

University of Arkansas, Fayetteville
ScholarWorks@UARK

Arkansas Education Reports

Office for Education Policy

9-7-2016

Graduation Rates in Arkansas: An Updated Analysis

Charlene A. Reid

Sarah C. McKenzie

Gary W. Ritter

Follow this and additional works at: <http://scholarworks.uark.edu/oepreport>

 Part of the [Educational Assessment, Evaluation, and Research Commons](#), and the [Education Policy Commons](#)

Recommended Citation

Reid, Charlene A.; McKenzie, Sarah C.; and Ritter, Gary W., "Graduation Rates in Arkansas: An Updated Analysis" (2016). *Arkansas Education Reports*. 10.
<http://scholarworks.uark.edu/oepreport/10>

This Report is brought to you for free and open access by the Office for Education Policy at ScholarWorks@UARK. It has been accepted for inclusion in Arkansas Education Reports by an authorized administrator of ScholarWorks@UARK. For more information, please contact scholar@uark.edu, ccmiddle@uark.edu.



ARKANSAS EDUCATION REPORT
Volume 13, Issue 1

**GRADUATION RATES IN ARKANSAS:
AN UPDATED DESCRIPTIVE ANALYSIS**

By:

**Charlene A. Reid
Sarah C. McKenzie
Gary W. Ritter**

September 7, 2016

**Office for Education Policy
University of Arkansas
211 Graduate Education Building
Fayetteville, AR 72701
Phone: (479) 575-3773
Fax: (479) 575-3196
E-mail: oeep@uark.edu**

TABLE OF CONTENTS

Executive Summary	iii
I. Introduction	1
II. Descriptive Analyses	3
A. Data Sources	3
B. General Descriptive Data	3
1. Graduation Rate 2009 to 2015	5
2. Graduation Rate by District Size	6
3. Graduation Rate by Cohort Size	9
4. Graduation Rate by Poverty Groups	12
5. Graduation Rate by Location Group	15
C. Conclusion	18
Appendix	1

EXECUTIVE SUMMARY

In 2014, the Office for Education Policy analyzed Arkansas' high school graduation rates from 2010-11 through 2012-13 using descriptive and multivariate methodology. In this report, we provide an updated descriptive examination of graduation rate data from the 2011-12 through 2014-15 school years for 286 high schools across the state of Arkansas. This report examines some different factors that may impact students' chances of graduating, and will be followed by a student-level multivariate analysis of these factors on high school graduation.

Arkansas' overall graduation rate is first compared to the nation and bordering states. Next we examine overall and subgroup school-level graduation rates for the state as a whole. Further descriptive information is provided about graduation rates by district size, cohort (grade-level) size, poverty rate and location classification.

These descriptive analyses examine how each of these district- or school-level characteristics is individually related to high school graduation rates. For each characteristic, we consider the graduation rate of the overall student body, the graduation rate for 'at risk' students identified as TAGG (Targeted Achievement Gap Group), and for those students who are not identified as TAGG. TAGG students are eligible for Free/Reduced Lunch (a proxy for poverty), and/or have been identified as English Language Learners or students receiving special education services, and Non-TAGG students are those who are not eligible for Free/Reduced Lunch, have not been identified as English Language Learners and are not students receiving special education services.

Key Findings from Descriptive Analyses

Statewide

- Arkansas' overall graduation rate is consistently higher than the national average and has been increasing. Eighty-five percent (85%) of Arkansas' expected graduates graduated high school in 2015, an increase of eight percentage points (+8) since 2010.
- TAGG graduation rates have **increased statewide** by 10 percentage points (+10) since 2010 to 82% in 2015.
- Non-TAGG graduation rates have **increased statewide** by two percentage points (+2) since 2010 to 88% in 2015.
- The statewide graduation gap between TAGG and non-TAGG students has **decreased** from 14 to 6 percentage points since 2010.

District Size

- **Smaller districts** generally have higher overall high school graduation rates than larger districts, though this trend varied somewhat over the years examined.
- **Very Small districts** (500 students or fewer) have higher TAGG graduation rates than larger districts; 90% of TAGG students in Very Small districts graduated in 2015.
- Non-TAGG students graduate at rates of 90% or more in **all district sizes, except for Very Large** districts (6,000 or more students) where only 87% of Non-TAGG students graduated in 2015.

- As **district size increases, the graduation gap between TAGG and Non-TAGG students increases**; in 2015, Very Small districts had a 2 percentage point gap, while Very Large districts evidenced a gap of 9 percentage points.

Cohort Size

- Schools with **Small grade-level cohorts** (between 50 and 100 students) have a higher average overall high school graduation rate than the schools with larger or smaller cohorts, although this trend varied over the years examined.
- **Medium to small grade-level cohorts** (150 students or fewer) have slightly higher TAGG graduation rates than larger student cohorts; 88% of TAGG students in cohorts of between 50 and 100 students graduated in 2015.
- Non-TAGG students benefit slightly from **Small grade-level cohorts** (between 50 and 100 students), although these students graduate at rates near 90% from all cohort sizes.
- The **graduation gap between TAGG and Non-TAGG students is greatest in schools with larger cohorts**; schools with cohorts of over 150 students reported gaps of 8 percentage points in 2015.

Poverty Groups

- **Low Poverty** schools (fewer than 43% of students are eligible) had the highest graduation rate, and **High Poverty** schools (over 65% of the students are eligible for Free/Reduced lunch) had the lowest overall graduation rate over the years examined.
- **Low Poverty** schools had a lower TAGG graduation rate than higher poverty schools, indicating that TAGG students have a lower chance of graduating in schools where they are in the minority.
- **High Poverty** schools had the lowest Non-TAGG graduation rate, only 79% of Non-TAGG students graduated from these schools in 2015. Non-TAGG students also have a lower chance of graduating in schools where they are in the minority.
- The graduation gap between the TAGG and Non-TAGG students varied by poverty level; in 2015 there was a 12-point gap in the **Low Poverty** schools while in the **High Poverty** schools TAGG students graduated at a higher rate than their Non-TAGG peers. This is due to High Poverty Schools' relatively low graduation rates of Non-TAGG students, not to relatively high graduation rates of TAGG students.

Location Groups

- **Rural locations** have shown higher overall high school graduation rates than schools in other locations over the years; in 2015 88% of students graduated from Rural locations.
- **Rural locations** had the highest TAGG graduation rate in all years examined, with an 87% TAGG graduation rate in 2015.
- **Rural locations** also reported the highest Non-TAGG graduation rate with 94% graduating in 2015, although all locations reported graduation rates over 90% for these students.
- The graduation gap between the TAGG and Non-TAGG students is the smallest among rural schools, which experienced a 7-point gap in 2014-15. Schools located in towns reported a 10-point gap, while schools in suburbs and cities reported a gap of 12 percentage points.

I. INTRODUCTION

High school graduation rate has become an increasingly important measure of school performance over the past fifteen years. Graduation is an important event, as studies have shown that failing to graduate from high school is associated with several negative consequences including lower lifetime wages, poorer health, and an increased likelihood of incarceration.¹ This paper examines several district- and school-level variables that may impact the high school graduation rate in a given school, district or region.

In 2014, the Office for Education Policy analyzed Arkansas' high school graduation rates from 2010-11 through 2012-13 using descriptive and multivariate methodology in the report "Graduation Rates in Arkansas". In this report, we provide an updated descriptive examination of graduation rate data from the 2011-12 through 2014-15 school years for 286 high schools across the state of Arkansas. This report examines some different factors that may impact students' chances of graduating, and will be followed by a student-level multivariate analysis of these factors on high school graduation rates and an examination of the relationship between graduation rates and other outcomes such as ACT scores and college remediation rates. Understanding the relationship between these district- and school-level characteristics and high school graduation rates may support educators and policymakers in developing more effective practices to further increase the graduation rate for Arkansas students.

