

# The Arkansas Teacher Pipeline

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We recently started a collaborative project to understand and improve the Arkansas teacher pipeline.

- The project is a collaboration between:
  - University of Arkansas's Department of Education Reform (EDRE) and Office for Education Policy (OEP);
  - Arkansas Department of Education (ADE); and
  - [ARData](#) Team (i.e., the state data and analytics unit).
- The research team includes:
  - Dr. Sarah McKenzie, OEP Executive Director;
  - Dr. Josh McGee, EDRE Faculty, OEP Associate Director, State of Arkansas Chief Data Officer;
  - Dr. Gema Zamarro, EDRE Endowed Chair in Teacher Quality; and
  - Andrew Camp, EDRE Ph.D. student

# Teacher Pipeline Project

- Initial project goals include:
  - Describing the teacher pipeline from high school through higher education and into the classroom;
  - Explaining how the teacher pipeline has changed over time;
  - Helping ADE set goals and monitor progress around the teacher pipeline; and
  - Highlighting the leaks and potential barriers in the pipeline.
- We are interested to learn whether and how the pipeline has changed during the COVID pandemic.
- We also plan to evaluate programs and approaches to improve the state's teacher pipeline.

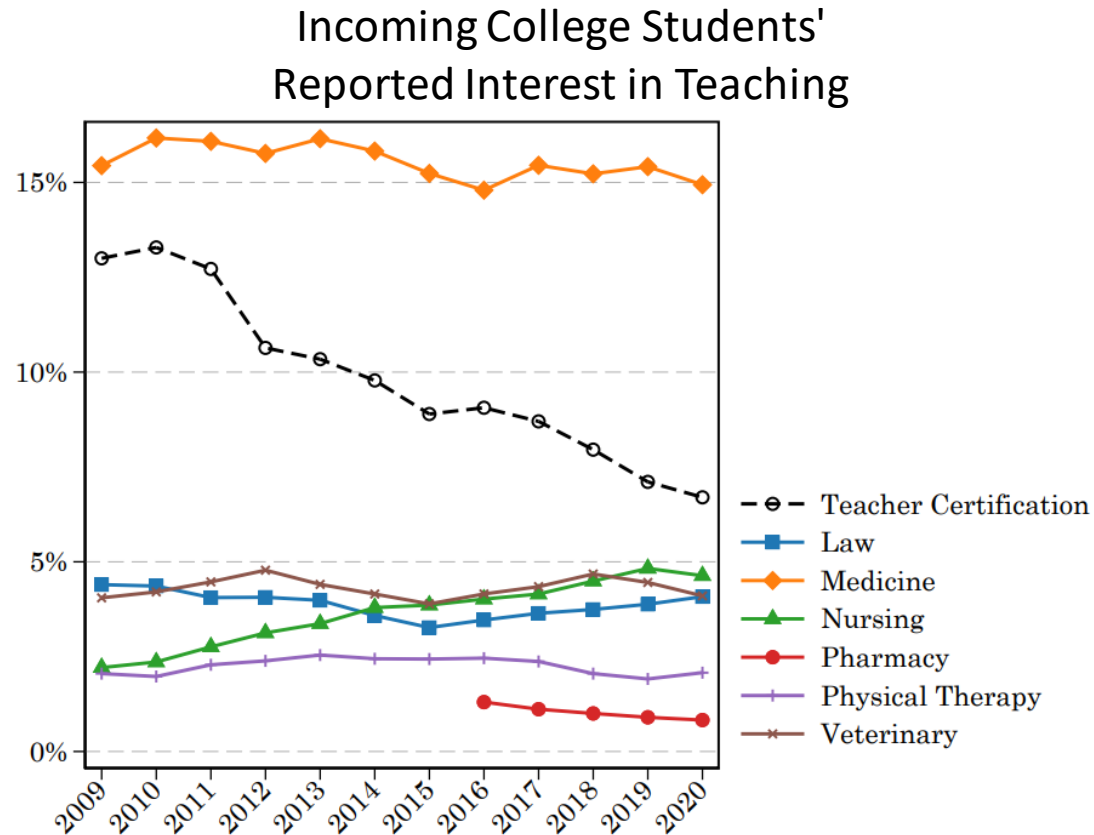
# Newly linked state data will give us a more complete picture of the pipeline.

- We are using linked, longitudinal data from across state divisions to study the teacher pipeline.
  - Arkansas will soon have the most comprehensive dataset on the teacher pipeline in the country.
  - ARData, the state data and analytics team, was instrumental in linking, deidentifying, and sharing these data.
- Division of Elementary and Secondary Education
    - High School Records
    - Career and Technical Education
    - Educator Prep Programs
    - Teacher Licensure
    - Novice Teacher Survey
    - Employment
    - Salary and Benefits
    - Student Academic Performance
  - Division of Higher Education
    - Enrollment
    - Financial Aid
    - Major
    - Degree Completion
  - Division of Workforce Services
    - Quarterly Wages and Employment
    - Industry



# National Context

# Interest in teaching has been declining.

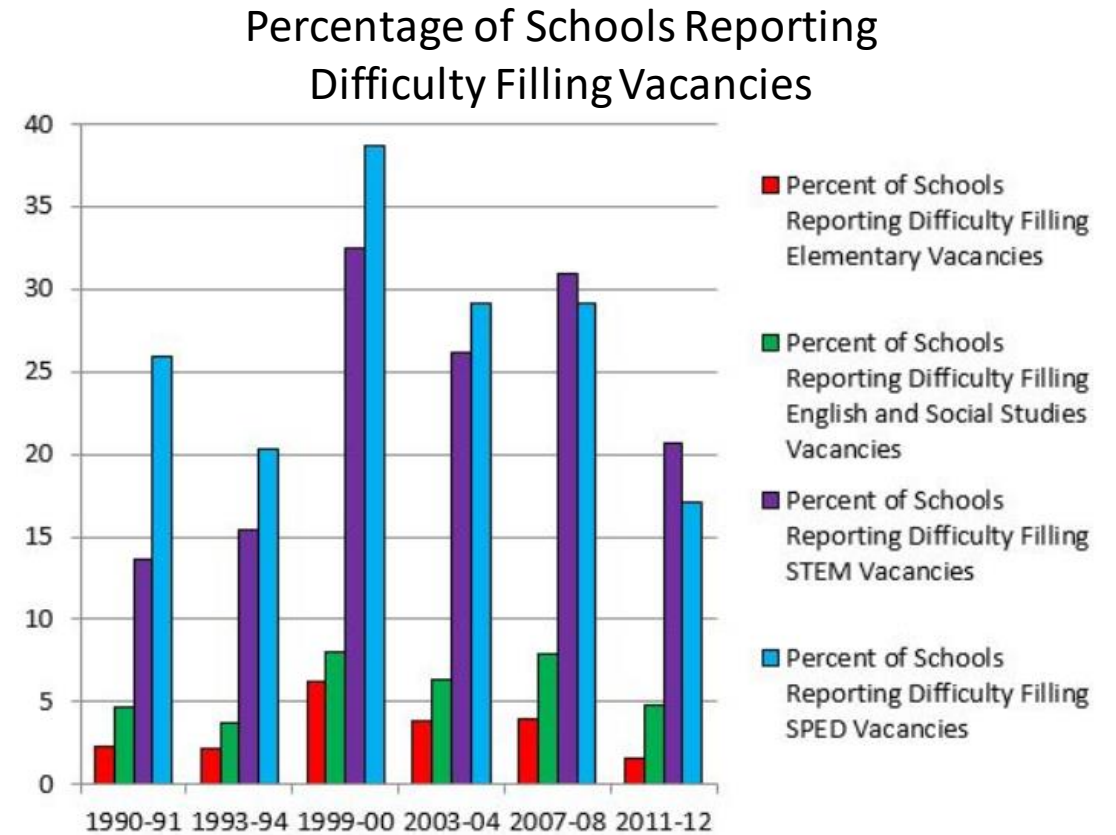


Bartanen, Brendan, and Andrew Kwok. (2022). From Interest to Entry: The Teacher Pipeline From College Application to Initial Employment. (EdWorkingPaper: 22-535). Retrieved from Annenberg Institute at Brown University: <https://doi.org/10.26300/hqn6-k452>

- Enrollment in and completion of educator preparation programs (EPPs) has been declining nationwide over the past decade.
- Fewer students are earning BA and MA degrees in education.
- A recent study of entering student interest in various professions showed a steep decline in students' interest in becoming teachers.

# Teacher shortages are localized.

- There is little evidence of broad teacher shortages.
- There are shortages in specific geographic and certification areas.
- Local labor market information is necessary to understand and address teacher shortages when and where they exist.
- The location of educator preparation programs and student teaching assignments likely play an important role in geographic shortages.

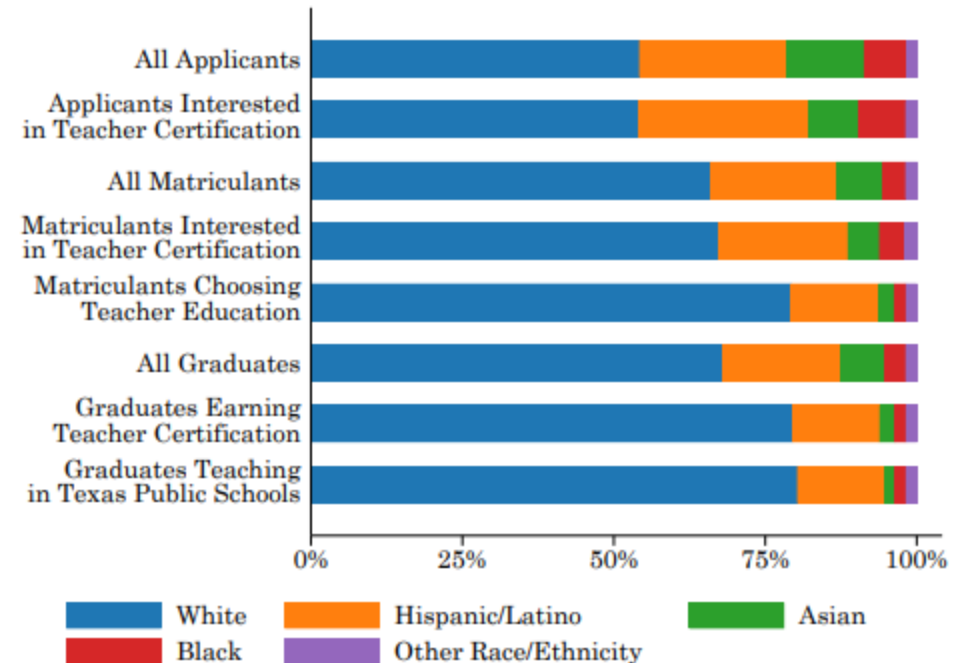


<https://caldercenter.org/missing-elements-discussion-teacher-shortages>

# Teacher diversity impacts student outcomes.

- Students of color benefit from having at least one teacher of the same race/ethnicity. (Dee, 2005)
- These teachers serve as important role models and tend to have higher expectations for students of color.
- A diverse teacher workforce can benefit all students by exposing them to different backgrounds.
- Unfortunately, the teacher pipeline becomes less diverse at every step. ([Urban Institute report](#); Goldhaber and Mizrav, 2021; Bartanen and Kwok, 2022)

