience, and then rises again as teachers near retirement.” Glover, 2012 presented supporting results using data specific to Wyoming.

Table 5 shows that the number of vacancies has increased substantially for the 2009-10 through 2012-13 school years. Over this time period teachers being promoted or transferring within the district accounted for approximately one-quarter of vacancies. Over the last four school years approximately 20% of vacancies in a given year have been due to individuals transferring out of a particular school district. This indicates that inter-district competition within the state is a large source of turnover.

Table 4: Wyoming Teacher New Hires and Exit Rates

	% of Teacher New Hires	Overall Teacher Exit Rate	Exit Rate of Teachers Age 60+	Exit Rate by Years of Experience	
				3 Years or Less	Greater than 3 Years
2009/10	9.7	7.1	16.9	28.3	6.8
2010/11	8.3	8.3	21.0	38.2	7.3
2011/12	10.0	9.7	23.2	32.7	9.1
2012/13	11.5	8.8	23.3	32.4	8.9
Average				32.9	8.0

A teacher can be included in more than one exit category. For example, a 66 year old teacher with more than 3 years experience would be included in both those categories (as well as the overall category)

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

Teachers = All Primary, Secondary, & Special Education Teachers (SOC 25-2000).

Table 5: District Reported Causes of Wyoming Teacher Vacancies, 2009/10 to 2012/13

	2009/10		2010/11		2011/12		2012/13	
	N	% ¹	N	% ¹	N	% ¹	N	% ¹
Number of vacancies	1,058		1,083		1,318		1,428	
Number of full time vacancies	848		700		966		1,010	
Reason for Vacancy - Full Time Positions²								
Former Teacher Retired	177	20.9%	161	23.0%	285	22.4%	226	22.4%
Former teacher transferred within district or promoted	231	27.2%	185	26.4%	224	24.6%	248	24.6%
New position or new course	182	21.5%	105	15.0%	139	15.3%	155	15.3%
Former teacher transferred out of district	177	20.9%	135	19.3%	168	23.4%	236	23.4%
Former teacher left profession	81	9.6%	114	16.3%	150	14.4%	145	14.4%

¹Percentage of full time vacancies.

²There were two additional reasons for vacancy categories this year (position eliminated and position contracted out) accounting for five vacancies not included in this table.

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

Teachers = All Primary, Secondary, & Special Education Teachers (SOC 25-2000).

Indicator 7: Recruitment Indicators

Data: Wyoming Department of Education Vacancy Files (WDE 633)

Metric: The first metric was the average number of applicants for vacancies. Keep in mind that candidates are likely to be in the hiring pools for more than one district.

The second metric is what percentage of first choice candidates were ultimately hired.

The third metric is the level of difficulty with which it took district supervisor to hire a highly qualified candidate.

Conclusions: The range in the number of applicants for all positions (26 to 31) and full time positions (31-37) has remained steady and at a reasonably high level over the 2009 through 2012 school year time period.

Districts were able to hire their first choice candidate the vast majority of time (over 90%).

The rate at which district supervisors found it somewhat or very easy to attract high quality applicants has decreased over this time period to a level of 61.9% for 2012-13, from a high of 78.4% in 2010-11.

Table 6: Wyoming Department of Education Vacancy Files (WDE 633), 2009-2012 Positions

	2009/10	2010/11	2011/12	2012/13
Average number of applicants, all positions	28	26	31	27
Average number of applicants, full time	31	33	37	33
Percent of Hired first choice, full time positions	93.9	92.7	92.7	93.7
Percent of Very difficult to attract high quality applicants, full time positions	8.3	8.1	15.1	19.4
Percent of Somewhat difficult to attract high quality applicants, full time	13.8	13.4	19.0	18.5
Percent of Somewhat easy to attract high quality applicants, full time	34.2	30.3	27.4	22.0
Percent of Very easy to attract high quality applicants, full time	43.8	48.1	38.4	39.9

Source: Wyoming Wyoming of Education Vacancy Files (WDE 633).

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Appendix A: Comparable Professional and Technical Occupations

The possible occupations: SOC Codes Employed in Defining Teachers, Professional and Technical Occupations, and Comparable Occupations Defined by the Economic Policy Institute.