Arkansas' overall graduation rate is initially compared to the nation and bordering states. Next, overall and subgroup school-level graduation rates are examined for the state as a whole. Further descriptive information is provided about graduation rates by district size, cohort (grade-level) size, poverty rate and location classification.

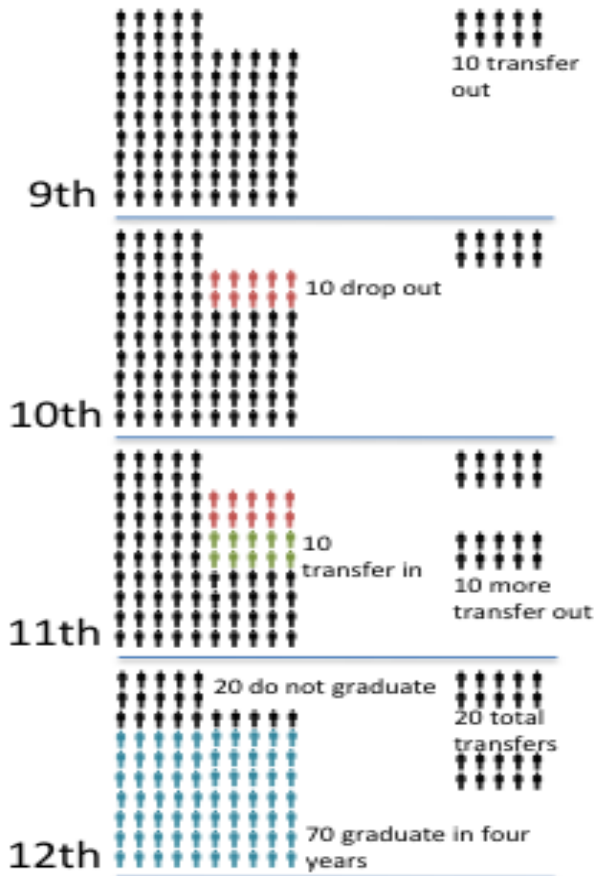
These descriptive analyses examine how each of these district- or school-level characteristic is individually related to high school graduation rates. For each characteristic, we consider the graduation rate of the overall student body, the graduation rate for 'at risk' students identified as TAGG (Targeted Achievement Gap Group), and for those students who are not identified as TAGG. TAGG students are eligible for Free/Reduced Lunch (a proxy for poverty), and/or have been identified as English Language Learners or students receiving special education services, and Non-TAGG students are those who are not eligible for Free/Reduced Lunch, have not been identified as English Language Learners and are not students receiving special education services.

In this paper, graduation rate refers to the four-year adjusted cohort graduation rate (ACGR), which tracks student cohort groups from the beginning of 9th grade and follows their progress through 12th grade. First required to be used as a measure of high school performance under the 2001 No Child Left Behind (NCLB) Act, the collection and calculation of graduation rates varied by state, however, until the US Department of Education amended regulations to require states to use the four-year adjusted cohort graduation rate method. The AGCR calculates the initial cohort size using first-time 9th grade students and is adjusted for students that transfer in,

¹ For more information see *The Price We Pay: Economic and Social Consequences of Inadequate Education*, 2007. C.R. Belfield and H.M. Levin (Eds.). Washington, DC: Brookings Institution Press.

transfer out and enroll in another school, or die that year or in the following three years. Students who repeat a grade continue to be included in their original cohort. Students who obtain a GED instead of a high school diploma are not counted as a graduate, but students who graduate prior to the expected four-year time period are included. Figure 1 illustrates how the ACGR is calculated.

Figure 1: Four-Year Adjusted Cohort Method



As illustrated in Figure 1, the cohort group began with 100 9th graders, 10 of which transferred out within that year. By the end of the 10th grade year, 10 students dropped out (indicated in red) but they are still included in the adjusted cohort group. By the end of the following year, 10 students transferred out and 10 transferred in. Finally, by the end of the 12th grade year, one can calculate that there were a total of 20 students that transferred out and 10 students that transferred in, resulting in an adjusted cohort group of 90 students. The 10 students who dropped out are included among the 20 that did not complete their 12th grade year. The adjusted cohort graduation rate is 70 actual graduates out of 90 expected graduates or 78%.

II. DESCRIPTIVE ANALYSES

A. Data Sources

Graduation rate data were obtained from the Arkansas Department of Education (ADE). The ADE also provided data used to analyze graduation rates by poverty, district and cohort size. The data used to classify a school as rural or urban is available via the National Center for Education Statistics (NCES). More detailed descriptions of each category are provided in relevant sections.

When examining high school graduation rates, it is important to note that there is a lag in release. The ADE releases graduation rates for Arkansas schools during the academic year following graduation. For example, the graduation rate for the class of 2016 will be released during the 2016-17 academic year. This report includes school's 2014-15 graduation rate, representing the class of 2015 and the most current data available for Arkansas at the time of publication. National graduation rates are reported in May of each year by the NCES. The most recently available state-level national graduation rate represents the class of 2014. Alternative high schools and high schools that closed during the years examined in this report were not included in the calculations.

B. General Descriptive Data

This report examines Arkansas' high school graduation rate trends over time to determine if there has been a pattern of improvement or decline over the years. Graduation rate will be viewed through three categories: Overall, TAGG and non-TAGG students. Overall graduation rate is the percentage of all students that have graduated in relation to the adjusted cohort group of students who were expected to graduate. TAGG students, short for Targeted Achievement Gap Group, are the "at risk" student group; students either categorized as Special Education, Free or Reduced lunch eligible or English Language Learners. Non-TAGG students are those excluded from the TAGG group. In the 2014-15 academic year, 63% of Arkansas' public school students were identified as TAGG, meaning nearly two thirds of students are considered "at-risk" for lower academic outcomes than their non-TAGG peers. Graduation rates overall and for TAGG and Non-TAGG students will be examined relative to district size, cohort size, school poverty rates and school location. For further definitions of these categories, please see the *Appendix*.

Table 1: Four-Year Adjusted Cohort Graduation Rates for the nation, Arkansas and bordering states, 2010-2014.

	Percent Eligible for Free/Reduced Lunch	2010-11	2011-12	2012-13	2013-14
US	48%	79%	80%	81%	82%
AR	61%	81%	84%	85%	87%
LA	66%	71%	72%	74%	75%
MS	71%	75%	75%	76%	78%
OK	61%	*	*	85%	83%
MO	45%	81%	84%	86%	87%
TN	55%	86%	87%	86%	87%
TX	50%	86%	88%	88%	88%

Note: Oklahoma did not report graduation rates for 2010-11 and 2011-12

Arkansas' average graduation rate is consistently higher than the national average and has steadily increased over time. Compared to bordering states, Arkansas' 2013-14 graduation rate is among the highest, and Arkansas and Missouri reported the largest increase in graduation rate since the 2010-11 academic year.

