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Missouri Students' Postsecondary Access

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Summary

In this report, we use publicly available data to describe patterns in college-intending behaviors and postsecondary access for Missouri high school students compared to national trends. We also examine trends within Missouri by looking at high schools serving unique student bodies, by locality, and by region. Finally, we examine results for the class of 2019, the most recent class to have successfully completed high school prior to COVID-19-induced disruptions. We find that college access, as measured by immediate college enrollment, is declining in Missouri. This decline is not evident at the national level. Simultaneously, we find a drop in key college-intending behaviors, including ACT participation and FAFSA completion rates.



Key Findings

- Missouri's 4-year high school cohort graduation rate started high in 2011 and has slightly increased; nearly all students graduate high school.
- ACT participation is sensitive to state policy implementation.
- FAFSA completion in Missouri has failed to keep pace with college enrollment and national FAFSA completion rates.
- For Missouri, immediate college enrollment in any postsecondary institution upon high school completion declined between 2011 and 2019.
- A considerable share of Missouri high school graduates who immediately enroll in college do so at out-of-state institutions.

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I. Introduction

This Policy Research in Missouri Education (PRiME) publication is the first in a series exploring postsecondary access and success of Missouri students and follows in the spirit of PRiME's last report series that featured three publications on [student growth in Missouri](#). In an effort to think about the best available metrics representing the actual performance of schools, these reports highlighted student academic growth rather than the proficiency rates on assessments which are typically discussed. In our view, student growth represents a more authentic measure of school performance; however, student growth scores are only available for students in grades K-8 and are not available to assess high school performance.

Indeed, the goals that high school educators pursue in preparing their students are not the same as their peers in elementary schools. As outlined in [Missouri's Consolidated State Plan](#), the Missouri Department of Elementary and Secondary Education (DESE)'s "priority goal is for all Missouri students to graduate college and career ready" (DESE, 2019, p.6). Thus, **the PRiME Center asserts that policymakers, educators, parents, and students need to know and understand the progress students and schools are making in postsecondary access and success.**

In this first Missouri Students' Postsecondary Access Report, we at the Saint Louis University (SLU) PRiME Center use publicly available data from multiple sources including the DESE, the Missouri Department of Higher Education and Workforce Development (DHEWD), National Center for Education Statistics (NCES), National Student Clearinghouse (NSC), and the U.S. Education Department's Office of Federal Student Aid to provide a fuller picture of trends in postsecondary access in the state. For a complete description of the data and from where each variable is drawn, see Appendix A.

The objectives of this report are to:

- a) **Examine and describe patterns in postsecondary intending behaviors among Missouri high schools as measured by ACT test participation and performance and FAFSA completion rates, compared to national patterns and trends, as well as across Missouri.**
- b) **Describe the immediate college enrollment rates at any postsecondary institution for Missouri public high school graduates compared to national patterns and trends, as well as across Missouri.**

To accomplish these objectives, we highlight historical trends in college-intending behaviors (ACT participation and FAFSA completion) and immediate college enrollment¹ (within 180 days) for the graduating classes of 2011–2019, presenting national comparison data for context. We then home in on the class of 2019 to explore the within-state patterns of college access by region and school characteristics (locale, school racial composition, and school income levels).

As with any report that uses publicly available data, there are limitations that are important to consider when exploring the data. This report is purely descriptive in nature and serves to provide an overview of *what* is happening in the state but is not designed to answer *why* or *how* questions. It is also our aim to repackage the data that schools are sharing with state and national agencies in a way that is more accessible to school leaders, policymakers, and community members. For example, we compile and illustrate findings from multiple data sources to visually demonstrate variation in outcomes across regions and school types. By including national comparison metrics, we contextualize the performance of Missouri students against the broader context. These benchmark data allow Missouri education leaders to begin to understand the preparation of their students for postsecondary access and, ultimately, success.

As students prepare to transition from high school to college, they encounter multiple milestones signaling their intention to pursue postsecondary education and their preparation for college access and success. The National

¹ This report excludes technical education and other postsecondary enrollment because although this information is reported to DESE, the sample sizes are typically too low to be included in the publicly available data file.

College Attainment Network (NCAN, 2021) outlines [five key indicators of access outcomes](#) (i.e., if students will enroll in postsecondary education):

- a) academic indicators (percent of students completing curriculum requirements and average high school GPA);
- b) testing indicators (percent of students taking the SAT or ACT);
- c) admissions indicators (percent of students completing college applications);
- d) financial aid indicators (percent of students who submit a FAFSA form and percent of students awarded aid); and
- e) core demographic data (first-generation college-going, free or reduced-price lunch status, race, English as a second language status, and gender).

In this report, the publicly available data available allow us to investigate indicators a, b, d, and e as we seek to understand Missouri college access: a) academic indicators (using graduation rates as a proxy for the percent of students completing curriculum requirements); b) testing indicators (ACT participation and performance); d) financial aid indicators (FAFSA completion); and e) core demographic data (region, school locale, school racial composition, and school income level). Unfortunately, we do not have access to data that would allow us to investigate admissions indicators.

To organize our findings, we report financial aid and testing indicators in **Section I**: “college-intending behaviors” to paint a picture of the milestones high school students reach as they signal their intent to enroll in college. Academic indicators are also briefly covered in this section, but we do not explore graduation rates in detail due to the history of high graduation rates in Missouri. In **Section II**, we report immediate college enrollment (in-state and out-of-state) as our outcome metric. In other words, immediate college enrollment is used to measure if high school graduates access college within 180-days after graduation. Immediate enrollment after high school is a critical indicator because graduates are less likely to enroll in college after delaying enrollment (Lin & Liu, 2019).

While the SAT recently reclaimed its position as the most popular college entrance exam (Anderson, 2018), the ACT test is the indicator of college readiness taken by most aspiring college students in Missouri. While there is mixed evidence regarding the predictability of ACT scores on college success (Allensworth & Clark, 2020), entrance exams are still one of the key eligibility requirements for college admissions, thus serving as one of the initial hurdles college-intending students must clear.

Another key obstacle to college access is financial affordability, especially for low-income high school graduates. Financial aid eligibility, including the Pell Grant, requires completing the Free Application for Federal Student Aid (FAFSA), but FAFSA completion rates remain low. When students do not complete the FAFSA, they leave funding on the table that would support their ability to transition successfully to and through college. In fact, in Missouri, the class of 2021 is estimated to have left over \$71M Pell Grant dollars on the table (NCAN, 2022). While FAFSA completers are more likely to enroll in college, students from low-income school districts are less likely to file a FAFSA (Porter, 2018). Focusing on increasing FAFSA completion has been identified as a way to increase college access for low-income students.

Not surprisingly, college access has historically varied by levels of student advantage. While the share of low-income students and Students of Color have been increasing in college enrollment rates (Fry & Cilluffo, 2019), low-income students, Students of Color, and rural students are still less likely to attain college degrees than their counterparts (Campbell, 2019). Therefore, in this report, we investigate access by the region and locale (urban, rural, town, suburb) in which high schools are located, as well as the racial composition and income level of the student body served.

II. College-Intending Behaviors

This section answers two questions regarding college-intending behaviors (ACT participation and performance and FAFSA completion rates) of students graduating from Missouri public high schools:

- 1) **What does ACT testing and FAFSA completion in Missouri look like over time and compared to national trends?**
- 2) **What does ACT testing within Missouri look like for the class of 2019, by region and school locale, student body racial composition, and student income?**

A. Missouri College-Intending Trends are Inconsistent with National Trends and Sensitive to State Policy

To answer the first question, college-intending behaviors have steadily become more popular both nationally and in Missouri over the last decade (Table 1). Yet, compared to national averages, Missouri has historically performed comparatively well on ACT testing but less well on FAFSA completion.

Table 1: ACT Participation and Performance in Missouri and Nationally, 2012 - 2019

Class of...	ACT Participation Rate ^a		ACT Composite Score ^a	
	Missouri	National	Missouri	National
2012	75%	52%	21.6	21.1
2013	74%	54%	21.6	20.9
2014	76%	57%	21.8	21.0
2015	77%	59%	21.7	21.0
2016	100%	64%	20.2	20.8
2017	100%	60%	20.4	21.0
2018	100%	55%	20.0	20.8
2019	82%	52%	20.8	20.7

^a In order to make the most valid comparisons between Missouri and national trends, we use data on the graduating class as provided by the ACT. Data available at <https://www.act.org/content/act/en/research/services-and-resources/data-and-visualization/grad-class-database-2021.html#data-vis>

Missouri has historically had high ACT participation compared to national trends. The largest difference occurred for the class of 2018, during which 100% of Missouri high school graduates participated in the ACT compared to only 55% nationally. It is important to note that Missouri covered the cost for all 11th grade students during this period, which we describe in greater detail below. Meanwhile, ACT performance is also historically higher than, or similar to, the national average. Missouri high school students had higher ACT composite scores than national averages from 2012 to 2015. From 2016 to 2018, when ACT participation increased drastically in Missouri, the Missouri ACT composite score dropped to slightly below, but still similar to, national averages.

For the class of 2019, Missouri ACT performance returned to more or less the same as the national average.

While ACT participation (and performance) can signal interest in postsecondary enrollment, not all students who participate in a college entrance exam do enroll in college. Another measure of college intent is completion of the FAFSA, which students must complete to qualify for financial aid to help defray the costs of postsecondary education (Federal Student Aid, 2022). Missouri's reported FAFSA rates lag far behind the national average for the classes of 2015–2018.² Of those Missouri graduates enrolling in postsecondary education, fewer than half complete a FAFSA. Conversely, roughly 60% of students nationwide completed the FAFSA.

