Research Brief 2023 – 6:

Trends in Enrollment in US Teacher Preparation Programs: 2009-2021

Introduction

There have been numerous reports on the dramatic decline in teacher preparation program enrollment as well as the number of completers from teacher preparation programs. For example, Education Week reported the findings from an American Association of Colleges of Teacher Education (AACTE) study that concluded, "Between the 2008-09 and the 2018-19 academic years, the number of people completing a teacher-education program declined by almost a third." The Education Week article also reported that AACTE surveys of teacher preparation programs suggested a further decline in enrollment in 2019-20 and 2020-21.

This report includes the most recently available data and examines the trends in US teacher preparation program enrollment as reported by the United States Department of Education (USDoE) on the Title II website (https://title2.ed.gov/Public/Home.aspx). Once the proper measures are taken to correct for how USDoE reported enrollments since 2018-19, **I find a slight increase in total enrollment from 2018-19 to 2019-20 and then a slight decrease in total enrollment from 2020-21.**

Data and Methods

It is important to document the specific data used in this report and the methods employed to analyze the data. Fortunately, the USDoE requires each state to report data on the number of individuals enrolled in TPPs and the number of TPP completes. The Title II website includes this information (as well as a wealth of other information) from the 2008-09 through 2020-21 academic years. There is a two-year lag between the collection of the data and the release of the data.

The primary focus of this report is individuals enrolled in TPPs. This number is reported for each TPP in the country. From 2008-09 through 2017-18, the number of individuals enrolled in TPPs was distinct from the number of TPP completers. However, starting with the 2018-19 academic year, the data on enrollees included both individuals enrolled in a TPP and individuals completing the TPP that year. This change in the definition of enrollees obviously yields a much larger number of enrollees in the years starting with 2018-19 than in prior years. This makes comparisons across years impossible.[i] A comparable measure of enrollment can be calculated by simply subtracting the number of completers from the number of enrollees for the 2018-19 through 2020-21 academic years. This is the method used in this report. Note that the changes portrayed on the maps on the Title II website do NOT make this calculation. Instead, the changes use the reported number of enrollees across all years, regardless of the definition employed. Thus, the Title II results portrayed in their maps is inaccurate for the number of individuals enrolled in TPPPs by state.

To determine the number of enrolled students, I downloaded the file with all US TPPs for each academic year. I then identified programs that reported duplicate numbers of individuals in both their alternative and university based traditional TPPs For any duplicated counts, I removed the number of enrollees on one of the two lines for that TPP. I contend this provides a more accurate indicator of the true number of individuals enrolled in TPPs. I then aggregated the number of enrollees by state and then merged the data together across all years.

Finally, I report on all 50 states as well as Washington, DC. I exclude Puerto Rico and other territories included in the Title II reports.

Findings

Aggregate Findings

Figure 1 includes the total number of enrollees for all states and for all states other than Texas. Because Texas reports an extremely high number of enrolled students—many of whom are from one privately managed alternative certification program, reporting both trends help the reader understand the overall patterns in the US.

In viewing the graph, the most obvious trend is the steep decline in the number of enrollees from 2009-10 through 2014-15. For all TPPs, there was a decline of 290,154 enrollees which translates into a decline of about 42%. For non-Texas TPPs, there was a decline 257,877 which translates into a decline of about 41%. **Thus, in just five years, the number of TPP enrollees plummeted by around 41%.** For all states, the number of enrollees in the 2014-15 academic year was 297,691 while the number for non-Texas states was 320,989. For all states, this number of enrollees was 57% of the number of enrollees in 2009-10. For non- Texas states, this was just 51% of the enrollees in 2009-10.

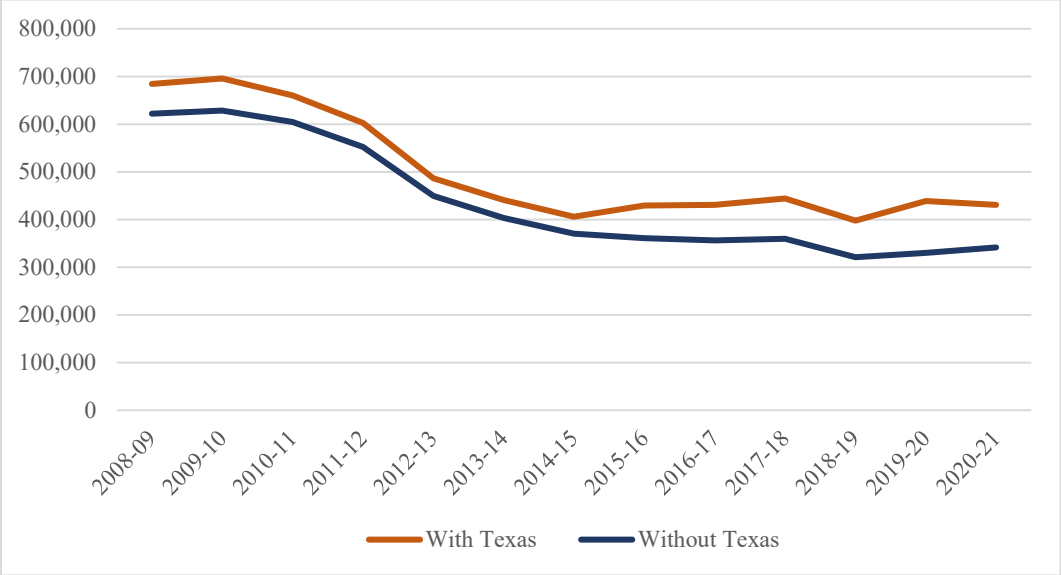
From 2014-15 to 2018-19, there was a 38,599 increase in the number of enrollees for all TPPs which was a 9.5% increase in three years. In contrast, however, there was a decline in the number of enrollees in non-Texas TPPs of 10,751 which was a 3% decline over the three-year time span.

From 2017-18 to 2018-19, there was about a 10.5% decline for both all TPPs and non-Texas TPPs. In fact, 43 states reported a decline in the number of TPP enrollees while one state (Kentucky) reported virtually no change in enrollment while seven states (Delaware, Georgia, Hawaii, Illinois, Indiana, Michigan, and New Mexico) reported an increase in enrollment.

From 2018-19 to 2019-20, TPPs in all states experienced a 10.5% increase in enrollees while TPPs in non-Texas states experienced a 2.9% increase in the number of enrollees. In the final year of available data, there was a 1.7% decline in TPPP enrollment for all TPPs while there was a 3.4% increase in enrollment for non-Texas TPPs.