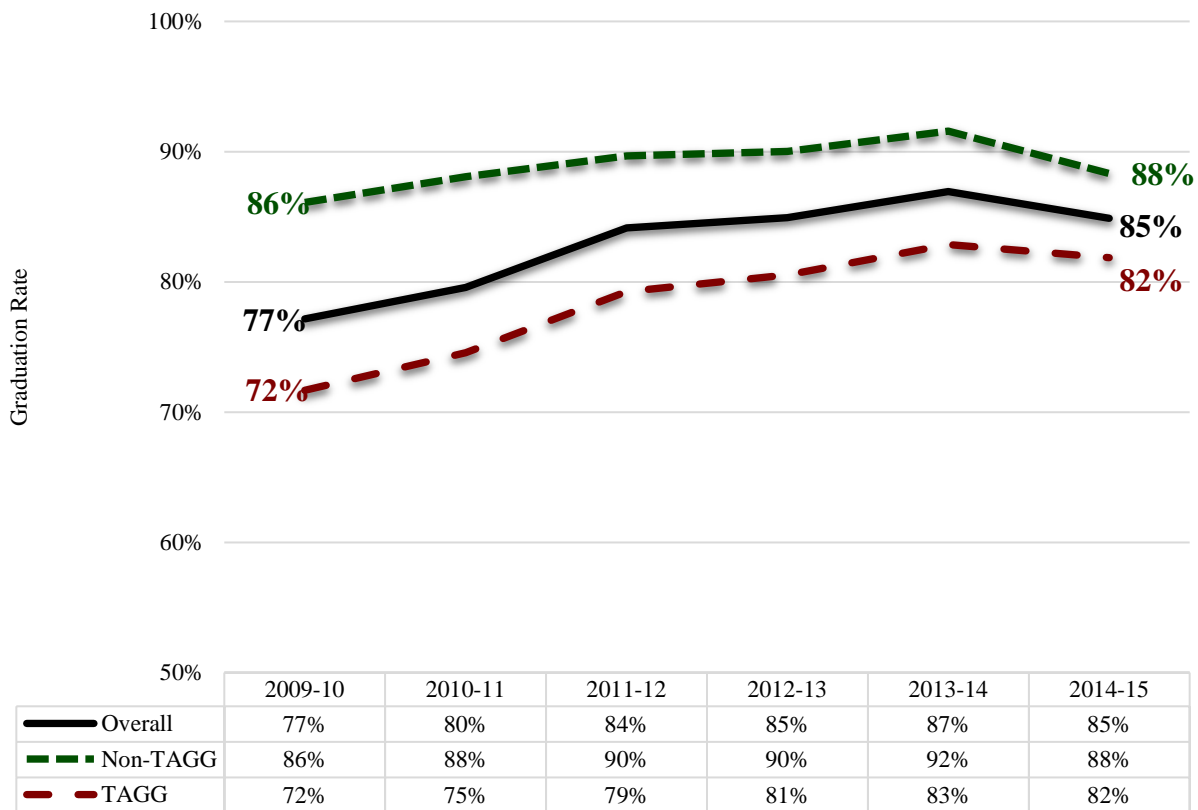
Although 61% of Arkansas students were eligible for Free or Reduced Lunch, the state's graduation rate of 87% matches that of Missouri where only 45% of students are considered economically disadvantaged. This is contrary to the expectation that states with a higher percentage of students considered economically disadvantaged will have lower academic outcomes, including graduation rate. Arkansas has shown the most improvement in graduation rates and is graduating students at rates similar to surrounding states with lower percentages of 'at-risk' students.

A closer examination of Arkansas' graduation rates over time can identify trends for 'at risk' students specifically, and provide insight into how the graduation rates of these students compare with that of their peers.

Graduation Rate 2009 to 2015

Figure 2 presents Arkansas' graduation rate from 2009 through 2015 overall and for TAGG and Non-TAGG students. The percentage of students that graduated from high school has steadily increased over the six-year period, slightly decreasing between in 2014-15 academic years. From 2009-10 to 2014-15, there was an eight-point increase (+8) in overall graduation rate (77%→85%). There has been a 10- point increase (+10) for TAGG students, the largest increase among the three categories (72%→82%). Though TAGG students have shown the largest increase over the years, however, they still graduate at a lower rate than their non-TAGG peers. Non-TAGG students have the highest graduation rate, and have shown a two-point increase (+2) over the six years (86%→92%). Both TAGG and non-TAGG groups are experiencing increased graduation rates, and over the past six years the graduation gap between TAGG and non-TAGG students has narrowed by eight percentage points.

Figure 2: High School Graduation Rate by Group, 2009-2015



The positive trend in graduation rates, and the narrowing of the graduation gap between TAGG and Non-TAGG students is good news for Arkansas students. With 15% of students not graduating, however, there are still opportunities for improvement. Examining how district- and school-level characteristics relate to high school graduation rate may identify areas where those improvements can be made.

Graduation Rate by District Size

Does district size relate to high school graduation rate? Our previous report examined the relationship of school size to graduation rate, finding that smaller schools had higher graduation rates than larger schools. The majority of districts in Arkansas have one high school, but these schools vary in the range of grades served. For example, consider Central High in Helena/West Helena, and Vilonia High in Vilonia. The schools are the same size, both enrolling about 730 students, but they schools are actually very different, as Central High serves students in 7th through 12th grade, while Vilonia High serves students in only 10th to 12th grades. When we examine district size, however, the difference is evident; at 1,600 students, Helena/West Helena school district is half the size of Vilonia’s 3,200 students. We wondered if district size, as opposed to school size, might reflect differences in graduation rate for students.

To examine the relationship between district size and high school graduation rates, school districts were grouped into size categories based on annual enrollment. School districts were identified as one of five categories:

District Category	District Enrollment Range
Very Small	500 or fewer students
Small	501-1,000 students
Medium	1,001-2,600 students
Large	2,601-6,000 students
Very Large	6,001 or more students

For each year of data, we categorized the districts based on that year’s enrollment, allowing a district to be identified in different categories across years. Table 2 shows the number of high schools, identified as schools with graduation rates, that were included in each of the district size categories in 2014-15, and what percentage of Arkansas’ 2015 graduates attended districts of different sizes. Although only 2014-15 data are reported in the table, the pattern is consistent across all years examined.

Table 2: Descriptive Information by District Category, 2014-15

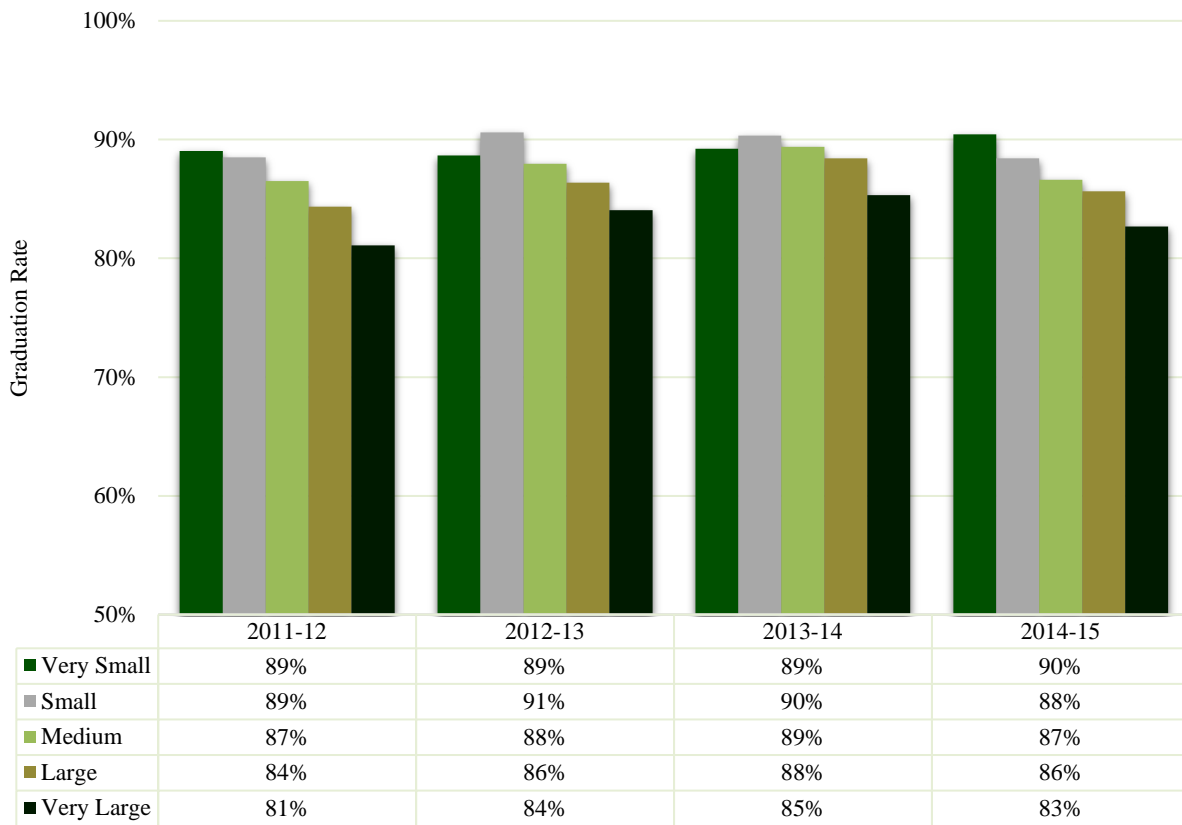
District Size	Number of Schools	% of Overall Graduates	% of TAGG Graduates	% of Non-TAGG Graduates
Very Small	37	4%	5%	3%
Small	91	15%	17%	12%
Medium	75	25%	27%	23%
Large	31	24%	22%	26%
Very Large	24	32%	29%	35%
<i>ALL</i>	258	100%	100%	100%

As can be seen in Table 2, the majority of Arkansas’ high schools (35%) are categorized as Small. These small schools, however, accounted for only 15% of the high school graduates in

2015. Conversely, only 9% of high schools in the state are identified as Very Large, but almost a third of high school graduates come from schools in these districts. Note that although only one year of data is presented, the pattern of representation is consistent across all years examined.