Teachers

- Kindergarten Teachers, Except Special Education 25-2012
- Elementary School teachers, Except Special Education 25-2021
- Middle School Teachers, Except Special and Career/Technical Education 25-2022
- Career/Technical Education Teachers, Middle School 25-2023
- Secondary School Teachers, Except Special and Career/Technical Education 25-2031
- Career/Technical Education Teachers, Secondary School 25-2032
- The following are old special education codes 25-2041, 25-2042, 25-2043,
- The following are new special education codes 25-2051, 25-2052, 25-2053, 25-2054, 25-2059

Teachers:

9 possible prior to 2012
11 possible in 2012

All Professional and Technical Occupations

- Management Occupations 11-0000
- Business and Financial Operations Occupations 13-0000
- Computer and Mathematical Science 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
- Education, Training and Library Occupations 25-0000
- Arts, Design, Entertainment, Sports, and Media Occupations
- Healthcare Practitioner and Technical Occupations 29-0000

Professional and Technical:
10 possible

Comparable Occupations (Economic Policy Institute)

The Economic Policy Institute (EPI) identified 16 professional and managerial occupations that it determined to be similar to teaching based on Bureau of Labor Statistic skill ratings.

These occupations are:

- Accountants and Auditors 13-2011
- Insurance Underwriters 13-2053
- Human Resources, Training, and Labor Relations Specialists, All Other 13-1079
- Compliance Officers, Except Agriculture, Construction, Health and Safety, and Transportation 13-1041
- Architects 17-1011, 17-1012
- Conservation Scientists 19-1031

Comparable Occupations:
18 occupations
21 SOC codes possible

Appendix A: Comparable Professional and Technical Occupations

- Foresters 19-1032
- Registered Nurses 29-1141
- Occupational Therapists 29-1122
- Physical Therapists 29-1123
- Trade and industrial teachers
- Self-Enrichment Education Teachers 25-3021
- Farm and Home Management Advisors 25-9021
- Educational, Guidance, School, and Vocational Counselors School Cound== 21-1012
- Archivists 25-4011
- Curators 25-4012
- Clergy 21-2011
- Technical Writers 27-3042
- Editors and Reporters 27-3041, 27-3022
- Computer Programmers 15-1021

Appendix B: Occupational Employment Statistics (OES) Wage Survey

Research & Planning (R&P), a section of the Wyoming Department of Workforce Services, in cooperation with the U.S. Bureau of Labor Statistics (BLS), has conducted an Occupational Employment Statistics (OES) Wage Survey since 1996. The OES program produces occupational employment and wage estimates that have many uses. For example, wage information helps employers determine if they are offering competitive wages. Employment and training organizations (such as community colleges), vocational counselors, and individuals use wage data to assist students in making career decisions. OES data are used to determine staffing patterns, develop employment projections, and for Foreign Labor Certification.

In Wyoming, the OES Wage Survey samples and contacts approximately 1,000 establishments by mail and phone in May and November of each year. Data obtained are used to estimate occupational employment and wage rates for Unemployment Insurance (UI) covered wage and salary jobs in non-farm establishments.

Wages for the OES survey are straight-time, gross pay, exclusive of premium pay. Items included in the survey are base pay rates, cost-of-living allowances, guaranteed pay, hazard pay, incentive pay, commissions, piece rates and production bonuses, length-of-service allowances, on-call pay, and portal-to-portal pay. Items excluded are back pay, jury-duty pay, overtime pay, severance pay, shift differentials, vacation pay, Christmas bonuses, holiday or weekend pay, attendance bonuses, meal and lodging allowances, merchandise discounts, non-production bonuses, profit-sharing distributions, relocation allowances, stock bonuses, tool allowances, tuition reimbursements, and uniform allowances. Data from tips were not collected prior to 1999. Tip data are incorporated into the hourly estimates. The OES Wage Survey does not include benefit data.

Hourly wage estimates in this publication are calculated using a year-round, full-time figure of 2,080 hours per year (52 weeks times 40 hours). Occupations that typically have a work year of less than 2,080 hours (such as musical and entertainment occupations, flight attendants, pilots, and teachers) are reported only as an annual wage.