² We do not report the FAFSA completion rates for the class of 2019 due to unresolved questions regarding the available data. We observe a substantial decline in the completion rates through either data suppression or students failing to self-report their high school on the FAFSA form. The latter is DHEWD's main form of tracking FAFSA completions.

Table 2 illustrates a difference between intent (i.e., completing the FAFSA) and action (i.e., immediate college enrollment). Interestingly, while FAFSA completion rates have gradually been increasing nationally in the period shown, Missouri's FAFSA completion rate has remained relatively stagnant. Yet, we find that Missouri's immediate college enrollment has stayed on par with national trends, as just over 6 in 10 recent high school graduates have opted to enroll in postsecondary education in the subsequent fall. This is especially important, as it shows that a nontrivial portion of Missouri students enrolling in postsecondary are doing so without full financial support, a trend that is much less obvious at the national level. For more detail on college-intending behaviors, refer to Tables B1-B4 in Appendix B.

Now that we see how Missouri compares to national trends, we investigate in further detail how college-intending behaviors in Missouri have changed over time. To do so, we report nine-year trends in statewide college-intending behaviors for Missouri's high school graduating classes of 2011–2019. In doing so, we use data provided by the Missouri Departments of Elementary and Secondary Education (DESE) and Higher Education and Workforce Development (DHEWD).

Table 2: FAFSA Completion and Immediate College Enrollment Trends in Missouri and Nationally, 2015-2018

Class of...	FAFSA Completion Rate		Immediate College Enrollment Rate	
	Missouri ^a	National ^b	Missouri ^c	National ^d
2015	46%	57%	65%	65%
2016	45%	56%	65%	64%
2017	49%	61%	65%	65%
2018	47%	61%	64%	65%
2019	*	*	62%	64%

^a Missouri's FAFSA completion data is provided by the Missouri Department of Higher Education and Workforce Development's FAFSA Completion Project database. Data for the class of 2019 is suppressed. Retrieved from <https://dhewd.mo.gov/fafsa-completion/>

^b National FAFSA completion data include all 18 year olds who reported filing a FAFSA by June 30 of their graduating year and is unavailable at the state level from Federal Student Aid (2022) and reported by NCAN (2022). Retrieved from: <https://www.ncan.org/page/NationalFAFSACompletionRatesforHighSchoolSeniorsandGraduat>

^c Immediate College enrollment rates for Missouri are reported in the 180-day Follow-up Report for the graduating class of interest

^d National immediate college enrollment rates are reported by the National Student Clearinghouse Benchmarks Reports (2022)

The statewide ACT participation rate has increased from 2011 to 2019 and has been sensitive to state policy changes. As shown in Figure 1, the ACT participation rate increased to 92% for the classes of 2016, 2017, and 2018 when Missouri paid for all 11th graders to participate in the ACT (Taketa, 2017). This approach to increase access to postsecondary education has become increasingly popular, as 15 states reported 100% participation in the ACT, with two more states reporting over 90% participation for the class of 2019 (ACT, 2019). As a result, ACT participation rates for these classes are reported as 100% nationally, while DESE reports slightly lower participation rates for Missouri students. After the state ended funding, the statewide ACT participation rate decreased to 77%. While this rate is still higher than pre-policy trends, it likely signals that some students lost access to the ACT as a result of funding being discontinued.

Figure 1: ACT Participation Rates for the Classes of 2011–2019 have been Susceptible to Policy Change

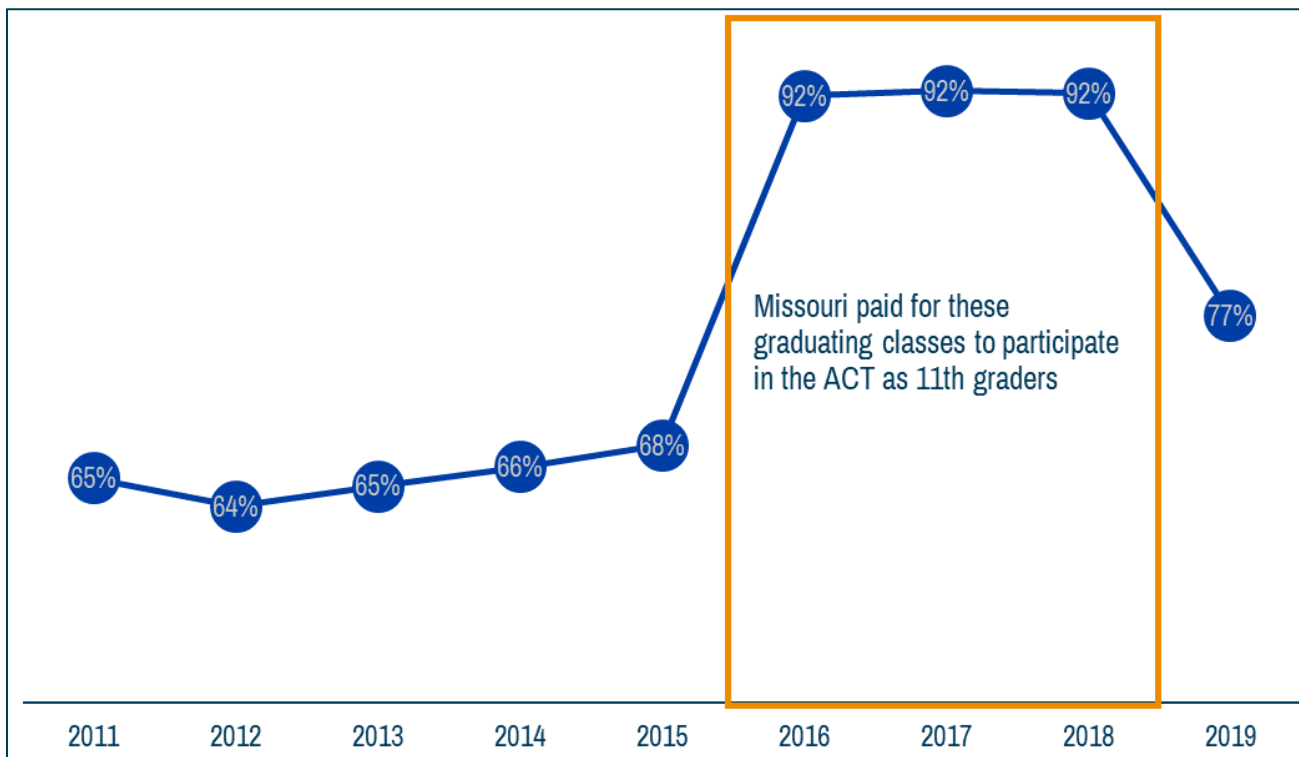
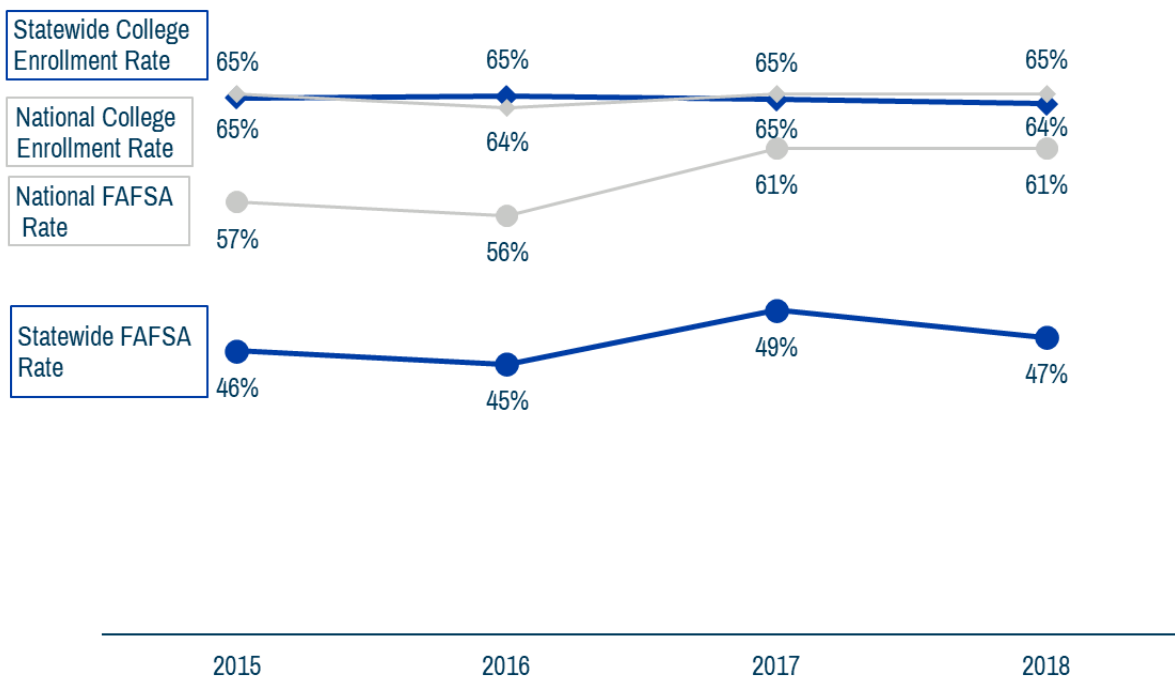


Figure 2 shows FAFSA completion rates for the Missouri high school graduating classes of 2015 through 2018. The highest completion rate during this time occurred in 2017 (49%). While immediate college enrollment rates have held steady, we find that FAFSA completion rates have failed to keep pace with immediate college enrollment rates. This is especially important given that the FAFSA is used to determine student financial aid eligibility. As a substantial portion of Missouri students enroll immediately in postsecondary education, only a fraction of those who do so are applying for financial aid.