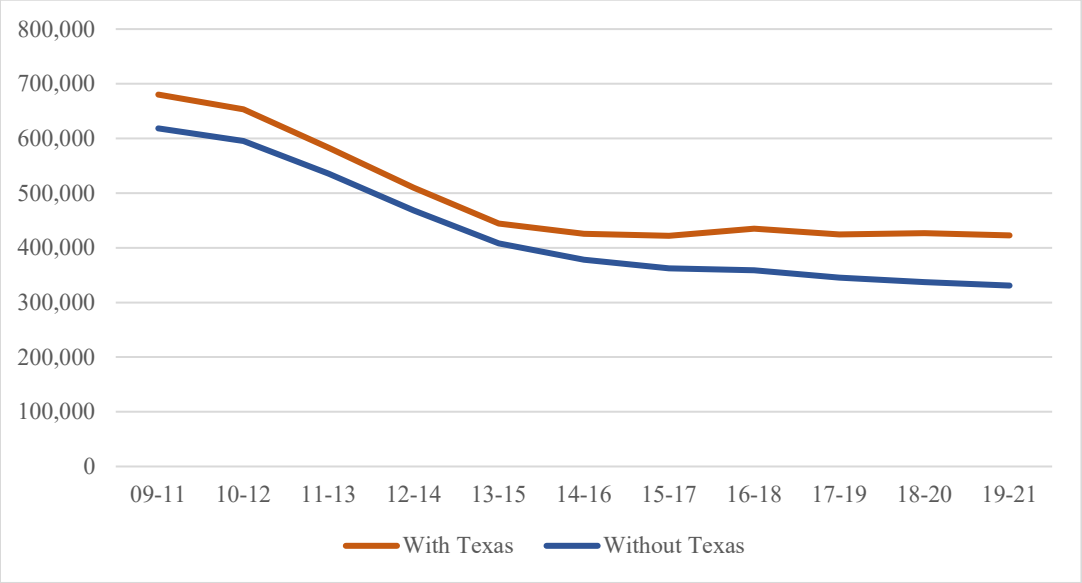
On a positive note, the number of enrollees for non-Texas TPPs increased from 2018-19 to 2019-20 and then there was another increase for 2020-21. From 2018-19 to 2020-21, there was about a 6% increase of the number of non-Texas enrollees which translated into an increase of 20,448 teachers.

Figure 1: Number of Students Enrolled in Teacher Preparation Programs (2011-12 to 2021-22)



This change from 2017-18 to 2018-19 is difficult to explain given the relatively small changes in the two prior years and in the following two years. It is possible that TPPPs and/or state education agencies misunderstood the new definitions adopted by the USDoE. Because of the possibility of issues such as this, I also calculated a rolling three-year average to smooth out the trends. These averages are presented in Figure 2. The most prominent change between Figure 2 and Figure 1 is that the number of enrollees for all TPPs remained stagnant from 1014-2016 throgh 2019-2021 while the number of enrollees in non-Texas TPPs slowly declined over the same period by another 50,000 or so individuals. This rolling three year average does obscure the small increases in the number of enrollees in the last two years of data.

Figure 2: Rolling 3 Year Average of Teacher Preparation Program Enrollees

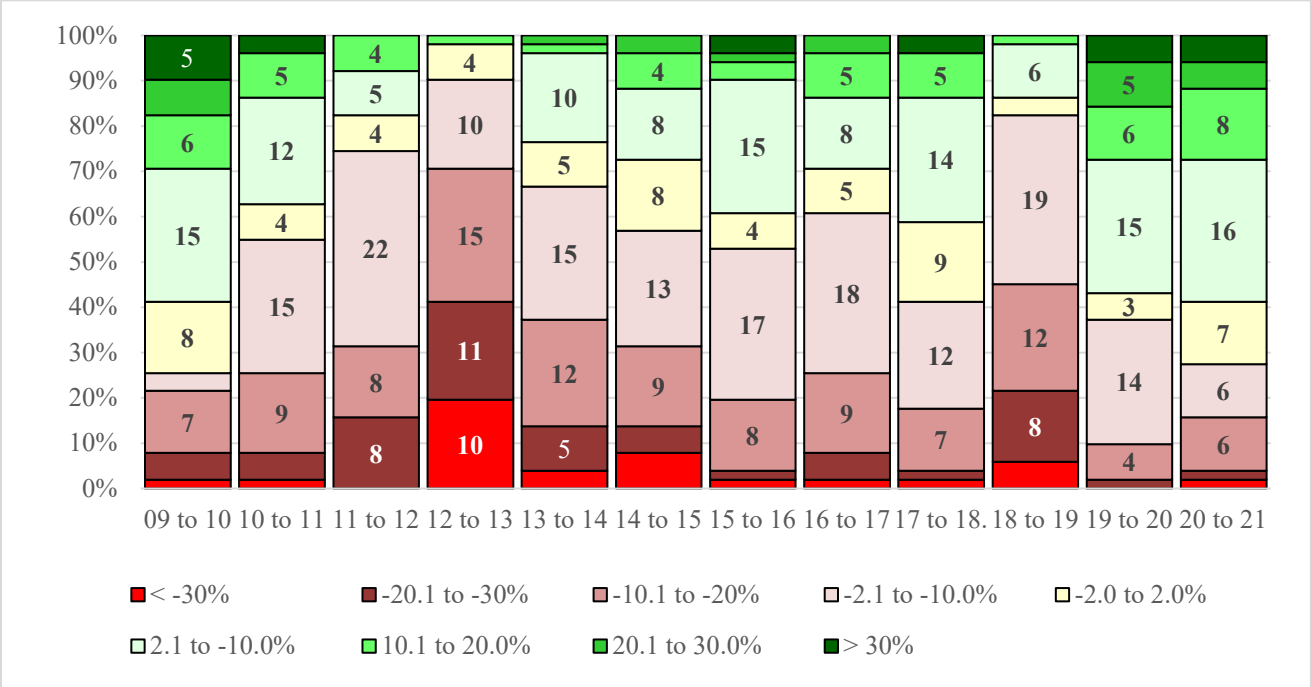


Findings by State

Figure 3 shows the specific distribution of the percent change in state TPP enrollment across each of the 12 one-year timespans between each year the data has been collected. The years on the x-axis of the graph

The graph shows a clear trend in which most states experienced declines in TPP enrollment beginning in the 10 to 11 timespan (2009-10 academic year to the 2010-11 academic year) and lasting through the 16-17 timespan. The 17-18 timespan was the first for which less than one-half of states experienced a decline in TPP enrollment since the 09-10 timespan. There is also a clear trend of increasing TPP enrollment across states in recent years. Indeed, since the for the 12-13 timespan which was the worst on record, there has been a steady—albeit choppy--increase in the number and percentage of states reporting an increase in the number of TPP enrollees. Importantly, the percentages of states with an increase in enrollment were 57% for 19-20 and 59% in 20-21.