Every state conducts an identical OES wage survey using standard techniques. This facilitates comparison of data among states, as well as comparisons with national figures. National and state wage estimates are located on the BLS website at <http://www.bls.gov/oes>. For more information, see the BLS Technical Notes (http://www.bls.gov/oes/current/oes_tec.htm).

Appendix C: Projected Number of Wyoming Teacher Exits (Table 3)

Projections of teacher exits and retention were calculated using the age profile in 2012.

The 2012 report stated that the average annual exit rate for teachers 55 and over was 15.2% from 2000-2010. This rate has not changed in the last two years. Therefore, as in the 2012 report, an estimated exit rate of 15% was employed in the calculation.

The 2012 report stated that the average annual exit rate for teachers 60 and over was 23.2% from 2000-2010. This rate has dropped slightly to a rate of 21.1% over the last five years. Therefore, an estimated exit rate of 21% was employed in the calculation (which is a 2% decrease from the 2012 calculation).

The exit rates may be higher if some teachers retire earlier than recent data has indicated or if teachers near retirement age are hired during this 2013 through 2018 time period. Conversely, exit rates will be lower if teachers extend their careers longer than recent history suggests.

Example: Ages 55 and Older

In the 2012-13 school year, there were 1,667 teachers 55 years of age or over. Actual exits from the 2011-2012 to 2012-2013 school years were 284.

Therefore, the number of teachers projected to be retained for the 2013-2014 school year is 1,383. The number of teachers that turned 55 years of age is 231. This is a total of 1614 teachers 55 and over.

Using the estimated exit rate of 15% the number of teachers projected to exit is 242 (i.e. $0.15 * 1614$).

Age	Number of Teachers
50	161
51	218
52	165
53	204
54	231
55	200
56	232
57	195
58	173
59	173
60	161
61	159
62	119
63	80
64	58
65+	117
Total, 50+	2,646

Appendix D: Data Used in the Figures

Figure 1: Average Annual Wages for Teachers and Comparable Workers in Wyoming, 2002-2012

Year	Wyoming Average Annual Wage		
	Teachers	Profess/Tech Occ	Comparable Occ
2002	\$37,152	\$44,511	\$42,250
2003	\$39,228	\$46,222	\$43,377
2004	\$40,059	\$46,869	\$43,909
2005	\$41,358	\$47,584	\$45,877
2006	\$43,213	\$49,166	\$47,235
2007	\$48,174	\$52,210	\$50,592
2008	\$52,458	\$55,733	\$53,359
2009	\$55,910	\$58,085	\$56,897
2010	\$57,015	\$59,586	\$58,044
2011	\$57,669	\$60,480	\$59,210
2012	\$59,157	\$61,622	\$59,311

Teachers = All Primary, Secondary, & Special Education Teachers (SOC 25-2000).

Source: Occupational Employment Statistics (OES) published data.

Figure 2: Ratio of Teacher Wages to Non-Teacher Wages in Professional/Technical Occupations, Wyoming and Surrounding States, 2000-2012 (All Ownerships)

	Average Annual Wage	
	Teachers	Prof/Tech
Wyoming		
2000	\$34,724	\$40,289
2001	\$36,415	\$42,217
2002	\$37,150	\$44,514
2003	\$37,855	\$45,122
2004	\$40,057	\$46,869
2005	\$41,351	\$47,587
2006	\$43,188	\$49,166
2007	\$48,174	\$52,214
2008	\$52,459	\$55,736
2009	\$55,904	\$58,086
2010	\$57,014	\$59,631
2011	\$57,669	\$60,484
2012	\$59,168	\$61,624
U.S.		
2000	\$42,356	\$51,061
2001	\$44,015	\$52,543
2002	\$44,756	\$55,869
2003	\$45,259	\$57,252
2004	\$46,810	\$58,633
2005	\$48,017	\$60,096
2006	\$49,739	\$62,337
2007	\$50,936	\$64,944
2008	\$52,968	\$67,555
2009	\$53,845	\$69,152
2010	\$55,022	\$70,546
2011	\$55,940	\$71,959
2012	\$56,741	\$73,028
Surrounding States		
2000	\$36,622	\$47,065
2001	\$37,974	\$48,722
2002	\$38,557	\$51,573
2003	\$39,325	\$52,585
2004	\$40,614	\$54,012
2005	\$41,270	\$56,437
2006	\$43,111	\$57,216
2007	\$44,140	\$59,550
2008	\$46,025	\$60,372
2009	\$45,792	\$62,768
2010	\$47,640	\$63,836
2011	\$47,409	\$64,862
2012	\$48,394	\$66,128

Teachers = All Primary, Secondary, & Special Education Teachers (SOC 25-2000)
Source: Occupational Employment Statistics (OES) published data.