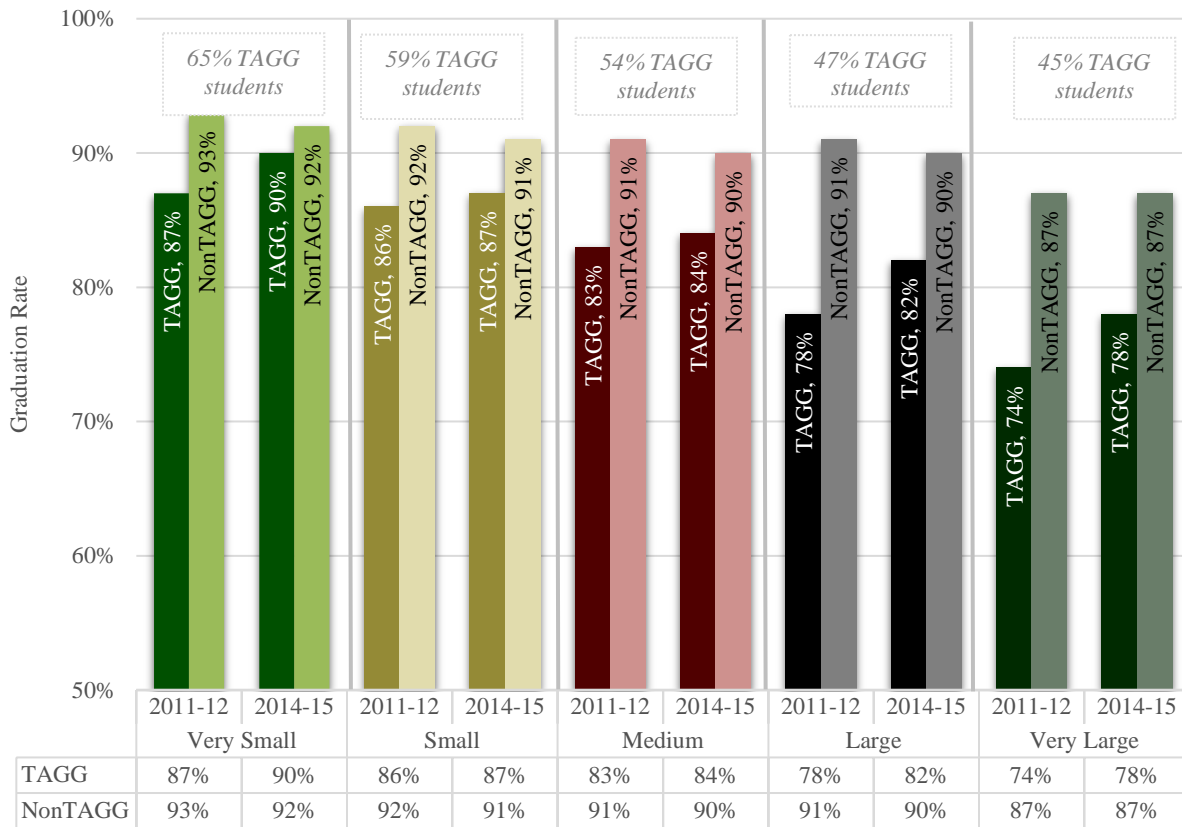
In general, smaller districts have a higher average overall high school graduation rate than the larger districts, though this trend varied slightly over the years. As illustrated in Figure 3, for the past four years, Very Large districts have had the lowest average graduation rate among all district categories. In 2014-15, the graduation gap between Very Large and Very Small districts was 7 percentage points.

Figure 3: Overall High School Graduation Rate by District Size, 2011-2015



Examining graduation rates by TAGG and Non-TAGG groups further illustrates differences in graduation rates by district size. Figure 4 presents the 2011-12 and 2014-15 graduation rates for the two groups by district size. The first and last years that were examined are presented, and these years are representative of trends in the intervening years. The percentage of students identified as TAGG varies by district size and is identified on the figure. At 65% TAGG, Very Small districts enroll a higher percentage of TAGG students in relation to Non-TAGG students than the other district groups, and Very Large districts enroll the smallest percentage of TAGG students at 45%

Figure 4: TAGG and Non-TAGG High School Graduation Rates by District Size, 2011-12 and 2014-15



Note: The percentages on the top of the chart indicate the percentage of students that are identified as TAGG in each of the district categories

As can be seen in Figure 4, Very Small districts are more likely to graduate both TAGG and Non-TAGG students than larger districts. Very Large districts are the least likely to graduate both TAGG and Non-TAGG students. In 2015, there was a five-point advantage for Non-TAGG students in Very Small districts compared to their peers in Very Large districts. The advantage was even greater for TAGG students, with Very Small districts graduating TAGG students at a rate 12-points higher than Very Large districts. In addition, Figure 4 demonstrates that as the district size gets larger, the gap between TAGG and Non-TAGG graduations rates increases, favoring Non-TAGG students. Very Large districts report a nine-point graduation gap in 2015, compared with a two-point gap in Very Small districts. This indicates that TAGG students are at a greater graduation disadvantage in larger districts than in smaller districts.

Graduation Rate by Cohort Size

How does a student’s cohort size relate to high school graduation rate? We have seen that district size relates to graduation rate, and another aspect of a student’s school experience can be the number of students in their grade-level or cohort. The cohort size represents the number of 9th grade students originally enrolled in their 9th grade year. In 2015, cohort size ranged from 11 students to over 1,000. Smaller cohorts may result in greater personal attention but more limited course offerings, while students in large cohorts may experience a wide range of opportunities but less personal attention. Perhaps more reflective of student experiences than the school size overall because of variation in grades served, cohort size can vary within district size. Cohorts can be smaller in large districts with more than one high school, or in communities where small districts have consolidated but the high schools remain separate.