Figure 3: Number of States by Selected Ranges in the Change
in Teacher Preparation Program Enrollment



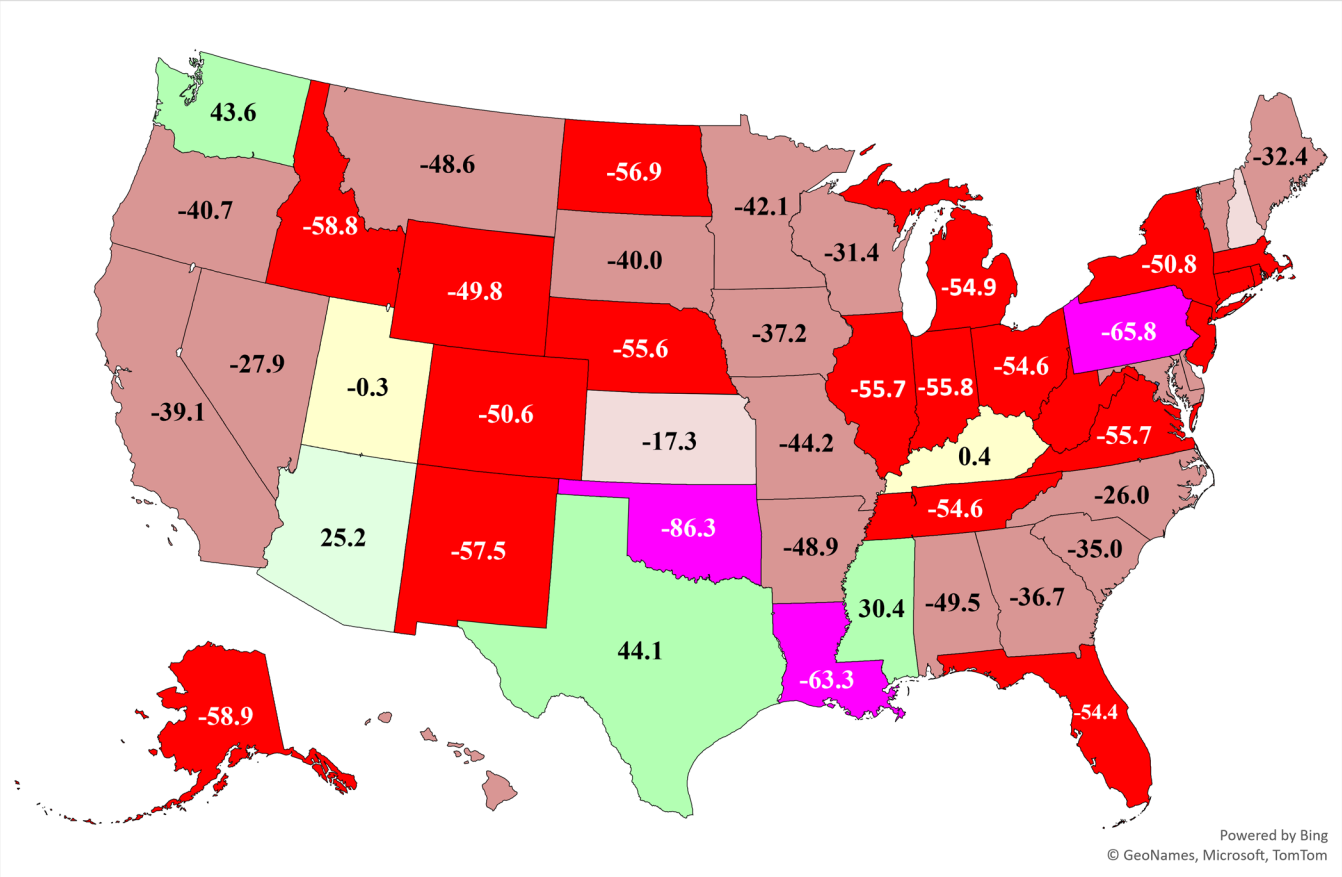
In the following three sections, I present the percent changes for each state for three timespans: 2008-09 to 2020-21, 2018-19 through 2020-21, and 2019-20 to 2020-21.

2008-09 to 2020-21

As shown in Figure 4, four states/jurisdictions (Texas, Washington, Alabama, New Mexico, and Washington DC) had increases in the number of TPP enrollees. Two other states--Kentucky and Utah--had enrollments that remained largely unchanged over this time period. The remaining states had declines in the number of TPP enrollees. Two states-- New Hampshire and Kansas--had declines of less than 25% while 19 states had declines between 25% and 49%. Twenty additional states had declines of at least 50% but less than 60% while three states (Oklahoma, Pennsylvania, and Louisiana) had declines of more than 65%. The five states with the greatest declines in TPP enrollment were Oklahoma, Pennsylvania, Pennsylvania, Idaho, and New Mexico.

The southern tier of states from Arizona to Mississippi are interesting in that this group of states includes three states with increases in enrollment (Texas, Mississippi, and Arizona), three of the four states with the largest declines in enrollment (Oklahoma, Louisiana, and New Mexico), and another state (Arkansas) with nearly a 50% decline. An analysis of the contexts and policies in these states would provide important information for policymakers.