Appendix D: Data Used in the Figures

Figure 3: Average Annual Teacher Wages in Wyoming, the U.S., and Surrounding States, 2000-2012

Year	Average Annual Wage			Ratio of WY Average Annual Wage to:	
	Wyoming	Surrounding States	U.S.	Surrounding States	U.S.
2000	\$34,724	\$36,622	\$42,356	0.95	0.82
2001	\$36,415	\$37,974	\$44,015	0.96	0.83
2002	\$37,150	\$38,557	\$44,756	0.96	0.83
2003	\$37,855	\$39,325	\$45,259	0.96	0.84
2004	\$40,057	\$40,614	\$46,810	0.99	0.86
2005	\$41,351	\$41,270	\$48,017	1.00	0.86
2006	\$43,188	\$43,111	\$49,739	1.00	0.87
2007	\$48,174	\$44,140	\$50,936	1.09	0.95
2008	\$52,459	\$46,025	\$52,968	1.14	0.99
2009	\$55,904	\$45,792	\$53,845	1.22	1.04
2010	\$57,014	\$47,640	\$55,022	1.20	1.04
2011	\$57,669	\$47,409	\$55,940	1.22	1.03
2012	\$59,168	\$48,394	\$56,741	1.22	1.04

Teachers = All Primary, Secondary, & Special Education Teachers (SOC 25-2000)

Source: Occupational Employment Statistics (OES) published data.

Figure 4: Average Annual Teacher Wages in Wyoming and Surrounding States, 2000-2012 (All Ownerships)

Year	Wyoming		Colorado		Idaho		Montana		Nebraska		South Dakota		Utah	
	Average Annual Wage	N	Average Annual Wage	N	Average Annual Wage	N	Average Annual Wage	N	Average Annual Wage	N	Average Annual Wage	N	Average Annual Wage	N
2000	\$34,724	9	\$38,882	9	\$37,029	3	\$30,449	9	\$36,653	9	\$29,881	9	\$38,341	9
2001	\$36,415	9	\$39,842	9	\$38,496	3	\$31,851	9	\$37,835	9	\$32,124	9	\$39,790	9
2002	\$37,150	9	\$40,955	9	\$39,536	3	\$32,595	9	\$37,991	9	\$32,505	9	\$39,387	9
2003	\$37,855	9	\$41,604	8	\$42,038	3	\$33,527	9	\$38,214	9	\$32,689	9	\$39,870	9
2004	\$40,057	8	\$43,474	9	\$43,122	4	\$36,413	9	\$39,301	9	\$33,501	9	\$39,475	9
2005	\$41,351	8	\$44,657	9	\$42,486	3	\$35,719	9	\$40,836	9	\$33,838	8	\$39,797	9
2006	\$43,188	8	\$45,578	9	\$45,615	6	\$36,441	9	\$42,596	9	\$34,894	8	\$43,497	9
2007	\$48,174	9	\$46,683	9	\$47,410	6	\$37,097	9	\$42,422	9	\$36,139	8	\$45,291	9
2008	\$52,459	9	\$48,128	8	\$50,181	7	\$39,496	9	\$43,867	9	\$37,614	9	\$47,694	9
2009	\$55,904	9	\$48,752	8	\$48,722	8	\$39,348	9	\$44,486	9	\$38,352	9	\$45,091	9
2010	\$57,014	9	\$49,988	9	\$49,166	9	\$40,965	9	\$49,489	9	\$39,459	9	\$46,581	9
2011	\$57,669	9	\$50,503	9	\$46,435	9	\$43,014	9	\$46,973	9	\$39,457	9	\$46,876	9
2012	\$59,168	10	\$50,262	11	\$46,740	8	\$45,449	10	\$48,279	11	\$40,077	9	\$49,785	10

Teachers = All Primary, Secondary, & Special Education Teachers (SOC 25-2000).