Figure 2: FAFSA Completion Rates for the Classes of 2015 – 2019 Lag Behind Immediate College Enrollment Rates



As shown, Missouri students' college-intending behaviors are not necessarily uniform and can be impacted by policy. Missouri has historically had a higher ACT participation rate than national averages. Missouri's ACT participation rate exceeded national trends, even in the period when the state was providing opportunities for all students to complete the test, regardless of their interest in college enrollment. Once the policy expired, Missouri's ACT participation rate declined but remained above pre-policy levels. Unlike the state's ACT participation rates, FAFSA completion rates have remained below national trends. In fact, according to data from DHEWD, fewer than half of the state's high school seniors complete the FAFSA. As we show below, college-intending behaviors for Missouri's class of 2019 is not uniform statewide or by different school characteristics.

B. College-Intending Behaviors (Missouri class of 2019) Vary by Region, Locale, and School Characteristics

To answer the second question for **Section II**, we highlight the most recent pre-pandemic cohort of Missouri high school graduates (the class of 2019) to examine trends across the state in college-intending behaviors by disaggregating findings by region and school characteristics (school locale, racial composition, and income level).

As shown in Tables B1 through B4 in Appendix B, the class of 2019 was served by 503 high schools across nine regions. Overall, 273,143 students were enrolled in Missouri high schools. The St. Louis Region served the largest number of high school students (77,048) while the Northeastern Region served the smallest number of high school students (9,791). While 55% of the high schools in the state are located in rural areas ($n = 278$), suburban high schools ($n = 75$) have the highest student enrollment (101,569, or 37% of high school students enrolled in the state). The statewide high school graduation rate is 92%, remaining fairly consistent across regions with a range of 92%–94%. However, graduation rates do vary by locale (e.g., 87% in city schools) and school characteristics (e.g., 82% in schools that serve a student body that is more than 90% Students of Color and 84% in high poverty schools).

Seventy-seven percent of the class of 2019 participated in the ACT statewide (Figure 3). The St. Louis Region had the highest ACT participation rate (85%), while the Ozarks Region had the lowest ACT participation rate (67%). ACT participation also varies by the locale of schools (Figure 4): schools located in towns had the lowest ACT participation rate of 67%, while suburban schools had the highest participation rate of 84%.

Figure 3: ACT Participation (Class of 2019) Varies by Region

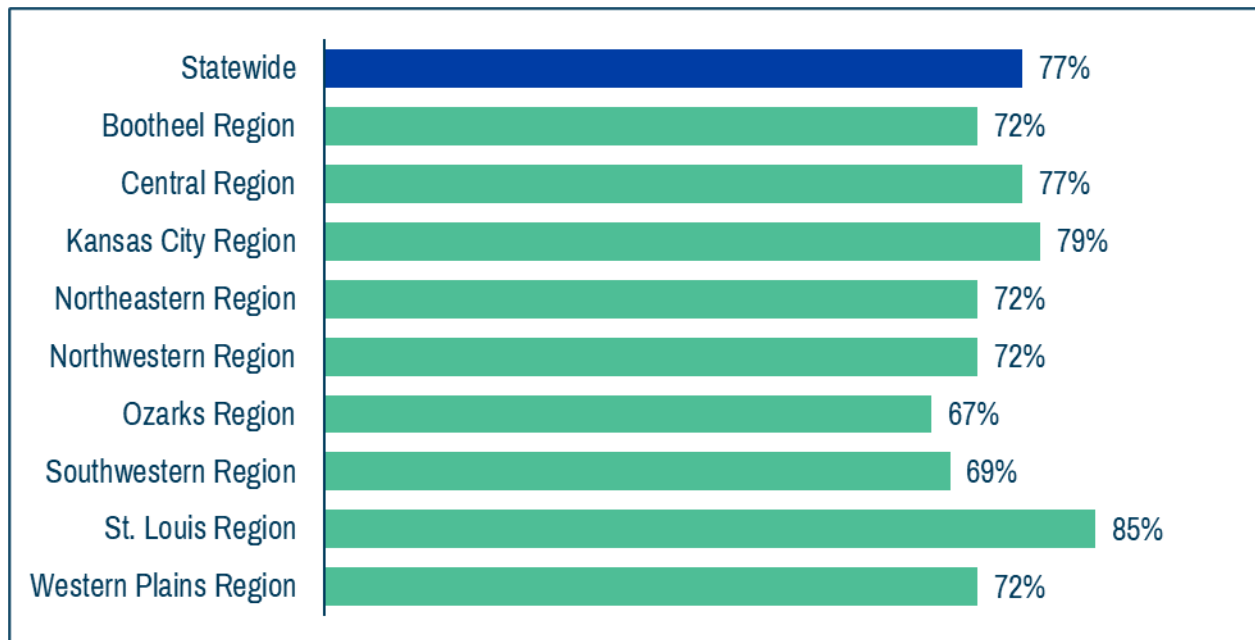


Figure 4: ACT Participation (Class of 2019) Varies by School Locale



Figure 5 shows the variation in ACT participation by school racial composition. During the 2018-19 school year, 74% of high school students identified as White. Therefore, we describe schools serving between 69% and 79% White students are considered reflective of the state (n = 42). We also describe differences in college-intending behaviors for schools that are racially isolated, serving 90% or more White students (n = 299) or Students of Color (n = 28). Representing the largest group of schools and students, the 299 White isolated high schools enrolled roughly one-third of Missouri's high school students. The final groups of interest include those that serve higher concentrations of White students (80% - 89%, n = 74) and those serving higher concentrations of Students of Color (31% - 89%, n = 60). Schools that served a student body that is reflective of state demographics have the highest ACT participation rate (83%), followed by schools that serve a student body that is at least 90% Students of Color (77%). Schools that serve a student body that is at least 90% White have the lowest ACT participation (73%).

Figure 5: ACT Participation (Class of 2019) Varies by Racial Composition

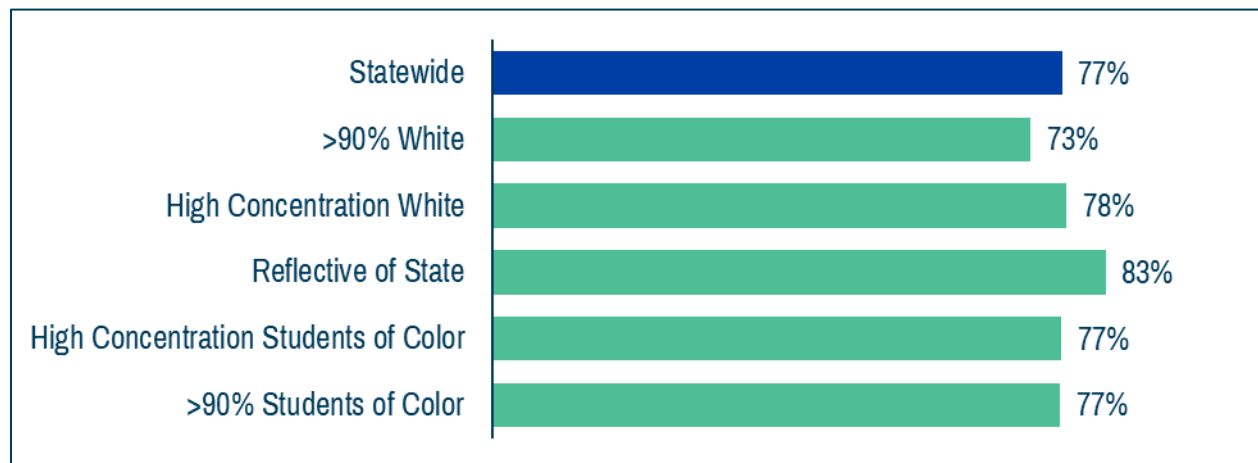
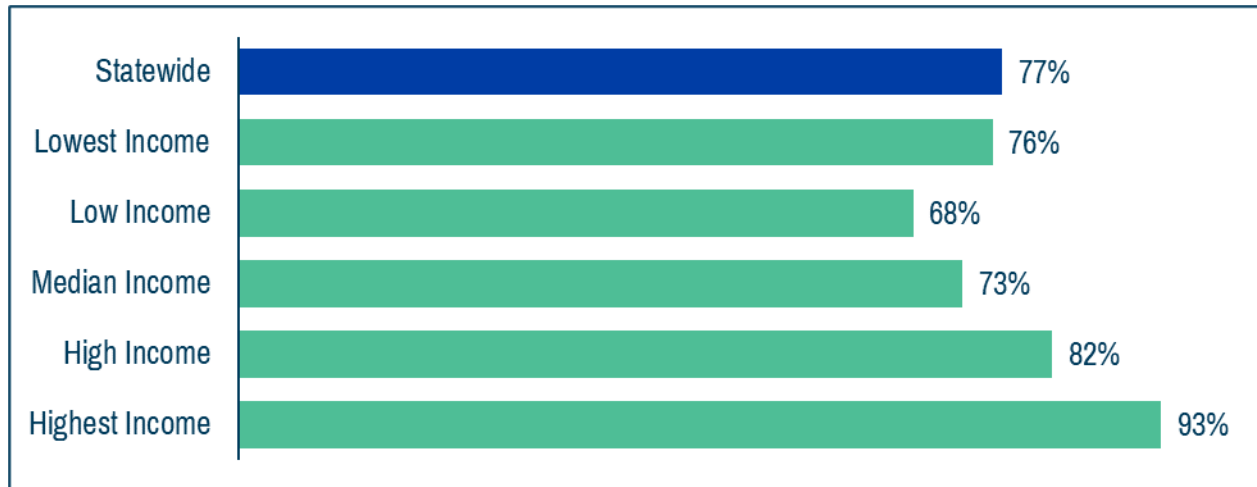


Figure 6 shows ACT participation by school income level as measured using the income-to-poverty ratio (Geverdt, 2018). Schools serving a student body categorized as "Low Income" (IPR between 150 and 200) had the lowest ACT participation rate, with just over two-thirds of students participating in the college entrance exam. Schools with the highest income level (IPR greater than 500) had the highest ACT participation rates, as 9 out of 10 students in these schools participated.

