Commonwealth of Virginia
November 7, 2022

Report to the Governor and the General Assembly of Virginia

Pandemic Impact on Public K–12 Education

2022

JLARC
JOINT LEGISLATIVE AUDIT
AND REVIEW COMMISSION

JLARC Report 568

jlarc.virginia.gov

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Summary: Pandemic Impact on K–12 Public Education

WHAT WE FOUND

Chronic absenteeism and student behavior were major concerns as students returned to in-person instruction

As students returned to in-person instruction, fewer of them regularly attended school. Chronic absenteeism—a student missing 10 percent or more of school days—nearly doubled last year compared with pre-pandemic rates. Twenty percent of students statewide were chronically absent in the 2021–22 school year. Nearly all school divisions in the 2021–22 school year experienced surges in chronic absenteeism, with just three divisions experiencing a decrease. While COVID-19 quarantines contributed to increased absenteeism, school staff indicated other factors contributed as well.

More students also exhibited disruptive behavior as they returned to in-person instruction, according to school staff (though quantifying the increase is difficult because of data limitations). JLARC asked school staff to rate the seriousness of 15 issues faced by school staff, such as teacher compensation, student academic progress, lack of respect from parents, and concerns about health during the pandemic. Student behavior problems were rated as the *most serious* of all 15 issues listed. Principals and teachers cited months spent out of the physical classroom as the main reason for increased student behavioral problems.

WHY WE DID THIS STUDY

The 2021 General Assembly (SJ308) directed the Joint Legislative Audit and Review Commission (JLARC) to review the impact of the COVID-19 pandemic on the state's K–12 education system.

ABOUT K–12 AND THE COVID-19 PANDEMIC

The pandemic resulted in divisions converting to remote learning for the second half of the 2019–20 school year and much of the 2020–21 school year. Rural divisions in western Virginia generally returned to in-person learning sooner than other divisions. This major, unprecedented disruption presented numerous challenges for students, families, and K–12 staff.

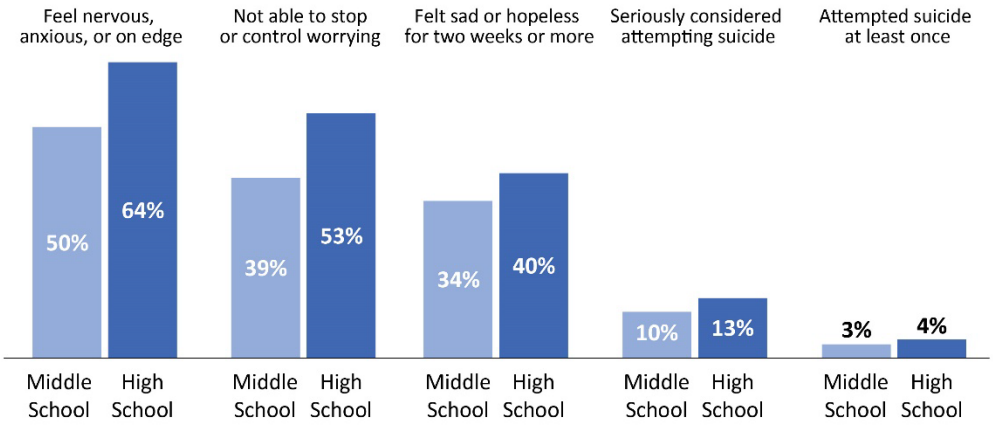
JLARC surveyed school staff from a representative sample of 47 schools across 12 school divisions. The survey addressed their experience working in K–12 public education since the start of the COVID-19 pandemic. JLARC received responses from 1,175 staff (28 percent) across all school roles, including teachers, principals, and support staff (Appendix B).

Mental health issues among students are concerningly prevalent

Students themselves, especially females, reported disconcertingly high levels of mental health issues during the pandemic. Half of middle school students and nearly two-thirds of high school students reported feeling nervous, anxious, or on edge (figure).

For a substantial portion of students, the mental health concerns are more serious. Ten percent of middle school students and 13 percent of high school students indicated that they seriously considered attempting suicide in the past 12 months. A smaller, but still significant, portion of middle school students (3 percent) and high school students (4 percent) indicated they had attempted suicide at least once. Substantially more female students than male students reported experiencing these mental health issues across all indicators.

Middle and high school students report concerning mental health issues



SOURCE: JLARC analysis of Virginia Department of Education's 2021 and 2022 Virginia Survey of Climate and Working Conditions.
NOTE: Surveys were conducted in January through March both years. The 2021 survey was for middle school students statewide. The 2022 survey was for high school students statewide.

Academic achievement declined, especially among young students and in certain divisions

Prior to the pandemic, most key indicators of Virginia student academic achievement had been generally stable, with the exception of elementary school reading scores, which had been modestly declining for several years. However, the closure of schools in March 2020 began a period of unprecedented disruption to student learning. These disruptions resulted in many students missing critical academic content, and many students returning less prepared to learn and less engaged in class than before the pandemic, according to staff.

Student performance on SOL tests declined during the pandemic but is beginning to rebound. Average reading and math SOL scores during the 2021–22 school year were lower than average scores prior to the pandemic. Performance generally declined by more in math than reading. However, reading and math SOL scores and pass rates have improved substantially since the initial decline in 2020–21.

Student performance on SOL tests is especially low in a subset of divisions. For example, during 2021–22, in approximately:

- 20 divisions, more than half of third-graders failed their reading and/or math SOLs; and
- 60 divisions, more than half of eighth-graders failed their math SOL.

SOL scores declined by more in divisions that relied longer on remote instruction but have also rebounded more. For example, 2020–21 eighth-grade math SOL scores in school divisions that used remote instruction longer declined, on average, by 7 percentage points more than divisions that returned to in-person instruction sooner.

However, these divisions that relied longer on remote instruction also generally rebounded by more in 2021–22. As of spring 2022, there was a 1 or 2 percentage point difference in SOL scores between divisions that relied on remote instruction longer and divisions that returned to in-person instruction sooner.

Virginia students do not take SOL tests until third grade, but other assessments provide insight into the pandemic's effects on young students. For example, fewer first- and second-grade students met early childhood literacy benchmarks in 2021–22 compared with the year before the pandemic.

Virginia students' test scores declined on the National Assessment of Educational Progress. Test results from early 2022 show that Virginia fourth-grade students' scores declined on math and reading by more than the national average. Virginia fourth graders generally scored above the national average before the pandemic, but as of early 2022 had fallen close to the national average. Following the pandemic-related declines, Virginia's fourth-grade students ranked 20th in math and 34th in reading.

Virginia's eighth grade student scores declined by about the same amount as the national average. Virginia eighth-grade students ranked 10th in math and 22nd in reading.

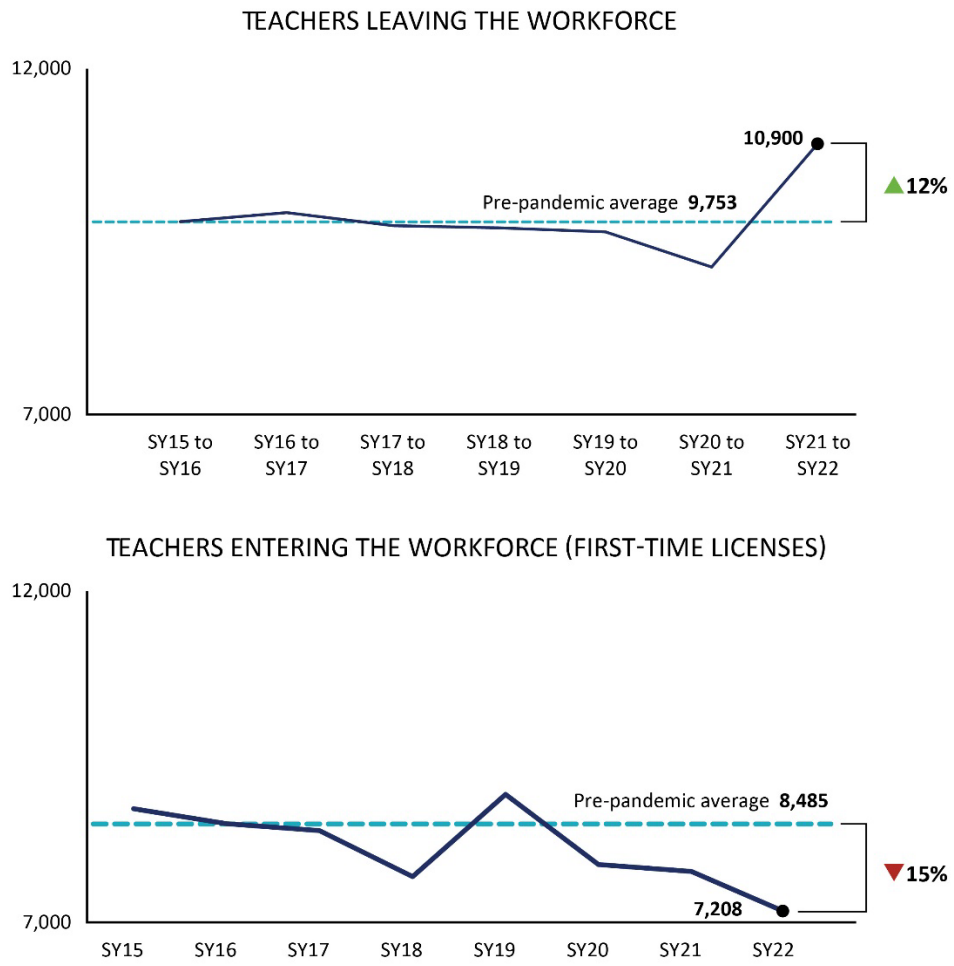
Divisions are facing substantial challenges recruiting and retaining a qualified teacher workforce

Divisions report that the pandemic has made it more difficult to recruit and retain teachers. Division leadership in nearly all divisions surveyed (94 percent) indicated it has become more difficult to *recruit* classroom teachers than it was before the pandemic. Nearly as many divisions (90 percent) also indicated it has become more difficult to *retain* classroom teachers.

Statewide teacher workforce data shows that more teachers are leaving the profession, while fewer teachers are becoming licensed for the first time. After declining during the first part of the pandemic, the number of teachers leaving the profession rose substantially in the 2021–22 school year. By 2021–22, the number of teachers leaving the profession was 12 percent higher than the pre-pandemic yearly average (figure). Likewise, the number of newly licensed teachers for the 2021–22 school year was 15 percent below the pre-pandemic average.

JLARC staff surveyed school division superintendents on the effectiveness of strategies to address the impacts of the COVID-19 pandemic on students and staff. One hundred school divisions responded to the survey (76 percent); these divisions represented 84 percent of statewide student enrollment (Appendix B).

More teachers leaving profession, while fewer teachers are receiving licenses



SOURCE: JLARC analysis of Virginia Department of Education data, 2015–16 to 2021–22.

This growing gap between individuals leaving and entering the teaching profession helps explain the increase in vacant teaching positions. Before the pandemic, there were about 800 vacant teaching positions statewide. This increased substantially to about 2,800 vacant teaching positions (3 percent of all teaching positions) in October 2021. More recently, VDOE collected data from 111 divisions as of August 2022, finding approximately 3,300 teacher vacancies in just those 111 divisions—a 25 percent increase from the vacancies reported by these same divisions in October 2021.

Divisions also expressed concern about the declining quality of teacher applicants during the pandemic. Nearly all divisions surveyed (98 percent) indicated that an inadequate applicant pool for open positions was among their biggest challenges to meeting staffing needs. One division human resources director stated: "I'm surprised when we get an application from a fully qualified teacher."

Statewide teacher data shows school divisions are relying more heavily on provisionally licensed teachers, rather than fully licensed teachers. The number of provisionally licensed teachers increased 24 percent during the 2021–22 school year compared with the pre-pandemic average. The number of teachers not fully endorsed in their content area (teaching "out of field") more than doubled over the same time period.

School divisions were generally not confident they would be able to hire the teachers they needed this year. More than half of divisions (52 percent) were not optimistic about their ability to employ a suitable classroom teacher workforce for the 2022–23 school year. In addition, more teachers reported they are likely to leave during this school year. Fifteen percent of Virginia teachers indicated they are "definitely leaving" or "likely to leave" their job in public education by the end of the 2022–23 school year, compared with 9 percent before the pandemic.

Teacher morale and job satisfaction are lower since the start of the pandemic

The pandemic's challenges have taken a toll on the remaining teacher workforce. Nearly three-fourths of teachers reported that their morale is lower since the pandemic. About two-thirds reported they are less satisfied with the job. Of the teachers who indicated they are likely to leave by the end of the 2022–23 school year, a majority cited the effects of the pandemic—including lower morale, reduced job satisfaction, and higher workload—as a contributing factor.

These pandemic-related effects, as well as other factors, are the primary reasons for teachers' lower job satisfaction. Teachers cited the following issues as the most serious problems they face:

- a more challenging student population, including behavior issues (56 percent indicated this is a very serious issue);
- low pay (52 percent);
- lack of respect from parents and the public (47 percent); and
- higher workload because of unfilled vacancies (40 percent).

Most divisions are planning for future disruptions to in-person instruction, but some staff still report feeling unprepared

Most school divisions have, or are in the process of developing, plans to deliver long-term remote instruction if necessary. As of summer 2022, 73 percent of divisions reported they have developed a formal document or plan to use for a future disruption to in-person learning. The remaining divisions reported they are currently developing a plan (8 percent), or planning to develop one in the future (18 percent).

Nearly all school staff surveyed indicated that it is very important to effectively plan for remote learning, and the majority reported they would be prepared. However, 41 percent of teachers and 22 percent of principals responded that they felt either *not*

prepared or only *somewhat prepared* to return to remote instruction should it be necessary. The number of staff feeling unprepared will likely increase in future years as turnover results in fewer teachers and other staff having first-hand experience in delivering remote instruction.

WHAT WE RECOMMEND

Legislative action

- Amend the Code of Virginia to define direct school counseling services and allow qualified, licensed psychologists in other fields to be provisionally licensed as school psychologists.
- Create and fund a temporary math instructional improvement program to help elementary school students who fail their math Standards of Learning test.
- Provide temporary state funding to hire more instructional assistants to help provide individualized instruction and classroom management support.
- Provide temporary state funding for targeted retention and recruitment bonuses and tuition assistance to help provisionally licensed teachers become fully licensed.

Executive action

- Finalize and release the model memorandum of understanding to help interested divisions establish partnerships with community mental health providers.
- Develop and make available a standard template school divisions can use to develop plans for future prolonged periods of remote instruction.
- Develop and offer courses related to teaching remotely or using virtual learning resources.

The complete list of recommendations is available on page vii.

Recommendations: Pandemic Impact on Public K–12 Education

JLARC staff typically make recommendations to address findings during reviews. Staff also sometimes propose policy options rather than recommendations. The three most common reasons staff propose policy options rather than recommendations are: (1) the action proposed is a policy judgment best made by the General Assembly or other elected officials, (2) the evidence indicates that addressing a report finding is not necessarily required, but doing so could be beneficial, or (3) there are multiple ways in which a report finding could be addressed and there is insufficient evidence of a single best way to address the finding.