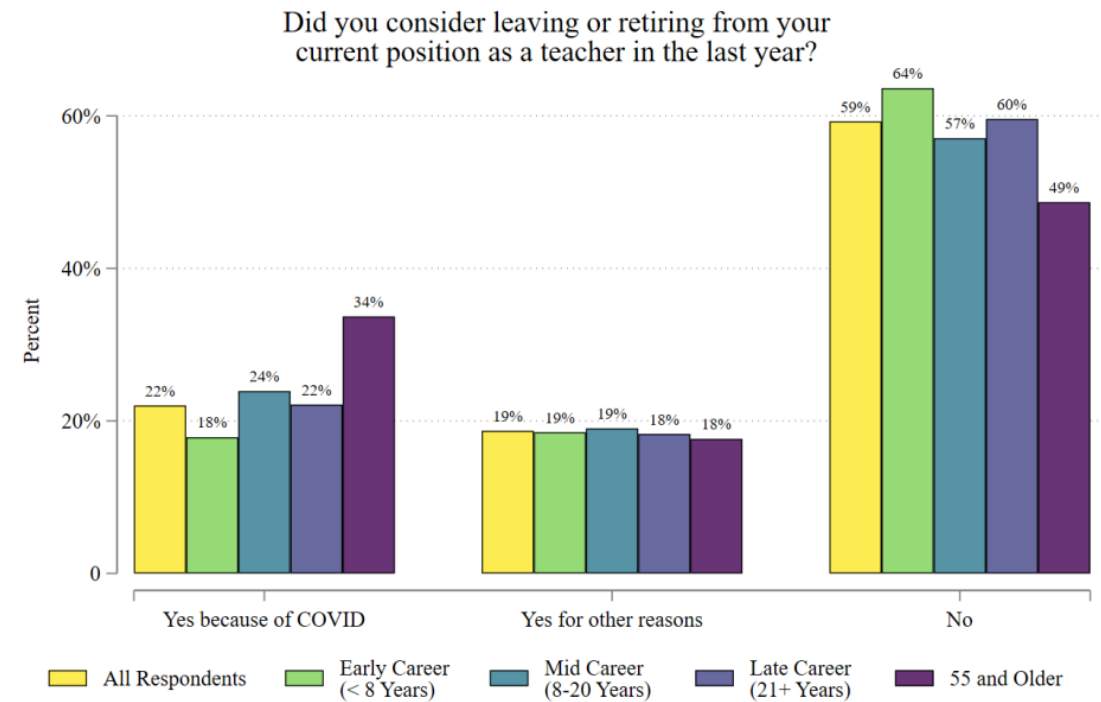
Racial Composition of Various Steps in the Teacher Pipeline



Bartanen, Brendan, and Andrew Kwok. (2022). From Interest to Entry: The Teacher Pipeline From College Application to Initial Employment. (EdWorkingPaper: 22-535). Retrieved from Annenberg Institute at Brown University: <https://doi.org/10.26300/hqn6-k452>

# COVID has affected teachers' job satisfaction and may increase turnover.

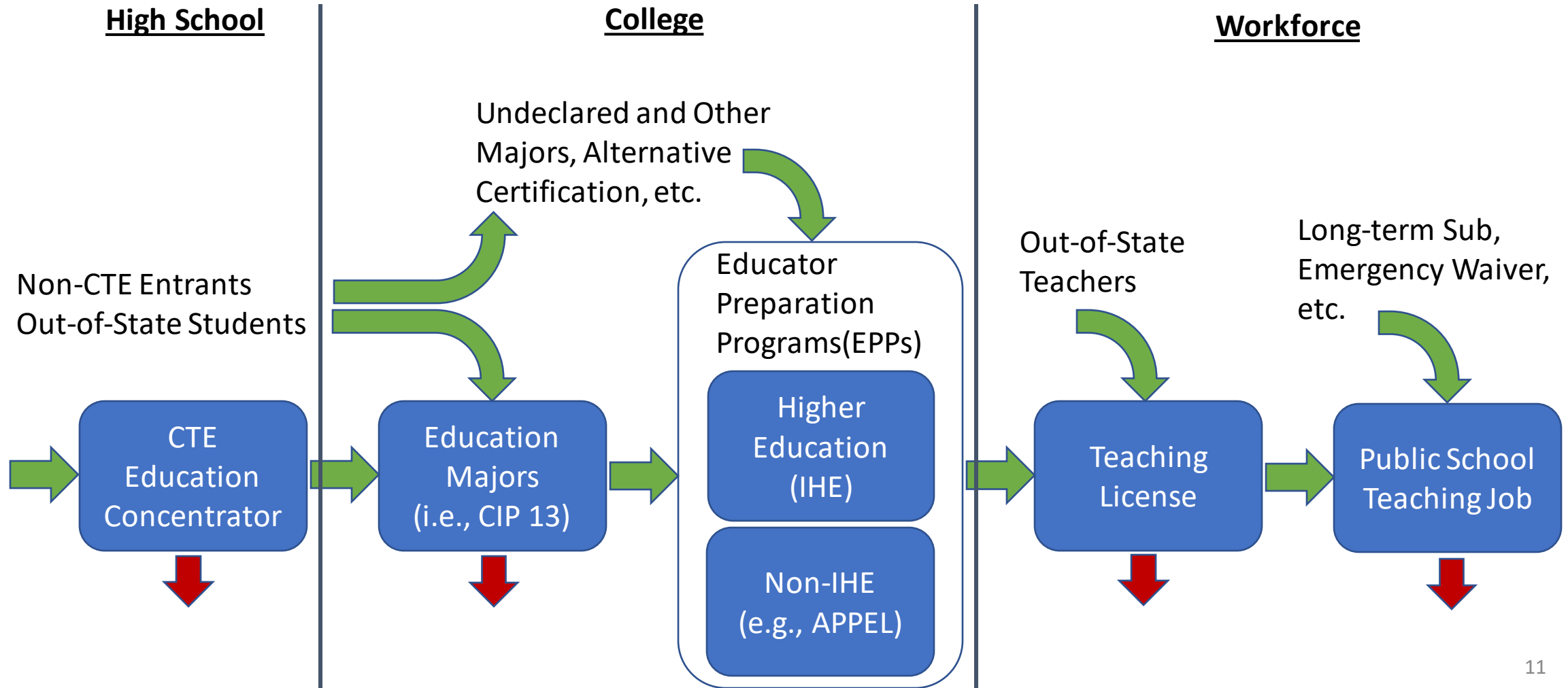
- [Our research](#) shows that teachers are experiencing high levels of burnout and they are considering leaving the profession at higher rates.
- Concerns about job burnout, approaching retirement age (55 or older), having to switch teaching modes and teaching hybrid are all associated with higher consideration of leaving.
- As the pandemic continues, there is an ongoing risk that teacher turnover might increase.
- Even small rates of teacher turnover could be problematic if concentrated in teacher shortages areas.
- Higher levels of job dissatisfaction could affect teacher effectiveness and harm student academic progress even if teachers decide not to leave.



Zamarro, Gema, Andrew Camp, Dillon Fuchsman, and Josh B. McGee. (2022). Understanding how COVID-19 has Changed Teachers' Chances of Remaining in the Classroom. (EdWorkingPaper: 22-542). Retrieved from Annenberg Institute at Brown University: <https://doi.org/10.26300/2y0g-bw09>

# The Arkansas Teacher Pipeline

# The teacher pipeline is a complex system with many on- and off-ramps.



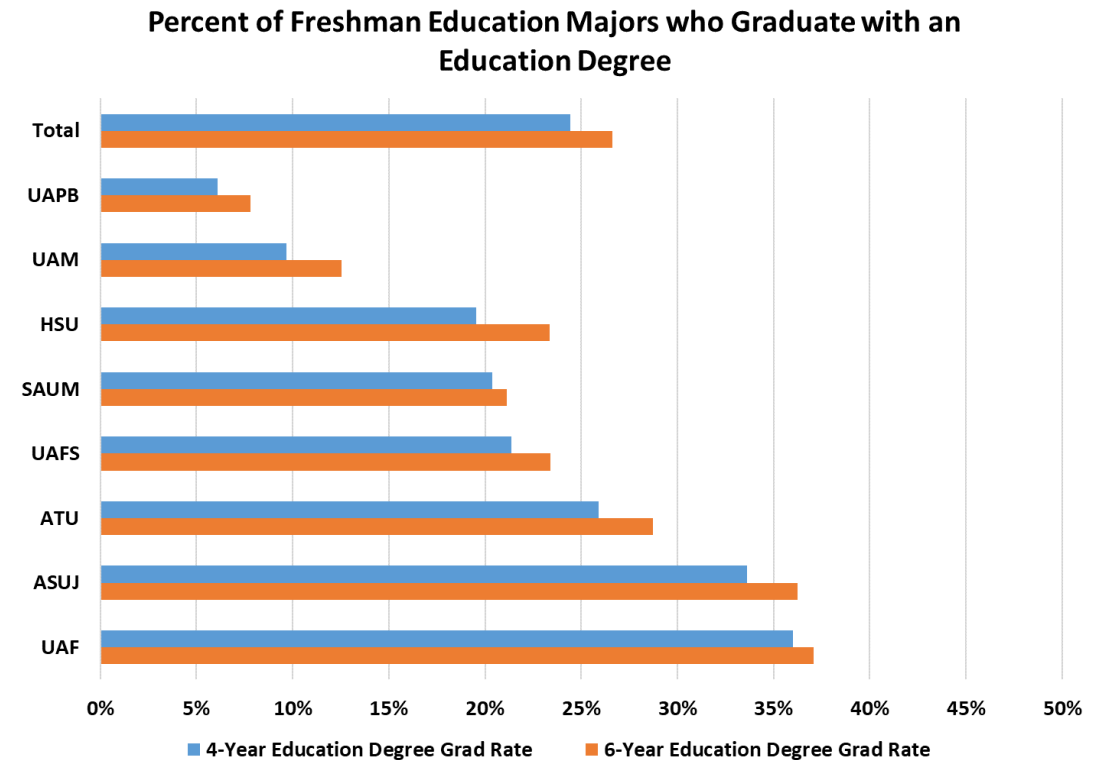
# Summarizing What We Know

- We have only recently started the Arkansas teacher pipeline project and received a first round of data three weeks ago.
- In the following slides, we summarize some initial findings.
- We will learn a lot more as we receive additional data and perform more analysis.
- The final third of this presentation will provide an overview of our learning agenda.