Figure 6: ACT Participation (Class of 2019) Varies by Income Level (Income-to-Poverty Ratio)



In terms of ACT performance, as shown in Tables B1 through B4 in Appendix B, the class of 2019 statewide average composite score was 20.6. The most noticeable variation in ACT performance occurs across school racial composition. Schools serving a student body that is more than 90% Students of Color have an average ACT composite score of 15.7, while schools with a high concentration of White students and schools that serve a student body that is reflective of average state demographics have an average composite score of 21.7 and 21.9, respectively.

In summary, Missouri students' college-intending behaviors are also not uniform across the state. ACT participation varies by region and locale, suggesting there may be geographical variation in support for ACT testing. Likewise, schools serving unique student bodies have variable outcomes in ACT testing rates. The low ACT participation rate in schools serving a student body characterized as “Low Income” is of particular interest. These schools ($n = 102$) serve students just above poverty threshold who may be vulnerable to the burden of ACT testing costs without policies offering financial support to gain access.

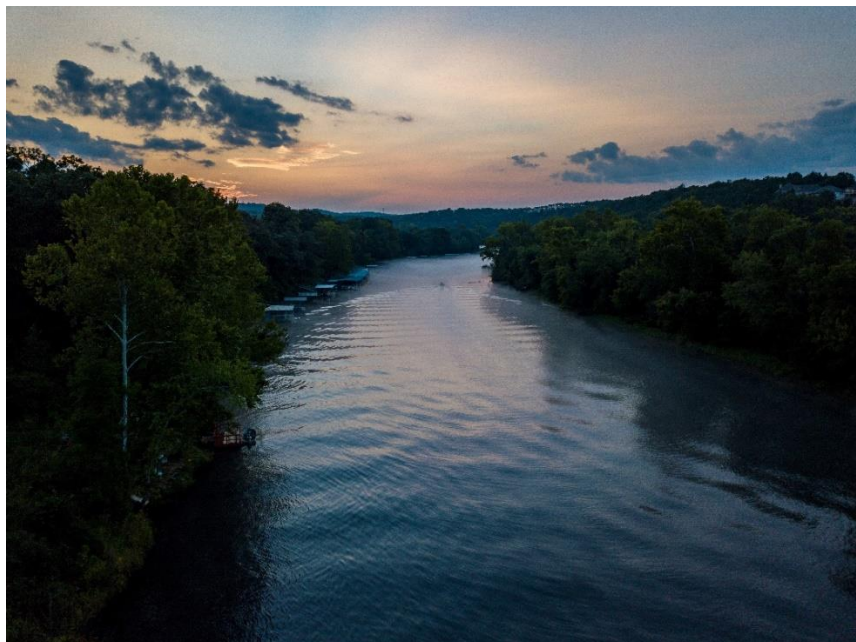


Photo Courtesy of [Devon Schreiner](#)

III. Immediate College Enrollment

This section focuses on immediate college enrollment: the proportion of Missouri's public high school graduates enrolling in postsecondary education, including at out-of-state institutions, within 180 days of graduating high school. The proportion of graduates who enter the workforce instead of postsecondary education is also included for context. Finally, we draw attention to the number and proportion of college enrollees who enrolled in institutions in the state of Missouri.

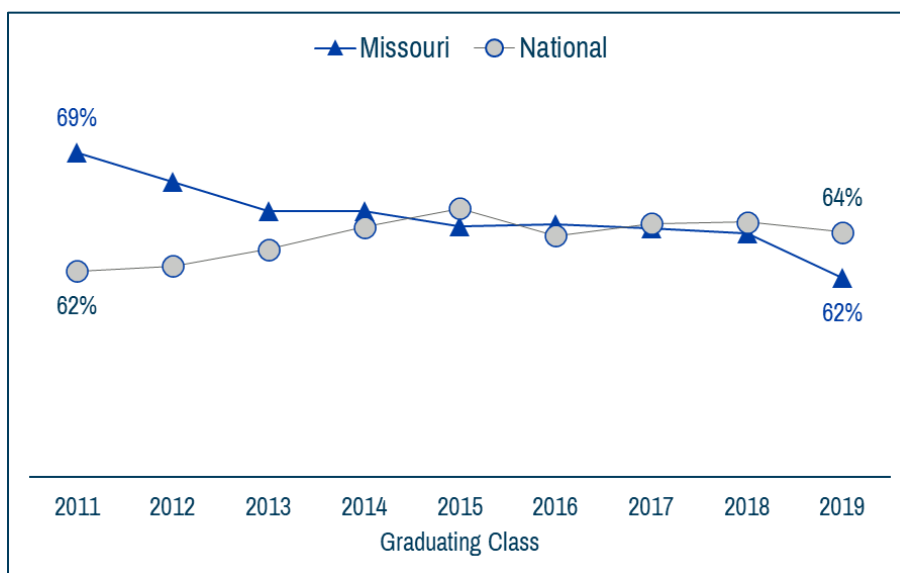
Our two guiding questions regarding immediate college enrollment are:

- 3) What does immediate college enrollment in Missouri look like over time, and how do Missouri high school students compare to their peers across the nation?
- 4) What does immediate college enrollment within Missouri look like for the class of 2019, by region and school characteristics (i.e., locale, racial composition, and income level)?

A. Missouri Trends in Immediate College Enrollment Has Declined and Been Surpassed by National Trends

To answer guiding question 3, Figure 7 illustrates the nine-year trends in immediate college enrollment (upon high school graduation) for Missouri students compared to their peers across the nation. These trends indicate an important reason for releasing this series of reports investigating college access and success in Missouri: **Missouri immediate college enrollment over the last nine years shows a distinctly different pattern than national trends.** While Missouri immediate college enrollment was comparatively higher than the national average for the class of 2011, this gap has steadily closed, resulting in Missouri lagging behind the national average for the class of 2019. In 2011, Missouri had an immediate college enrollment rate of 69% compared to the national rate of 62%, but in 2019, Missouri's immediate enrollment rate was only 62% while the national rate has increased slightly to 64%.

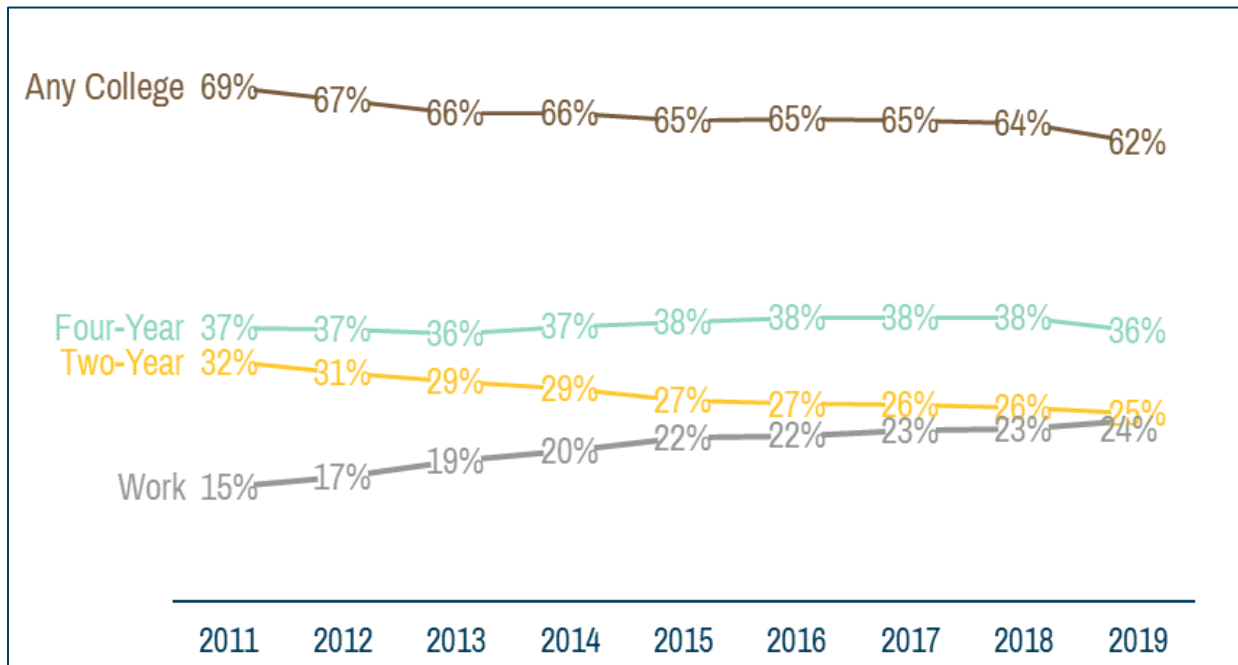
Figure 7: Trends in Missouri College Enrollment Compared to National Average, 2011 - 2019