Recommendations

RECOMMENDATION 1

The General Assembly may wish to consider amending the Code of Virginia to define direct school counseling services to include only those activities established as direct counseling services by the Virginia Department of Education Principals' Memo 1014-19 and to expressly exclude from the definition administrative and support activities that are not considered direct counseling. (Chapter 3)

RECOMMENDATION 2

The General Assembly may wish to consider amending the Code of Virginia to allow qualified, licensed psychologists in other fields to be provisionally licensed as a school psychologist. (Chapter 3)

RECOMMENDATION 3

The Virginia Department of Education should ensure its model memorandum of understanding to help divisions establish partnerships with community mental health providers (i) reflects effective practices and (ii) is available by March 30, 2023 to allow it to be used by divisions for the 2023–24 school year. (Chapter 3)

RECOMMENDATION 4

The General Assembly may wish to consider including language and funding in the Appropriation Act to create and fund a temporary math instructional improvement program to help elementary school students who fail their math Standards of Learning test. (Chapter 4)

RECOMMENDATION 5

The General Assembly may wish to consider including language and funding in the Appropriation Act to provide additional, temporary funding for a subset of schools accredited with conditions to hire more instructional assistants to (i) help teachers provide small group and individualized instruction necessitated by widening academic needs within classrooms, (ii) help teachers manage challenging student behaviors within classrooms, and (iii) reduce teacher workloads. (Chapter 4)

RECOMMENDATION 6

The General Assembly may wish to consider including language and funding in the Appropriation Act to provide the state share of funding to divisions that experienced an increase in teacher turnover during the pandemic to be used for providing retention bonuses for teachers. Retention bonuses should be structured to maximize the financial incentive for teachers to remain in their position. (Chapter 5)

RECOMMENDATION 7

The General Assembly may wish to consider including language and funding in the Appropriation Act to provide the state share of funding for teacher tuition assistance to divisions that experienced an increase in the number of provisionally licensed teachers during the pandemic to help provisionally licensed teachers in those divisions become fully licensed. (Chapter 5)

RECOMMENDATION 8

The Virginia Department of Education should develop and make available a standard template school divisions can use to develop their own continuity of operations plans for future prolonged periods of remote instruction. (Chapter 6)

RECOMMENDATION 9

The Virginia Department of Education should develop and include courses related to teaching remotely or using virtual learning resources in its catalog of professional development that address topics such as: (i) virtual classroom management, (ii) virtual curriculum, (iii) strategies for student engagement, (iv) use of learning management systems, (v) availability and offering of state resources like Virtual Virginia, and (vi) asynchronous strategies for students with limited internet. (Chapter 6)

Policy Options to Consider

POLICY OPTION 1

The General Assembly could include language and funding in the Appropriation Act for Virginia Tiered Systems of Supports to provide training and technical assistance to help staff at more schools better address disruptive classroom behavior. (Chapter 2)

POLICY OPTION 2

The General Assembly could include language in the Appropriation Act directing the Virginia Department of Education to collect and report information from school divisions about existing and potential partnerships between school divisions and mental health providers, including the partner organization, type of partnership, scope, cost, and funding source. (Chapter 3)

POLICY OPTION 3

The General Assembly could include language and funding in the Appropriation Act to help develop and support existing partnerships between school divisions and mental health providers to provide enhanced mental health services to students. (Chapter 3)

POLICY OPTION 4

The General Assembly could include language and funding in the Appropriation Act to provide the state share of funding for one-time signing bonuses to be offered to teachers who agree to accept employment with a school division that has experienced an increase in teacher vacancies during the pandemic. (Chapter 5)

POLICY OPTION 5

The General Assembly could include language in the Appropriation Act directing the Virginia Department of Education and the State Council of Higher Education for Virginia to review Virginia's teacher licensure requirements and process, and propose updates, improvements, and simplifications. A summary of proposed changes could be submitted to the Virginia Board of Education and House Education and Senate Education and Health committees by November 1, 2023. (Chapter 5)

1 Introduction

In 2021, the Virginia General Assembly directed the Joint Legislative Audit and Review Commission (JLARC) to review the impact of the COVID-19 pandemic on the state's K–12 education system. Staff were directed to review the pandemic's impact on enrollment; student well-being; student academic achievement and existing achievement gaps; and school staff and the ability of schools to fully staff their operations. JLARC was also directed to evaluate schools' preparedness to face another pandemic and recommend how school divisions could effectively plan to be better prepared in the future (Appendix A).

This review does not address the impact of the pandemic on public pre-K, higher education, or any private schools.

Staff were not directed to evaluate the state's or individual school divisions' responses during the pandemic, nor the impact of other issues that arose during the pandemic. For example, staff did not evaluate the merits of each school division's use of in-person instruction versus remote learning, practices for delivering remote instruction, or efforts to deliver other school-based services and supports—such as meals and mental health services. Staff were also not directed to evaluate the impact of broader issues that affected society. Such issues include periods of civil and political unrest and economic hardship or health-related trauma for some individual families in Virginia.

To address the study resolution, JLARC analyzed data related to student academic achievement and school staffing; surveyed school staff from a representative sample of school divisions around the state; surveyed school division leadership; interviewed staff at the Virginia Department of Education (VDOE), staff at local school divisions, school staff, stakeholder groups and associations, and state and national experts in academic performance and student mental health; and reviewed best practices (Appendix B).

Though this report specifically focuses on the pandemic's impacts, **JLARC has released 8 other reports about K–12 during the past decade.** These reports address a wide range of topics, including (i) how year-round school can help improve academic performance of at-risk youth and (ii) the importance of improving and expanding the state's Office of School Quality to assist chronically low-performing schools.

Divisions used remote learning during COVID-19 but returned to in-person learning at varying rates

State, division, and school leaders faced difficult decisions about when and how to offer in-person instruction. Early in the pandemic, the governor directed all school divisions to cease in-person instruction for the remainder of the 2019–20 school year. However, by the 2020–21 school year, school divisions had the authority to decide whether to deliver in-person instruction. Leadership in each division had to balance several complex factors when making decisions about the method(s) for delivering instruction. These factors included the community COVID-19 caseload, transmission rate, and health-care capacity; student internet and device access; needs for students of different ages and ability levels; the functionality of existing school facilities for offering a safe environment for in-person instruction (e.g., space and ventilation); and

health and safety concerns of their staff, students, and community. Furthermore, school leaders were making decisions based on the evidence and guidance available at the time, which evolved as understanding of COVID-19 transmission, treatment, and prevention improved. As noted above, this report is not an evaluation of state and division responses to the pandemic.

Most divisions returned to in-person instruction during the 2020–21 school year, but rural western divisions generally returned sooner

Public education has traditionally been delivered to students in person. Before the pandemic, remote learning was primarily used only for a small proportion of students, most frequently as a supplement to in-person instruction. For this review, the different modes of instruction used during the pandemic are defined as:

- **in-person** learning in which the majority of students receive face-to-face instruction 4+ days a week;
- **remote** learning in which the majority of students receive instruction primarily online in a fully remote setting; and
- **hybrid** learning in which the majority of students receive instruction through a combination of in-person and remote instruction. Some hybrid models may have students receive in-person instruction three days per week and remote instruction two days per week, while others may reverse the in-person and remote days.

Virginia relied more on remote instruction than most other states. Virginia was ranked 44th by Burbio data services in terms of the amount of in-person instruction provided.

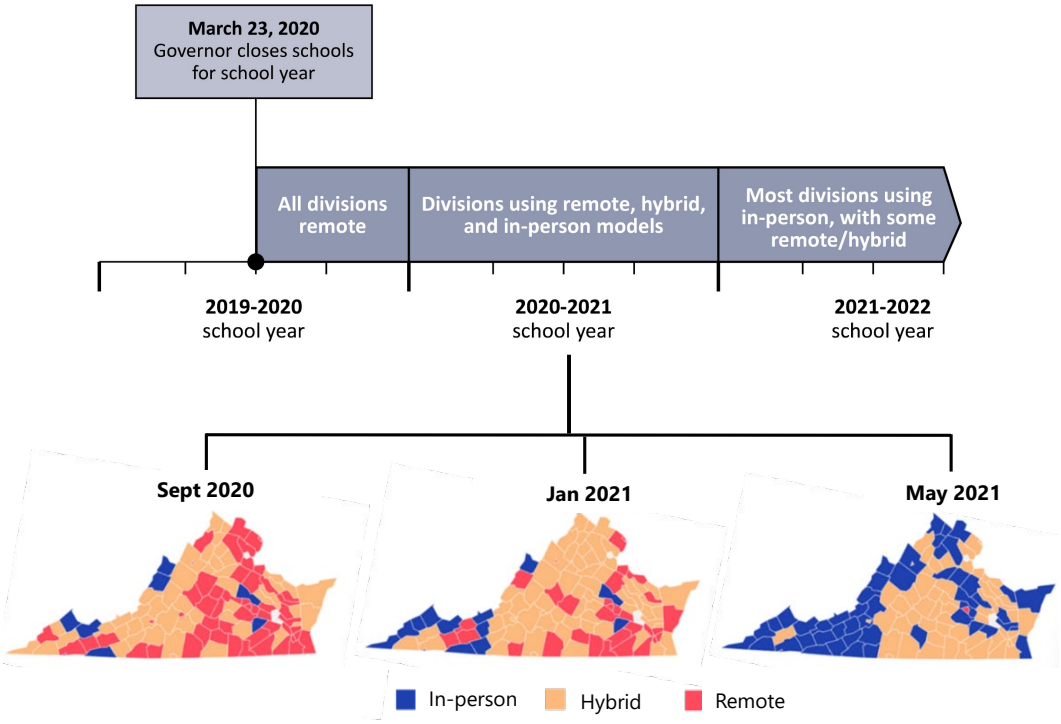
At the governor's direction, all school divisions ceased in-person learning at the onset of the COVID-19 pandemic in March 2020 through the remainder of the 2019–20 school year. On March 13, 2020, the governor ordered all K–12 schools in Virginia to close for two weeks. On March 23, 2020, the governor extended school closures through the end of the 2019–20 school year.

As the 2020–21 school year began, the majority of school divisions provided remote or hybrid instruction, but almost all divisions transitioned to hybrid or in-person models during the year. At the beginning of the 2020–21 school year, 67 divisions (51 percent) used a remote model, 55 divisions (42 percent) used a hybrid model, and 10 divisions (8 percent) were operating fully in-person. By the end of the 2020–21 school year, just one division remained remote, while 73 were using a hybrid model (55 percent), and 58 were fully in-person (44 percent) (sidebar). Less populous, rural divisions in the western part of the state generally returned to in-person learning more quickly than more populous, urban divisions (Figure 1-1).

Senate Bill 1303 (2021) **required school divisions to offer in-person instruction** to students for the 2021–22 school year, but **permitted exceptions** that allowed for hybrid or remote instruction to be used by (i) schools during periods of high COVID-19 transmission, (ii) staff who had been exposed to COVID-19, or (iii) students with health and safety concerns related to in-person instruction upon request of their parent or guardian.

By the 2021–22 school year, divisions had returned to in-person instruction (sidebar). Some divisions or individual schools transitioned to remote learning for short time periods during the 2021–22 school year because of COVID-19 outbreaks among students or staff. Many divisions also offered optional remote learning opportunities for students.

FIGURE 1-1
All divisions used remote instruction during the pandemic but returned to in-person at different rates until 2021–22, when nearly all divisions had returned



SOURCE: JLARC analysis of information provided by VDOE, COVID-19 School Data Hub.

Remote instruction created numerous challenges for most, but not all, students

Divisions returned to hybrid and fully in-person instruction at varying times for several reasons. Some divisions simply decided the pandemic had subsided enough to return to in-person instruction earlier than other divisions. Other divisions returned to in-person instruction earlier because of frustration from teachers, parents, and students about the challenges of fully remote instruction.

Remote learning posed challenges for many students. School staff cited many issues that affected students' ability to learn in a remote environment (sidebar). Chief among these issues were:

- inability to stay focused or pay attention;
- lack of a responsible adult at home to help with learning;
- less mental health support for students than they might otherwise have received in person; and
- other demands on students, such as caring for a sibling.

JLARC surveyed school staff from a representative sample of 47 schools across 12 school divisions. The survey addressed their experience working in K–12 public education since the start of the COVID-19 pandemic. JLARC received responses from 1,175 staff (28 percent) across all school roles, including teachers, principals, and support staff (Appendix B).

> *"Some students excelled with the support of parents and the willingness to be self-motivated. Other[s] lacked the support at home to encourage them to continue their education."*
>
> **– K–12 teacher**

The impacts of these and other challenges on student behavior, mental health, and academic achievement are discussed in subsequent chapters of this report.

Some students, however, benefited from a remote learning environment. According to national education policy experts, some students who were older or more independent were not negatively affected or may have even benefited from remote learning. Additionally, certain students with disabilities who face obstacles during in-person instruction also may have benefited. One special education teacher cited significant benefits of remote learning for her special education students, including a decrease in anxiety, bullying, and behavioral issues.

Some students lacked internet access or technology needed to participate in remote instruction

Some students lacked access to the internet or a dedicated IT device (e.g., laptop computer, tablet) needed to participate in remote learning. Students need both high-speed internet and a device that is capable of streaming video to effectively participate in real-time (i.e., synchronous) remote learning (sidebar).

Synchronous learning is when students log in and participate in class at a specific time, along with their teacher and peers, and typically includes instruction via live video.

Asynchronous learning is when students access instructional materials on their own time and may include pre-recorded lectures, assignments, or reading materials.

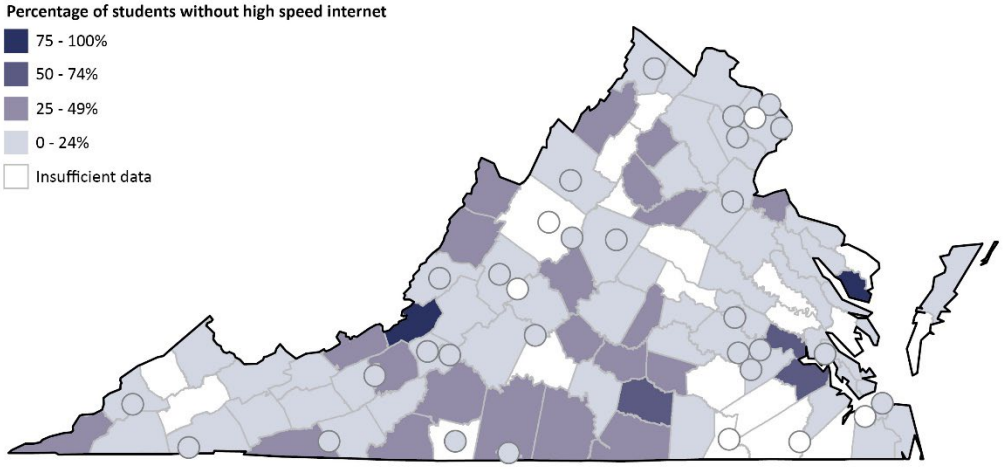
Students who lacked access to the internet or a dedicated laptop or tablet faced a greater barrier to learning remotely. To overcome these challenges, students had to travel to a public location (e.g., library, community center, or school in some cases), obtain or share a computer or tablet with a sibling or other family member, use a smartphone, or use a hotspot (a small device that creates a localized wireless network) either provided by the division or their own family. Students without adequate internet access could often still participate in asynchronous learning; however, experts recommend that at least some remote instruction be synchronous (where students are virtually present with their instructor and peers) to be most effective.

Student internet access

The vast majority of the state's 1.2 million K–12 students had access to high-speed internet at the beginning of the pandemic, but some school divisions had large percentages of students without adequate internet access for remote learning. At the beginning of the 2020–21 school year, at least 6 percent of students statewide (~60,000) did not have access to high-speed internet at home (Figure 1-2) (sidebar). Of these students, the majority had an internet connection too slow to reliably support synchronous learning, while a smaller portion had no internet access at all. Thirty-two divisions had at least 20 percent of students with *no* internet or a *slow* internet connection at home.