N = Number of Teaching Occupations Represented.

Source: Occupational Employment Statistics (OES) published data.

Appendix D: Data Used in the Figures

Figure 5: Wyoming Student Enrollment and Population Ages 6-18, 1975-2030

Year	WDE	Census	EAD	SFC	NCES
1975	88,184				
1976	90,587				
1977	92,321				
1978	94,328				
1979	95,468				
1980	98,305				
1981	99,541				
1982	101,665				
1983	100,965				
1984	101,261				
1985	102,779				
1986	100,955				
1987	98,455				
1988	97,793				
1989	97,172				
1990	98,226				
1991	99,734				
1992	100,313				
1993	100,899				
1994	100,314				
1995	99,859				
1996	98,777				
1997	96,504				
1998	94,420				
1999	91,883				
2000	89,531	99,738			
2001	87,897	97,415			
2002	86,117	95,837			
2003	84,741	94,136			
2004	83,772	93,006			
2005	83,705	92,088			
2006	84,629	91,955			
2007	85,578	92,593			
2008	86,519	93,852			
2009	87,420	95,654			
2010	88,165	95,249		88,987	
2011	89,476		95,681	90,975	89,752
2012	90,990		96,670	93,301	90,524
2013			98,216	96,144	91,520
2014			100,183	99,034	92,377
2015			102,153	102,115	93,076
2016			103,514	105,177	93,517
2017			104,647	108,558	93,790
2018			105,732	112,067	93,934
2019			106,537	115,519	93,910
2020			107,539		93,638
2021			108,427		92,951
2022			109,014		
2023			109,433		
2024			109,670		
2025			109,780		
2026			109,469		
2027			109,280		
2028			109,174		
2029			109,457		
2030			109,847		

Sources:

WDE = Wyoming Department of Education Enrollment
 Census = U.S. Census Bureau Estimated Population, Ages 6-18
 EAD = Wyoming Economic Analysis Division Projected Population, Ages 6-18
 SFC = Wyoming School Facilities Projected Enrollment
 NCES = National Center for Education Statistics Projected Enrollment

Figure 6: Exit Rates for Wyoming Teachers Ages 60 and Older, 2009-10 to 2012-13

School Year	Total	Exits	
		N	Exit Rate
2009-10	580	98	16.9%
2010-11	637	134	21.0%
2011-12	676	157	23.2%
2012-13	694	162	23.3%

Teachers = All Primary, Secondary, & Special Education Teachers (SOC 25-2000)

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

Figure 7: Number of Teachers in Wyoming by Age Group, 2008-09 and 2012-13

Age Group	2008-09	2012-13
20-24	185	173
25-34	1,664	2,004
35-44	1,641	1,938
45-54	2,105	1,829
55-64	1,567	1,550
65-up	63	117

Teachers = All Primary, Secondary, & Special Education Teachers (SOC 25-2000)

Sources:

Wyoming Department of Education Staffing Files (WDE 602).
 Research & Planning Administrative Databases.

Figure 8: Number of Year-to-Year New Hires, Exits, and Net Change Among Wyoming Teachers, 2008-09 to 2012-13

Year	N	New Hires	Exits	Difference
2008-09	7,225			
2009-10	7,420	721	526	195
2010-11	7,424	618	614	4
2011-12	7,443	743	724	19
2012-13	7,611	839	671	168

Teachers = All Primary, Secondary, & Special Education Teachers (SOC 25-2000).

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

Figure 9: Exit Rates of Active Teachers by Years of Experience, 2009-10 to 2012-13

	Experience					
	3 Years or Less			More than 3 Years		
	N	Exits	Exit Rate	N	Exits	Exit Rate
2009-10	1,431	405	28.3%	5,989	410	6.8%
2010-11	1,334	510	38.2%	6,090	447	7.3%
2011-12	1,407	460	32.7%	6,036	547	9.1%
2012-13	1,507	488	32.4%	6,104	543	8.9%

Teachers = All Primary, Secondary, & Special Education Teachers (SOC 25-2000).

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



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