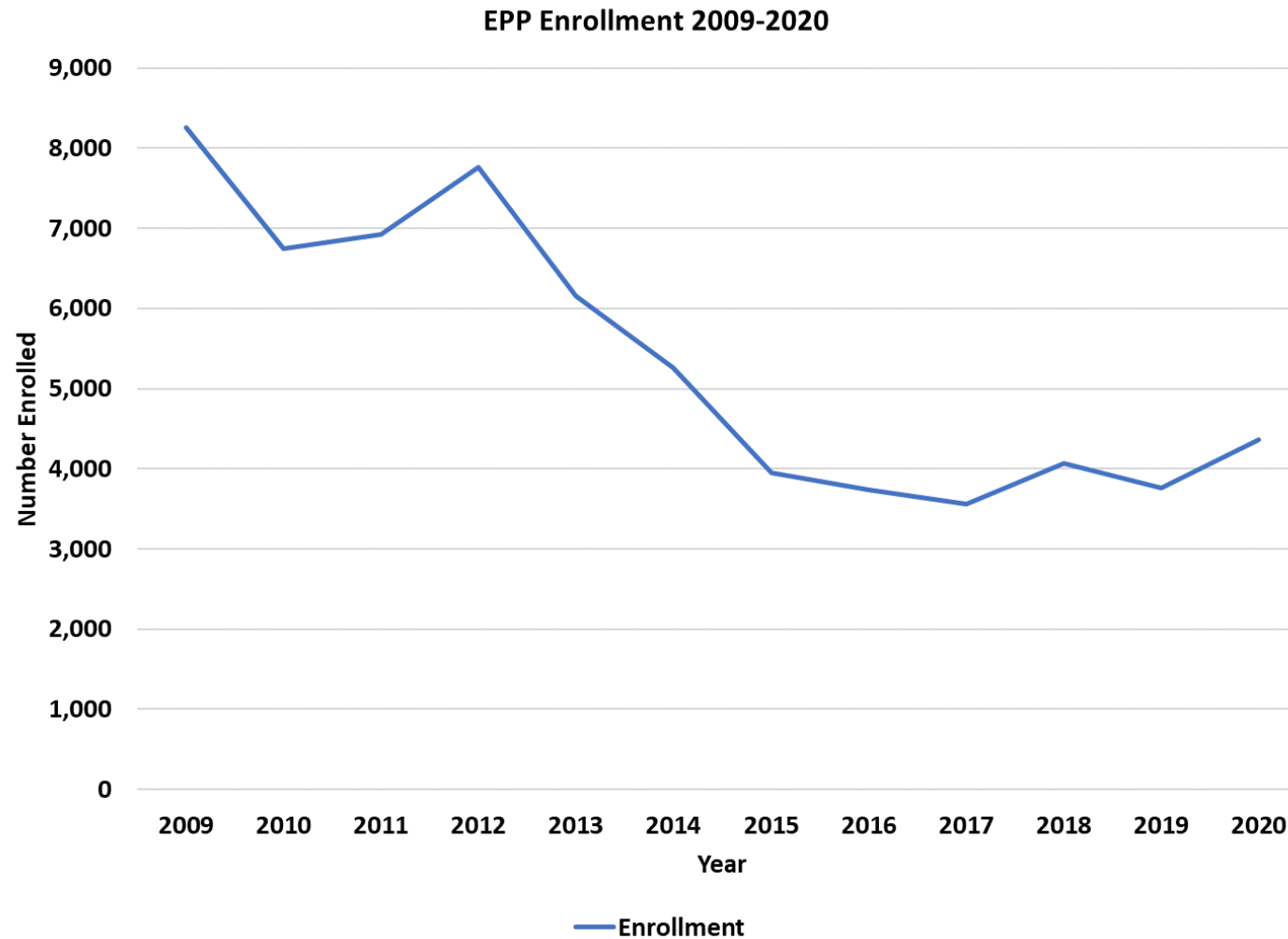


# Arkansas freshman education majors graduate with education degrees at low rates.

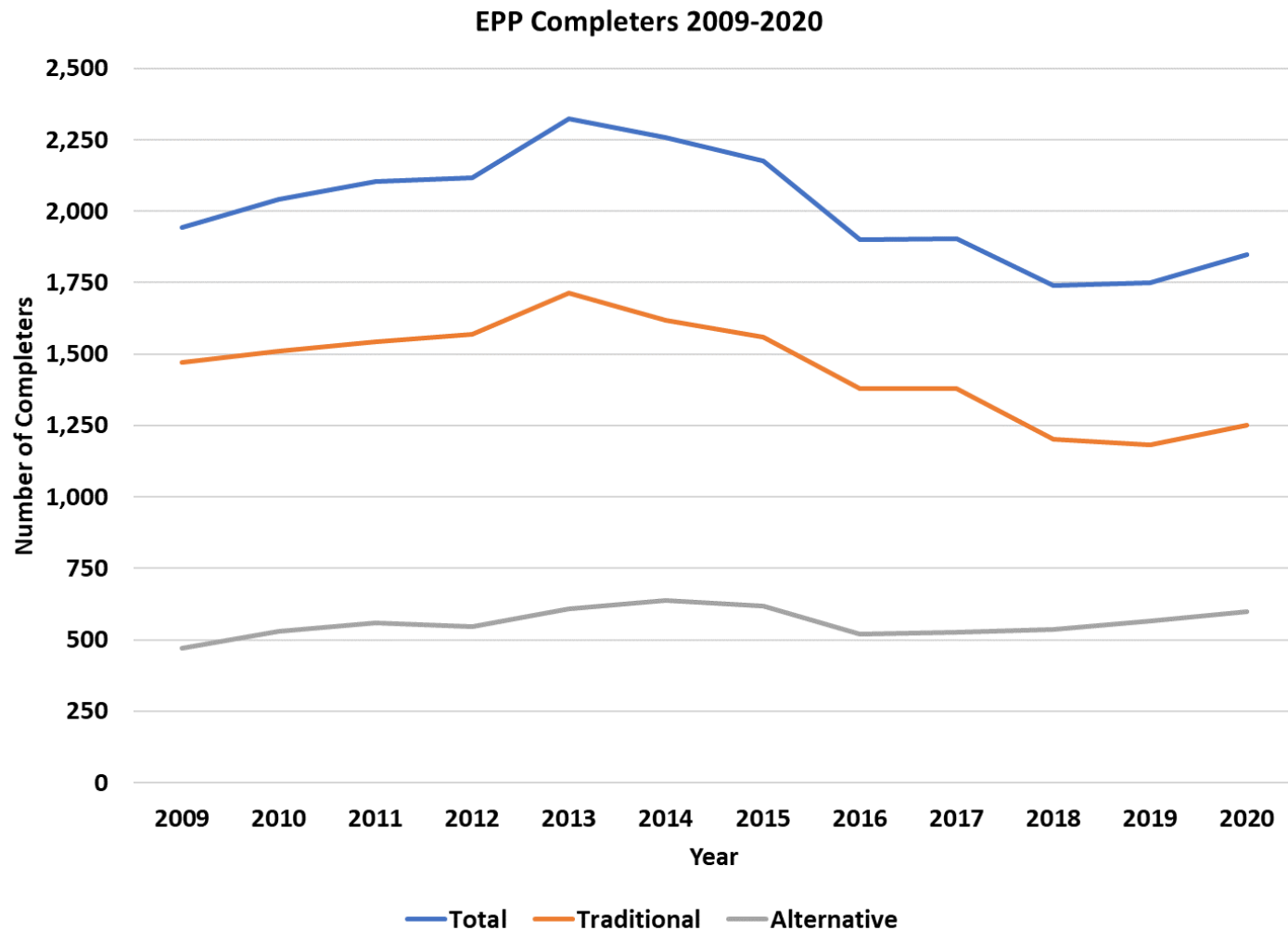
- Only 27% of initial education majors graduate with an education degree within 6 years.
- Few that show initial interest in education finish with an education credential.
- Students generally enter EPPs later in their college careers
- Colleges handle major declaration and EPP entry differently, and we need to better understand that context.
- There are likely important differences in how well supported college entrants interested in teaching are.



# Arkansas EPP enrollment has declined.



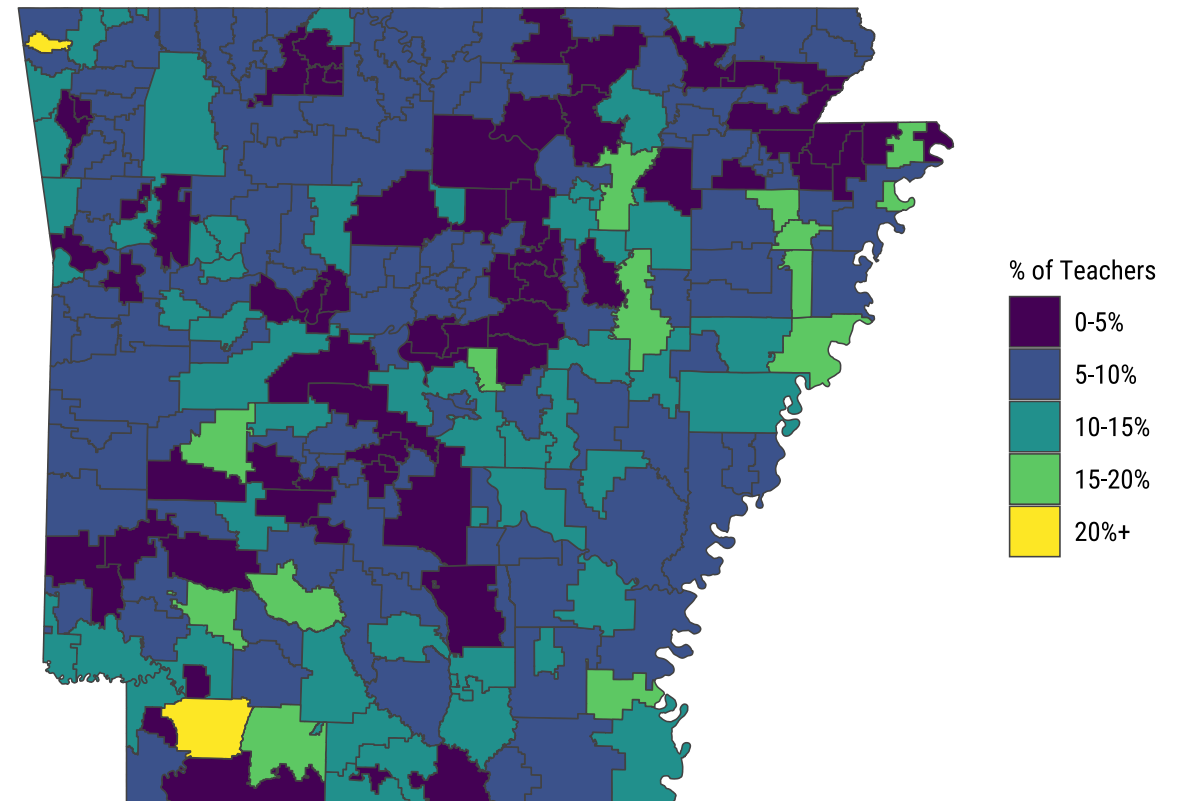
# The number of EPP completers has also declined.