Internet and device access data was collected by school divisions and aggregated by VDOE. However, divisions were unable to collect information for some students. About 16 percent of students' *internet access* and 11 percent of students' *device access* is 'unknown'. Because of this, the number of students without adequate internet or device access listed in this report may be an underestimate.

FIGURE 1-2
Some divisions had substantial percentages of students without high-speed internet access



SOURCE: JLARC analysis of VDOE data, collected from individual school divisions for the 2020–21 school year.
NOTE: Students without high-speed internet include those who had slow or no internet connection at home. Excludes those divisions in which more than 50 percent of student data was missing or listed as 'unknown'.

Students without high-speed internet access typically lived in rural divisions and were economically disadvantaged. For example:

- Seventeen percent of students in rural divisions had either no or slow internet, compared with 3 percent in suburban and urban divisions;
- Eight percent of economically disadvantaged students had either no or slow internet, compared with 4 percent of non-economically disadvantaged students; and
- Seven percent of white students had either no or slow internet, compared with 6 percent of all students, 6 percent of Hispanic students, 5 percent of Black students, and 2 percent of Asian students.

Inadequate internet access was particularly problematic for students in divisions that maintained a fully remote or hybrid instruction model. The longer a division remained fully or partially remote, the more difficult it was for students who lacked internet access to participate in that remote instruction. Among the 10 divisions with the highest proportion of students without high-speed internet, four remained fully remote until January 2021, and eight of them remained in at least a hybrid remote model until the end of the year. Only one of the 10 divisions with the least adequate internet access offered in-person instruction for the entire school year.

Divisions assisted students who lacked adequate internet access in several ways. Some divisions offered access to public locations, such as a library or community center, with internet available. Many divisions provided internet hotspots to students and their families. However, these efforts often took weeks or months to effectively implement. In

addition, according to school staff, if students and their families lacked transportation, they may have been unable to get to a public location or to pick up a hotspot device.

Efforts are underway to improve internet accessibility in Virginia. Since 2017, the Virginia Telecommunication Initiative (VATI) has disbursed $846 million in grants to fund telecommunication projects that also receive private and local matching funds (sidebar). In 2021, the VATI program received 57 applications from 84 localities (some applications include multiple localities), requesting $943 million in funding to connect an additional 250,000 Virginia homes and businesses. The VATI application process focuses on universal internet access in a locality and gives higher weighting to schools and other public facilities as it scores applications. While school divisions are not responsible for applying for VATI funding, the localities identified as having the greatest proportion of students without access to high-speed internet are receiving VATI funding to address their shortages. Nine of the 10 divisions with the highest proportion of students without high-speed internet applied for and received VATI funding between 2017 and 2022, receiving nearly $100 million in total.

The **Virginia Telecommunication Initiative (VATI)** was created in 2017 to provide grant funding to localities to improve internet access. The program is administered by the Department of Housing and Community Development and was primarily funded by the general fund, prior to a $700 million appropriation from the 2021 American Rescue Plan Act.

Personal IT devices: Student laptops, computers, or tablets

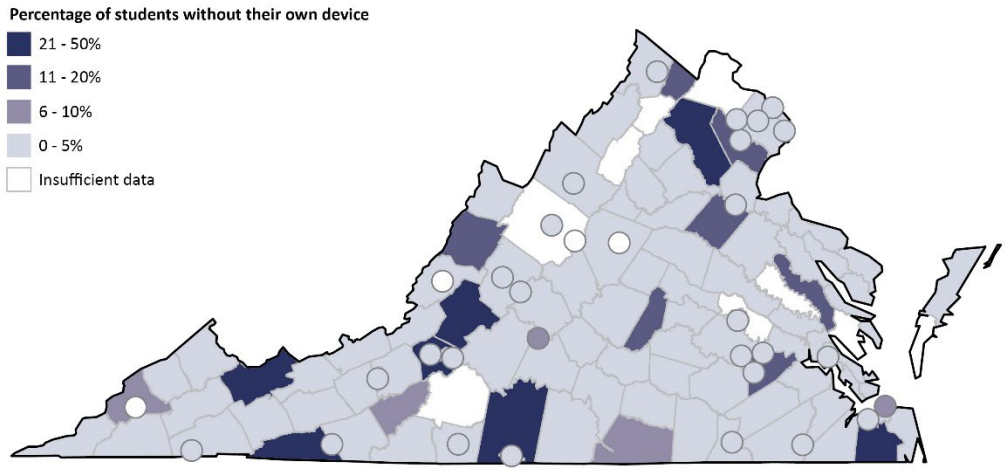
A relatively small number of students lacked access to a personal IT device (e.g., laptop computer, tablet) necessary for remote learning. At the beginning of the 2020–21 school year—approximately five months into the pandemic—at least 1.4 percent of students statewide did not have a device at home (~15,000 students). Another 3.5 percent lacked a personal IT device, meaning they had to share with a family member, use a smartphone, or access a public device (~38,000 students). Consistently and reliably participating in remote instruction was more difficult for these students (together about 4.9 percent of all students).

> *"We did not have devices. We did not have the internet infrastructure. Even when we received funding and ability to purchase these things, we didn't always get them on time because of supply issues."*
>
> **– K–12 teacher**

Students lacking a personal computer or tablet were heavily concentrated in a small number of divisions. Fourteen divisions reported more than 12 percent of their students lacked access to a personal device (Figure 1-3). (The top three were: Fauquier, Chesapeake, and Grayson, the latter having returned to a fully in-person model by September 2020). Ninety-three divisions reported less than 1 percent of students that lacked access.

Students without access to an IT device were more likely to live in an urban school division. Students in urban divisions were slightly more likely to lack access to a device (5 percent) than students in suburban (4 percent) or rural divisions (3 percent). While device access did not vary significantly across racial demographics, Hispanic students were slightly more likely to lack IT device access (6 percent) compared with white students (5 percent) and Black students (4 percent).

FIGURE 1-3
Some divisions had substantial percentages of students without personal IT devices to use for remote learning



SOURCE: JLARC analysis of VDOE data, collected from individual school divisions for the 2020–21 school year.
NOTE: Students without personal devices include those that shared with a family member or sibling and those that did not have access to a device at all. Excludes those divisions where more than 50 percent of student data was missing or listed as 'unknown'.

By the 2021–22 school year, more students had obtained access to an IT device. The percentages of students without a computer or tablet at home declined from 1.4 percent the previous year to 1 percent. In addition, the percentage of students who had to share with a family member, use a smartphone, or a public device declined from 3.5 percent to 2 percent.

Lacking access to an IT device was particularly problematic for students in divisions that maintained a fully remote or hybrid instruction model. Similar to students without adequate internet access, the longer a division remained in a fully remote or hybrid model of instruction, the more difficult it was for students who lacked a personal computer or tablet to participate in that remote instruction. Among the 10 divisions with the highest proportion of students without a personal computer or tablet at home, eight remained in at least a hybrid model until February 2021, and four remained in such a model for the entire school year. Only two of the 10 divisions offered in-person instruction for the entire school year.

K–12 enrollment declined slightly during the pandemic

Some parents chose to remove their children from public school as school divisions navigated the shift to remote, hybrid, then back to in-person instruction. Parents and guardians withdrew students from public education for several reasons related to the pandemic. Some parents or guardians were unable to have their student participate in

remote learning, often because of the lack of a responsible adult at home to supervise the child. Others withdrew their student from public school based on concerns about the educational quality of remote learning, dissatisfaction with required health and safety measures, or the likelihood of their student contracting COVID-19 in an in-person setting.

In the past, **statewide enrollment in Virginia public schools typically increased each year,** ranging from about 0.2 percent to 0.5 percent.

Enrollment decreased 3.2 percent statewide after the start of the pandemic, from 1.25 million students in March 2020 to 1.21 million students in March 2022 (40,205 students). Enrollment growth had started to slow before the pandemic, but the pandemic resulted in an actual decline in enrollment (sidebar).

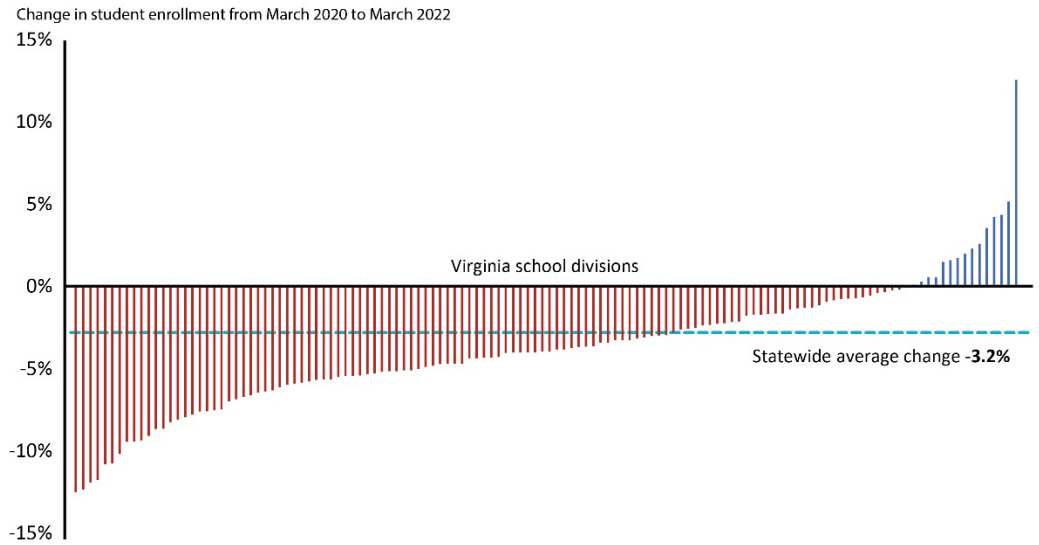
Most of the enrollment decline happened shortly following the onset of the pandemic, with nearly 85 percent of the enrollment decline occurring between the March 2020 and fall 2020 enrollment counts. Enrollment remained relatively unchanged from fall 2020 until spring 2022. VDOE staff project that annual changes to enrollment will return to pre-pandemic trends beginning with the 2022–23 school year, increasing annually about 0.2 to 0.5 percent (~2,400 to ~6,100 students statewide).

Enrollment declined in most (114 of 132) school divisions from March 2020 to March 2022, but the extent varied widely (Figure 1-4). Enrollment declined in more school divisions than usual over a two-year period. (For example, 86 of 132 divisions had a decrease in enrollment from March 2018 to March 2020.) Enrollment decreased by more than 10 percent in seven school divisions—Nelson, Northampton, Mathews, Highland, Charles City, and Craig counties and the City of Richmond—and between 5 and 10 percent in another 41 divisions.

While elementary and middle school enrollment declined, high school enrollment slightly increased. Statewide enrollment in elementary grades (grades K through 5) decreased 5.4 percent (-30,575 students), and middle school grades (grades 6 through 8) decreased 4.2 percent (-12,621 students). Conversely, statewide high school enrollment (grades 9 through 12) increased 0.8 percent (2,990 students) during the same time period.

White student enrollment declined the most, while Hispanic enrollment slightly increased. White student enrollment declined 7.1 percent, while Black student enrollment (-3.7 percent) and Asian student enrollment (-0.8 percent) also declined. In contrast, Hispanic student enrollment increased 2.2 percent.

FIGURE 1-4
Enrollment decreased in most divisions from March 2020 to March 2022



SOURCE: VDOE March 2020 Average Daily Membership and March 2022 Average Daily Membership.
NOTE: Figure excludes enrollment for Essex County, Giles County, and Radford City.

Data limitations make it difficult to fully determine the reasons students leave school divisions. However, the main drivers of the enrollment decline during the pandemic appear to be parents either choosing to (i) homeschool their children, (ii) delay sending their young children to school, or (iii) transfer their children to private school. Those three reasons combined account for approximately 33,500 of the 40,205 decline in student enrollment from the 2019–20 to the 2021–22 school year, with approximately:

- 17,500 additional students starting homeschooling,
- 12,300 fewer students enrolled in kindergarten and first grade combined (which also led to fewer first graders in the second year of the pandemic), and
- 3,700 students transferring to private school and not returning to public school.

Other factors, such as migration in and out of the state, dropouts, and religious exemptions, account for most of the remaining enrollment decline.

The delay in kindergarten enrollment has mostly subsided, but it is unclear when (or if at all) students who shifted to homeschool or private school will return to public school. Fall 2022 enrollment data (not yet available as of this report) will provide more up-to-date insight into whether students are returning to public schools.

To temporarily prevent divisions that experienced enrollment declines from receiving less funding, the General Assembly included a "hold harmless" provision in the Appropriation Act during FY21 and FY22 (sidebar). Student enrollment levels in each division play a large part in determining state and local funding. Had the hold harmless

The **2022 Appropriation Act** contains approximately $177 million for FY23 and FY24 to hold school divisions harmless in terms of state funding for three functional areas: special education, pupil transportation, and nonpersonal support costs.

provision not been in place, the vast majority of divisions would have received less funding during the pandemic. The hold harmless provision related to enrollment was removed for FY23, and state and local funding is now again provided based on enrollment levels in each division. FY23 funding based on actual enrollment is lower for more than 100 divisions (and could be more than $200 million less in total) than what divisions might have received had their enrollment remained at pre-pandemic levels.

Federal and state initiatives have helped school divisions during the pandemic

School divisions have received substantial funding to help respond to pandemic-related challenges. The federal government provided $3.3 billion to the state and school divisions through three separate federal stimulus bills in 2020 and 2021. Divisions were able to use these funds for health and safety measures, school construction and renovation, and interventions to address student needs, among other uses. VDOE is collecting information about how divisions are using these funds, and the 2022 General Assembly directed VDOE to collect data related to how school divisions plan to spend their remaining funds in 2023. (See Appendix D for more information about pandemic-related federal funds.)

The General Assembly and governor have also established initiatives and provided funding to help divisions navigate the pandemic and its remaining effects on students and teachers. For example, in 2022, the Virginia Literacy Act was passed, and the Early Intervention Reading Initiative was expanded (Chapter 4). Additional funding for raises and bonuses for school staff was also provided for FY21 and FY22 (Chapter 5). These and other new initiatives and funding will be discussed throughout the remaining chapters of this report.

2 Student Attendance and Behavior

The pandemic's disruption to in-person instruction allowed pre-existing attendance routines and behavior skills to lapse. Teachers were less likely to notice when students arrived late (via log-in) or became disengaged during periods of remote learning, and school divisions redefined their attendance policies following the onset of the pandemic. Further, the longer students remained in remote learning, the less habitual attending classes became for some students. Additionally, in many cases—especially among younger students—the ability to behave properly in a physical classroom also declined or was not fully developed as a result of the disruptions to in-person learning. During remote learning, bad behavior of one student was less likely to affect other students and therefore easier to ignore (or for teachers to not even notice during virtual instruction).

Chronic absenteeism substantially increased when students returned to in-person instruction

Student attendance greatly affects student engagement and the likelihood of students successfully progressing through their education and achieving a high school diploma. Research has found that poor attendance can lead to grade retention (i.e., not progressing to the next grade level), dropping out of high school, decreased graduation rates, and poor outcomes later in life. The negative impact of poor attendance on academic achievement and outcomes affects students of all ages, but is most severe for middle and high school students.