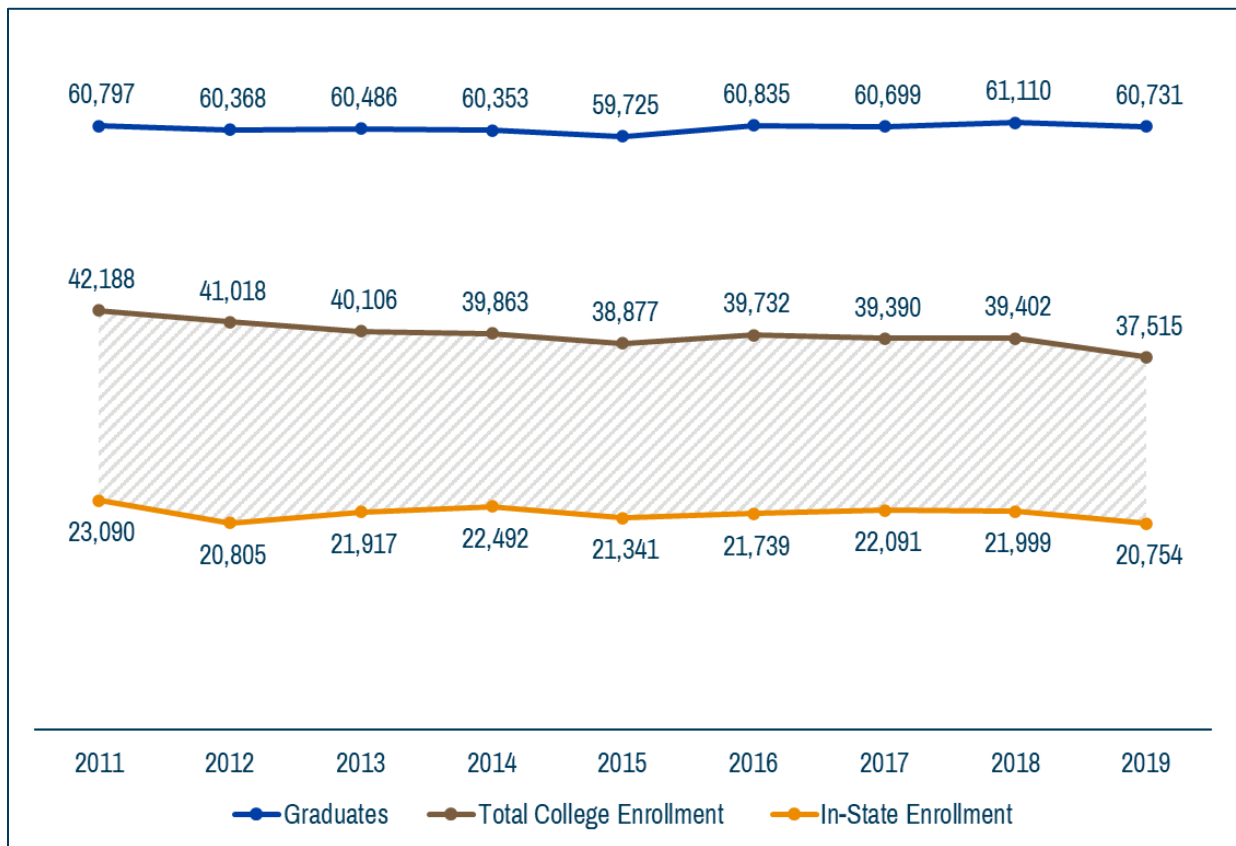
To offer more context of the trends in Missouri over time, Figure 8 shows patterns of immediate college enrollment in both two- and four-year colleges for nine cohorts of Missouri high school graduates, from the graduating classes of 2011 to 2019 as reported in DESE's 180-Day Follow-Up.

Statewide, immediate college enrollment has declined steadily from 2011–2019 (from 69% to 62%), with the largest declines appearing in two-year college enrollment. Simultaneously, the workforce entry rate has increased from 15% to 24%.³ Notably, not all high school graduates are accounted for in our enrollment outcomes of interest. For the class of 2019, only 88% of graduates enrolled in college or entered the workforce. Other post-graduation activities included in DESE data include joining the military, "other", and unknown. Due to small sample sizes, these categories are often suppressed in the data. Therefore, we report on the three largest categories in the 180-day follow-up data. Finally, a considerable share of Missouri graduates who immediately enroll in college leave the state each year; only about 55% of the state's nearly 38,000 college enrollees from the class of 2019 enrolled in Missouri (Figure 9).

Figure 8: Trends in Postsecondary Enrollment, 2011 - 2019



³ In the Information reported in the 180-Day Follow-Up, districts are tasked with differentiating between competitive and non-competitive employment. However, in the publicly available data, the category is aggregated as "Employed". Therefore, we are unable to report on the different types of employment in which graduates may enter.

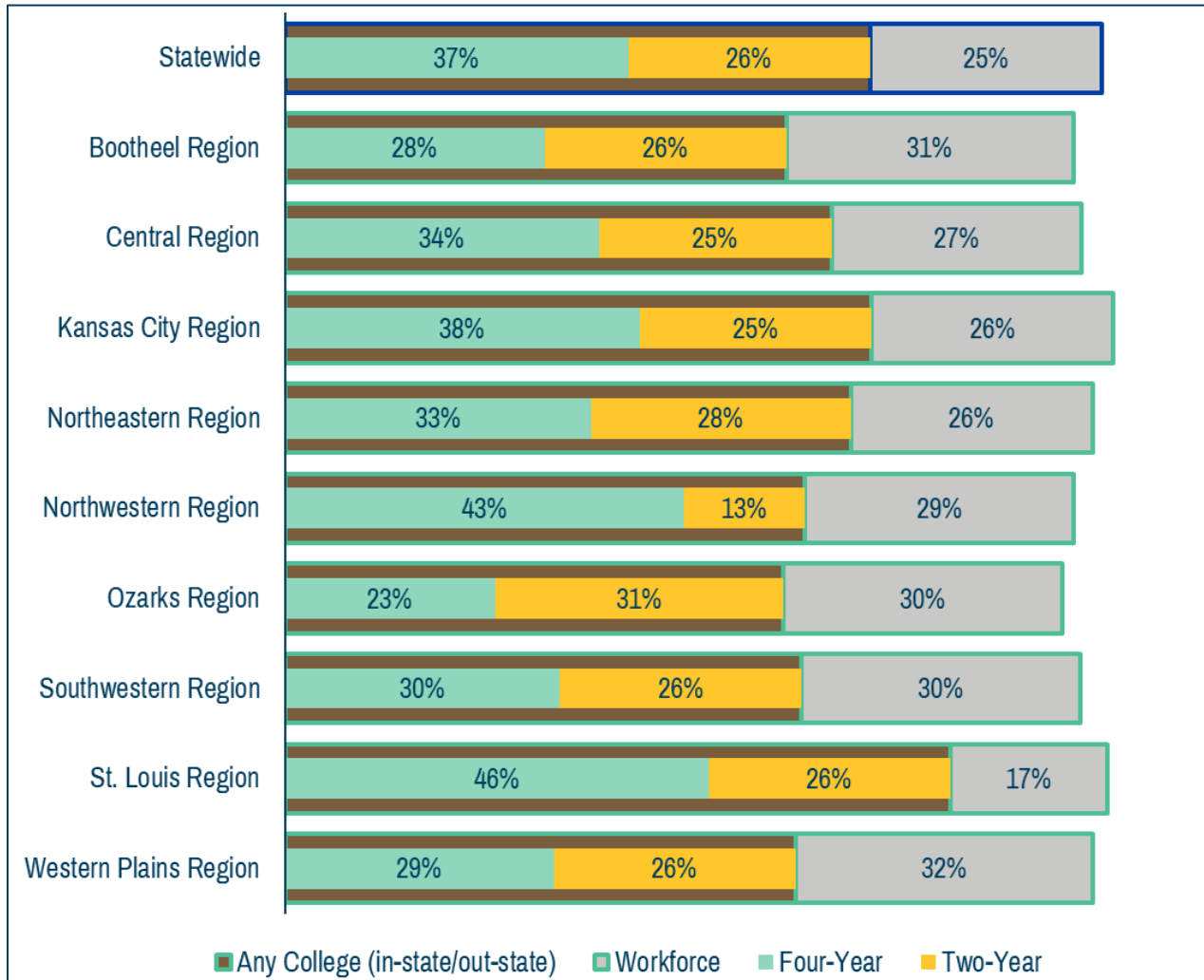
Figure 9: Number of High School Graduates Who Enroll in College and Remain In-State

We observe a decline in immediate college enrollment in Missouri that has resulted in the state being surpassed by national trends. This decline is especially troubling given that it directly conflicts with federal and state governments' goals of increasing the proportion of college-educated adults for economic opportunity (Fulton, 2017). Increasing rates of immediate workforce entry appears to come at the cost of college access. Further, while the number of high school graduates has remained roughly the same, the number of students enrolling in college in-state in the fall after graduation has declined, with a large share leaving the state for college.