Figure 4: Percent Change in the Number of Teacher Preparation Program Enrollees by State (2008-09 to 2020-21)

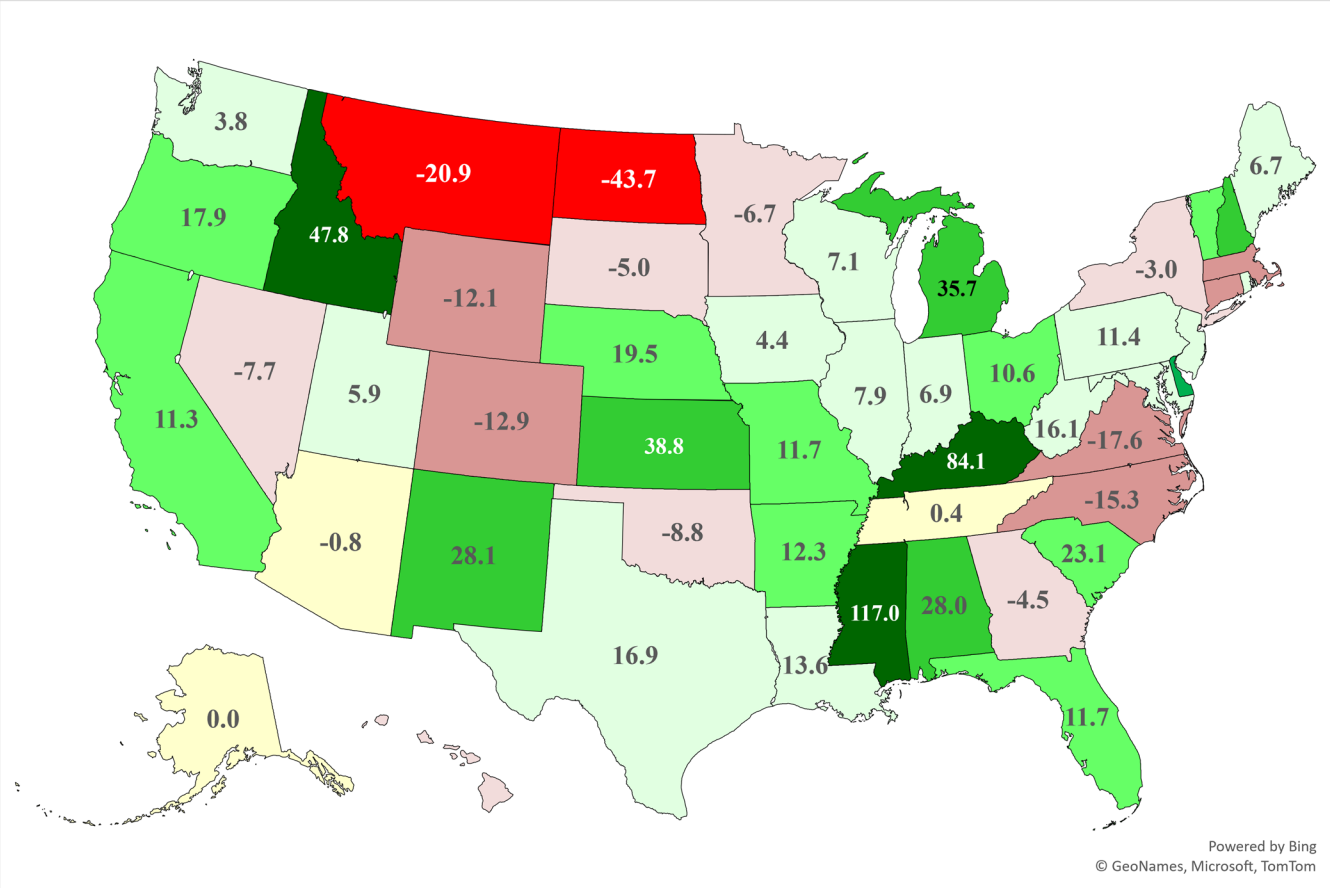


2018-19 to 2020-21

Figure 5 shows the percent change in the number of TPP enrollees from 2018-19 to 2020-21. The 2018-19 academic year represents the lowest number of enrollees for most states. Over this time span, 32 states had an increase in the number of TPP enrollees. One-half of these 32 states had an increase between 10.1% and 20.0% while six states had an increase between 2.0% and 10.0%

The five states with the greatest increase in TPP enrollment were: Mississippi, Kentucky, Idaho, Michigan, and Alabama. The five states with the greatest decline in TPP enrollment were: North Dakota, Montana, Massachusetts, Virginia, and Connecticut.

Figure 5: Percent Change in the Number of Teacher Preparation Program Enrollees by State (2018-19 to 2020-21)