Chronic absenteeism refers to a student that misses 10 percent or more days in the school year (approximately 18+ of 180 days), including excused and unexcused absences, suspensions, and quarantining because of COVID-19. It is the primary measure available for assessing attendance statewide.

In 2017, **the Virginia Board of Education added chronic absenteeism to the state's Standards of Accreditation** as an indicator of school quality.

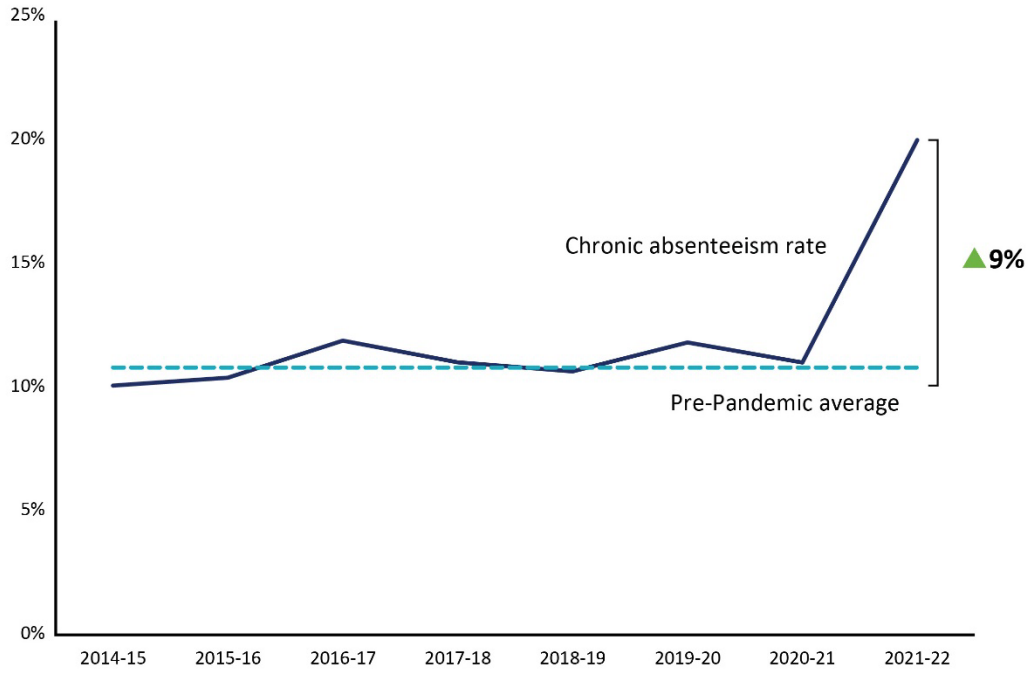
Chronic absenteeism increased in nearly all divisions and among certain student subgroups

Chronic absenteeism nearly doubled last year compared with pre-pandemic averages (sidebar). Nearly 20 percent of students statewide were chronically absent in the 2021–22 school year, a 9 percentage point increase from years before the pandemic (Figure 2-1). This represents approximately 245,000 students statewide. The increase was far greater than in any year since 2014–15; chronic absenteeism fluctuated slightly during the years before the pandemic but never by more than 1.5 percentage points.

Chronic absenteeism as documented by divisions did not initially rise when the pandemic began. It remained about the same during the 2020–21 school year, likely because of widespread use of remote learning and more lenient attendance policies during remote or hybrid instruction. For example, some school and division staff shared that their policy was to mark a student as attending as long as the student was logged

into remote learning, regardless of whether the student was actively engaged and participating in instruction (e.g., camera on and responding to teacher and classmates). Further, in some divisions where in-person instruction was held, students who were quarantining were given the option to attend remotely without any adverse impact to their attendance. However, as school divisions returned to in-person instruction during the 2021–22 school year, chronic absenteeism increased significantly. More detailed data can be found in Appendix E.

FIGURE 2-1
Chronic absenteeism increased statewide since the onset of the pandemic



SOURCE: JLARC analysis of Virginia Department of Education data, 2014–15 through 2021–22.
NOTE: Students that miss 10 percent or more of the school year are considered chronically absent. "Pre-pandemic average" represents a 5-year pre-pandemic average chronic absenteeism rate (2014–15 through 2018–19). In 2020–21 and 2021–22, quarantining due to COVID-19 was a common cause of absenteeism.

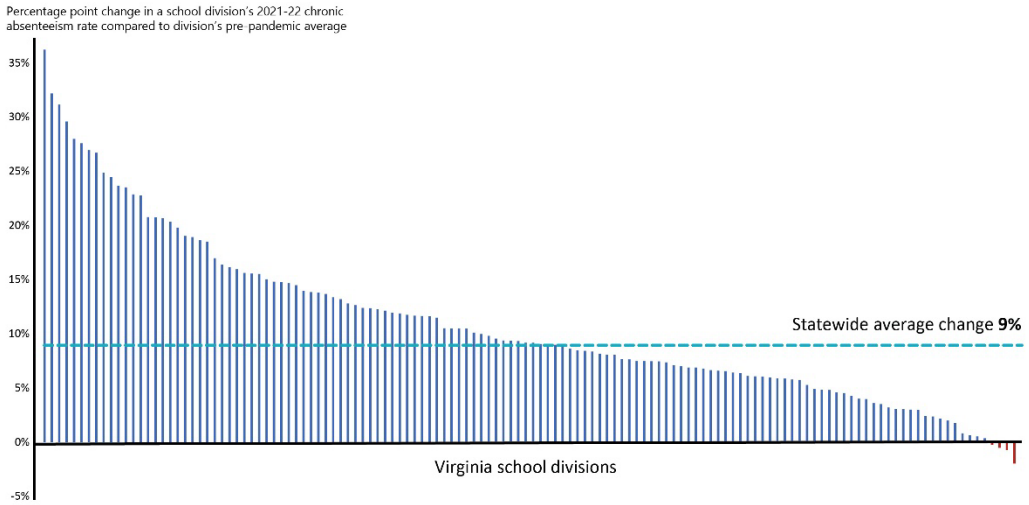
Chronic absenteeism increased more in 2021–22 among certain types of students than others. For example, the proportion of Black and Hispanic students that were chronically absent increased 12 and 13 percentage points, respectively, in 2021–22 compared with the averages over the five years before the pandemic. The proportion of Asian and white students that were chronically absent increased 5 and 7 percentage points, respectively. Rates of chronic absenteeism increased more among economically disadvantaged students (13 percentage points) and English language learners (12 percentage points) during the pandemic than students who are not economically disadvantaged or English language learners (5 and 9 percentage point increases, respectively).

Nearly all school divisions experienced increased chronic absenteeism in the 2021–22 school year compared with before the pandemic, with just three divisions experiencing a decrease (Figure 2-2). Chronic absenteeism increased 20 percentage points or more in 19 divisions. Divisions with the largest increases in chronic absenteeism during the pandemic generally were those with higher fiscal stress, with more economically disadvantaged students, and in small cities.

There does not appear to be a relationship between pandemic-related increases in chronic absenteeism and division size, the proportion of students that are English language learners or students with disabilities, or other division characteristics. However, chronic absenteeism increased less in Southwestern Virginia than other regions of the state.

> *"Attendance in our county, no matter what we tried, was catastrophically bad."*
>
> **– High school teacher**

FIGURE 2-2
Rise in chronic absenteeism negatively affected nearly all divisions



SOURCE: JLARC analysis of Virginia Department of Education data, 2014–15 through 2021–22.
NOTE: Students that miss 10 percent or more of the school year are considered chronically absent. "Pre-pandemic average" represents a 5-year pre-pandemic average chronic absenteeism rate (2014–15 through 2018–19). In 2020–21 and 2021–22, quarantining due to COVID-19 was a common cause of absenteeism.

School staff in Virginia report that student attendance problems have substantially affected their ability to improve students' academic performance. In response to JLARC's survey of school staff (sidebar), one high school teacher shared: "The students are not attending classes. That is the primary reason that academic performance is poor. The problem is not limited to just a few students, it has become a systemic problem." Other teachers shared similar sentiments, explaining "we cannot teach students if they are not present," and "if students are not in the classroom, they will not be learning."

JLARC surveyed school staff from a representative sample of 47 schools across 12 school divisions. The survey addressed their experience working in K–12 public education since the start of the COVID-19 pandemic. JLARC received responses from 1,175 staff (28 percent) across all school roles, including teachers, principals, and support staff (Appendix B).

Multiple factors contributed to rise in chronic absenteeism, some of which may recede during 2022–23 school year

Students that have six or more unexcused absences during a school year are considered to be **truant**. If a student is found to be truant, the school division is required to meet with the student and their parents to resolve issues related to the student's lack of attendance. In certain circumstances, the school division may also refer the student to juvenile and domestic relations district court.

Several factors contributed to the increase in chronic absenteeism following remote instruction. School staff indicated that a substantial portion of absenteeism was due to student illness and quarantines related to COVID-19. However, school staff also attributed a rise in student absenteeism to other factors. According to school staff, many older students began working during the pandemic to address financial concerns or because the flexibility of remote instruction made it easier to find time to work. As students returned to in-person instruction, work schedules conflicted with the academic calendar or caused students earning an income to see less value in attending school (sidebar). Furthermore, some school staff indicated that students and their families became used to greater flexibility during remote instruction and were more likely to schedule events that interfered with the school schedule, such as a family vacation. Finally, some students simply struggled with regaining a routine, such as waking up on time, once their in-person attendance routine became disrupted by remote learning.

Statewide data on chronic absenteeism during the 2022–23 school year will not be available until August 2023, so it is unclear whether or when chronic absenteeism will improve. Quarantine-related absences may ebb and flow as COVID-19 evolves, but are likely to decline statewide. However, it is unclear whether and how quickly other factors—such as older students working and families and students being more willing for students to miss classes—will recede.

Attendance support programs may help reduce chronic absenteeism

Research indicates that **history of poor attendance** is the best predicator of future chronic absenteeism.

Attendance support programs are initiatives at schools that use evidence-based practices to address chronic absenteeism and improve student attendance. These programs devote staffing resources to monitoring attendance data, conducting outreach to students, and addressing barriers to attendance. Once attendance issues are identified through data collection and analysis (sidebar), several outreach strategies can be used. For example, parents and guardians may be unaware of how many days their student has missed, and simply informing them of their student's absenteeism can help improve attendance. In addition, outreach efforts that emphasize the importance of good attendance to students and their parent or guardian—such as describing the relationship between good attendance and positive academic outcomes—have also been shown to improve student attendance. Finally, student health issues, lack of transportation to school, homelessness, or lack of a responsible adult at home can act as barriers to student attendance. Research has found that expanding services like school-based health programs, targeted transportation, or sending staff to students' homes before school can help mitigate these barriers.

Other states have started using attendance support programs to address high rates of chronic absenteeism arising during the pandemic. For example, Connecticut established an initiative to provide intensive individualized support to chronically absent

students via family engagement and home visits using part of the state's federal COVID-19 relief funding (sidebar). Connecticut's program requires the state department of education to coordinate between school divisions and state and local agencies, community organizations, and service providers. These organizations can build relationships with families and address their unique barriers to improve their student's attendance. South Carolina partnered with a private provider of attendance and dropout support programs to monitor, conduct outreach to, and support chronically absent and at-risk students during the 2021–22 school year. This optional program was offered free through the state department of education at no cost to school divisions. Tennessee funded a similar program in FY22. In South Carolina and Tennessee, the private provider coordinates efforts on behalf of the state department of education.

Connecticut's Learner Engagement and Attendance Program uses home visits with chronically absent students to reengage students and improve attendance. The program was launched in 15 school divisions during the 2021–22 school year, and is a partnership between the state's department of education, regional education cooperatives, and various community providers. Connecticut allocated $10.7 million of federal COVID-19 recovery funding to this program.

State is implementing a temporary school attendance support program

To help divisions address student attendance issues, the state is using a portion of its federal COVID-19 relief funding to implement an attendance support program. The 2022 state budget includes $3.5 million of American Rescue Plan Act funding to contract with a private entity to provide outreach and support to chronically absent students. The Virginia Department of Education (VDOE) is overseeing this program and has issued a request for proposal (RFP) as of October 2022 (sidebar).

Some divisions have implemented their own attendance support programs to address chronic absenteeism during the pandemic. For example, Henrico County Public Schools used a portion of its federal COVID-19 relief funding to implement an intensive home visit program during the summers of 2021 and 2022 that addressed barriers to student attendance. Henrico staff reported that this program appeared to be effective.

The state's proposed attendance support program reflects best practices and should help to address chronic absenteeism. The RFP requires that the contractor (i) provide outreach to students and others (parents, school staff, and community partners) through personalized, bimonthly in-person and virtual coaching sessions, (ii) implement attendance strategies individualized to student need, and (iii) provide academic coaching and advocacy/mentoring support. The RFP stipulates that the contractor should report data each month, such as the number of students being supported.

VDOE plans to work with the selected contractor to determine which school divisions would receive support through the program. Those school divisions would be able to provide input on which specific schools or students to target (such as those that are chronically absent or those at highest risk of dropping out of school). Several divisions had relatively high rates of chronic absenteeism both before and during the pandemic (Table 2-1). Some divisions had relatively low absenteeism before the pandemic but experienced substantial increases, including the City of Franklin, and Halifax, Fluvanna, Alleghany, and Craig counties (each with over 40 percent of students chronically absent in 2021–22). Reductions in chronic absenteeism will likely occur at different rates across divisions, which may necessitate reallocating services across divisions over time based on changing need.

TABLE 2-1
Several divisions with high rates of chronic absenteeism pre-pandemic also had significant absenteeism in 2021–22 school year

Division	% of students chronically absent pre-pandemic	% of students chronically absent in 2021–22	# of students chronically absent in 2021–22
Dickenson County	26%	43%	795
Petersburg City	24	39	1,476
Tazewell County	22	54	2,793
Bristol City	22	35	736
Warren County	20	33	1,656
Covington City	19	47	425
Prince Edward County	18	35	623
Total			**8,504**

SOURCE: JLARC analysis of VDOE data, 2014–15 through 2021–22.
NOTE: Students that miss 10 percent or more of the school year are considered chronically absent. "Pre-pandemic" represents a five-year pre-pandemic average chronic absenteeism rate (2014–15 through 2018–19).

Though the planned attendance recovery program appears consistent with best practices, VDOE needs to evaluate and report to the General Assembly on its effectiveness so that the General Assembly will have the benefit of this assessment as it decides whether to extend support for the program beyond the 2023 calendar year.

Student behavior was a major problem when students returned to in-person learning

A misbehaving student is more likely to struggle academically and can distract other students. Extreme cases of poor behavior can even make other students feel less welcome or safe in their school environment, which negatively contributes to their ability to be engaged and learn. Classroom teachers are primarily responsible for addressing and correcting routine behavioral problems (e.g., distracting other students, not listening to instructions). Other school staff, including principals and mental health staff, address more extreme behavioral problems (e.g., continual disruptions, bullying, uncontrolled outbursts).

In Virginia's locally administered K–12 system, the state has relatively limited influence on individual student behavior in classrooms. Local school boards, division and school leadership, and teachers have latitude to address student behavior and behavior policies within the confines of state and federal law. More broadly, parents and families have a critical role to play to help ensure their child does not misbehave in school.