# New Entrants to the AR Teacher Workforce

- On average, ~**2,000** teachers enter the AR workforce each year.
- The number of new entrants depends on several factors like growth, turnover, etc.

New Entrants Per Year to the Arkansas Teacher Workforce  
2017-18 through 2021-22 School Years



Nearly half of new teachers (43%) come from the six largest EPP programs.

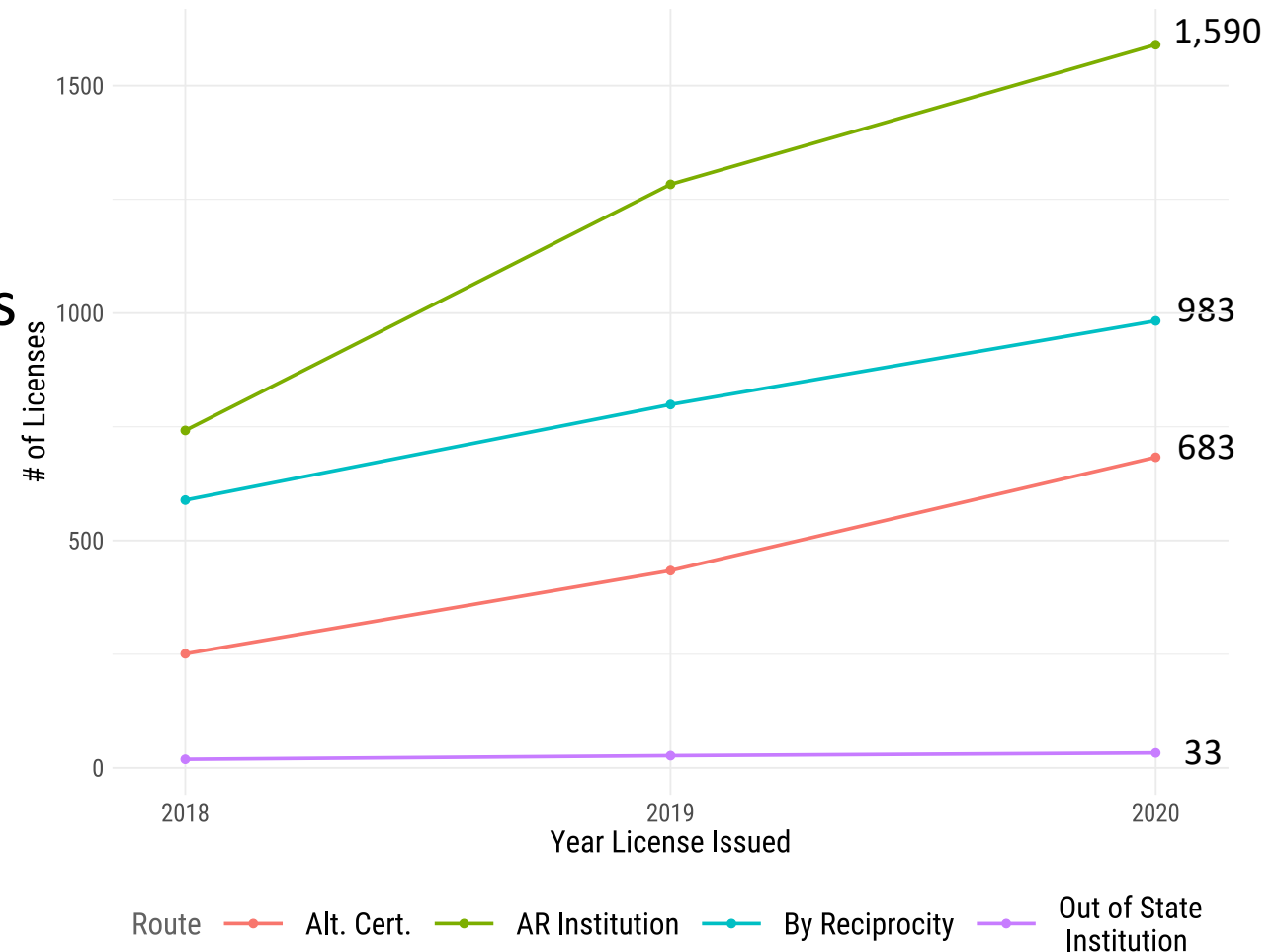
EPP	2019	2020	2021	Total
UCA	188	211	191	590
Arkansas State	208	150	177	535
APPEL	199	173	120	492
UA Fayetteville	139	119	115	373
Arkansas Tech	145	105	96	346
Henderson	128	103	91	322
Other 18 EPPs	599	494	421	1,514
<b>Total New Teachers from AR EPPs</b>	<b>1,606 (23 EPPs)</b>	<b>1,355 (22 EPPs)</b>	<b>1,211 (23 EPPs)</b>	<b>4,172 (24 EPPs)</b>
<b>Total New Teachers</b>	<b>2,313</b>	<b>2,006</b>	<b>1,884</b>	<b>6,203</b>

There is a similar pattern for novice teachers (i.e., those with 1-3 years of experience).

EPP	2019	2020	2021	Total
UCA	471	548	556	<b>1,575</b>
Arkansas State	506	535	513	<b>1,554</b>
APPEL	399	482	483	<b>1,364</b>
UA Fayetteville	338	345	340	<b>1,023</b>
Arkansas Tech	240	337	360	<b>937</b>
Henderson	255	313	321	<b>859</b>
Other 18 EPPs	1,322	1,510	1,439	<b>4,271</b>
<b>Total Novice Teachers from AR EPPs</b>	<b>3,531 (24 EPPs)</b>	<b>4,070 (24 EPPs)</b>	<b>4,012 (24 EPPs)</b>	<b>11,613 (24 EPPs)</b>
<b>Total Novice Teachers</b>	<b>5,925</b>	<b>6,321</b>	<b>6,072</b>	<b>18,318</b>

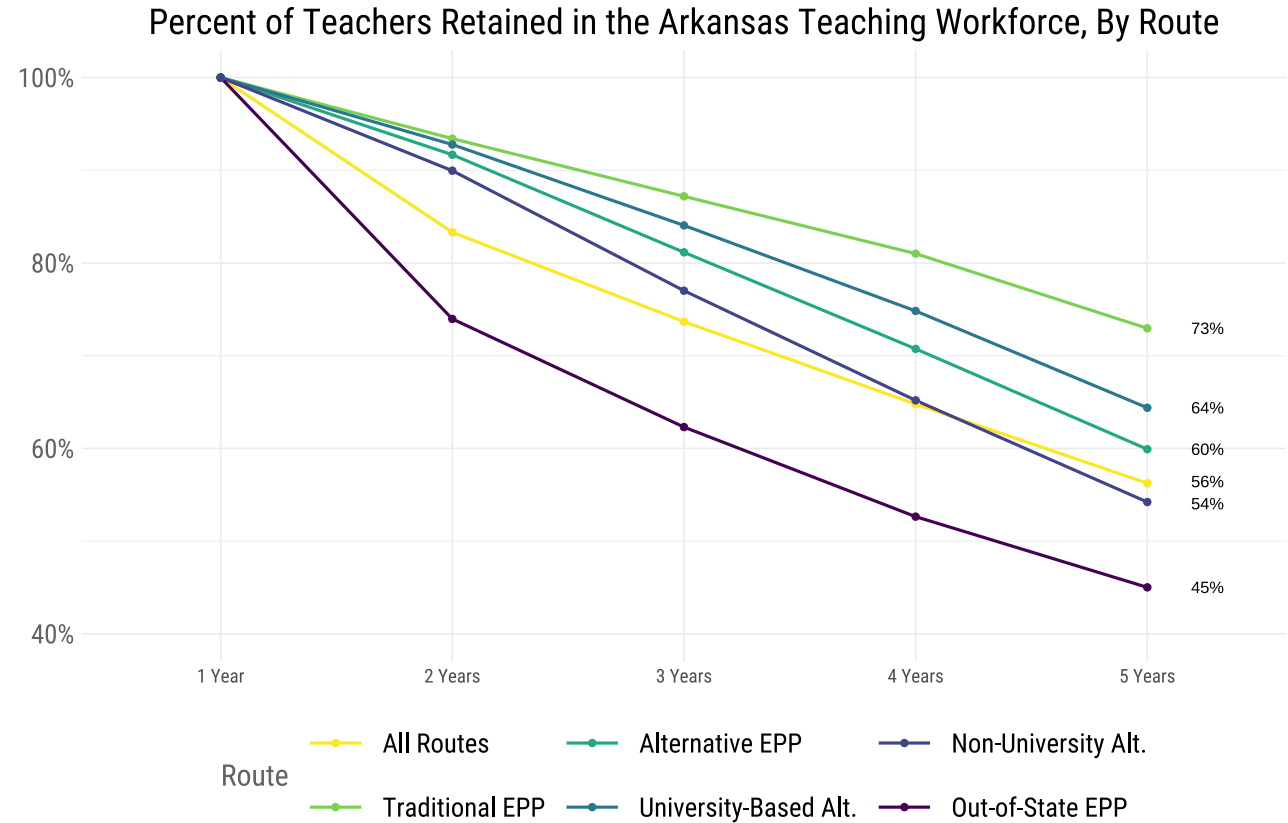
# Many licensed teachers are not teaching in Arkansas' public schools.

- From 2018-2020, 7,433 new teacher licenses have been issued.
- 29 percent (2,174) of these license holders have not been employed as teachers by AR public schools.
- Of those newly licensed teachers, the majority graduate from an in-state preparation program.
- Out-of-State reciprocity is the second largest source of new teachers.