To examine the relationship between student class or cohort size and graduation rates, school districts were grouped into one of five categories based on cohort size:

Cohort Category	Cohort Enrollment Range
Very Small	50 or fewer students
Small	51-100 students
Medium	101-150 students
Large	151-250 students
Very Large	251 or more students

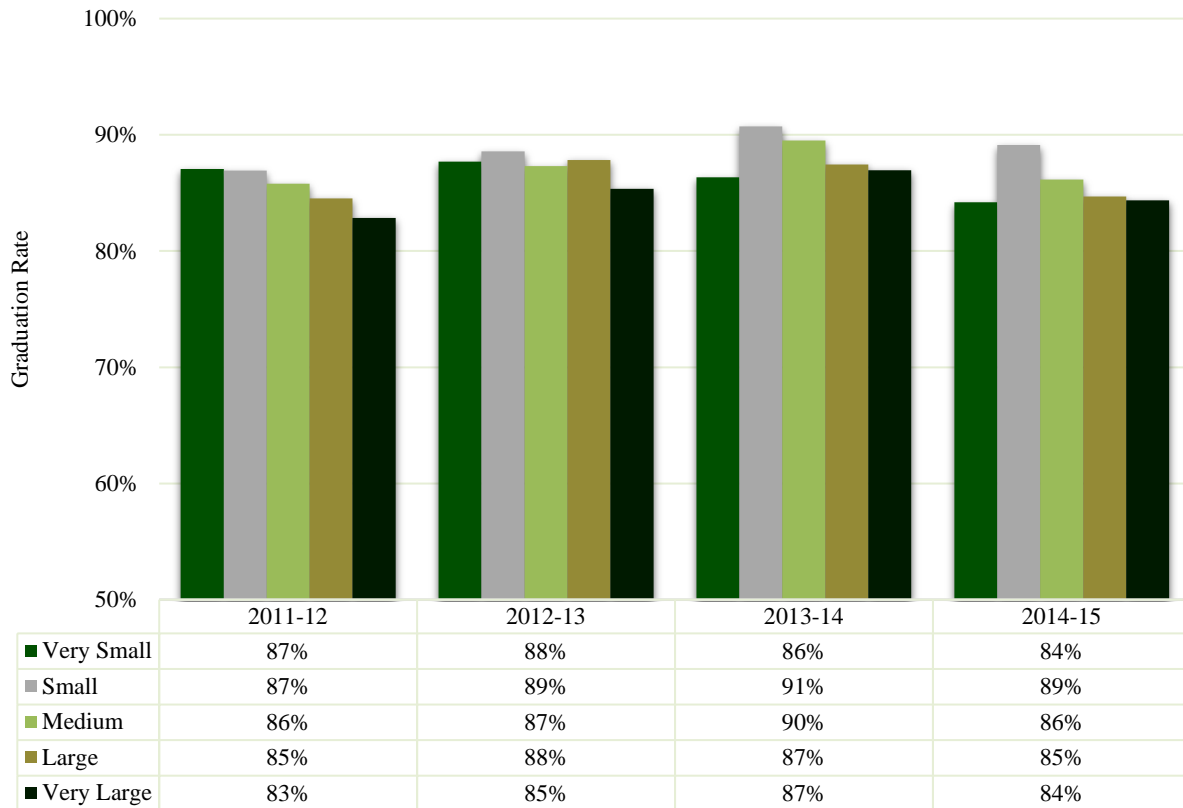
The categories were based on each year’s cohort enrollment, allowing a school to transfer in and out of categories over time. Table 3 shows the number of high schools that were included in each of the cohort categories in 2014-15, and what percentage of Arkansas’ 2015 graduates experienced cohorts of different sizes. Although only 2014-15 data are reported in the table, the pattern is consistent across all years examined.

Table 3: Descriptive Information by Cohort Category, 2014-15

Cohort Size	Number of Schools	% Overall Graduates	% TAGG Graduates	% Non-TAGG Graduates
Very Small	76	8%	9%	7%
Small	74	15%	18%	12%
Medium	39	13%	14%	12%
Large	30	16%	16%	16%
Very Large	39	48%	42%	54%
<i>All</i>	258	100%	100%	100%

As can be seen in Table 3, 29% of schools have cohorts that are considered Very Small yet they account for only 8% of the Overall high school graduates. Conversely, 15% of the cohorts are considered Very Large yet they account for 48% of the graduates. How these categories relate to high school graduation rate is illustrated in the following figures.

Figure 5: Overall High School Graduation Rate by Cohort Size, 2011-2015



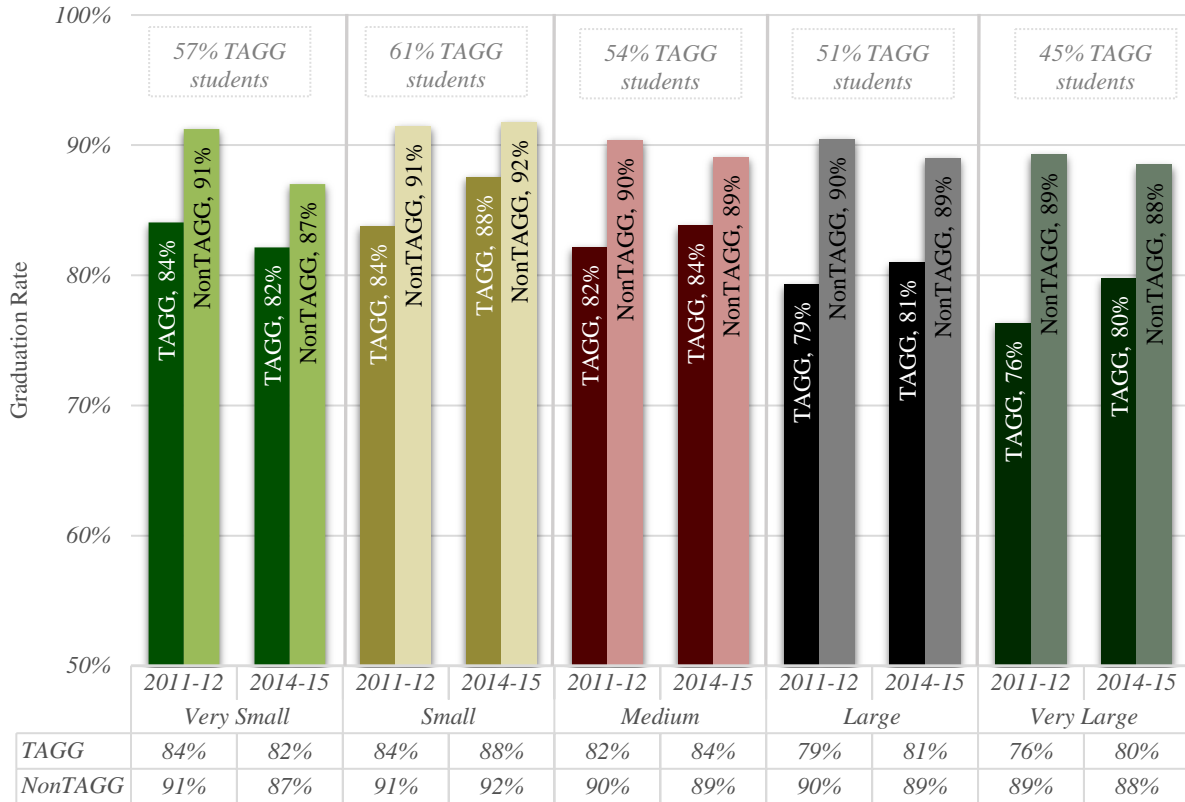
As shown in Figure 5, there is not a consistent pattern with respect to overall graduation rate by cohort size. Small cohorts appear to outperform other cohort sizes. In addition, the graduation rates for Very Small cohorts have decreased since 2012, and Very Large cohort graduation rates have remained lower than other groups.

Examining graduation rates by TAGG and Non-TAGG groups further illustrates differences in graduation rates by cohort size. Figure 6 illustrates the 2011-12 and 2014-15 graduation rates for the two groups by cohort size. The first and last years that were examined are presented, and these years are representative of trends in the intervening years. The percentage of students identified as TAGG varies slightly by cohort size and is identified on the figure. Very Large cohorts have the smallest percentage of TAGG students and are the least likely to graduate TAGG students. Small cohorts have the greatest percentage of TAGG students and are more likely to graduate both TAGG and Non-TAGG students than other cohorts.

Figure 6 demonstrates that the gap between TAGG and Non-TAGG graduates increases as the cohort size increased which is similar to that of the graduation rates by district size. This implies that TAGG students are at a greater graduation disadvantage in schools with larger cohorts than in schools with smaller cohorts.

Though there is an increase in the gap between TAGG and Non-TAGG groups as the cohort size increases, the average high school graduation rates in these groups do not show predictable trends in relation to cohort size.