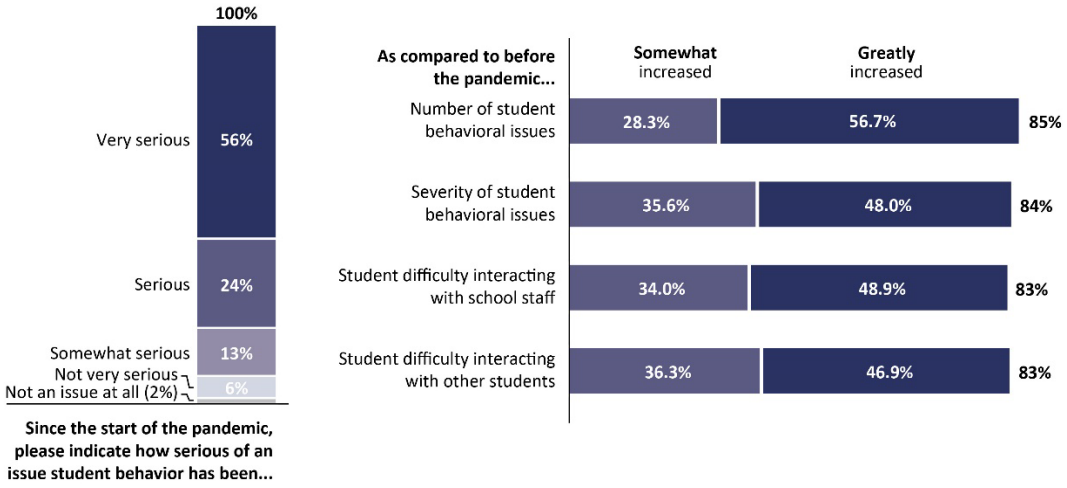
School staff rate student behavior as the most serious issue to address since the return to in-person instruction

School staff identify problematic student behavior as their greatest pandemic-related challenge. JLARC asked school staff to rate the seriousness of 15 issues faced by school staff during the pandemic, such as teacher compensation, student academic progress, lack of respect from parents, and concerns about health. Student behavior was rated as the *most serious* of all 15 issues listed. More than 56 percent of respondents said that student behavior was a very serious problem, and another 24 percent said behavior was a serious problem.

Changes to VDOE's student behavior data collection do not allow for comprehensive comparisons of behavior in 2021–22 to years before the pandemic, but student behavior issues appear worse than before the pandemic, according to school staff (sidebar). For example, 85 percent of school staff believed the number of student behavioral issues had either greatly or somewhat increased (Figure 2-3). Teachers and other school staff also widely shared this sentiment during interviews.

VDOE's discipline data collection system (Discipline, Crime, and Violence or DCV) was replaced for the 2021–22 school year with the new **Student Behavior and Administrative Response (SBAR)** data collection, the culmination of a redesign effort that began prior to the pandemic. The SBAR uses new behavior codes that do not align with DCV codes. The SBAR also measures more than suspension and expulsion as administrative responses to student behavior, including behavioral interventions and academic supports implemented by schools. The change in data collection systems limits comparisons of data between pre-pandemic DCV data and 2021–22 SBAR data.

FIGURE 2-3
School staff report behavior problems are an increasingly serious issue since the pandemic



SOURCE: JLARC survey of Virginia school staff.
NOTE: Respondents comprise principals and instructors.

Principals and teachers cited months spent out of the physical classroom as the main reason for the increase in student behavior problems. A principal explained: "Part of it is because students missed out on two years of [behavior] training provided by faculty." Many students had insufficient adult guidance and support at home during remote learning, further contributing to declines in student behavior. A high school teacher shared: "The students came back from a place where they were left to do what they wanted when they wanted."

The rise in behavior issues as students returned to in-person instruction appears to be a problem nationally. A national survey of school principals found that student behavior and conduct problems increased during the pandemic (sidebar).

The National Center for Education Statistics included **questions about student behavior in the May 2022 School Pulse Panel survey**.

Divisions and the state have begun efforts to address student behavior problems, but state could expand optional training

Divisions report they have begun to take steps to address student behavior issues. For example, about half of the school divisions responding to JLARC's survey indicated that they had either taken steps to add behavioral staff or plan to in the near future (sidebar). Another third of divisions reported not having plans to add behavioral staff but believed additional behavioral staff could help substantially. In addition, student behavior is expected to improve over time according to school staff, at least in part, as students are subject to teachers' classroom management and school behavior policies during in-person instruction.

JLARC surveyed school division superintendents on the effectiveness of strategies to address the impacts of the COVID-19 pandemic on students and staff. One hundred school divisions responded to the survey (76 percent); these divisions represented 84 percent of statewide student enrollment (Appendix B).

State efforts to improve student behavior are generally limited to support, guidance, and training for schools and cannot be expected to address behavior at the classroom or individual student level. The state has implemented several such initiatives in recent years to help divisions address student behavior. For example, the Board of Education recently updated its *Model Guidance for Positive, Preventive Code of Student Conduct Policy and Alternatives to Suspension* to reflect changes during the 2020 legislative session and feedback from divisions and professional organizations. School boards must maintain policies that are consistent with this model guidance but can also adopt more stringent policies.

VDOE also has a program through Virginia Tiered Systems of Supports (VTSS) that provides support, technical assistance, and coaching for school staff to help divisions reduce disruptive classroom behavior (sidebar). Most (87 percent) program funding is federal: over $3 million in grants, including $525,000 in ongoing federal special education grant funding. The remaining 13 percent is $450,000 in state funds.

The **Virginia Tiered Systems of Supports (VTSS)** partners with school divisions throughout the state to support implementation of academic, behavior, and social-emotional wellness initiatives. Its research implementation center (VTSS-RIC) is housed at Virginia Commonwealth University. Among VTSS staff are coaches who deliver behavioral coaching and support to school divisions.

Currently, the program offers a positive behavioral intervention and support program (sidebar, next page). VTSS has trained staff from 664 schools in 65 divisions who have opted to participate in the positive behavioral intervention and support program. Program staff first help schools implement a behavioral support system and then provide training and coaching over the next several years to ensure the program has been correctly implemented. In addition to the coaching and support provided to participating schools, the program also makes general professional development and training resources available online to all school divisions.

VDOE and VTSS have demonstrated positive impacts on student behavior and other measures among participating schools. According to the most recent annual report for the positive behavior program, participant schools have shown:

- decreases in office discipline referrals and out-of-school suspensions;

- less time spent by instructors and administrators on discipline and referrals; and
- consistent or improved Standards of Learning (SOL) test scores and graduation rates.

There is likely still unmet demand for the program. Only about half of divisions and 38 percent of schools have participated thus far. Nine new school divisions have elected to participate for 2022–23, indicating continuing demand for the program, according to VDOE staff. Moreover, just 41 percent of high school teachers responding to the 2022 Virginia School Survey of Climate and Working Conditions agreed or strongly agreed that their school has supports to help misbehaving students develop positive behavior (sidebar). In addition, almost all schools already participating in the program have said they could use additional support to address worsened student behavior since the pandemic and to train new school staff because of increased turnover rates in the past two years.

Positive Behavioral Interventions and Supports (PBIS) is an evidence-based, tiered framework for supporting students' behavioral, academic, social, emotional, and mental health. VDOE's current PBIS initiative dates back to the 2011–12 school year. A new cohort of divisions is added to the program periodically, typically about every other year. Divisions select a subset of their schools to participate.

The state could provide additional funding to facilitate staff from more schools receiving training in positive behavioral interventions and support from VTSS. VDOE staff indicated there has been an increased workload for program staff resulting from the pandemic's negative effect on student behavior, and that additional funding would be necessary to train staff at more schools. VDOE indicates that a team of two behavior coaches can serve five school divisions. Each additional team of two would require about $250,000 of salary and overhead costs to support these five additional divisions. This funding could be provided at least until pandemic-related behavior problems improve (sidebar).

The **Virginia School Survey of Climate and Working Conditions** is administered by VDOE to public K–12 staff to obtain their input on school working conditions.

Information about whether student behavior is improving will be available from two state data sources. SBAR data will be available annually, which will allow 2021–22 data to be compared to 2022–23 data. Answers to certain questions about student behavior on the Virginia School Survey of Climate and Working Conditions will also be available annually.

POLICY OPTION 1

The General Assembly could include language and funding in the Appropriation Act for Virginia Tiered Systems of Supports to provide training and technical assistance to help staff at more schools better address disruptive classroom behavior.

Hiring more instructional assistants could also help address and better manage student behavior problems (Recommendation 5, Chapter 4). Instructional assistants would serve as another adult presence in the classroom and be available to help teachers address student behavior issues. For example, an instructional assistant could identify and resolve problematic behavior during a classroom lesson without disrupting the teacher's lesson. Likewise, an instructional assistant could continue instruction with students, while a teacher addresses behavior issues.

3 Student Mental Health

The extended use of remote instruction, potential and realized health problems due to COVID-19, and other disruptions and stressors related to the pandemic created a challenging environment for students that further contributed to growing mental health concerns. Extended use of remote instruction was especially isolating for some students. Others struggled to learn in a virtual environment, creating additional stress. More broadly, some students were worried that they or family members might become ill. In extreme situations, some students lost family members who died from the virus.

K–12 staff, experts, and students report concern about student mental health during pandemic

School staff in Virginia cite student mental health as a major area of concern during the pandemic. For example, nearly half of school staff reported student anxiety or mental health issues were a "very serious" issue (sidebar). Mental health staff reported observing growth in the number of students exhibiting symptoms of anxiety and depression, exhibiting self-harm or suicidal ideation, threatening or committing harm against others, and/or engaging in risky behavior. Along with the greater prevalence, staff reported that the severity of these symptoms and behaviors has increased. These concerns about student mental health were shared by school staff regardless of staff members' position, level of school (e.g., elementary, high school), or their division's demographics. A school nurse observed:

> The effect on students' and staff's mental health has been catastrophic. Depression, anxiety, addiction, and all the behaviors and consequences that go along with these diseases have all increased.

Mental health professionals also highlighted the increased prevalence of mental health issues in students, with one youth mental health provider describing the past few years as a "pandemic of anxiety." Health-care providers shared similar sentiments. A professional organization for pediatricians said they are consistently hearing from their membership: "my practice has become a mental health practice."

Students themselves, especially females, reported high levels of mental health issues during the pandemic (sidebar). Half of middle school students and nearly two-thirds of high school students reported feeling nervous, anxious, or on edge, according to the Virginia Department of Education's annual school climate survey (Figure 3-1). Similarly, 39 percent of middle school students and 53 percent of high school students indicated they were not able to stop or control worrying, and 34 percent of middle

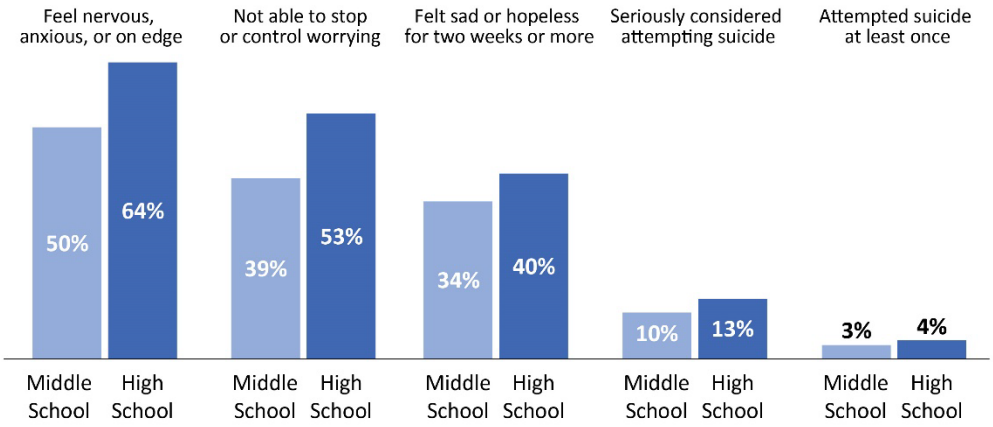
JLARC surveyed school staff from a representative sample of 47 schools across 12 school divisions. The survey addressed their experience working in K–12 public education since the start of the COVID-19 pandemic. JLARC received responses from 1,175 staff (28 percent) across all school roles, including teachers, principals, and support staff (Appendix B).

The **Virginia School Survey of Climate and Working Conditions** is administered by VDOE to public K–12 students to obtain student perceptions of school climate and safety. Middle school students were surveyed in 2021, and high school students were surveyed in 2022.

school students and 40 percent of high school students reported feeling sad or hopeless almost every day for two weeks or more.

A substantial number of students said they suffered from more serious mental health concerns. Ten percent of middle school students and 13 percent of high school students indicated that they seriously considered attempting suicide in the past 12 months. A smaller, but still significant, portion of middle school students (3 percent) and high school students (4 percent) indicated they had attempted suicide at least once. Substantially more female students than male students reported experiencing these mental health issues across all indicators.

FIGURE 3-1
Virginia school climate surveys indicate substantial mental health and well-being issues among middle and high school students



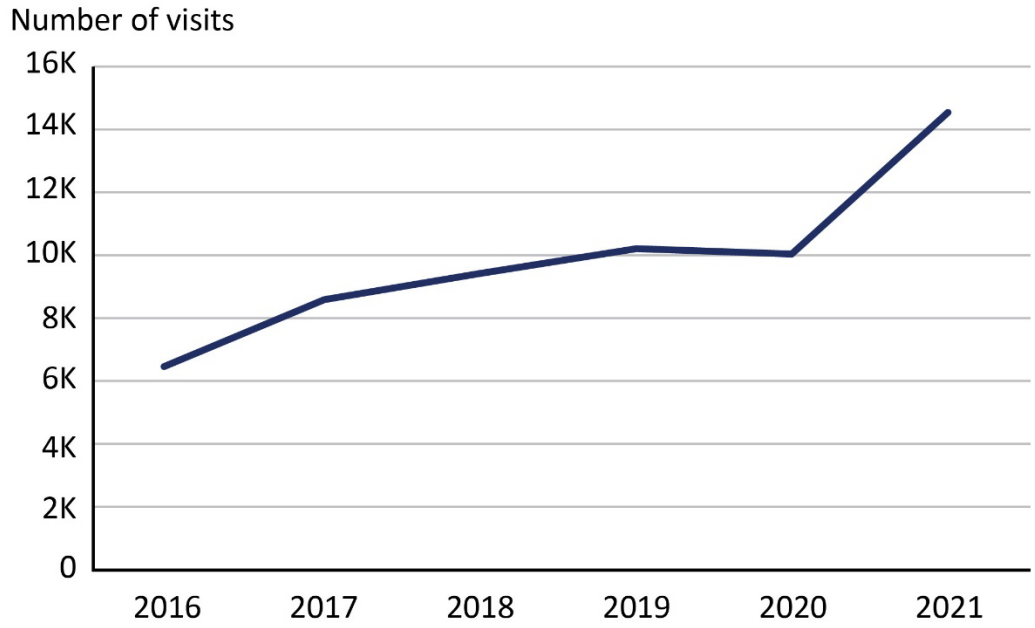
SOURCE: JLARC analysis of Virginia Department of Education's 2021 and 2022 Virginia Survey of Climate and Working Conditions.
NOTE: Surveys were conducted in January through March both years. The 2021 survey was for middle school students statewide. The 2022 survey was for high school students statewide.

Teachers also reported concern about the mental health and social-emotional well-being of very young students. Kindergarten teachers responding to Virginia Kindergarten Readiness Program (VKRP) surveys reported being moderately, very, or extremely concerned about the mental health and social-emotional well-being for 11 percent of their students during the 2020–21 school year and 13 percent of their students during the 2021–22 school year.