# Teacher retention varies by route.

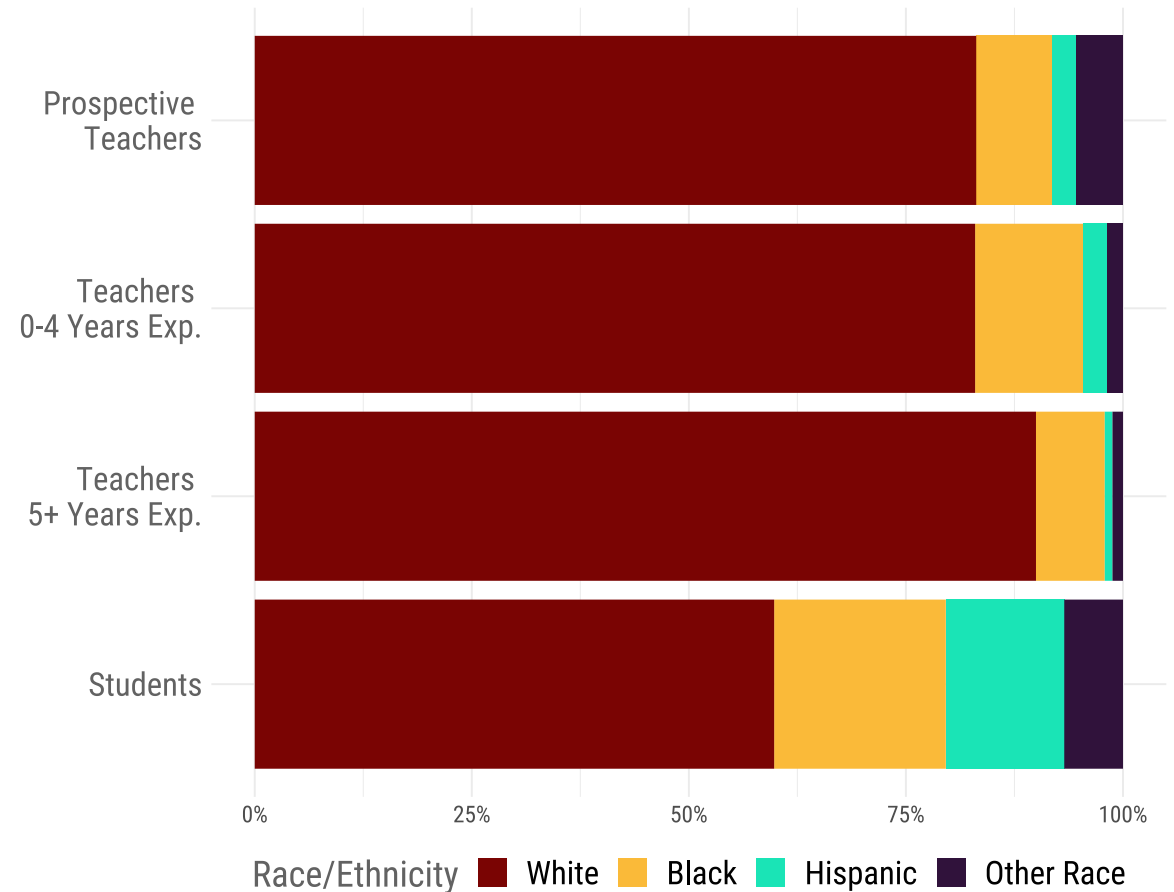
- On average, 56 percent of teachers work for at least 5 years.
- Traditional EPPs have a 5-year retention rate of 73 percent.
- Other routes have lower retention rates.





# Arkansas teachers are less diverse than their students.

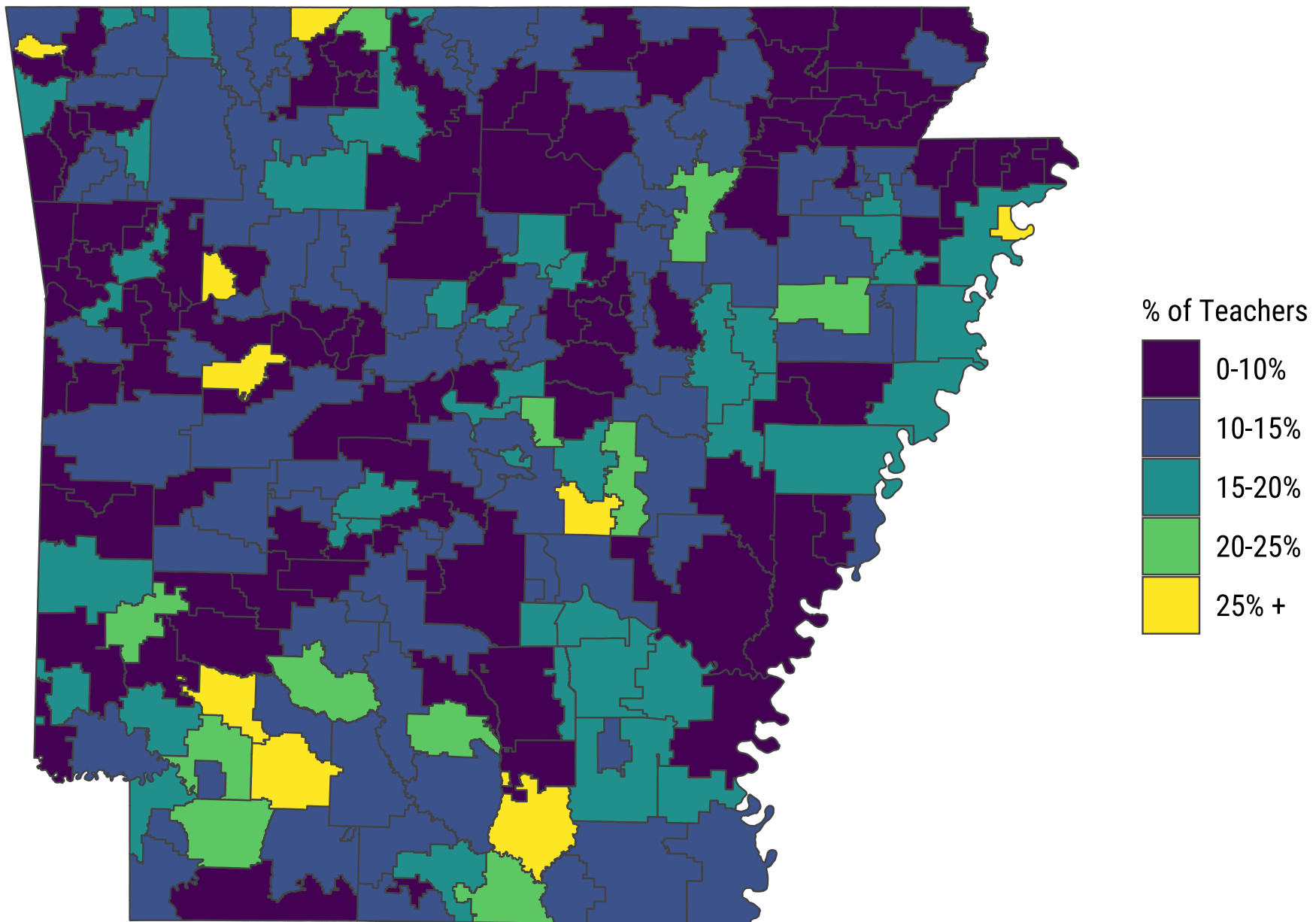
- Prospective teachers are less diverse than the student population.
- Like national trends, the AR teacher pipeline loses diversity at every step.
- Experienced teachers are much less likely to be Black or Hispanic than their students.



# Teacher Turnover

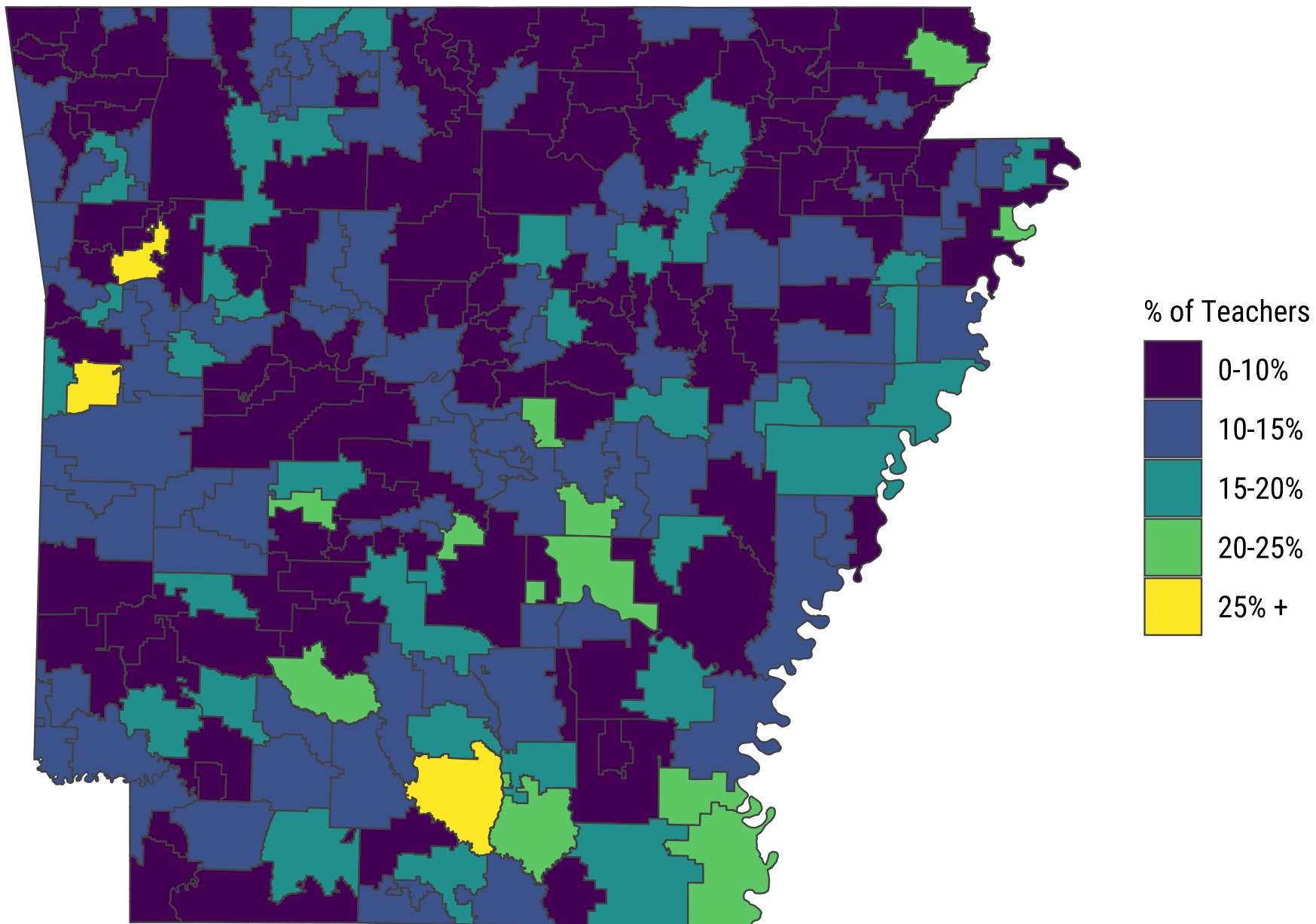
- Teacher turnover is important because:
  - It could create shortages in particular areas; and
  - Higher turnover districts will have more inexperienced, and possibly less effective, teachers.
- Arkansas districts had a turnover rate of 11.3% over the past 5 years.
- Arkansas teacher turnover appears to have declined during the pandemic but has increased this school year.
- Several districts in east and south Arkansas have persistently high turnover.