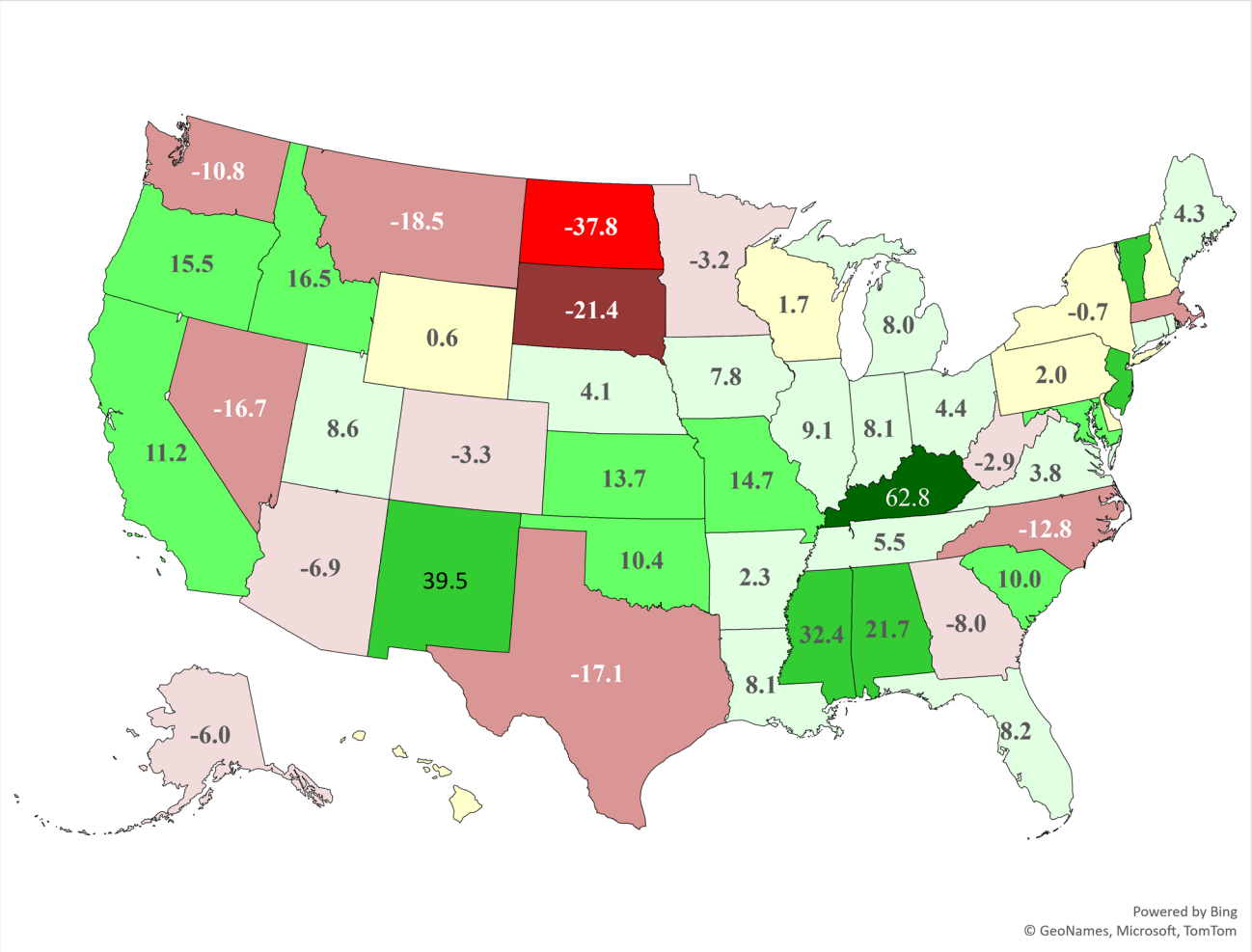


2019-20 to 2020-21

Figure 6 documents the distribution of one-year changes in the number of TPP enrollees from 2019-20 to 2020-21. As the graph clearly shows, there was a wide array of changes in enrollment. Fourteen states had declines of greater than 2%, seven states had nominal changes of between -2% and 2%, and 3o states had increases of greater than 2%. Thus, the majority of states (59%) increased their TPP enrollment from 2019- 20 to 2020-21. The most frequent change was an increase of between 2% and 10.% with 15 states having such an increase.

The five states with the greatest increases in TPP enrollment were: Kentucky, New Mexico, Mississippi, New Jersey, and Alabama. The five states with the greatest declines in TPP enrollment were: North Dakota, South Dakota, Montana, Massachusetts, and Texas.

Figure 6: Percent Change in the Number of Teacher Preparation Program Enrollees by State (2019-20 to 2020-21)



States with Positive and Negative Trends

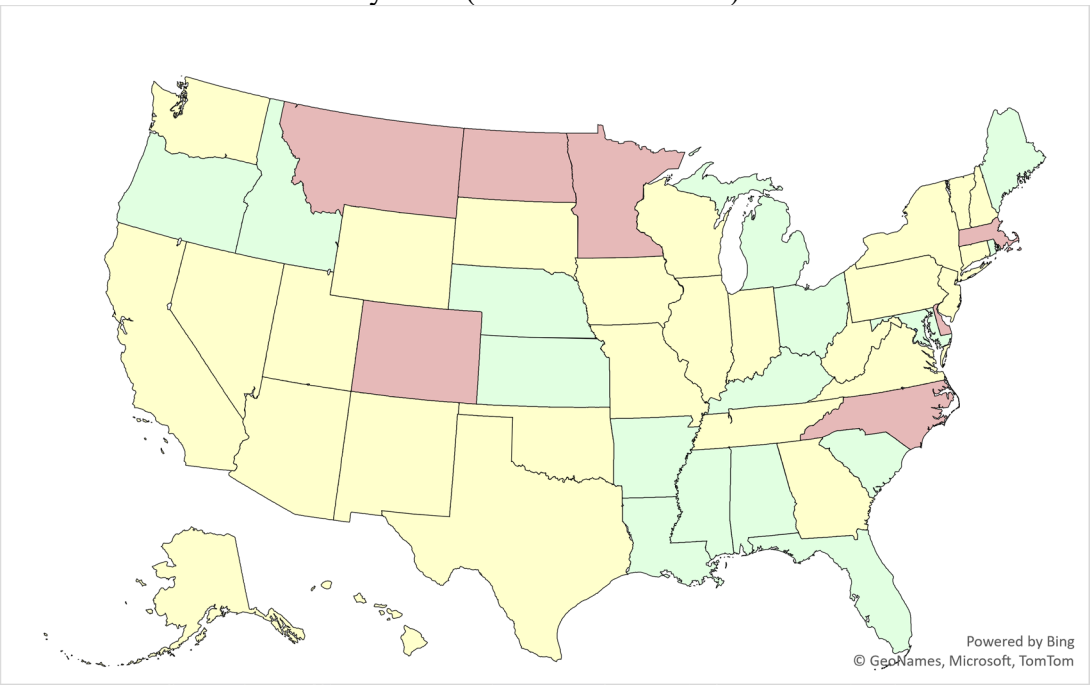
Figure 7 identifies states as improving, mixed, and declining based on the changes in enrollees from 20018-19 to 2019-20 and from 2019-20 to 2020-21. I designated states in which both years showed an increase as improving (shaded green), states with one year of an increase and one year of a decrease as mixed (shaded yellow), and states with two years of decreases as declining (shaded red).

Seventeen states had a trend of increasing enrollment for both years. Twenty-eight states had mixed results in which one of the following occurred: (1) an increase in one year and no change in the other year; (2) an increase in one year and a decrease in the other year; or (3) no change in one year and a decrease in the other year). Finally, only five states had a trend indicating a decline in enrollment.

Many southeastern and rust belt states had positive trends while the southwest and mid-Atlantic states tended to have mixed trends.

Overall, this trend analysis substantiates that less than 20% of states are experiencing an increase in TPP enrollment while a slight majority of states are experiencing mixed results in TPP enrollment. Importantly, only 10% of states are experiencing a trend of decreasing enrollment in TPPs.

Figure 7: Trend in the Number of Teacher Preparation Program Enrollees by State (2019-20 to 2020-21)



Conclusion on Findings

I found both negative and positive results from this analysis. First, the number of TPP enrollees declined substantially from 2009 through 2016 and has remained fairly stagnant since that time (little change if including Texas and a slight decline if excluding Texas). Second, the number of TPP enrollees in 2020-21 remains substantially lower than in 2008-09 for the US and for most states. Only six states have 2020-21 TPP enrollee counts that are equal to or greater than the counts from 2008-09. Third, most states (about 60%) experienced an increase in the number of TPP enrollees from 2019-20 to 2020-21 with 15 states reporting an increase greater than 10% increase.