B. Immediate College Enrollment (Class of 2019) Varies by Region, Locale, and School Characteristics

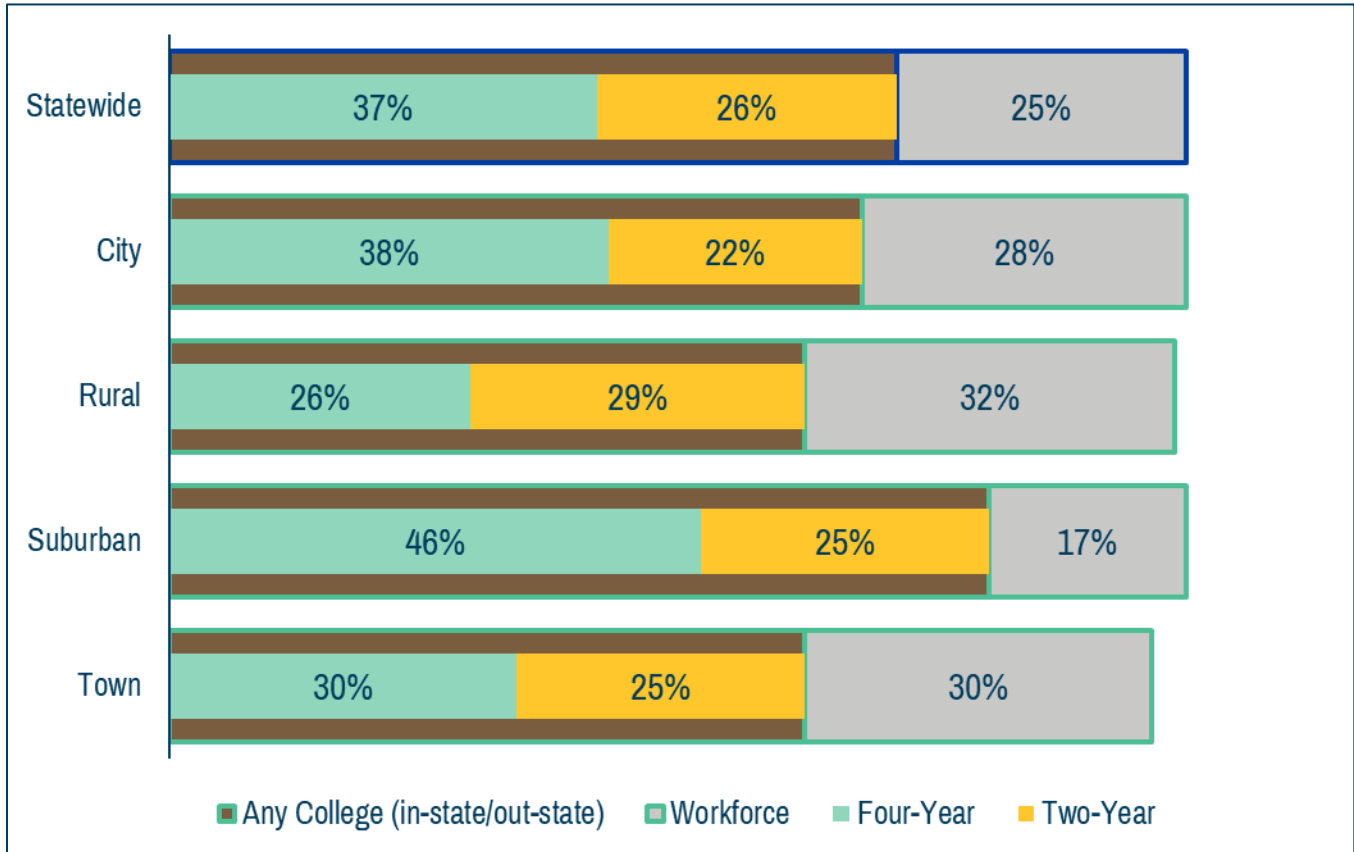
To examine the variation of college access and success in schools and districts across Missouri, we narrow in on the class of 2019. In this section, we present statewide averages and disaggregated findings by region and school characteristics such as school locale, the racial composition of the student body, and income level. As shown in Figures 10-13, patterns of postsecondary enrollment vary by each of the observed school characteristics. The St. Louis Region had the highest total immediate college enrollment (72%) as well as the highest four-year college enrollment (46%) compared to the rest of the state. The Northwestern region had the second highest four-year college enrollment (43%) but the lowest two-year college enrollment (13%).

Figure 10: 2019 Post-Graduation Activities (Two-Year, Four-Year, and Workforce Entry) Rates Vary by Region



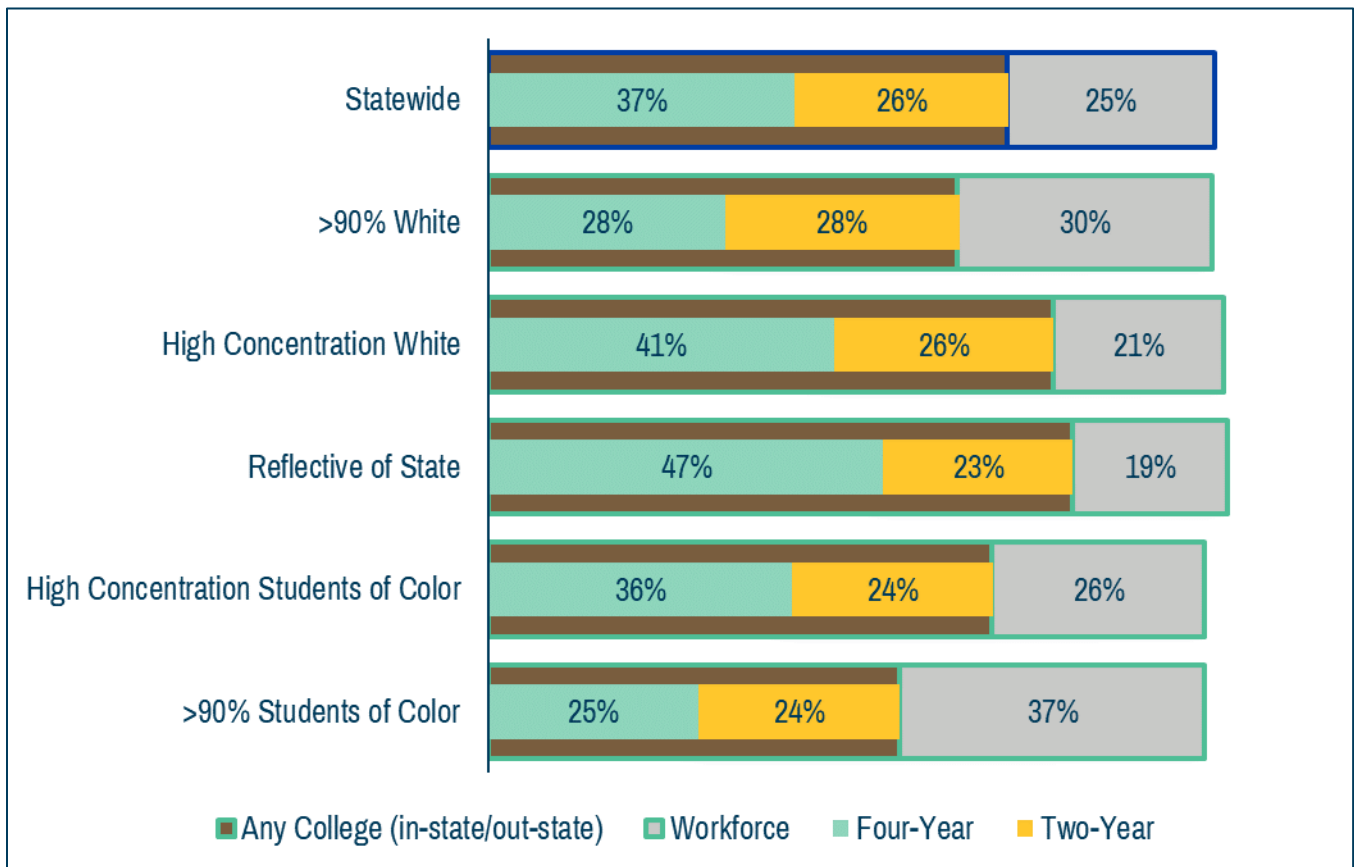
When comparing college enrollment by locale (Figure 11), suburban schools had the highest immediate enrollment rates (71%) while rural and town schools had the lowest rates (55%). Suburban schools also had the highest rates of four-year college enrollment (46%), compared to only 26% in rural schools. Rural schools have the highest rate of post-graduation workforce entry (32%).

Figure 11: Class of 2019 Post-Graduation Activities (Two-Year, Four-Year, And Workforce Entry) Rates Vary by Locale