# Teacher Turnover, 2018-2019 School Year



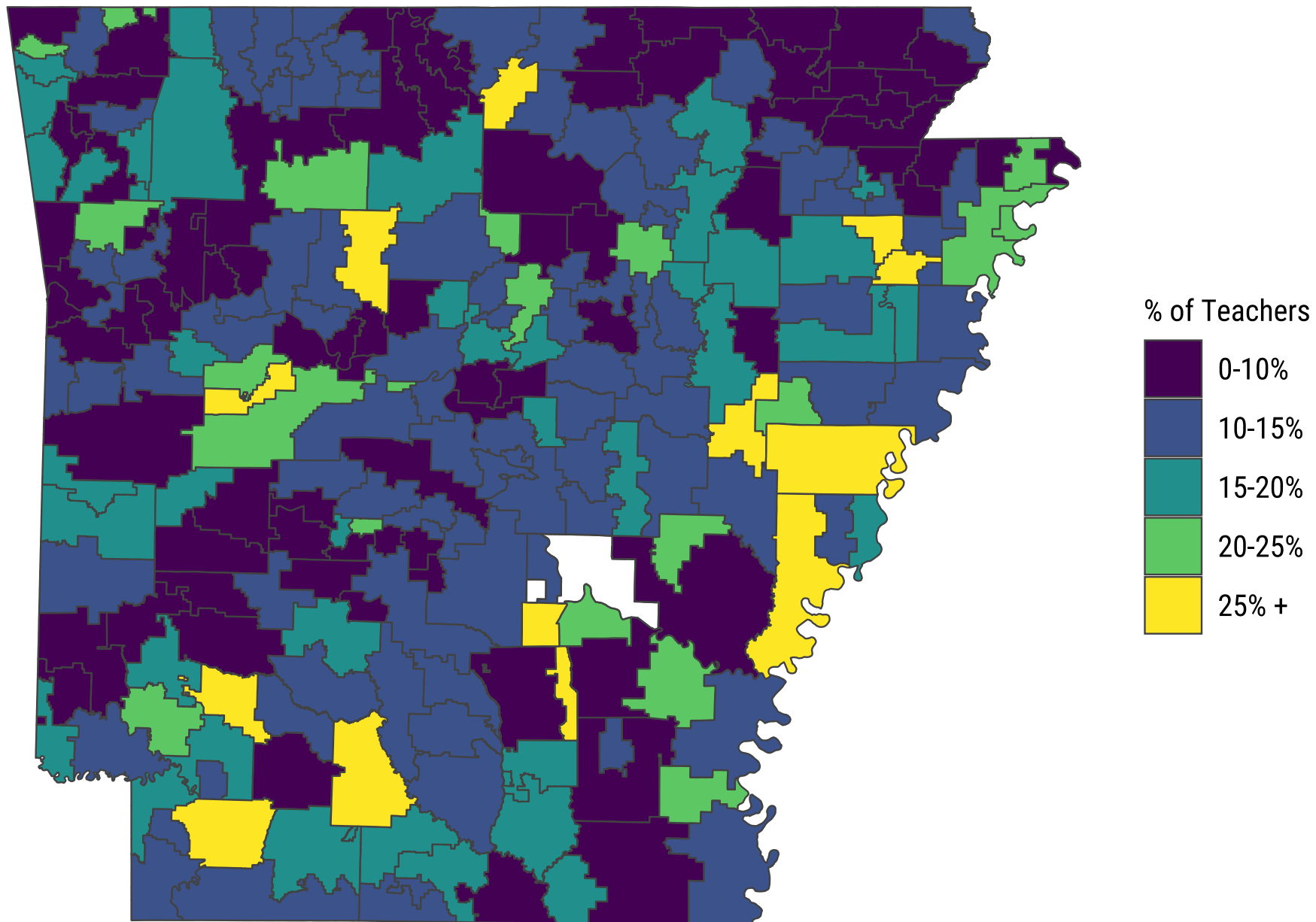
Turnover is defined as the number of new hires minus number of new positions in year T divided by the total number of teachers in year T-1.

# Teacher Turnover, 2019-2020 School Year



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# Teacher Turnover, 2021-2022 School Year

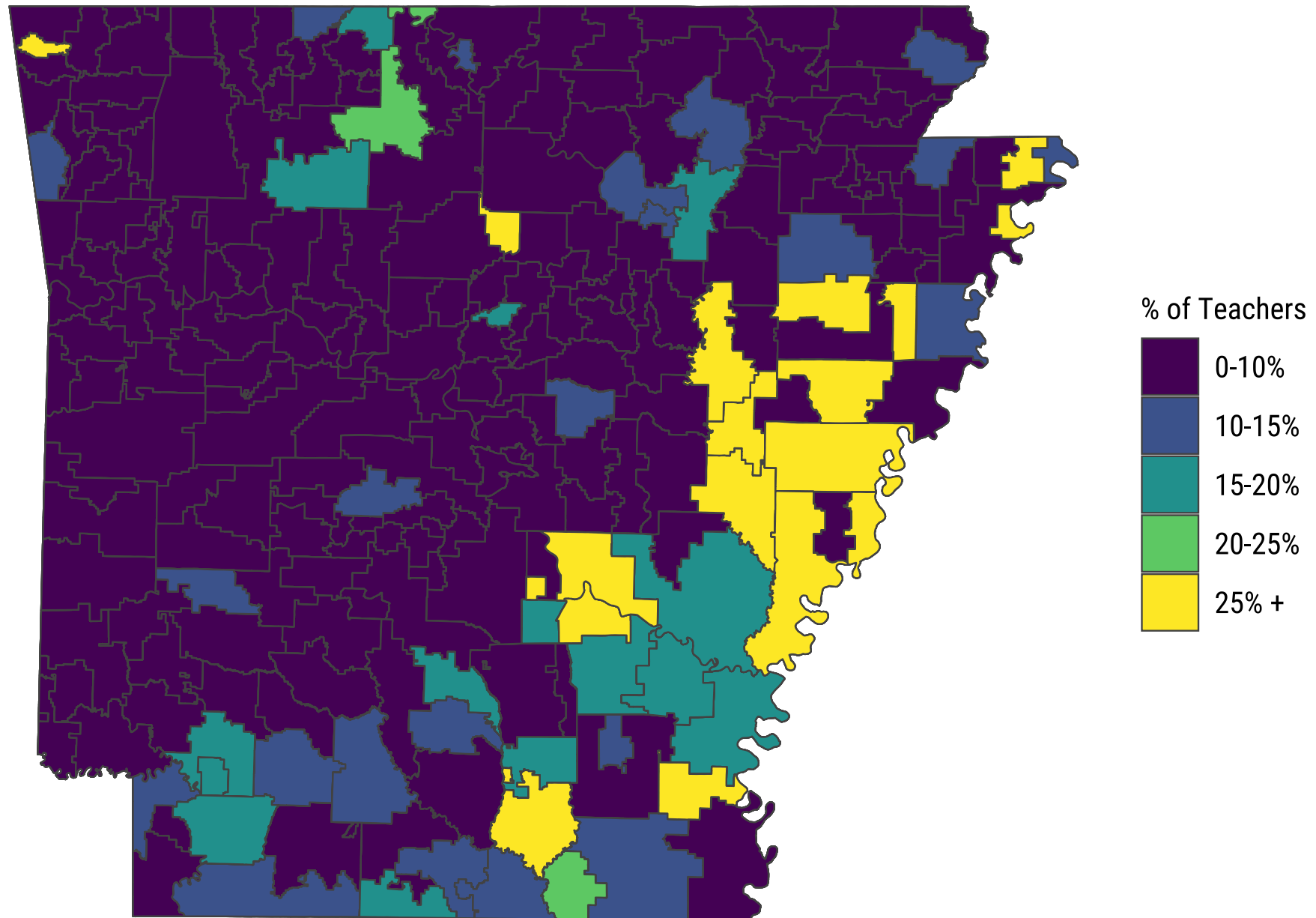


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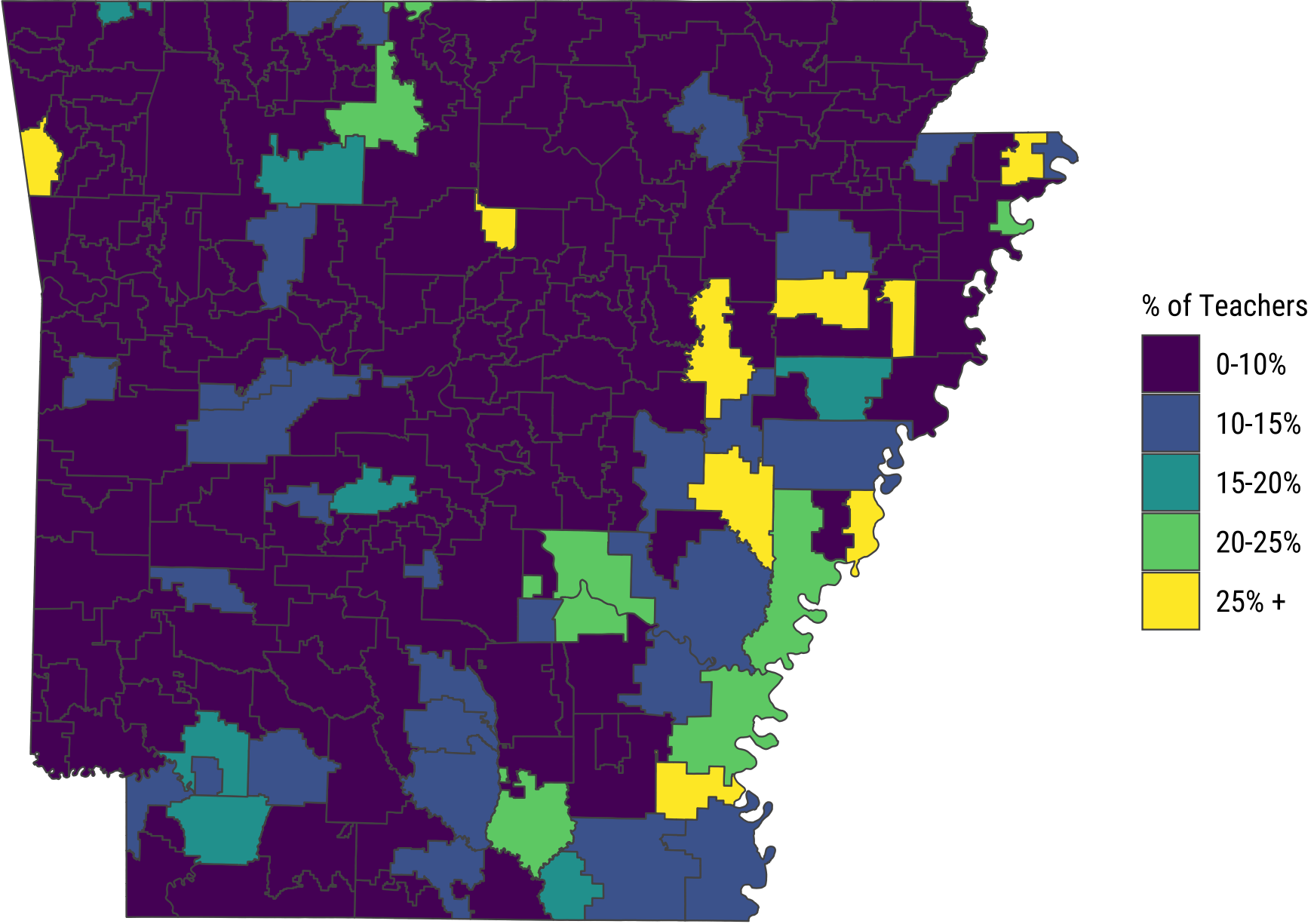
# Teachers who are not fully certified can teach in Arkansas under several waiver programs.