In sum, evidence suggests that the decline in TPP enrollees has stopped and, moreover, there appears to be an increase in TPP enrollees in many states. However, most states still enroll significantly fewer individuals in their TPPs and only sustained increases over multiple years will return the number of TPPs to anywhere near the totals of 2008-09.

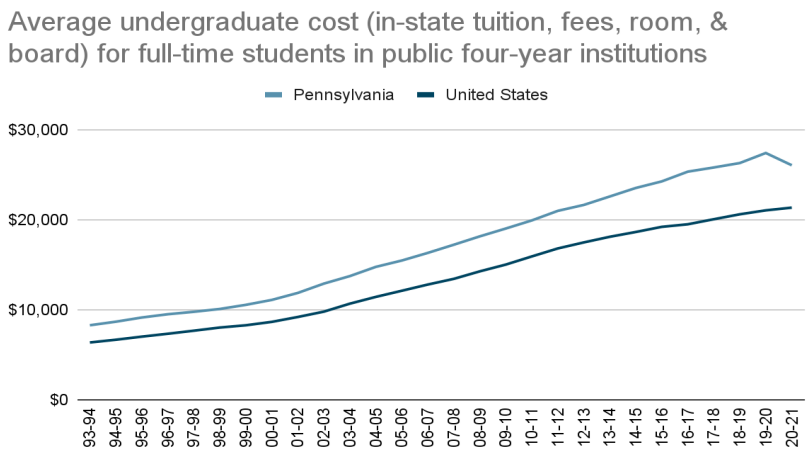
Possible Causes

There are several possible causes of the dramatic and sustained decline in the number of newly hired teachers in Pennsylvania. However, without surveying and interviewing high school students about their career aspirations, we simply do not fully understand the reasons behind the decline. Below are some possible reasons for which there is some research to suggest the issue is affecting enrollment in and completion of TPPs.

1) Increasing Costs of Higher Education

Over the last 27 years, the cost of attending higher education steadily increased across the US and costs were greater in Pennsylvania than in most states as shown in Figure 8. Further, costs increased more rapidly in Pennsylvania from 2010 onward after substantial cuts were made to higher education in Pennsylvania. Increased costs create a great barrier to enrollment in higher education---especially for students from families who are not wealthy. Moreover, many lower-income families are very hesitant to take on loans, thus do not see any viable path to attending and completing college.

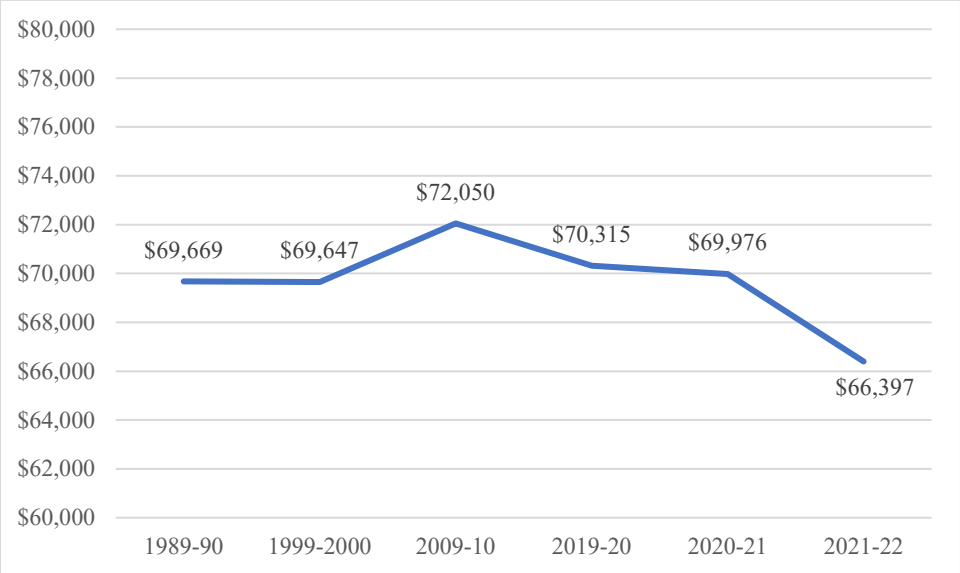
Figure 8: Higher Education Costs in the US and in Pennsylvania
(1993-94 through 2020-21)



2) Stagnant and Declining Wages and Benefits

Average US teacher salaries have remained relatively stagnant for the past 30 years. As shown in Figure 9, there was an increase from 1999-2000 to 2009-10, there were subsequent declines through 2020-21 and then s significant one year decline from 2020-21 to 2021-22. While some of these changes are explained by changes in teacher experience levels, the evidence suggests that teacher wages have been—at best—stagnant over the last 3 decades.

Figure 9: Average Teacher Salaries in Constant 2021-22 Dollars
(1989-1990 to 2021-22)



Data source: Author's analysis of PDE data from the National Center for Education Statistics

3) Worsening Teacher Working Conditions

Recent research has shown that teacher working conditions have declined significantly for teachers—especially over the past four years. As shown below in Figure 10 that was developed by Dr. Matthew Kraft of Brown University and Dr. Melissa Arnold Lyon at the University of Albany, the perceptions of teachers across the US have declined since 2004 and declined precipitously from 2018 to 2022. In particular, there was a greater than 20 percentage point increase for, "Teachers teach with enthusiasm",

as well as a greater than 30 percentage point decline for both, “Teachers would not leave” and “Teaches say stress is worth it.” By 2022, only about 20% of teachers reported teaching with enthusiasm, about 40% stated they would not leave teaching, and about 44% say that the stress of teaching is worth it. The increase in school shootings is likely one issue related to these worsening teacher working conditions. These results suggest a growing dissatisfaction with teaching as a profession which has started to translate into greater teacher attrition rates around the country.