Limited data exists to compare mental health issues during the pandemic to pre-pandemic levels, but available data shows an increase in emergency room visits for self-harm. The number of self-harm-related emergency department visits among Virginia youth (ages nine to 18) more than doubled from 2016 to 2021, with the largest increase in self-harm visits occurring in 2021, according to the Virginia Department of Health (Figure 3-2). The majority of self-harm visits for this age group were among females, who made up about two-thirds of self-harm emergency department visits in recent years. Despite the large increase in emergency room visits, the suicide rate only rose

slightly. Youth deaths by suicide (ages nine to 18) averaged 4.9 deaths per 100,000 youth from 2015–2019, and were 6.2 per 100,000 youth in 2020 and 5.6 per 100,000 in 2021.

FIGURE 3-2
Youth emergency room visits for self-harm have risen over time; increasing substantially in 2021



SOURCE: Virginia Department of Health, "Self-Harm and Suicide Among Virginia Youth Aged 9–18 Years, 2015–2021"
NOTE: Self-harm emergency room data is for youth ages 9 to 18. From 2016 to 2021, the number of emergency departments reporting data increased from 92 to 107. Self-harm visits include suicidal thoughts, self-harm, and attempted suicide.

There has also been a concerning increase in students feeling sad or hopeless, a trend which began before the pandemic. About one-quarter of Virginia high school students surveyed reported feeling sad or hopeless for two weeks or more in 2011. By 2019 this proportion had risen to one-third of high school students. As of 2022, 40 percent of high school students surveyed reported feeling sad or hopeless.

Despite these concerning trends, school staff indicated they began to see some improvement as students returned to in-person instruction in the 2021–22 school year. A majority of mental health staff surveyed indicated that student mental health and well-being made positive progress during the school year. They also indicated, however, that progress came at a slower rate than a normal school year.

Students' worsening mental health during the pandemic has been a national trend. For example, the Centers for Disease Control and Prevention reported poor adolescent mental health and high rates of suicidality, as well as an increase in the proportion of mental health-related emergency department visits among adolescents.

K–12 mental health staffing levels likely inadequate to fully address student mental health issues

A school can help students address severe and less serious mental health issues, but many factors beyond a school's control also play a role (e.g., family structure, medical history). This review did not fully assess mental health issues among students, nor determine the appropriate role of the K–12 system within the state's broader public and private provision of mental health services to youth. However, students with serious and less severe mental health issues spend the majority of their week in school. Mental health staff are employed by divisions and schools to provide support to students dealing with less severe mental health issues and to refer students with more serious issues to external providers (sidebar).

School mental health staff include **school counselors**, who support students in their academic, career, personal, and social development; **school psychologists**, who specialize in mental health, social-emotional skills, and psychoeducational assessment; and **school social workers**, who address family, social, economic and environmental barriers that may interfere with a student's academic success.

Current K–12 mental health staffing is likely inadequate to handle workload

Schools have not been able to employ enough mental health staff to address the increases in mental health issues. According to JLARC's survey of division superintendents, more than half of divisions were pessimistic about their ability to employ a suitable mental health workforce for the 2022–23 school year (sidebar). Nearly one-third of divisions reported that compared with before the pandemic, their mental health workforce had fewer qualified staff than needed, making them less suited to effectively provide daily services to students. Vacancies in mental health staff positions increased during the pandemic. In 2021, there were 117 vacant school psychologist positions (11.4 percent of all positions statewide), 74 vacant school social worker positions (7.6 percent), and 167 vacant school counselor positions (3.9 percent) (Appendix I).

JLARC surveyed school division superintendents on the effectiveness of strategies to address the impacts of the COVID-19 pandemic on students and staff. One hundred school divisions responded to the survey (76 percent); these divisions represented 84 percent of statewide student enrollment (Appendix B).

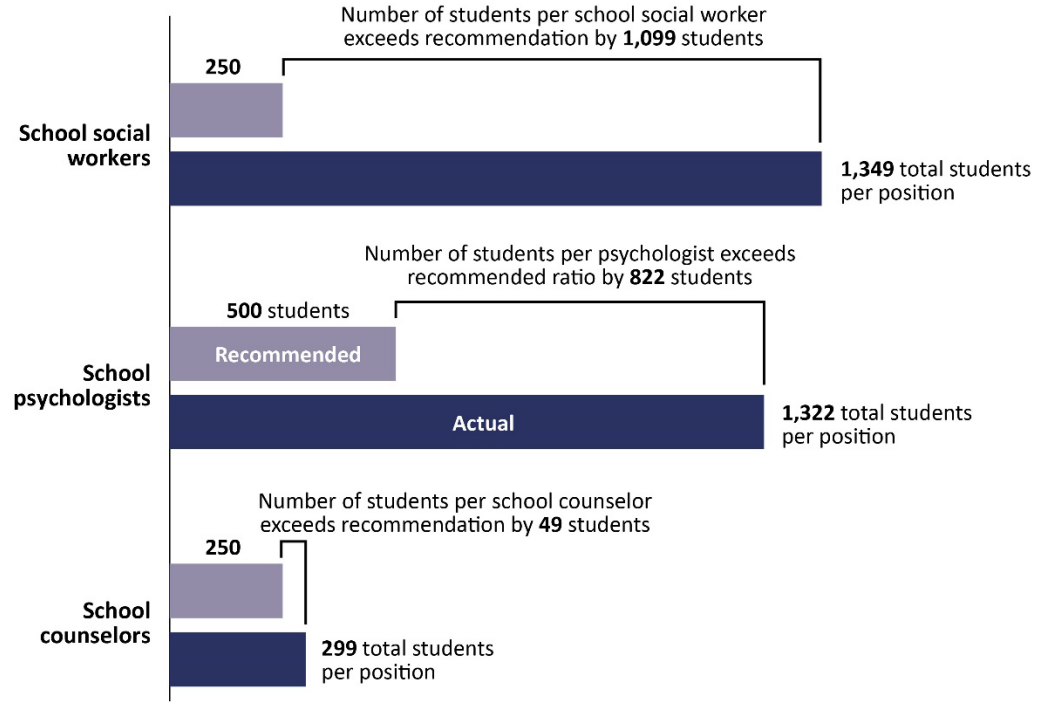
Virginia schools employ fewer mental health staff than staffing levels recommended by national associations. For example, statewide there is one school psychologist for every 1,322 students (Figure 3-3). This is less than half the number of school psychologists recommended by the national professional association, which recommends one psychologist per 500 students (sidebar). This review, however, is not assessing whether the staffing ratios used in the Standards of Quality formula for these positions should be changed. (SOQ funding will be addressed in another JLARC review to be released in 2023.)

Recommended ratios are from the American School Counselor Association, the National Association of School Psychologists, and the School Social Work Association of America.

In 2020, the General Assembly required a ratio of **one school counselor for every 325 students** and provided the state share of funding for this ratio through the Standards of Quality formula.

Mental health staff report that the increase in student mental health needs during the pandemic is taking a toll. Around half of mental health staff surveyed reported lower job satisfaction and morale since the start of the pandemic. About one-third indicated being less able to handle their workload effectively. A staff member noted: "the staff are exhausted in dealing with all of the social-emotional trauma to keep [students] performing academically."

FIGURE 3-3
Divisions employ far fewer mental health staff than national professional associations recommend



SOURCE: JLARC calculated staffing ratios using VDOE's October 2021 Positions and Exits Collection (PEC) and fall 2021 Average Daily Membership (ADM) data.
NOTE: Recommended ratios are from the American School Counselor Association, the National Association of School Psychologists, and the School Social Work Association of America. In 2020, the General Assembly required a ratio of one school counselor for every 325 students and provided the state share of funding for this ratio through the Standards of Quality formula.

School divisions and state are working to grow mental health staff in schools; additional short- and long-term options could be considered

The majority of school mental health staff responding to the JLARC staff survey indicated that additional school counselors, psychologists, and social workers would have a *substantial* positive impact on addressing issues with student mental health and well-being. Likewise, half of school instructional staff anticipated that additional mental health staff would have a substantial positive impact on addressing student academic preparedness and achievement.

Many divisions are already trying to increase their mental health staffing capacity. About three-quarters of divisions surveyed reported that they have increased or intend to increase the number of school counselors, psychologists, and/or social workers they employ. In addition, 46 percent of divisions have hired (or plan to) more mental health counselors, a role that has become more common in schools in response to pandemic-related increases in student mental health needs (sidebar).

Mental health counselors focus primarily on student mental health and counseling duties—such as providing individual and group counseling, training for other staff in mental health first aid and threat assessment, implementing mental health campaigns or programs, and collaborating with community partners—rather than on academic and post-secondary planning.

Several state and federal efforts are also underway to increase the recruitment and retention of school mental health staff. Since 2020, VDOE has used federal grant funding to partner with seven high needs school divisions to enhance recruitment and retention efforts for school-based mental health professionals; create a website that centralizes listings of open positions across the state; and create professional development resources. A separate federal grant is being used to fund the Virginia Partnership for School Mental Health (VPSMH), which aims to enhance the school mental health workforce (sidebar). Finally, the U.S. Department of Education expanded two grant programs that can be used by school divisions for hiring and training school-based mental health staff (i.e., school division employees) (sidebar).

The **Virginia Partnership for School Mental Health (VPSMH)** aims to increase school mental health services by expanding graduate programs' focus on mental health, training school staff to supervise practicum and internship students, placing more graduate students in underserved divisions, and providing peer feedback.

The **School-Based Mental Health Services Grant Program and the Mental Health Service Professional Demonstration Grant Program** are federal grant programs that will collectively provide $1 billion in grants over the next five years to school divisions nationwide that successfully apply.

In addition, the 2022 General Assembly created an alternative pathway for a provisional school counseling license. The new pathway allows licensed professional counselors, clinical social workers, psychologists, or other licensed counseling professionals with appropriate experience and training to obtain a provisional license to provide services as a school counselor.

The state could try several other strategies to address mental health staffing problems. Divisions could use retention or recruiting bonuses (discussed in more detail in Chapter 5), or even permanent salary increases. In addition, JLARC has identified potential ways to improve mental health staffing: by increasing dedicated counseling time in schools and creating an alternative school psychologist licensing pathway.

State could more clearly define school counselor role to reduce non-counseling duties

One way to create additional mental health staff capacity is to reduce staff's time spent on activities unrelated to directly supporting students' academic and mental health needs (e.g., direct counseling). Nearly all school-based mental health staff surveyed indicated that having more time for direct counseling to students would have a positive impact. Because of mental health personnel shortages, schools are unlikely to be able to hire large numbers of additional mental health staff in the short term. However, redirecting more existing staff time to direct counseling could help meet student need.

School counselors typically perform activities that are not related to counseling, consuming valuable time that could be spent providing counseling services to students. School counselors make up the majority of school-based mental health staff and have lower vacancy rates than other mental health positions, so schools should use existing counselors' time effectively. However, school counselors are often asked to spend significant time on non-counseling activities, according to school staff and division leadership. These non-counseling activities can include coordinating and administering testing, supervising lunch, supervising recess, serving as a substitute teacher, and other administrative duties. While performing these non-counseling activities, counselors are unable to provide direct counseling services to students. The American School Counselor Association identifies activities such as testing coordination, substitute teaching, and clerical duties as inappropriate for school counselors.

Statute currently specifies how much time counselors should spend on direct counseling but does not define activities that qualify as direct counseling. In 2019, the General Assembly required that school counselors spend at least 80 percent of their time providing *direct counseling* to students. Prior to 2019, state regulations required counselors to spend only 60 percent of their time providing counseling. Direct counseling is not defined in statute; however, VDOE and a stakeholder group of school counselors and division administrators created guidance for how to implement the direct counseling requirement. The guidance memo defines direct counseling services to include (i) application of the school counseling curriculum; (ii) individual, small group, and/or crisis counseling; (iii) student appraisal and advisement; and/or (iv) consultation, collaboration, and referrals (Table 3-1).

TABLE 3-1
Key activities that qualify as direct counseling services

School counseling curriculum	Classroom lessons or school-wide activities that provide students with the knowledge, attitudes, and skills appropriate for their developmental level
Counseling	Individual, small group, or crisis counseling sessions related to mental health and wellness, social-emotional development, achievement, and college and career readiness
Appraisal and advisement	Assisting students in exploring their abilities, interests, skills, and achievements to make decisions and develop immediate and long-range goals and plans
Consultation, collaboration, and referrals	Working with parents, teachers, administrators, school staff, outside providers, and community stakeholders to support the needs of a specific student or promote needed systemic change

SOURCE: Virginia Department of Education Principals' Memo 1014-19, *Suggested Best Practices on the Provision of Direct Counseling Services*

Some states, including North Carolina, Texas, and Washington, have explicitly excluded some non-counseling activities, such as testing administration and lunch supervision, from counting toward required direct counseling service. Though excluding certain activities from direct counseling would likely result in increased counseling time for students, it would also create a gap (at least in some schools or divisions) to fill for other necessary administrative tasks.

The General Assembly should define direct counseling in statute to better ensure all school counselors spend at least 80 percent of their time on counseling responsibilities as currently required. The definition should include the activities developed by the 2019 VDOE and stakeholder workgroup. Certain non-counseling activities such as the coordination or administration of testing should also be specified as outside the scope of direct counseling.

VDOE could help estimate the annual fiscal impact to school divisions to cover administrative tasks currently being handled by school counselors. To do so, VDOE could perform a one-time data collection (from a sample or all school divisions) to estimate how much time school counselors currently dedicate to administrative tasks.

Another option would be for the Board of Education and VDOE to convene a workgroup of state and local stakeholders to estimate the annual fiscal impact of limiting the amount of time counselors can spend on non-counseling activities. Funding could be appropriated to hire additional support staff where needed to perform these non-counseling activities. In the short term, there is likely unspent federal American Rescue Plan Act (ARPA) funds that divisions could use to hire necessary staff. These funds must be obligated by September 2024. VDOE is tracking how divisions are spending their ARPA funding and has been directed to collect data from divisions on their unspent funding and plans for remaining funds.

RECOMMENDATION 1

The General Assembly may wish to consider amending the Code of Virginia to define direct school counseling services to include only those activities established as direct counseling services by the Virginia Department of Education Principals' Memo 1014-19 and to expressly exclude from the definition administrative and support activities that are not considered direct counseling.

State could address shortage of school psychologists

The state could also help address the shortage of school psychologists, which are the school mental health positions with the highest vacancy rates. School division leadership told JLARC that school psychologist positions are particularly challenging to fill, in part because of the relatively small number of qualified individuals available.

In the near term, the General Assembly could create alternative pathways to becoming a school psychologist, as it did this year for school counselors. An alternative pathway would create opportunities for professionals from related fields, such as clinical psychology, to gain provisional licensure to increase the number of available school psychologists more quickly. Other states, including Montana, Florida, Colorado, and Texas, offer special licensure provisions to make it easier for psychologists to transition to schools from related fields like clinical or counseling psychology.

An alternative school psychology licensing pathway may not produce a large number of new psychologists, but even a small increase could be meaningful given the number of students served by each school psychologist. School psychologists support a relatively large number of students and primarily provide mental health support to only those students with the highest need. Shortages in mental health professions across the state mean few individuals would likely take advantage of this pathway. However, because each school psychologist in Virginia currently serves over 1,300 students on average, even a relatively modest number of additional school psychologists entering the workforce could help a substantial number of students.

RECOMMENDATION 2

The General Assembly may wish to consider amending the Code of Virginia to allow qualified, licensed psychologists in other fields to be provisionally licensed as a school psychologist.