- Waivers include:
  - Emergency teaching permits,
  - Alternative licensure plans,
  - Long-term substitutes, and
  - Act 1240 waivers.
- Statewide, between 8% and 9% of teachers are on a waiver.
- East and south Arkansas districts have the highest percentage of teachers with waivers.
- Waiver use appears to have increased through the pandemic.

# Percent of Teachers with a Waiver, 2017-18 through 2021-22 School Years



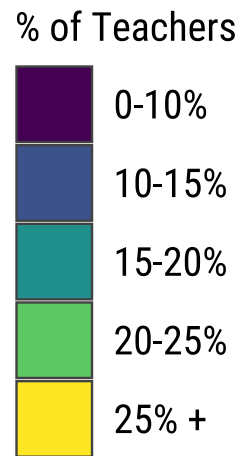
# Percent of Teachers with a Waiver, 2017-2018 School Year



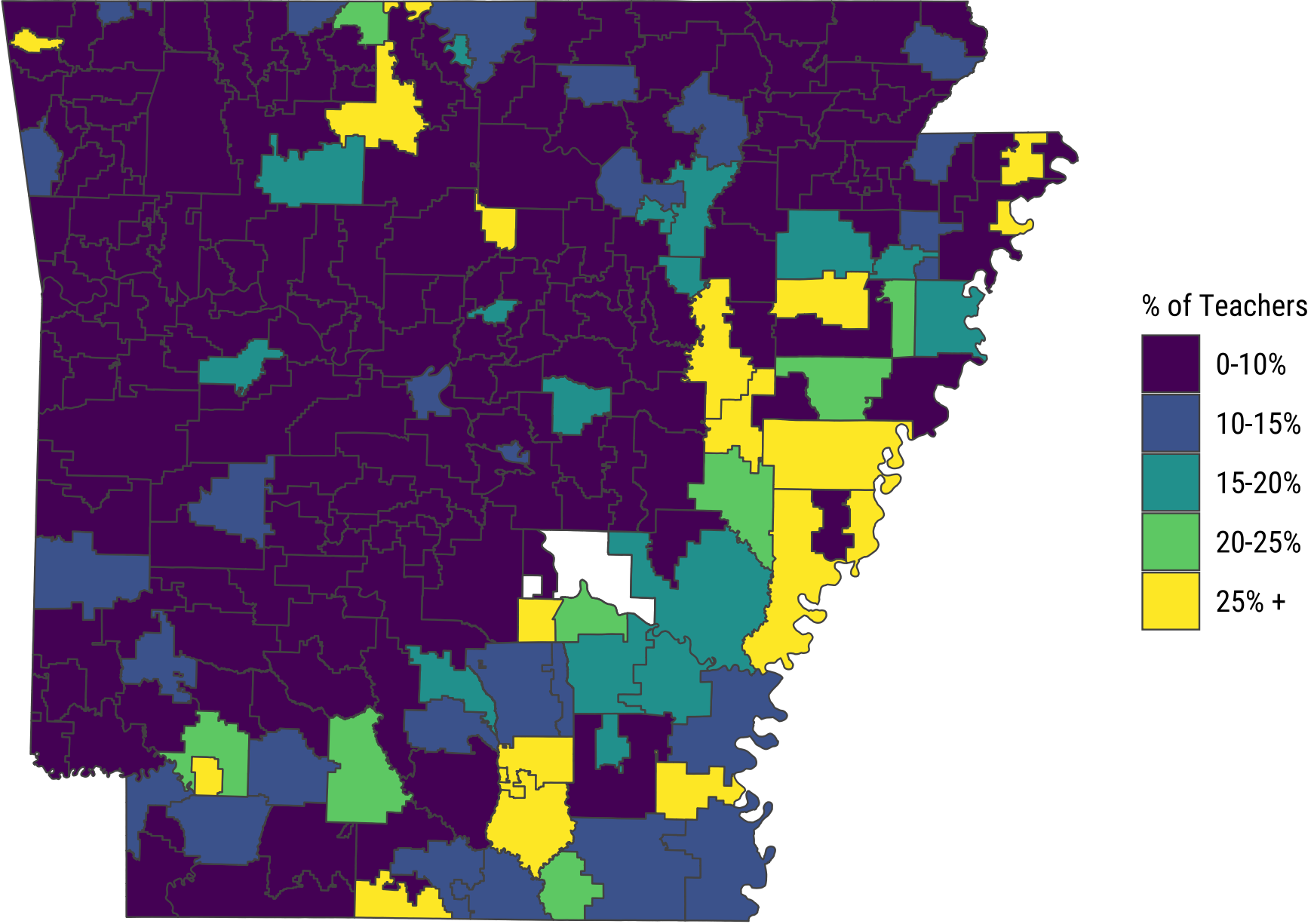
Waivers include Emergency Teaching Permits, Alternative Licensure Plans, Long-Term Substitutes, and ACT 1240 Waivers



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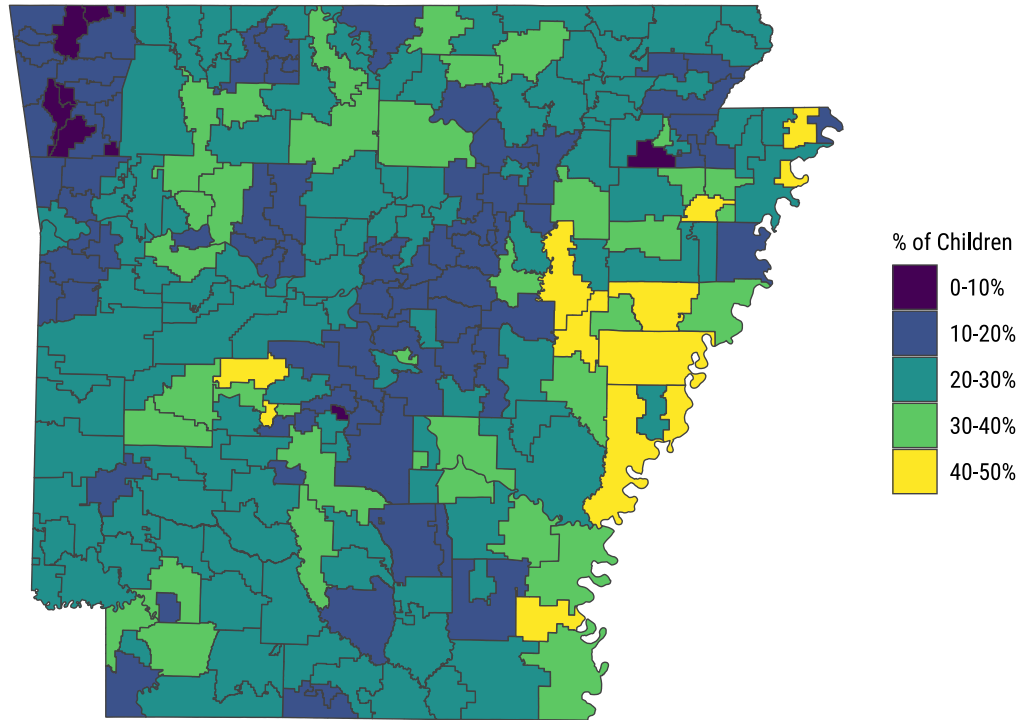
# Percent of Teachers with a Waiver, 2021-2022 School Year



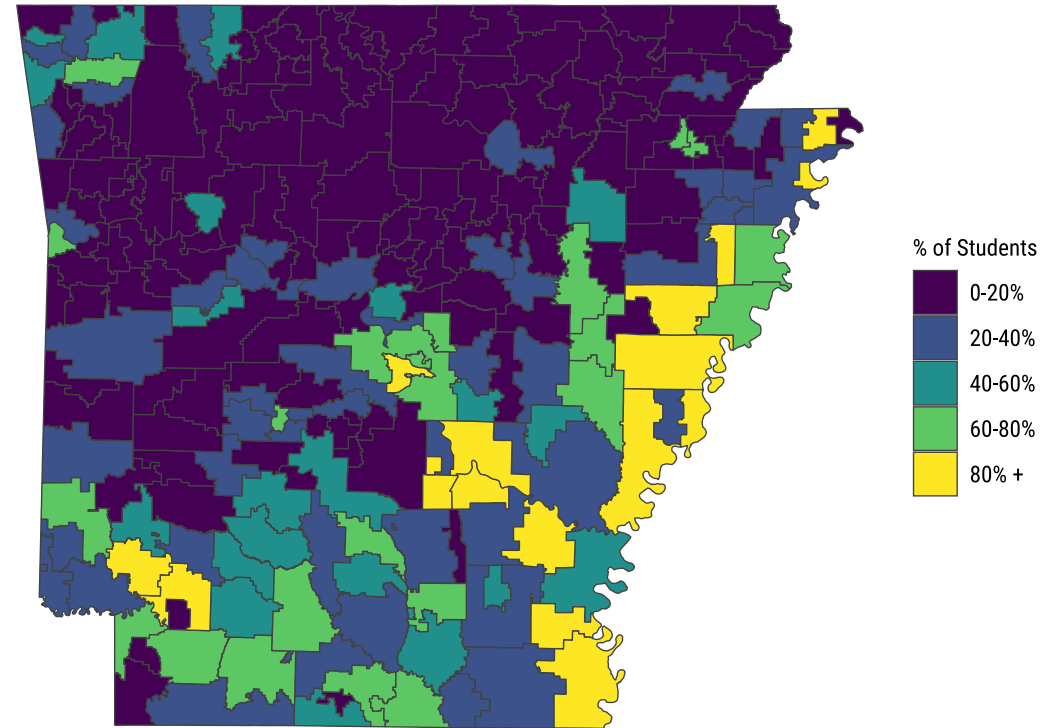
Waivers include Emergency Teaching Permits, Alternative Licensure Plans, Long-Term Substitutes, and ACT 1240 Waivers

# East and South Arkansas have higher concentrations of school age children living in poverty and underrepresented minority students.