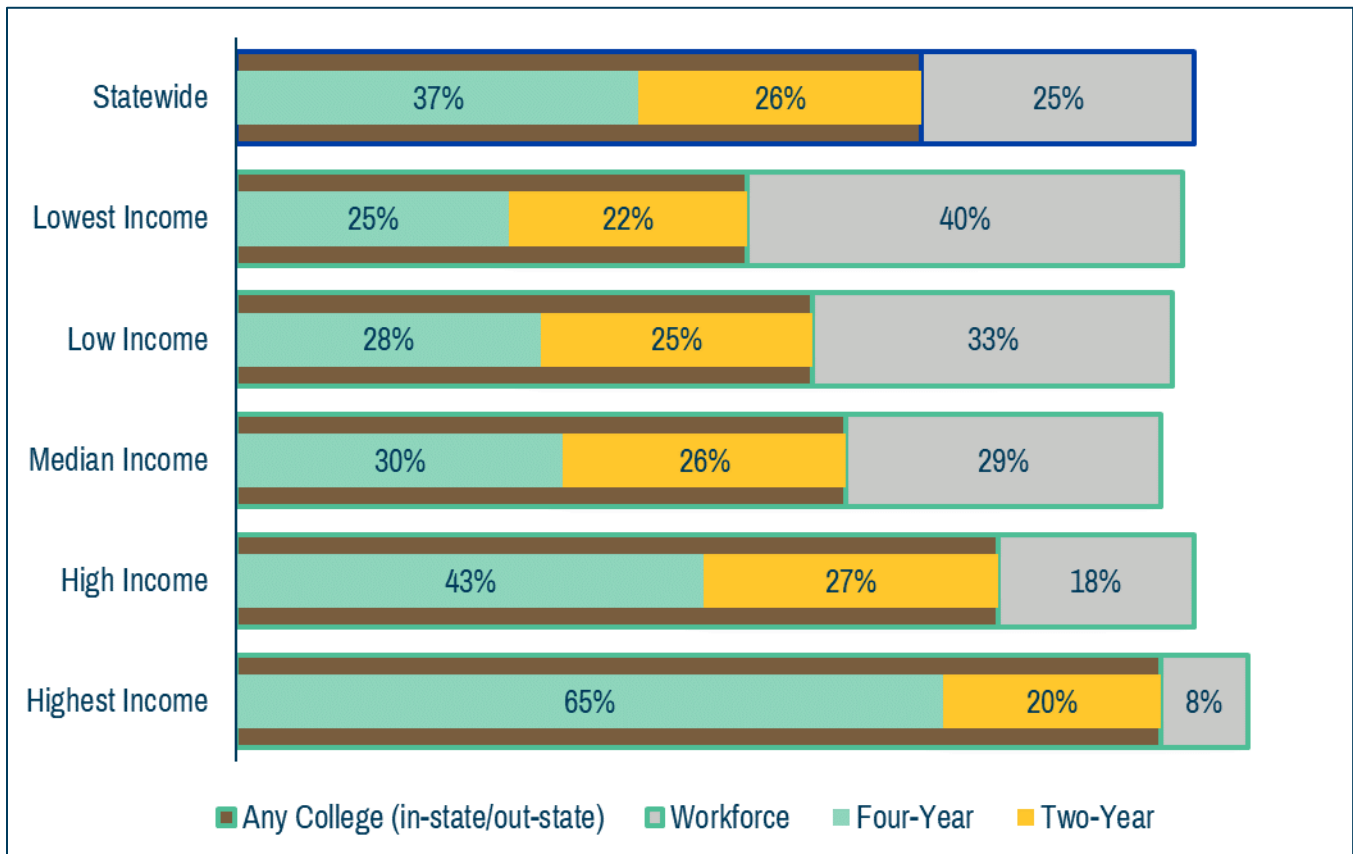
By school racial composition (Figure 12), we see that schools serving a student body that is more than 90% Students of Color have the lowest immediate college enrollment rate (49%) and the highest workforce entry rate (37%). Schools that serve a student body that is more than 90% White have the next-lowest immediate college enrollment rate at 56%. Schools serving a student body that is reflective of the state have the highest immediate enrollment rate (70%), along with the highest percentage of students opting to enroll in a 4-year institution (47%).

Figure 12: Class of 2019 Post-Graduation Activities (Two-Year, Four-Year, And Workforce Entry) Rates Vary by Racial Composition



Finally, a clear pattern emerges by income level (Figure 13): as income increases, so too does immediate college enrollment. Highest income schools saw an immediate enrollment rate of 85% with only 8% of graduates entering the workforce, while the lowest income schools saw an immediate enrollment rate of 47% and 40% of graduates entering the workforce.

Figure 13: Class of 2019 Post-Graduation Activities (Two-Year, Four-Year, And Workforce Entry) Rates Vary by Income Level



Not only does immediate college enrollment in Missouri differ from national trends, we see that immediate college enrollment also varies within the state. We observe clear differences in college enrollment for our students attending rural schools, racially isolated schools, and lowest income schools. We acknowledge that different regions and locales may have different contexts (e.g., workforce needs) that play a role in student aspirations for post-graduate opportunities. Yet, we maintain that all students in the state should have equitable access to all postsecondary opportunities. It is notable that the 2011-2019 decline in immediate college enrollment observed at the statewide level varies by region (Table C1 in Appendix C). Further, given that regional variation in college-intending behaviors (i.e., ACT participation), does not align with the variation we see in immediate college enrollment, we see cause for further exploration of this variation. For example, as shown in Table B1 in Appendix B, four regions (Bootheel, Northeastern, Northwestern, and Western Plains) have an ACT participation rate of 72%, yet enrollment across those regions varies from 53% to 61%.

IV. Conclusions

In this report, we provide an overview of postsecondary access in Missouri, presenting the college-intending behaviors and actual immediate college enrollment rates of Missouri high school graduates from the classes of 2011–2019. Examining postsecondary access is critically important for school leaders and policymakers. This effort allows us to paint a more complete picture of school effectiveness in preparing students to enter college and careers. While Missouri's immediate college enrollment remained on par with national averages in 2019, we have experienced a more substantial decline in immediate college enrollment since 2011 than what we observed in national trends. We also found that postsecondary access varies by a variety of school characteristics, including regionally, by locale, by school racial composition, and by school income level. These gaps in college access indicate that many young adults in Missouri are not on track to attain a postsecondary degree, which has implications for their future earnings, economic stability, and overall benefits to society (Carnevale et al., 2011; Carnevale et al., 2021).

While we can uncover some broad lessons from these analyses that might inform action at the school, district, and state level, it is also important to recognize what the data cannot tell us. As with any report that uses publicly available data, there are limitations. This report provides a basic overview of *what* is happening in the state, but not *why or how*. For example, we observed that community college enrollment is declining, but we are not sure if those students are being pulled into other postsecondary opportunities that may not be captured here. Because, using these data, we only include information related to immediate enrollment at the two- and four-year college level, we may be inadvertently excluding students who engage in other postsecondary opportunities (e.g., dual enrollment during high school; obtaining industry-recognized credentials; entering the military).

A. Recommendations

PRIME's intention with this series of reports is to encourage civic leaders, educators, and the public to focus on postsecondary access and success when they consider the performance of Missouri high schools. Based on this report's key findings, we suggest three initial recommendations related to postsecondary access:

- **School leaders should investigate their own data to ensure equity in access to postsecondary pathways for students throughout their schools;**
- **Missouri leaders should invest in strategies to support FAFSA completion; and**
- **Policymakers should consider the implications of a considerable share of college enrollees leaving the state for college.**

As seen in the data, there are gaps between college-intending behaviors and college enrollment across the state. While some of these differences may be driven by student personal interest (e.g., preference to enter the workforce rather than college), we encourage school administrators to examine indicators of access closely at the district-level to ensure that students have equitable opportunity for access to and success in postsecondary pathways. While we can only share broad level results here, school leaders can more closely examine their own data at the student-level to learn as much as they can about postsecondary pathways within their schools and by different student groups. In doing so, leaders and practitioners can more effectively identify what indicators of college access need more attention and how to better meet students' needs.

In particular, we suggest that high school and college leaders should examine the nuances and implications of varying patterns of ACT participation and performance. Specifically, school leaders could investigate why some students who complete, and score well on, college entrance exams are not enrolling in college. Our data also suggest that high schools serving high concentrations of minoritized students tend to see lower ACT composite scores. With the publicly available data used in this report, we are unable to determine *why* we see this pattern (e.g., if these students might have different access to ACT prep resources at the high school level), but school leaders may be able to share insights. Further, test optional policies for college admissions have arisen in response to the COVID-19 pandemic (with some here to stay). This may open the door for some students who may not score well on standardized tests or

otherwise may not be able to afford testing fees to ultimately pursue a path that includes enrollment in postsecondary education.

Missouri's low rates of FAFSA completion signal a key area ripe for policy and practice intervention. While states have taken different approaches to increasing FAFSA completion, there is general consensus among education advocates that increasing FAFSA completion is key to college access and success. A recent bill ([SB703, 2022](#)) has been introduced in Missouri that would require all high school graduates to file the FAFSA to earn their diploma. Some states (like Louisiana) have already implemented mandatory FAFSA filing for high school graduation and have seen subsequent increases in FAFSA filing and immediate college enrollment (NCAN, 2019). Tennessee, despite not having a mandatory policy, also sees high completion rates that are likely tied to state financial aid programs (e.g., the free-college program, Tennessee Promise) that require FAFSA completion for eligibility, thus serving as a proxy mandate to FAFSA completion. Beyond mandatory filing policies, education leaders at the school level can interrogate their own strategies for supporting FAFSA completion.

Finally, a key finding of this report is that a considerable share of Missouri high school graduates that immediately enroll in college do so out of state. This finding in and of itself may not necessarily be a bad thing for our graduates in terms of educational opportunity and success. In fact, some of this may be a function of our graduates' proximity to higher education institutions across state lines and [reciprocity agreements](#) like the Midwest Student Exchange Program (MSEP) that allow students to attend institutions in other states for a reduced cost. However, as college students who leave their home states for college are less likely to return, this suggests that Missouri is at risk for "brain drain" which can have economic implications for the state (Bloomfield et. al, 2020). We suggest that Missouri leaders dive into their student-level data and consider the patterns of out-of-state student migration and strategies to make our higher education institutions more attractive to, and feasible for, our students. Missouri offers the Bright Flight scholarship, designed to encourage Missouri's "top-ranked high school seniors to attend approved Missouri postsecondary schools" through merit-based financial aid (DHEWD, 2022a). An evaluation of the Bright Flight program from Harrington et. al. (2016) finds that the program increased the likelihood of students working within the state of Missouri eight years after high school graduation, indicating that the opportunity to receive financial aid by staying in Missouri could help stem brain drain.

B. Next Steps

Over the coming year, the PRiME Center will release more reports related to Missouri postsecondary access and success. In our next report, we will draw from DHEWD data to describe observed postsecondary success rates (retention, remediation, degree attainment) of the Missouri high school graduates who enrolled in Missouri postsecondary institutions. Additional reports will rely on student-level data to offer a more holistic view of postsecondary access and success for students enrolling in and out of state. Using these data, we hope to inform stakeholders, school leaders, and policymakers of short- and long-term success of students who graduate from Missouri's high schools.