Figure 10: US Teacher Perceptions of Working Conditions
(1988 – 2022)

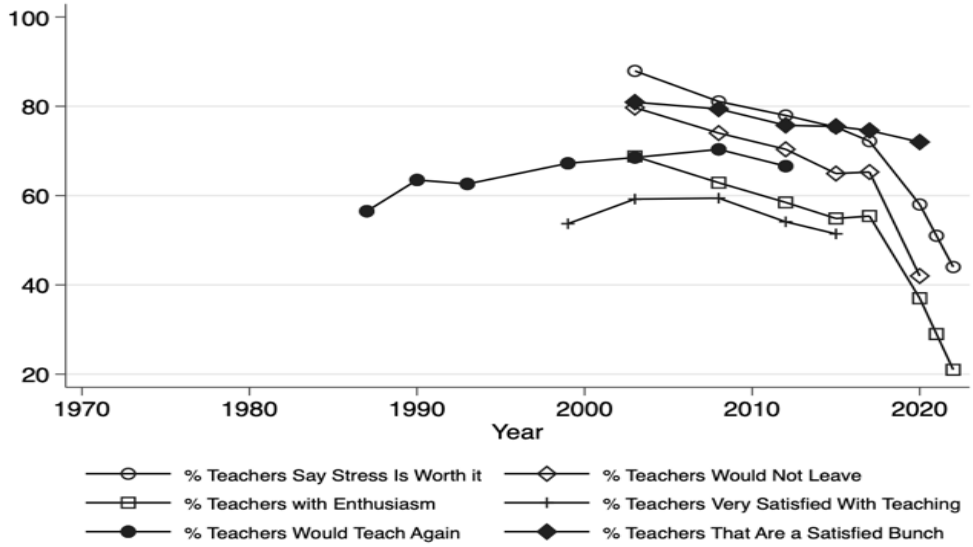


Figure borrowed from: From Kraft, M. A., & Lyon, M. A. (2022). The Rise and Fall of the Teaching Profession: Prestige, Interest, Preparation, and Satisfaction over the Last Half Century. EdWorkingPaper No. 22-679. *Annenberg Institute for School Reform at Brown University*.

Recommendations

Policymakers must address the issue of too few individuals enrolling in TPPs. Unfortunately, we don’t understand the various strategies that might increase enrollment. The limited available research does suggest some potential strategies which are discussed below.

Reduce the cost of obtaining a teacher certification

Policymakers should consider providing scholarships and offer loan forgiveness programs to provide an economic incentive for individuals to enter teaching. Such programs should provide the greatest incentives for specific shortage areas such as special education. In addition, a loan forgiveness program could be created in such a way that the amount of forgiveness would be greatest for those choosing to teach in a hard-to-staff school. In addition, policymakers should consider providing financial support to para-professional to enroll in and complete TPPs.

Subsidize student teaching

Research continually shows that student teaching is where a future teacher’s most important learning occurs. Many students, however, do not receive the full benefit of this learning opportunity because they must work in addition to completing their student teaching. Policymakers should ensure that no student must work to complete their student teaching.

Pay for Certification Tests

For many students, the costs of taking teacher certification tests are a barrier to entry into the profession. Policymakers should consider making all certification tests free or very affordable. Another possibility would be the provision of test-taking funds for aspiring teachers with a demonstrated financial need.

Develop an Education Dual Enrollment Program

Policymakers might consider the creation of teacher pathways that begin in elementary school and offer a dual-enrollment program for students interested in becoming a teacher. Other options might be a 2+2 program that connects community colleges with four-year teacher preparation programs.

Increase teacher salaries

Young adults entering college make their decisions about what to study based, in part, on a cost-benefit calculation. Currently, the cost-benefit calculation suggests that entering teaching is an economically bad decision. By reducing the cost of becoming a teacher and raising teacher salaries, policymakers might be able to create a positive economic incentive for entering teaching.

Fund statewide advertising campaigns to elevate perceptions of the teaching profession

To counteract the impact of negative information about the teaching profession, states and organizations supportive of public education should fund a coordinated media campaign that communicates the positive aspects of being a teacher.

Suggested Citation

Fuller, E.J. (2023, May). Trends in Enrollment in US Teacher Preparation Programs: 2009-2021 Programs. University Park, PA. Penn State College of Education.

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Penn State Center for Education Evaluation and Policy Analysis (CEEPA)

This brief is part of the CEEPA Policy Briefs Series that provides evidenced-based, peer-reviewed analysis of important educational issues in Pennsylvania and across the US. Dr. Ed Fuller is the Executive Director and Drs. Matt Kelly and Kai Schafft are Associate Directors.

[i] The Title II website includes the following description of how the enrollment calculation changed over time: The definition of enrolled student changed beginning with the 2020 (AY 2018-19) data collection. An enrolled student is defined as an individual who has been admitted, enrolled, and registered in a teacher preparation program and participated in the program during the academic year. Participation may include taking a course, participating in clinical experience, or participating in other program activities. Individuals who were enrolled and completed the program during the academic year are counted in the total count of enrolled students as well as in the subset of program completers.

Appendix 1A: Annual Changes in Teacher Preparation Program Enrollment by State (2008-09 to 2020-21)