Over the long term, school psychologist preparation programs may not be graduating enough psychologists to meet Virginia's needs. School psychologist preparation programs at Virginia's colleges and universities tend to be small, collectively producing 50 to 75 graduates each year.

Expanding existing preparation programs would have several challenges. Interviews indicate that the time and expense associated with becoming a school psychologist can limit the number of individuals able or willing to pursue a traditional school psychology degree path, which typically requires two years of full-time graduate study followed by a year-long, full-time internship. In addition, preparation programs maintain small cohorts because program accreditation requires low faculty-to-student ratios. Finally, there are a limited number of school psychologists available to supervise in-school practicum experience within proximity to higher education institutions that offer school psychologist preparation programs. This further constrains these programs' capacities.

Expanding school divisions' partnerships with public and private providers could increase mental health resources for students

School divisions partnering with external mental health providers can offer additional resources for students and offer more targeted care to students with the greatest needs. School divisions and experts view contracting with public or private mental health providers as an effective way to provide mental health services to students. Schools can contract or coordinate with public and private mental health providers in their local community to increase students' access to services.

Many Virginia school divisions already partner with external mental health providers in some way. More than 80 percent of divisions surveyed indicated that they have—or plan to soon develop—a relationship with an external mental health provider. These relationships range from relatively simple agreements, such as referral systems, to formalized partnerships for services like telehealth or contracts with community providers to deliver in-school mental health services. For example, Hopewell City Public Schools has contracted with a nonprofit children's mental health provider to place licensed or license-eligible mental health professionals in each of its schools (Case Study 3-1). Hampton City Public Schools has partnered with its local community services board (CSB) to place therapists in its schools (Case Study 3-2). Both divisions began their partnership in 2022 and are using federal pandemic relief funds to compensate their respective providers.

CASE STUDY 3-1
Hopewell partners with nonprofit children's mental health provider

Hopewell City Public Schools contracts with a nonprofit organization specializing in children's mental health services to locate a licensed or license-eligible clinician in each of the city's five schools. The school division used Elementary and Secondary School Emergency Relief (ESSER) funds to pay for the program; there are no costs to students for these services.

CASE STUDY 3-2
Hampton partnership with local community services board

Hampton City Public Schools established an in-school presence by CSB providers. Each CSB therapist serves three schools. They supplement services of school-based mental health staff, offering more targeted support to students with the most severe mental health needs during the school day. The school division used ESSER funds to pay for the program; there are no costs to students for these services.

Both divisions report benefits for students and staff from these partnerships. The partnerships allow schools to have clinicians who can provide higher levels of intervention for students with the greatest needs or who are in crisis. School-employed mental health staff provide general counseling and psychological support, while the external providers' staff handle students' more urgent or severe needs. Division leadership also indicated that the programs have lessened school-based mental health staff workloads, contributing to better retention of those staff.

Partnerships between schools and community health providers also allow more flexibility to supplement school mental health staff. The primary mission of a school is to provide instruction, but students' mental health concerns can interfere with academic instruction. Using community-based mental health providers allows the school to assist students in receiving the services they need, but does not leave the school or its staff solely responsible for providing mental health services—especially in cases of mental health crisis. Partnering with community-based mental health providers also expands the pool of providers available to work with students, which may be necessary to supplement school staff because of mental health staff shortages and vacancies. In addition, the contractual nature of these partnerships means that the resources being provided can be tailored to fit the needs of different school divisions and can more easily be adjusted over time as needed.

Additional state guidance on effective partnership agreements could help divisions interested in creating partnerships

In the near term, school divisions interested in establishing a community partnership and who have the resources to do so (e.g., funding source, interest from external providers) could likely benefit from additional guidance on how to adequately structure a

mental health services partnership. Research and interviews with experts and leadership at school divisions with existing partnerships point to several ways to help ensure an effective partnership, including:

- using partnerships to complement existing school staff, rather than replacing school-based mental health staffing;
- clearly defining partnership roles, responsibilities, and outcomes;
- clearly defining key logistics, such as service location (e.g., home or school), qualification level of providers, and plans to obtain parental consent and communicate student needs to parents;
- designating a coordinator to communicate with providers and school leadership, and to help connect students to mental health resources; and
- regularly assessing performance, needs, and resource levels.

VDOE is currently developing a model memorandum of understanding (MOU) that will provide a template and guidance for effective public and private partnerships, privacy considerations related to the exchange of information, and relevant laws and regulations. VDOE should ensure the guidance is complete and available to divisions in a timely manner so that school divisions can use it for the 2023–24 school year. In finalizing the guidance, VDOE should consult Department of Behavioral Health and Developmental Services staff overseeing the state's school-based mental health integration pilot to incorporate key considerations or lessons learned (sidebar).

The Department of Behavioral Health and Developmental Services (DBHDS) received $2.5 million for a **School-Based Mental Health Integration Pilot**. DBHDS will provide technical assistance and distribute grants to school divisions to contract mental health services for students from public or private community providers. DBHDS will report on these efforts and identify recommendations for future funding and resources by September 2023.

A **Behavioral Health Commission study** will examine how schools can maximize school-based mental health services, including through school partnerships with community mental health providers. The commission will evaluate the current reach of existing mental health services and identify strategies for expansion, releasing recommendations in December 2023.

RECOMMENDATION 3

The Virginia Department of Education should ensure its model memorandum of understanding to help divisions establish partnerships with community mental health providers (i) reflects effective practices and (ii) is available by March 30, 2023 to allow it to be used by divisions for the 2023–24 school year.

Extent of feasible partnerships is unclear, but state could help identify opportunities and provide additional funding

The scope for expanding mental health partnerships between schools and community providers is unknown because of limited information available and the pandemic-specific focus of this report. Multiple factors determine whether a community partnership is feasible. A school division must have the need for additional mental health resources, but there also needs to be a provider (public or private) that has interest in partnering with the division. Even if there is mutual interest, there needs to be mental health resource capacity in the community to provide additional services to students (sidebar).

Ninety-three out of 133 localities in Virginia are federally designated **Mental Health Professional Shortage Areas**, according to the Virginia Health Care Foundation. Thirty-seven percent of Virginia's population live in these localities.

The state can help facilitate schools' partnerships with community mental health providers. School division and local government leadership are most familiar with their communities and are best suited to identify potential partnership opportunities. The

state, though, could collect information from divisions to determine the statewide extent of potential or existing partnerships between school divisions and mental health services providers. Relevant information to collect would include:

- partner organization: name of the existing or potential partner organization(s);
- type of partnership: brief description of existing or potential services from a mental health provider organization to supplement existing school staff;
- scope: existing level or potential expansion of mental health services for students (e.g., number of providers, schools served, and students served); and
- cost and funding source: actual or estimated annual cost of existing or potential partnership(s) across all categories (e.g., personnel, overhead) and available funding, including available federal pandemic relief funds that could be used by school divisions in the near term.

This information could be used to help the state determine whether to provide funding to facilitate new partnerships and maintain existing arrangements, including those currently being supported with expiring federal funds.

To better incentivize potential partnerships and develop new partnerships more quickly, the General Assembly could appropriate a relatively small amount of funding in the 2023 session. While partnerships' costs depend on the type and scope of the partnership, the main cost drivers are how many schools are served within a division and how much provider staff time is dedicated to each school. Table 3-2 illustrates the costs of funding partnerships at divisions of varying sizes and different ratios of providers to students (based on data from ongoing partnerships). Funding could be adjusted over time based on the results of VDOE's data collection about current and potential new and feasible partnerships. The funding could be provided to VDOE to administer through grants, appropriated directly to divisions, or—in the case of a partnership between a school division and CSB—be distributed to the CSB by DBHDS.

TABLE 3-2
Estimated annual cost of school based community mental health providers by size of division

	1 provider per school	1 provider per 3 schools
Small division (3 schools)	$300,000	$100,000
Medium division (10 schools)	$1,000,000	$300,000
Large division (50 schools)	$ 5,000,000	$1,700,000

SOURCE: JLARC analysis of existing partnerships between school divisions and community-based mental health providers.
NOTE: Assumes $100,000 annual cost per community-based mental health provider, including direct and overhead costs. Assumptions of cost and number of providers per school are based on JLARC interviews with school divisions currently operating partnerships.

POLICY OPTION 2

The General Assembly could include language in the Appropriation Act directing the Virginia Department of Education to collect and report information from school divisions about existing and potential partnerships between school divisions and mental health providers, including the partner organization, type of partnership, scope, cost, and funding source.

POLICY OPTION 3

The General Assembly could include language and funding in the Appropriation Act to help develop and support existing partnerships between school divisions and mental health providers to provide enhanced mental health services to students.

4 Student Academic Achievement

Prior to the pandemic, most key indicators of Virginia student academic achievement had been generally stable, with the exception of a relatively modest several-year decline in reading performance among elementary students. (See Appendix F for a summary of key student academic achievement data from before the pandemic.) As in all states, before the pandemic there were achievement gaps in Virginia between students with different characteristics, such as race/ethnicity or socioeconomic status, and wide variation between the highest- and lowest-performing divisions and schools.

The pandemic-related closure of schools in March 2020 began a period of unprecedented disruption to student learning. Students initially were taught remotely, then often moved to a hybrid model, and ultimately to in-person instruction on different schedules (Chapter 1). Many students faced significant challenges during hybrid or remote learning, such as an inability to stay focused or pay attention; lack of a responsible adult at home to help with learning; lack of physical or mental health supports normally received in school; other demands on their time such as caring for a sibling; and lack of reliable or adequate internet or device access. Even where in-person instruction occurred, pandemic restrictions, like social distancing and wearing masks, altered traditional instructional methods.

Pandemic-related disruptions resulted in many students missing critical academic content. Without acquiring all the relevant grade-level material, students can have content knowledge gaps as they advance to the next grade, making them more likely to struggle academically. Researchers estimate the average student in Virginia lost 15 weeks of math instruction and 11 weeks of reading instruction through fall 2021 because of pandemic-related disruptions (sidebar).

The pandemic's disruptions to in-person instruction also negatively affected many students' academic habits. According to school staff, many students returned less focused, less prepared to learn, and less engaged in class than they were before the pandemic. These changes stemmed—at least to some extent—from time spent away from the "normal" in-person classroom (i.e., in a remote setting or with substantial alterations to in-person instruction) and more lenient academic policies during the pandemic.

The Edunomics lab at Georgetown University used findings from research literature to develop a model that estimates the average **number of weeks of learning students in each school division lost** based on (i) the amount of time each division spent in remote or hybrid instruction, (ii) the division's student demographics, and (iii) the division's prior performance levels.

SOL and other assessment scores declined during the pandemic but have generally begun improving

Scores on Standards of Learning (SOL) tests and other assessments can help assess the pandemic's effect on K–12 student learning. This study examined third- and eighth-grade reading and math SOL scores from the 2014–15 school year through the

2021–22 school year. The primary method used to determine the effect of the pandemic was to compare SOL and other assessment scores in the 2020–21 and 2021–22 school years to pre-pandemic averages. The data in this section includes available statewide data through October 2022. More detailed data on student assessments can be found in Appendix G. The scope of this report is limited to the impact of pandemic-related disruptions and does not review the appropriateness of the state's standardized assessments or their scoring thresholds (sidebar).

This report does not evaluate whether (i) the level of individual, school, division, or statewide test scores is satisfactory or acceptable; (ii) whether the standards set by the Board of Education and other groups to measure academic achievement are appropriate; or (iii) whether Virginia's performance is satisfactory or acceptable compared to other states.

Reading SOL scores are slightly below, and math SOL scores are still below pre-pandemic averages

Student performance on SOL tests declined during the pandemic. Average reading and math SOL scores during the 2021–22 school year were lower than average performance before the pandemic (sidebar). Performance was generally worse in math than reading (Figure 4-1). The average third- and eighth-grade reading SOL scores in 2021–22 were 3 and 2 percent lower than pre-pandemic scores, while third- and eighth-grade math scores were 4 and 6 percent lower. Similarly, the difference in the SOL pass rates between the 2021–22 school year and pre-pandemic averages was larger for math than for reading (Figure 4-1) (sidebar, next page).

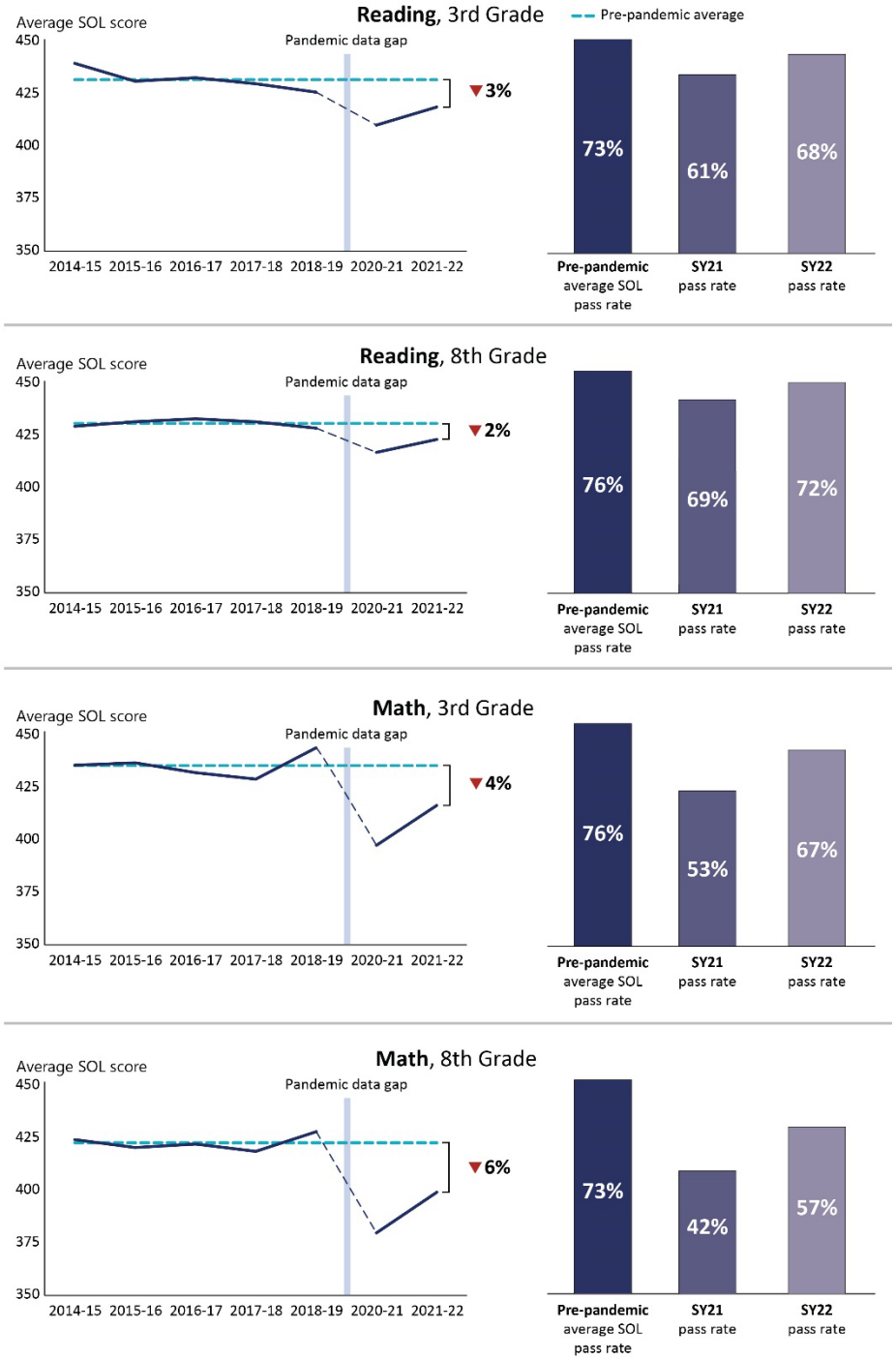
This report focuses on **SOL scores from the third- and eighth-grade math and reading assessments** from 2014–15 to 2021–22. These four assessments represent critical milestones in K–12 education for mastery of foundational skills and content knowledge. Research indicates that proficiency of math and reading concepts at these grade levels is correlated with future academic success.