Percent of 5-17 Year Olds Living in Poverty, 2018-19 School Year

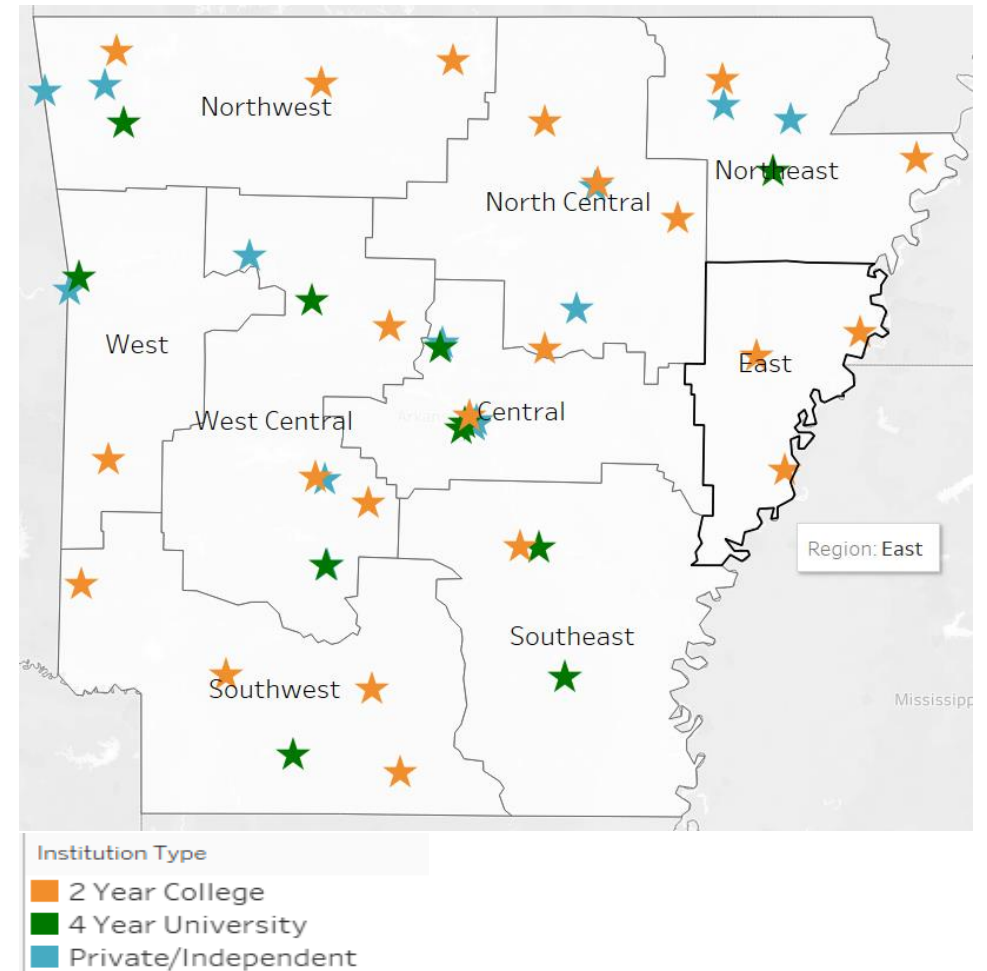
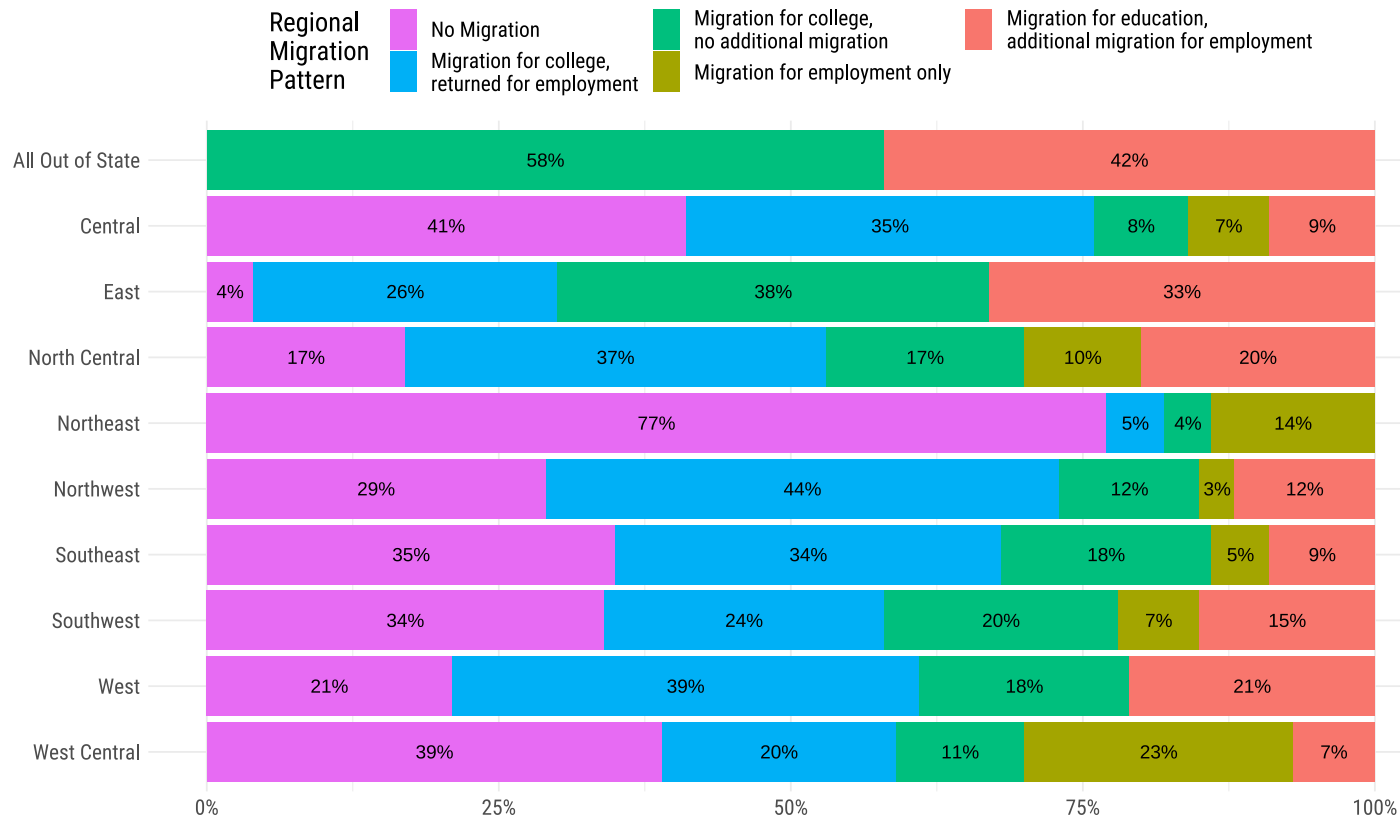


Percent Non-white Students, 2020-21 School Year



Data from the Census Bureau's Small Area Income and Poverty Estimates.

# Educators migrate from the east region for college and do not return.



# Summary

- The Arkansas teacher pipeline is complex with many on- and off-ramps.
- Many college students who express initial interest in teaching do not end up with an education degree.
- Enrollment in and graduation from AR EPPs has been declining.
- Our largest EPPs supply almost half of all new and novice teachers.
- Traditional EPPs have higher 5-year retention rates than other routes.
- Teacher diversity is a challenge at every step of the pipeline.

# Summary

- Between a quarter and a third of those who recently received a teaching license are not teaching in public schools.
- Teacher turnover and the use of emergency waivers has increased during the pandemic.
- The use of waivers is particularly persistent in east and south Arkansas – areas with high childhood poverty and higher proportions of underrepresented minority students.
- Compared to other regions, more east Arkansas high school graduates who eventually work in education leave the region for college and do not return to work in schools.

# Learning Agenda

Providing actionable information to help target investment and monitor results

# Create a comprehensive picture of the teacher pipeline.

- We will use linked, longitudinal data to investigate flows into and out of the teaching pipeline.
- We will:
  - Document how flows have changed over time, especially as the state recovers from the pandemic;
  - Identify success stories and major barriers and leaks; and
  - Evaluate different approaches to improve educator recruitment and retention.
- Our goal is to make it possible for a broad set of stakeholders to more routinely use high-quality data to inform decision-making around the teacher pipeline.
- This information will help stakeholders better understand where additional investment is likely to pay off, monitor outcomes, and evaluate improvements.



# Investigate whether the state can develop a more robust teacher pipeline starting in high school.

- The state has recently created or revitalized several programs aimed at developing high school pathways into teacher prep, for example:
  - Teacher residency – grow your own;
  - CTE concentrators in the education pathway;
  - Educators Rising – has grown from 428 participants in late 2021 to 726 participants in March.
- These efforts have the potential to help address teacher shortages in rural, east, and south Arkansas and increase the diversity of the teaching workforce.
- However, it is important to monitor results to make sure these programs achieve the intended outcomes and adjust if they don't.

# Understand EPP performance differences.

- ADE is currently developing a state EPP review process.
  - Josh McGee serves on the Task Force.
- To inform that effort we will seek to:
  - Describe differences in outcomes across EPPS;
  - Identify program features that are associated with better outcomes; and
  - Highlight successful approaches and opportunities for improvement.
- We are particularly interested in differences across EPP types/settings and the impact of financial aid and other supports.
- We also want to learn which EPPs and approaches are most successful in cultivating diverse teaching candidates.

# Describe the teacher labor market.

- We have limited information about teaching job postings, who applies, and who eventually gets jobs.
- We are collaborating with ADE to launch and promote an AR teaching jobs app that will help address this deficiency.
- We also need to better understand what teachers do before entering the classroom and what they do when they leave.
- The newly linked data will allow us to see:
  - Whether they are working in Arkansas;
  - Their industry and wages if they are; and
  - If they are employed in a non-teaching role at a public school.
- Better information about the teacher labor market can be used to improve recruitment and retention efforts.

# Investigate teacher opinions, attitudes, and preferences.

- We are currently working with ADE to revamped the Novice Teacher Survey to better capture key elements of early-career support.
- We also plan to develop and field a representative Arkansas teacher survey to collect more comprehensive information on the entire teaching workforce.
- These surveys will help us better understand where we are succeeding and failing in supporting teachers.