State	09 to 10	10 to 11	11 to 12	12 to 13	13 to 14	14 to 15	15 to 16	16 to 17	17 to 18.	18 to 19	19 to 20	20 to 21
Alabama	-1.4	-21.4	-10.3	-11.4	-13.1	1.7	0.9	-1.5	-16.2	-13.0	5.2	21.7
Alaska	20.0	31.4	1.9	-65.3	-4.6	-4.5	-7.1	18.3	-7.0	-20.7	6.4	-6.0
Arizona	85.5	3.7	-6.9	-1.9	-11.1	-34.5	3.1	37.3	5.0	-16.9	6.5	-6.9
Arkansas	-18.3	2.7	12.0	-20.6	-14.7	-25.0	-5.2	-4.7	14.0	-7.5	9.8	2.3
California	-13.1	-4.3	-20.9	-25.7	-3.3	11.3	2.3	11.5	4.5	-12.7	0.1	11.2
Colorado	10.1	-23.9	16.8	-13.4	-0.3	-21.2	4.8	0.9	-4.8	-15.4	-10.0	-3.3
Connecticut	49.9	-7.6	-24.7	-32.1	-8.4	-5.5	-15.9	7.0	9.9	-4.2	-19.9	3.6
Delaware	3.4	-13.0	13.4	-19.8	-27.6	-5.3	-3.4	-35.1	18.7	7.4	47.1	0.7
DC	-14.0	0.8	1.8	-31.5	7.2	0.5	10.4	-12.2	82.0	-15.0	2.0	14.9
Florida	-25.7	-2.9	-17.0	13.5	0.7	5.4	-9.2	-4.4	-0.3	-34.6	3.3	8.2
Georgia	-31.9	-2.6	4.2	-5.7	-1.9	-12.5	-2.9	9.6	7.9	3.2	3.8	-8.0
Hawaii	-1.3	-6.0	2.9	-3.0	2.9	2.6	-16.0	-9.4	0.5	2.6	-5.3	-1.9
Idaho	-0.8	-1.9	-15.3	-15.6	-7.5	-43.2	21.5	-14.1	-10.7	-18.0	26.9	16.5
Illinois	-0.2	-4.9	-19.7	-31.1	-18.0	-6.1	-7.5	0.0	0.8	9.1	-1.1	9.1
Indiana	-16.6	-10.7	-3.4	-36.5	-19.3	-1.5	3.6	4.6	-4.8	10.3	-1.2	8.1
Iowa	29.7	-22.1	-0.3	-15.3	-9.4	-3.2	-3.1	-14.2	5.1	-8.0	-3.2	7.8
Kansas	9.7	3.2	-20.1	-11.1	-2.3	-2.0	-2.3	-1.1	6.9	-25.1	22.1	13.7
Kentucky	1.3	52.1	-6.5	-7.2	-33.7	-32.8	-7.2	3.8	-4.9	-0.1	13.0	62.8
Louisiana	-41.0	-7.1	2.6	-11.1	-2.1	-9.3	-4.1	14.5	-12.0	-24.9	5.2	8.1
Maine	18.2	-8.3	-5.8	-27.7	-8.9	5.5	9.7	-6.9	-6.3	-6.7	2.3	4.3
Maryland	14.8	-3.1	-9.0	-11.4	-20.5	-14.7	-5.6	-12.2	1.3	-14.4	4.8	10.6
Massachusetts	6.2	9.3	-8.9	-6.1	-6.8	-3.9	-16.5	7.1	-1.6	-30.8	-2.6	-18.4
Michigan	-5.3	-16.8	0.4	-22.2	-21.5	-1.7	-29.1	-12.8	4.7	8.1	25.7	8.0
Minnesota	-5.0	-10.0	-14.9	-17.6	3.4	4.3	15.2	-9.6	-3.6	-4.4	-3.7	-3.2
Mississippi	-0.7	18.0	-2.2	-15.0	-6.5	-16.5	-14.1	-6.3	1.2	-3.0	63.8	32.4
Missouri	3.3	2.1	-11.1	-19.5	2.7	-20.7	-5.0	5.4	-0.5	-18.5	-2.7	14.7
Montana	39.8	10.9	-25.6	-6.6	-11.9	-14.3	5.4	-16.8	-5.6	-3.4	-3.0	-18.5
Nebraska	-14.8	-17.7	-2.3	-19.6	1.6	-5.8	8.8	-16.1	-7.0	-17.0	14.9	4.1
Nevada	-10.4	5.2	-22.0	-24.6	20.8	2.1	9.5	32.6	13.9	-31.0	10.8	-16.7
New Hampshire	44.1	-4.8	-7.9	-0.6	-3.2	-5.5	2.7	-25.2	4.4	-20.9	24.8	1.5
New Jersey	18.7	-2.3	-8.1	-32.5	3.8	-11.6	-13.6	-4.3	-19.2	-4.1	-7.8	27.7
New Mexico	25.5	9.0	-20.5	-36.6	-7.4	4.6	-31.6	-5.7	-24.4	1.9	-8.2	39.5
New York	3.7	-12.6	-10.0	-21.1	-11.5	-5.5	4.6	-11.5	5.8	-3.8	-2.3	-0.7
North Carolina	-1.7	11.7	-2.1	-24.5	4.4	4.3	4.8	-8.9	11.1	-6.9	-2.8	-12.8
North Dakota	27.0	-31.4	6.5	-2.4	7.0	-17.9	3.2	-8.4	4.3	-2.4	-9.5	-37.8
Ohio	7.3	2.3	-9.0	-29.6	-13.8	-14.3	-0.8	-4.2	-2.4	-14.9	5.9	4.4
Oklahoma	-67.0	9.1	-7.5	0.0	-37.7	11.6	-12.0	-17.8	-8.5	-2.7	-17.4	10.4
Oregon	5.9	-0.9	-22.6	-44.6	6.5	6.2	7.2	10.0	-13.1	-3.5	2.1	15.5
Pennsylvania	2.5	-5.2	-9.0	-33.0	-20.9	-19.5	-4.1	-6.3	-2.0	-7.8	9.2	2.0
Rhode Island	-11.1	2.8	-8.2	-7.3	-2.5	-37.9	4.0	-5.8	-1.1	-18.8	6.9	5.8
South Carolina	3.2	-19.4	-9.0	-21.7	-15.1	25.1	-3.2	-8.7	-1.7	-3.5	11.9	10.0
South Dakota	19.0	4.7	-5.1	-52.6	2.6	14.4	0.7	6.8	-14.2	3.9	20.8	-21.4
Tennessee	0.6	-7.9	-5.8	-19.7	-14.6	1.9	-19.5	-2.8	2.8	-7.7	-4.9	5.5
Texas	8.2	-17.0	-9.4	-26.5	0.1	-6.0	96.1	8.2	13.5	-9.1	41.0	-17.1
Utah	80.1	16.3	-14.6	0.5	-25.1	29.2	15.1	-6.7	-33.5	-24.3	-2.5	8.6
Vermont	2.9	4.6	-20.1	-13.5	14.5	18.8	-15.7	-8.8	-17.8	-15.2	-6.7	20.5
Virginia	3.9	-8.1	4.5	-4.2	-13.6	1.9	-10.5	-28.4	5.6	-5.6	-20.6	3.8
Washington	19.6	0.8	-4.4	-8.9	-2.3	1.2	2.3	15.4	44.0	-21.7	16.3	-10.8
West Virginia	5.1	-16.8	11.2	-21.3	2.1	-8.2	-2.9	-25.7	-4.8	-21.0	19.6	-2.9
Wisconsin	2.4	-6.7	-6.6	-13.1	-7.3	-10.3	-0.1	-0.9	7.5	-6.8	5.3	1.7
Wyoming	6.0	14.7	-3.5	-9.9	-13.9	-9.8	-4.7	-4.5	2.1	-25.2	-12.5	0.6

Table Key

< -30%	-20.1 to -30%	-10.1 to -20%	-2.1 to -10.0%	-2.0 to 2.0%	2.1 to -10.0%	10.1 to 20.0%	20.1 to 30.0%	> 30%