Figure 6: TAGG and Non-TAGG High School Graduation Rates by Cohort Size, 2011-12 and 2014-15



Graduation Rate by Poverty Group

The impact of school poverty rates on graduation rate has been widely researched, and schools with higher percentages of disadvantaged students typically demonstrate lower graduation rates. OEP's previous study (*Graduation Rates in Arkansas, 2014*) reported a negative relationship between school poverty rates and overall graduation rates, but found no relationship between school poverty rates and TAGG graduation rates.

The poverty categories are consistent with those that were created in our previous graduation rate report. Each year the schools were categorized based on the percentage of students that were eligible for Free and Reduced Lunch. Again, depending on the percentage of students in a given year, it is possible for a school to move from one poverty category to another over the years. Schools were divided into one of four poverty categories:

Poverty Category	Percentage of Students Eligible for Free/ Reduced Lunch Range
Low Poverty	0% - 42%
Middle Poverty	43% - 52%
Upper Middle Poverty	53% - 65%
High Poverty	66% - 100%

Table 4 shows the number of high schools that were included in each of the poverty categories in 2014-15 and what percentage of Arkansas' 2015 graduates experienced each school poverty level. Although only 2014-15 data are reported in the table, the pattern is consistent across all years examined.

Table 4: Descriptive Information by Poverty Category, 2014-15

Poverty Category	Number of Schools	% Overall Graduates	% TAGG Graduates	% Non-TAGG Graduates
Low Poverty	33	27%	16%	38%
Middle Poverty	47	19%	17%	21%
Upper Middle Poverty	88	31%	32%	29%
High Poverty	90	23%	35%	11%
<i>All</i>	258	<i>100%</i>	<i>100%</i>	<i>100%</i>

We expected to find that the higher a school’s poverty rate becomes, the less likely students are expected to graduate. Arkansas’ data shows that while there is some variation within the middle poverty categories, there is a consistent relationship between school poverty rates and graduation rates for the lowest and highest poverty schools.

Figure 7: Overall Graduation Rate by Poverty Group, 2011-2015

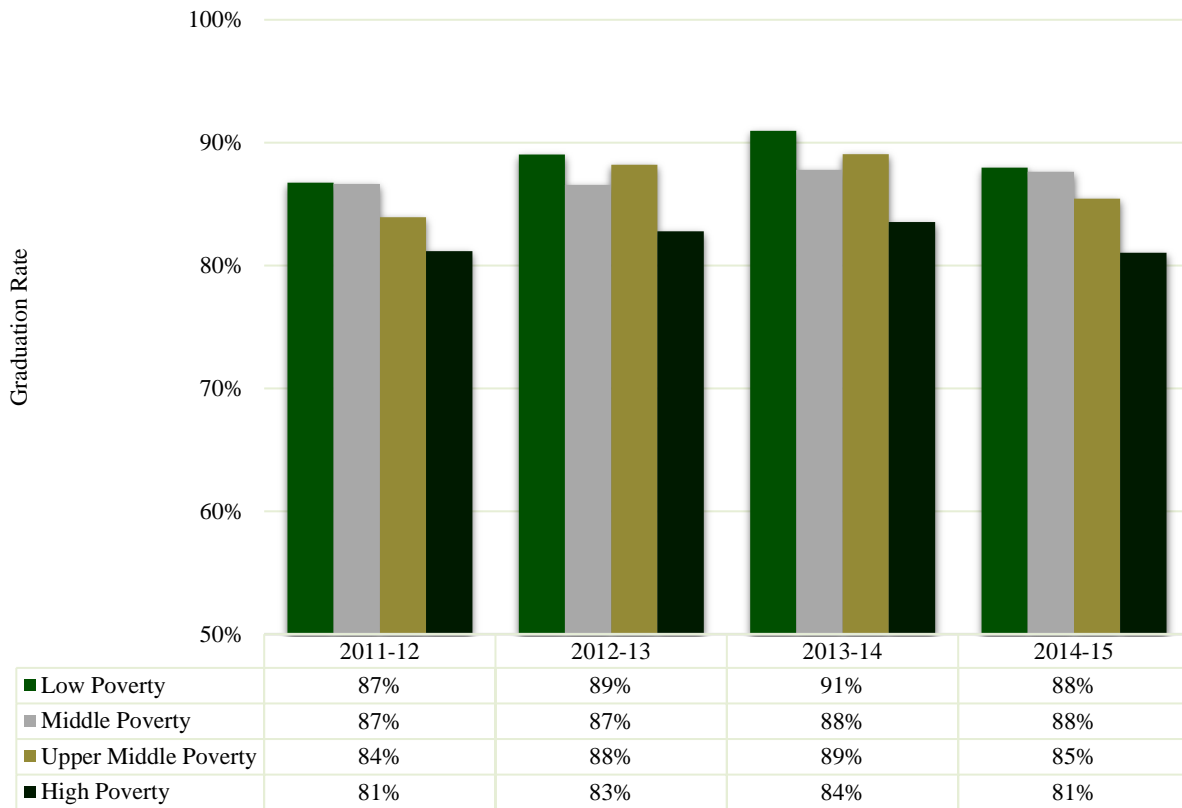
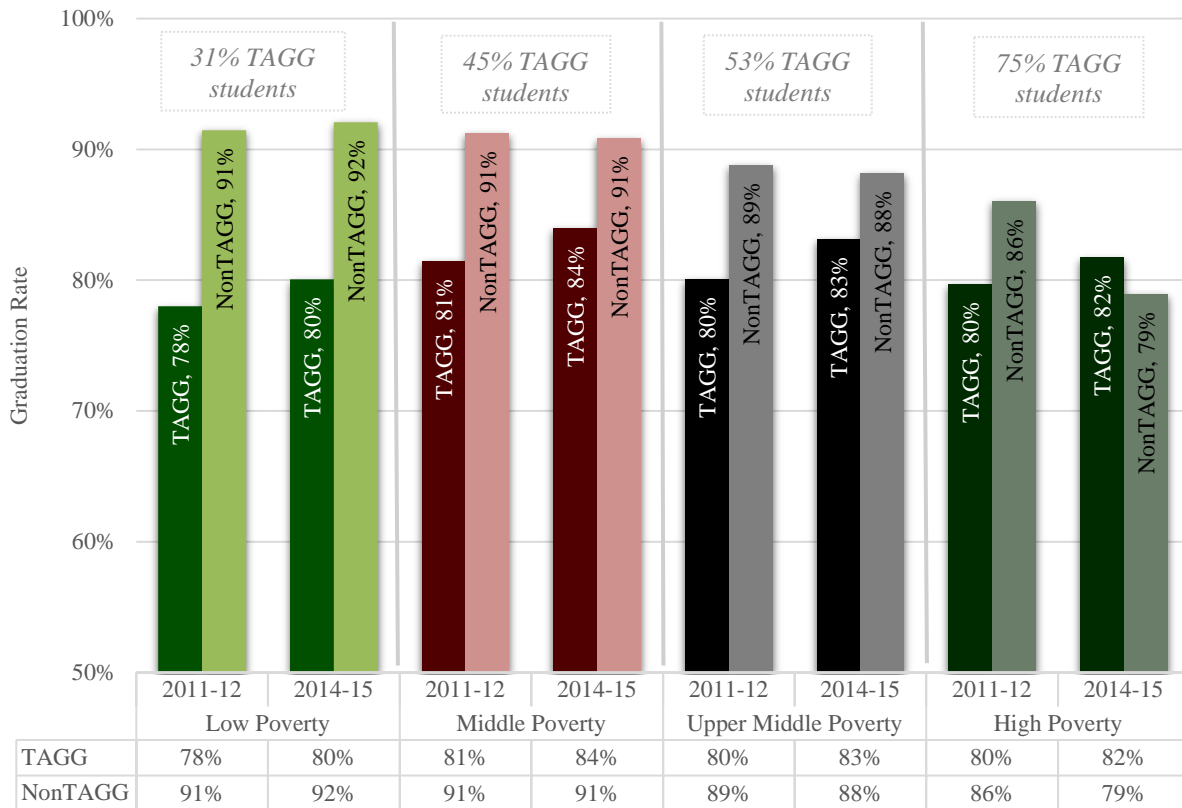


Figure 7 demonstrates that the High Poverty group indeed has the lowest overall graduation rate in comparison to the other poverty groups, and the graduation rate of the Low Poverty schools is consistently among the highest. There does not appear to be a clear relationship, however, between the graduation rate and the poverty rate of the Middle and Upper Middle poverty groups. This finding is particularly interesting as poverty is often considered one of the main predictors of graduation rate outcomes.