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Appendix A: Data Sources and Definitions

The primary data source for this report is the [Missouri Department of Elementary and Secondary Education \(DESE\)'s 180-day Follow-up](#), which is used to measure high school graduation rates, ACT participation and performance, and immediate college enrollment. All averages reported are calculated using weighted averages to account for differences in sample size that may incorrectly treat different outcomes as equivalent. 180-day follow-up data for the high school graduates of 2011–2019 include:

- **Graduates**—Number of high school graduates from the year of interest
- **Graduation Rate**—Rate at which students in the same cohort (starting ninth grade in the same school year) graduate with a regular high school diploma within four years, adjusting for mobility, emigration, and death
- **ACT Participation Rate**—Percent of graduates participating in the ACT during high school
- **Composite ACT Score**—Average composite ACT score of high school graduates
- **College Enrollment Rate**—Percent of students from the most recent graduating class reported as enrolling in any postsecondary institution in the 180-day follow-up
- **Four-year Enrollment Rate**—Percent of students from the most recent graduating class reported as enrolling in any four-year institution in the 180-day follow-up
- **Two-year Enrollment Rate**—Percent of students from the most recent graduating class reported as enrolling in any two-year institution in the 180-day follow-up
- **Workforce Entry Rate**—Percent of students from the most recent graduating class reported as entering the workforce in the 180-day follow-up
- **School Racial Composition**—Student demographic data was compiled to create 5 categories: 1) schools that serve a student body that is at least 90% White; 2) schools that serve a high concentration of White students (80% - 89%); 3) schools that serve a student body that is reflective of average state demographics⁴; 4) schools that serve a high concentration of Students of Color (31% - 89%); and 5) schools that serve a student body that is at least 90% Students of Color.
- **School Region**—Regions schools are located in, according to DESE's nine supervisory areas

[National Center for Education Statistics \(NCES\)](#) data provides an additional poverty metric for the classes of 2015–2019 and the [school locale](#) classifications. One key strength of drawing from multiple data sources is our ability to more carefully consider school income level. Missouri schools have been eligible to participate in the Community Eligibility Provision (CEP) since 2015, eliminating some of the administrative burden associated with partaking in the Free/Reduced Price Lunch Program (FRPL) (Shelton, 2020). From a data perspective, the CEP masks some of the nuance within a school or district's economic need, as CEP schools/districts are classified as 100 percent FRPL-eligible. To account for this, we use a metric known as the Income-to-Poverty ratio (IPR), which is based on reported income data for families with children ages 5 to 18 as part of the U.S. Census Bureau's American Community Survey (Gerverdt, 2018). The purpose of the IPR is to "reflect economic conditions of neighborhoods where schools are physically located (Gerverdt, 2018). By using IPR data, we can provide a more accurate depiction of the socioeconomic need of schools for the 2015–16 through 2018–19 school years.

- **Income-to-poverty ratio (IPR)**—Income-to-poverty ratio for the neighborhoods served by a school; additional poverty metric, ranging from 0 to 999 where number less than 100 indicate the average income-poverty ratio is below the poverty threshold (available 2015–2019). School income level is split into five categories: lowest income (IPR of 100 – 150), low income (IPR of 151 – 200), median income (IPR of 201 – 300), high income (IPR of 301 – 500), and highest income (IPR greater than 500) using the IPR for the neighborhoods served by a school.

⁴ The average Missouri high school enrolls roughly 74% White students and 26% Students of Color; therefore, schools are considered to be reflective of the state if they enroll between 69% and 79% White students and/or between 21% and 31% Students of Color.

- **School Locale**—Census-defined geographic location of schools (city, suburb, rural, and town).

FAFSA data for the Missouri classes of 2015–2018 is compiled from the Department of Higher Education and Workforce Development (DHEWD)'s [Missouri FAFSA Completion Project](#) (DHEWD, 2022b). National FAFSA completion comparison data is compiled from the National College Attainment Network's [National FAFSA Completion Rates for High School Seniors and Graduates](#) report summarizing data from the U.S. Education Department's Office of Federal Student Aid.

- **FAFSA Completion Rate**—Percent of graduates completing the Free Application for Federal Student Aid (FAFSA) before high school graduation

National ACT test participation comparison data is pulled from the ACT, Inc. (2019) report: [The Condition of College & Career Readiness 2019](#) along with the U.S. High School Graduating Class Trends (ACT, 2022) data tool: <https://www.act.org/content/act/en/research/services-and-resources/data-and-visualization/grad-class-database-2021.html>

National college enrollment comparison data is compiled from the [National Student Clearinghouse High School Benchmarks Reports](#).

Appendix B: Overall Findings, Missouri class of 2019

The following tables summarize all college-intending behaviors and post-graduation activities of the class of 2019 to provide a picture of the milestones and outcomes related to college access.

Table B1: Class of 2019 College-Intending Behaviors and Post-Graduation Activities, by Region

Class of 2019	High Schools (n)	Student Enrollment (n)	ACT Participation Rate	ACT Composite Score	High School Graduation Rate	College Enrollment (Total)	College Enrollees Enrolled in MO
Statewide	503	273,143	77%	20.6	92%	62%	55%
Bootheel	58	20,819	72%	19.5	93%	53%	62%
Central	53	26,141	77%	20.6	92%	59%	60%
Kansas City	53	53,378	79%	20.4	92%	63%	54%
Northeastern	42	9,791	72%	20.2	94%	61%	64%
Northwestern	47	11,079	72%	20.4	92%	55%	74%
Ozarks	43	17,888	67%	20.0	93%	53%	65%
Southwestern	86	44,263	69%	20.6	92%	56%	60%
St. Louis	75	77,048	85%	21.1	92%	72%	46%
Western Plains	46	12,736	72%	19.9	94%	55%	67%

Table B2: Class of 2019 College-Intending Behaviors and Post-Graduation Activities, by School Locale

Class of 2019	High Schools (n)	Student Enrollment (n)	ACT Participation Rate	ACT Composite Score	High School Graduation Rate	College Enrollment (Total)	College Enrollees Enrolled in MO
Statewide	503	273,143	77%	20.6	92%	62%	55%
City Schools	57	48,546	82%	19.3	87%	60%	51%
Rural Schools	278	62,858	71%	19.9	94%	55%	66%
Suburban Schools	75	101,569	84%	21.5	94%	71%	50%
Town Schools	93	60,170	67%	20.4	93%	55%	62%

Table B3: Class of 2019 College-Intending Behaviors and Post-Graduation Activities, by School Racial Composition

Class of 2019	High Schools (n)	Student Enrollment (n)	ACT Participation Rate	ACT Composite Score	High School Graduation Rate	College Enrollment (Total)	College Enrollees Enrolled in MO
Statewide	503	273,143	77%	20.6	92%	62%	55%
>90% White	299	90,985	73%	20.1	94%	56%	66%
High Concentration White	74	59,736	78%	21.7	94%	68%	56%
Reflective of state	42	53,109	83%	21.9	93%	70%	53%
High Concentration Students of Color	60	53,761	77%	19.7	90%	60%	47%
>90% Students of Color	28	15,552	77%	15.7	82%	49%	37%

Table B4: Class of 2019 College-Intending Behaviors and Post-Graduation Activities, by School Income Level

Class of 2019	High Schools (n)	Student Enrollment (n)	ACT Participation Rate	ACT Composite Score	High School Graduation Rate	College Enrollment (Total)	College Enrollees Enrolled in MO
Statewide	503	273,143	77%	20.6	92%	62%	55%
Lowest Income	48	17,277	76%	17.0	84%	47%	49%
Low Income	102	43,909	68%	19.6	89%	53%	59%
Median Income	252	110,096	73%	19.8	92%	56%	59%
High Income	87	80,361	82%	21.5	94%	70%	54%
Highest Income	14	21,500	93%	23.7	96%	85%	43%

Appendix C: 2011–2019 Decline in Immediate College Enrollment, By Region

Table C1 shows the immediate enrollment patterns—and decline—by region for the past decade; the largest decline from 2011–2019 is seen in the Bootheel Region (10% decline). The smallest decline is seen in the Northeastern Region (3% decline).

Table C1: The Immediate College Enrollment Rate (Any College) Has Declined For All Regions And Statewide From 2011 To 2019.

	2011	2012	2013	2014	2015	2016	2017	2018	2019	% Decline
Statewide	69%	68%	66%	66%	65%	65%	65%	65%	62%	-7%
Bootheel	63%	59%	57%	57%	57%	59%	57%	55%	53%	-10%
Central	66%	65%	65%	65%	61%	61%	61%	63%	59%	-7%
Kansas City	70%	70%	67%	66%	65%	66%	66%	65%	63%	-7%
Northeastern	64%	65%	63%	64%	61%	60%	64%	64%	61%	-3%
Northwestern	64%	61%	60%	60%	58%	59%	59%	61%	55%	-8%
Ozarks	62%	60%	59%	59%	58%	58%	57%	56%	53%	-9%
Southwestern	64%	64%	62%	61%	61%	62%	60%	60%	56%	-8%
St. Louis	78%	75%	74%	75%	74%	74%	73%	73%	72%	-7%
Western Plains	64%	62%	61%	57%	58%	63%	59%	61%	55%	-8%

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Our Role at PRiME

Our role at PRiME is to communicate data and evidence to education stakeholders. DESE and DHEWD generate meaningful data related to postsecondary access and success at the school and district level each year. It is our hope that this report helps to communicate these postsecondary outcomes to school leaders and educators; these are the experts who can make the best use of this information within Missouri's schools.



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