Examining graduation rates by TAGG and Non-TAGG groups can further illustrate differences in graduation rates by poverty. Figure 8 illustrates the 2011-12 and 2014-15 graduation rates for the two groups by poverty category. As expected, the percentage of students identified as TAGG varies significantly by poverty category and is identified on the figure. High Poverty schools have the largest percentage of TAGG students (75%) while Low Poverty schools have the lowest percentage of TAGG students at only 31% of students.

Figure 8: TAGG and Non-TAGG High School Graduation Rates by Poverty Group, 2011-12 and 2014-15



As can be seen in Figure 8, the higher poverty rate of the school, the lower the Non-TAGG high school graduation rate. Conversely, TAGG students have a higher chance at graduating in higher poverty schools than lower poverty schools. To interpret this data another way, schools catering mainly to Non-TAGG students have a higher Non-TAGG graduation rate whereas school catering mainly to “at-risk” students demonstrate higher TAGG graduation rates.

The graduation gap between the TAGG and Non-TAGG students varied by poverty level; in 2015 there was a 12-point gap in the Low Poverty schools while in the High Poverty schools TAGG students graduated at a higher rate than their Non-TAGG peers. While the lack of a graduation gap may seem positive, it should be noted that this is due to High Poverty schools’ relatively low graduation rates of Non-TAGG students, not to relatively high graduation rates of TAGG students.

Graduation Rate by Location Group

Arkansas can be split into four location categories: Rural, Town, Suburb and City. To give some concrete examples, here are the names of some schools that fall within each location group: Mena High School, is located in a Rural area, Siloam Springs High school is located in a Town, Farmington High School is located in a Town, Fayetteville High School is located in a City. The definitions of these categories are based on population and distance from urbanized areas. Further definitions of each category can be seen in *Appendix A*.

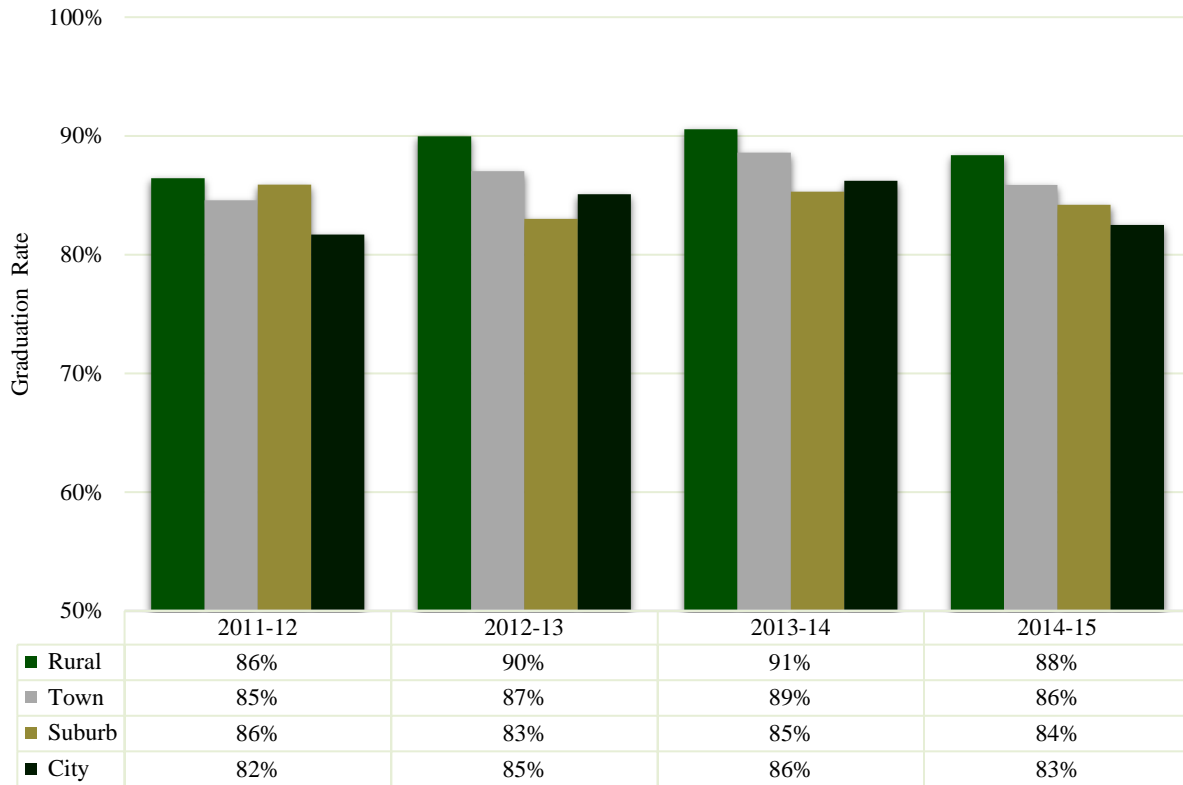
In the previous report done by the OEP, rural areas were found to have a higher average high school graduation rate than other locations. With newly added data, this report aims to see if the results are consistent with those findings.

Table 5 shows how many schools make up each location for the most recent year available, 2013-14. Any change in the number of schools that make up each category can be accounted to school consolidations, schools closing or new schools being created. Though the latest location data available is for the 2013-14, the data was rolled over to the 2014-15 academic year as current data were not available and location information rarely changes within a year.

Table 5: Descriptive Information by Location Category, 2013-14.

Location Group	Number of Schools	% Overall Graduates	%TAGG Graduates	% Non-TAGG Graduates
Rural	162	32%	35%	29%
Town	57	26%	27%	26%
Suburb	17	14%	10%	17%
City	23	28%	28%	28%
<i>All</i>	<i>259</i>	<i>100%</i>	<i>100%</i>	<i>100%</i>

Figure 9: Overall High School Graduation Rate by Location Group, 2011-2015



As illustrated by Figure 9, the more urban the school location, the lower the overall graduation rate. There is approximately a 5% gap between rural schools and schools located in cities, favoring the rural schools. This is consistent with our previous finding that states that smaller schools and smaller districts have higher graduation rates. In examining the school level graduation rate data given by the [Arkansas Department of Education \(ADE\)](#), 72% of districts that are considered rural are either small or very small, 83% of schools in the rural area have small or very small cohorts. These smaller school and district categories have already been shown to have higher overall graduation rates. The rural area is made primarily of these schools and districts so it makes sense that it will have the highest overall graduation rate in relation to the other location groups.

Figure 10: TAGG and Non-TAGG High School Graduation Rate by Location, 2011-12 and 2014-15

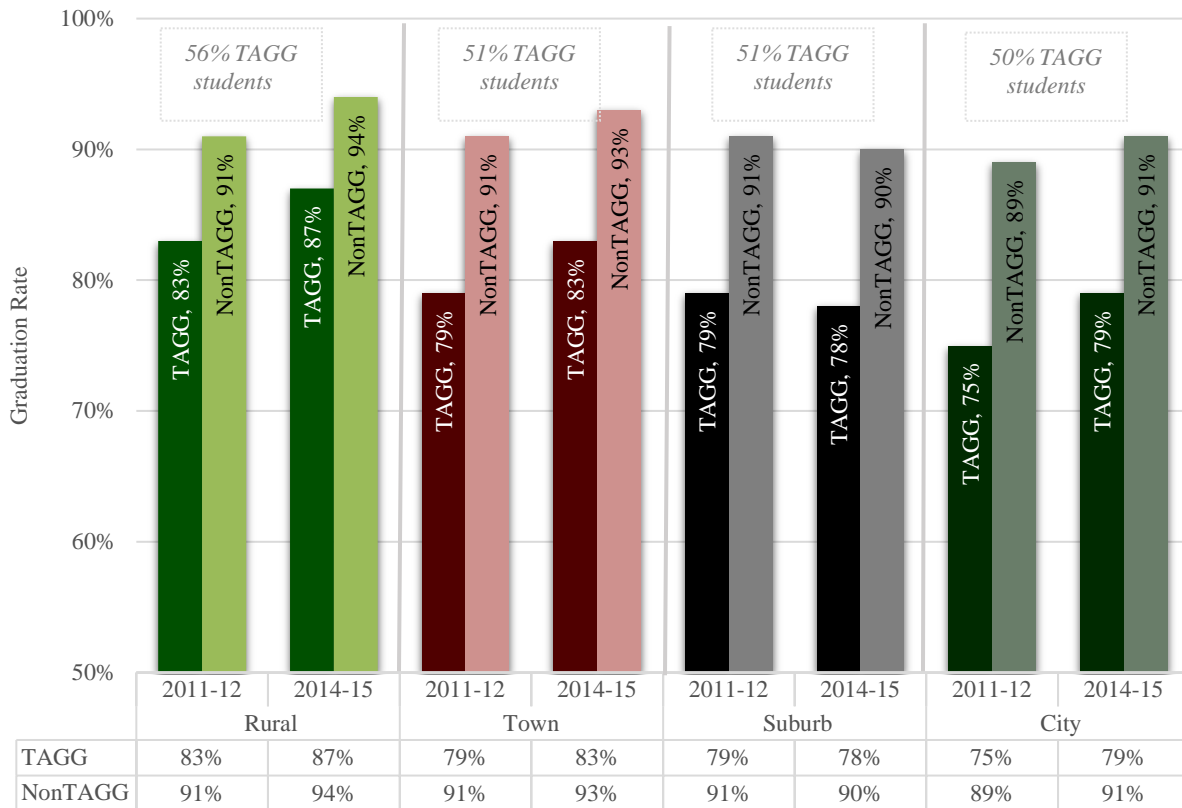


Figure 10 displays the graduation rates of TAGG and Non-TAGG students by location. All locations have similar percentages of students identified as TAGG, yet rural high schools report the highest graduation rates for TAGG students. Non-TAGG students graduate at rates of 90% or greater from all locations, although rural schools reported the highest Non-TAGG graduation rate in 2015 at 94%.

The graduation gap between the TAGG and Non-TAGG students varied by location; in 2015 there was a 12-point gap in the Suburban and City schools while in Rural schools the gap was only seven points.

C. Conclusion

Arkansas' high school graduation rate data from 2010 through 2015 reflect an increasing percentage of Arkansas high school students graduating. Arkansas' graduation rate is above the national average and higher than many bordering states. Graduation rates have increased overall, and for students at the greatest risk of dropping out. The gap in graduation rates has narrowed between 'at risk' students and their peers.

This report finds that Arkansas high school graduation rate is related to various district- and school-level factors. In addition to poverty rates, district size, cohort size and location seem related to the graduation rates of the last four years.

The graduation rate for 'at risk' students, identified in Arkansas as Targeted achievement Gap Group or 'TAGG' students, has shown the largest increase over the years and is the main contributor to the increase in Overall graduation rates in Arkansas. Conditions that affect TAGG graduation rate will impact Arkansas' Overall Graduation rate.

This descriptive report highlighted several district- and school-level factors that seem to relate to higher high school graduations rates for TAGG students. Very Small districts (500 students or fewer) have higher TAGG graduation rates, as do high poverty and rural schools.

These district- and school-level characteristics do not represent aspects that are under the school's control. No school can change the district size, cohort size, poverty rate or location. Although these categories are used for the analyses, the resulting findings can lead to changes within the school that can support the students. For example, an interesting finding was that TAGG and Non-TAGG students are more likely to graduate from high schools where they are a majority. This finding should spur school leaders to analyze their own data and consider what more they can do to support graduation for those students in the minority at their schools.

Although examined individually in this report, these district- and school-level characteristics are interrelated. For example, 63% of Arkansas high schools are located in Rural areas, 72% of the Rural schools are either in the Upper Middle or High Poverty categories and 83% of these rural and higher poverty schools are Very Small or Small districts. All three of these characteristics are positively related to graduation rate, but which factor is impacting graduation rate?

In a subsequent paper multivariate analyses will be conducted on a student level, allowing for a more in-depth look into the variations that positively or negatively impact graduation rate. We will also examine the relationships between graduation rate and other important academic outcomes such as student performance on the ACT and college remediation rates.

APPENDIX

A. Definitions

TAGG: TAGG refers to the “Targeted Achievement Gap Group.” TAGG identifies “at-risk” students and consists of students that have been classified as Special Education, FRL-eligible, and/or LEP. If a student meets one or more of these criteria, they are only included once in the group.

FRL: Free or Reduced Lunch Eligibility is based on household size and income thresholds determined by the U.S. Department of Education. For the 2014-15 academic year, an Arkansas student in a four-member household was eligible for reduced lunch if the annual household income did not exceed \$44, 123 and was eligible for free lunch if the annual income did not exceed \$23,850.²

LEP: LEP refers to “Limited English Proficient” students. At the time of a student’s enrollment, the Home Language Survey is administered. Students that are classified as English Learners (EL) or LEP are those who do not score at the fully proficient level.³

Special Education: A student that is classified as “Special Education” is a student that receives special education for a disability. The ADE defines a student with a disability as “a child evaluated in accordance with 34 CFR 300. 304 - 300. 311 and §6.00 of these regulations as having mental retardation, a hearing impairment (including deafness), a speech or language impairment, a visual impairment (including blindness), serious emotional disturbance (referred to in this part as “emotional disturbance”), an orthopedic impairment, autism, traumatic brain injury, and other health impairment, a specific learning disability, deaf-blindness, or multiple disabilities.”⁴

Minority: Although the initial portion of this report presents the statewide graduation rates for certain racial subgroups, one of our research questions involves school graduation rates and the overall minority composition of the school. The term minority includes all non-white races. For this report, the overall minority percentage of a school includes Hispanic, African American, Native American, Asian, and Hawaiian/Pacific Islander students.

*Rural*⁵: An area is categorized as rural if it is between 5 to 25 miles away from an urbanized area and 2.5 to 10 miles away from an urban cluster.

Town: Territory inside an urban cluster is 10-25 miles away from an urbanized area.

² Tribiano, J. J. (2014). Child Nutrition Programs—Income Eligibility Guidelines. *Federal Register*, 79(43). Retrieved from : <http://www.fns.usda.gov/sites/default/files/2014-04788.pdf>

³ U.S. Department of Education. (2013). Arkansas ESEA Flexibility Accountability Addendum. Retrieved from http://www.arkansased.org/public/userfiles/ESEA/ESEA_Flexibility_Accountability_Addendum.pdf

⁴ Arkansas Department of Education. (2008). Special Education and Related Services Definitions. Retrieved from https://arksped.k12.ar.us/rules_regs_08/1.%20SPED%20PROCEDURAL%20REQUIREMENTS%20AND%20PR OGRAM%20STANDARDS/2.00%20DEFINITIONS%20w%20authority.pdf

⁵ source: https://nces.ed.gov/ccd/rural_locales.asp

Suburb: Territory outside a principal city and inside an urbanized area with a population no more than 250,000.

City: Territory inside an urbanized area and inside a principal city with a population.

Graduation Rate: Graduation rate refers to the four-year adjusted cohort graduation rate, which tracks student cohort groups from the beginning of 9th grade and follows their progress through 12th grade. The initial cohort size is calculated at the beginning of 9th grade and is adjusted for students that transfer-in, transfer out, or pass away that year and the following three years. Extended-year graduates (students who repeat a grade) are included in their original cohort group, and students who obtain a GED instead of a high school diploma are not included.