JLARC also examined fifth-grade science and eighth-grade science and writing SOLs and found that pandemic-related declines and rebounding generally followed similar trends as third- and eighth-grade math scores.

Reading and math SOL scores and pass rates have improved since the initial decline in 2020–21—when many students were still being instructed remotely for some or all of the school year. SOLs were optional in 2020–21 because of the pandemic, and only about 75 percent of eligible students took the assessments. Third- and eighth-grade reading SOL scores decreased 5 and 3 percent, respectively, in the first full school year after the onset of the pandemic (2020–21) but have modestly rebounded. Math scores declined more substantially in 2020–21, decreasing 9 and 10 percent, respectively, among third- and eighth-grade students. However, math scores rebounded more substantially in 2021–22. SOL pass rates from 2020–21 to 2021–22 show a similar trend.

The decline in student test scores during the pandemic is not unique to Virginia. Research on multiple nationally administered assessments and results of other states' standardized assessments indicate students nationwide had more significant declines in math than reading performance during the pandemic, but scores have generally rebounded somewhat in 2021–22.

FIGURE 4-1
SOL reading and math scores and pass rates are rebounding, though math declined by more during pandemic



SOL pass rates declined more substantially than SOL scores because the average SOL score tended to be relatively close to the pass/fail threshold (400 points). Therefore, any decrease in overall scores can have a proportionally larger decrease in pass rates, and vice versa.

SOURCE: JLARC analysis of Virginia Department of Education data, 2014–15 through 2021–22.
NOTE: Standards of Learning (SOL) tests were not administered in 2019–20 due to the pandemic. Pre-pandemic average score represents a five-year average for 2014–15 through 2018–19. A new math SOL (including revised cut scores) was introduced in the 2018–19 school year, and improvements were seen statewide. A new reading SOL (including revised cut scores) was introduced in the 2020–21 school year. 2020–21 SOLs were optional; only about 75 percent of eligible students took the assessments. Pass rate is based on a score of 400.

Though SOL performance is improving, experts suggest it may take several years before student performance returns to levels experienced before the pandemic. NWEA, an educational research nonprofit, estimates that if the rate of academic growth experienced nationwide during the 2021–22 school year continues, it will take an average of three to five years for students to return to pre-pandemic achievement levels. The estimated academic recovery time varies by grade level and subject area. For example, older students will likely take longer than younger students to catch up. Some students may never fully recover what they missed during the pandemic before they finish high school.

Some divisions saw substantial declines in test scores, especially those that used remote instruction for longer

SOL scores declined across most school divisions during the pandemic, with some divisions experiencing greater declines. Reading SOL scores were lower in 2021–22 than the pre-pandemic average in 113 of 132 school divisions (Figure 4-2). Scores declined 5 percent or more, on average, in 21 divisions. Eight divisions experienced no change in reading SOL scores, and 11 divisions actually improved over pre-pandemic averages. Math SOL scores were lower than pre-pandemic averages in 122 of 132 school divisions. Scores declined by 5 percent or more in 62 divisions. Three school divisions experienced no change in SOL scores in 2021–22 compared to pre-pandemic levels, and scores improved in seven divisions.

Despite relatively modest declines in overall statewide performance, some school divisions have low performance that is of substantial concern. These include divisions that had relatively low performance before the pandemic (e.g., Richmond, Danville, and Petersburg cities), as well as others that experienced relatively significant declines in performance on one or more SOLs during the pandemic (e.g., Bath, Northumberland). In approximately 20 school divisions, more than 50 percent of third-grade students failed their reading and/or math SOLs in 2021–22. Further, more than half of students in 58 school divisions failed their eighth-grade math SOL in 2021–22.

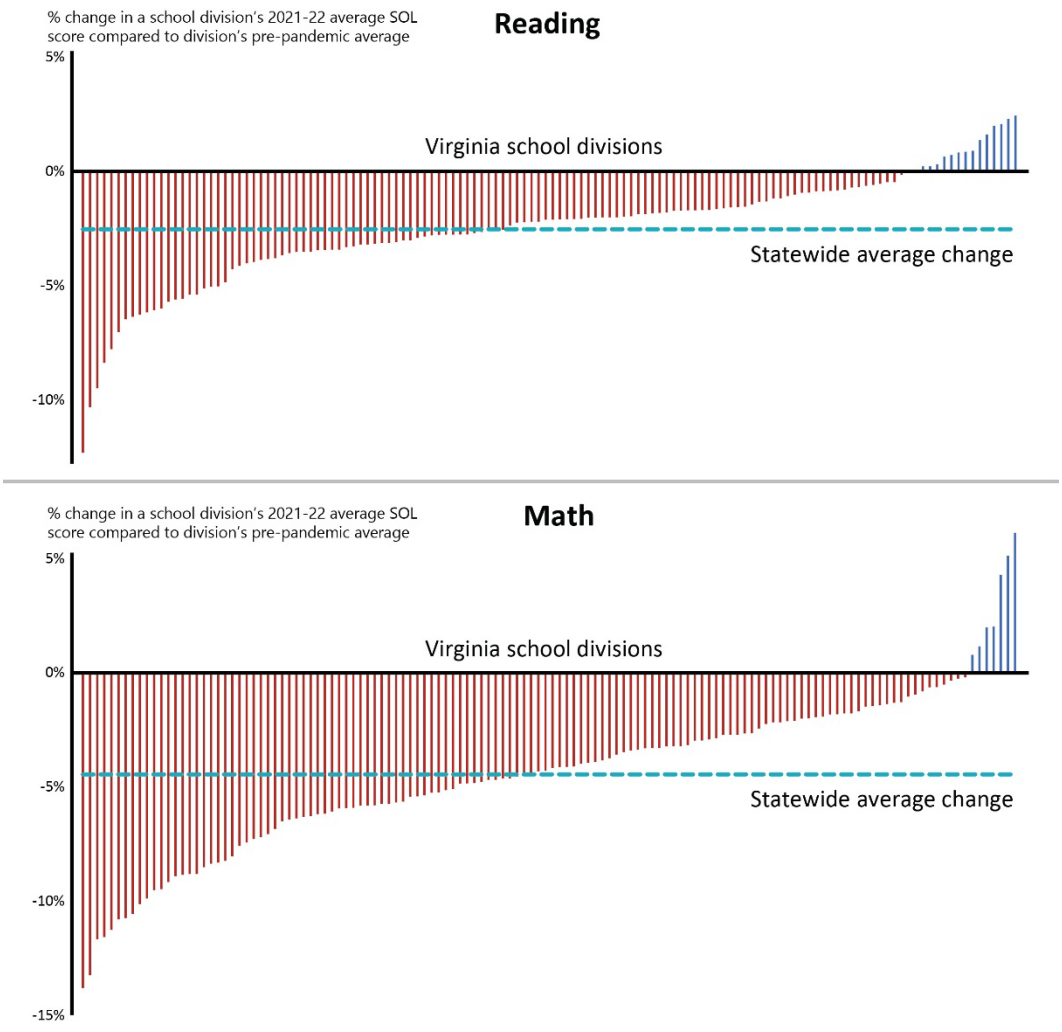
Some of the school divisions with the largest SOL score declines in 2020–21 rebounded the most in 2021–22. For example, Richmond's average third-grade math SOL score decreased 28 percent in 2020–21, but was 9 percent below pre-pandemic averages in 2021–22. Brunswick County's average eighth-grade reading score decreased 16 percent in 2020–21 but improved to 6 percent below pre-pandemic levels in 2021–22.

SOL scores generally declined more in divisions that relied longer on remote instruction than in divisions that returned to in-person instruction sooner. However, SOL scores in these divisions have rebounded more. For example, 2020–21 eighth-grade math SOL scores in school divisions that used remote instruction longer declined, on average, by 7 percentage points more than divisions that returned sooner (12 percent decline versus 5 percent decline). However, divisions that relied longer on remote instruction also generally rebounded by more in 2021–22. As of spring 2022, there was

a one or two percentage point difference in SOL scores between divisions that relied on remote instruction longer and divisions that returned sooner.

SOL scores were slightly lower in 2021–22 compared with pre-pandemic levels in urban divisions, divisions with more minority students, and divisions with more English language learners. There is not a relationship between SOL score changes during the pandemic and other division-level characteristics such as fiscal stress, geographic region, or school division size (i.e., enrollment).

FIGURE 4-2
SOL scores in 2021–22 below pre-pandemic scores in most divisions, and significantly worse in some divisions



SOURCE: JLARC analysis of Virginia Department of Education data, 2014–15 through 2021–22.
NOTE: Represents percentage change from five-year pre-pandemic average (2014–15 through 2018–19) SOL test score compared with 2021–22. Third- and eighth-grade math and reading SOL scores have been averaged into one overall reading and one overall math score per division.

Early childhood literacy declined substantially during the pandemic

The **Phonological Awareness Literacy Screening (PALS)** is a statewide assessment that screens K–2 students for early signs of reading difficulty.

The **Virginia Kindergarten Readiness Program (VKRP)** is a statewide assessment that measures students' literacy, math, self-regulation, and social skills at the beginning and end of kindergarten. PALS is the literacy component of the VKRP.

Virginia students do not take SOL tests until third grade, but other assessments provide insight into the pandemic's effects on young students (sidebar). For example, fewer first- and second-grade students met early childhood literacy benchmarks in 2021–22 compared with the year before the pandemic. From spring 2019 to spring 2022, the proportion of:

- first graders that met the Phonological Awareness Literacy Screening (PALS) benchmark decreased from 78 percent to 69 percent, and
- second graders that met the PALS benchmark decreased from 76 percent to 65 percent.

More first- and second-grade students met PALS benchmarks in spring 2022 than spring 2021, indicating early literacy has rebounded somewhat during the pandemic. Students that do not meet PALS benchmarks are considered to be at high risk for future reading difficulties (such as third-grade reading failure) without effective interventions.

VKRP was not administered statewide until fall 2019 so results from testing prior to fall 2019 were not included in analysis for this report.

Kindergarteners' readiness during the pandemic has been mixed. From fall 2019 to fall 2021 (sidebar), the proportion of kindergartners that met the:

- overall Virginia Kindergarten Readiness Program (VKRP) benchmark *increased* slightly from 56 percent to 58 percent. This increase is due to improvements in the proportion of students meeting the social skill and self-regulation benchmarks. However, VKRP staff indicated the increase could be due to social distancing and therefore fewer opportunities to behave inappropriately.
- VKRP literacy benchmark decreased from 82 percent to 75 percent.
- VKRP math benchmark decreased slightly from 79 percent to 77 percent.

There are no statewide *pre-pandemic* spring VKRP scores with which to compare spring 2022 results.

Some pre-existing achievement gaps remain the same, but other gaps widened during the pandemic

An **achievement gap** is a persistent disparity in academic outcomes between students with different characteristics, such as race/ethnicity or socioeconomic status.

The study resolution directs JLARC to examine the impact of the pandemic on pre-existing academic achievement gaps (sidebar). Achievement gaps existed before the pandemic between different student subgroups, such as students of different races and ethnicities, and socioeconomic levels. On average, Black and Hispanic students, economically disadvantaged students, English language learners (ELLs), and students with disabilities perform below their peers on SOL tests and PALS and VKRP assessments (sidebar, next page). For example, before the pandemic, average third-grade math SOL scores among Black and Hispanic students were 10 and 8 percent lower,

respectively, than the average score among white students. Average eighth-grade reading SOL scores were 19 percent lower among ELLs than the average score among non-ELLs.

SOL score achievement gaps are generally the same as before the pandemic, except for in third-grade math

The majority of achievement gaps—as measured by SOL test scores—did not change during the pandemic (sidebar). Most pre-existing achievement gaps, such as the difference in scores between ELLs and their peers, remain within one percentage point of pre-pandemic levels (Table 4-1). Achievement gaps between students with disabilities and those without actually narrowed in all four testing areas examined, which experts believe may be because students with disabilities were prioritized to receive services during the pandemic and often receive individualized instruction as part of their Individualized Education Programs.

TABLE 4-1
Achievement gaps in SOL scores generally did not widen due to pandemic

	3rd Grade Reading	3rd Grade Math	8th Grade Reading	8th Grade Math
Black students versus white students	≈	↑	≈	≈
Hispanic students versus white students	≈	↑	≈	≈
Economically disadvantaged students versus peers	≈	≈	≈	≈
English language learners versus peers	≈	≈	≈	≈
Students with disabilities versus peers	↓	↓	↓	↓

KEY
↑ achievement gap *widened* by 2 percentage points or more in 2021–22 compared with pre-pandemic
↓ achievement gap *narrowed* by 2 percentage points or more in 2021–22 compared with pre-pandemic
≈ less than two percentage point change in achievement gap in 2021–22 compared with pre-pandemic

SOURCE: JLARC analysis of Virginia Department of Education data, 2014–15 through 2021–22.
NOTE: Achievement gaps represent the relative difference in average SOL scores between two subgroups of students. Pre-pandemic achievement gap represents average from 2014–15 through 2018–19 school years and is compared to achievement gap in 2021–22 school year. "Peers" refers to students that are not economically disadvantaged, English language learners, or students with disabilities.

In contrast, pre-existing gaps in SOL scores widened for two student groups in math. Gaps between Black and white students and Hispanic and white students on third-grade math SOLs were the only gaps that notably widened during the pandemic. The achievement gaps between Black and white students and Hispanic and white students each increased by two percentage points in 2021–22 compared with before the pandemic.

Regardless of whether pre-existing achievement gaps widened or remained the same during the pandemic, these gaps remain of substantial concern. For example, 77 percent of white students passed their third-grade reading SOL in 2021–22, compared

Economically disadvantaged students are students who are eligible for free or reduced price lunch, receive Temporary Assistance for Needy Families, are eligible for Medicaid, and/or are identified as either migrant or experiencing homelessness.

English language learners are students whose native language is a language other than English, and whose difficulties speaking, reading, writing, or understanding English may hinder their education.

Students with disabilities are students that receive special education and related services under the Individuals with Disabilities Education Act.

JLARC considered **SOL achievement gaps to widen** if the relative difference in average SOL scores changed by 2 percentage points or more. JLARC examined the distribution of the change in SOL scores across student subgroups and identified 2 percentage points as a threshold that reflected a notable change in achievement gaps.

SOL pass rate achievement gaps widened and narrowed similarly to SOL test score achievement gaps.

with 53 percent of Black students and 51 percent of Hispanic students (sidebar). Further, pass rates among economically disadvantaged students, ELLs, and students with disabilities were 26, 31, and 33 percent lower, respectively, on the third-grade reading SOL in 2021–22 compared with pass rates among other students. These trends are consistent across other SOL tests as well.

Many pre-existing achievement gaps widened among very young students

JLARC considered **PALS achievement gaps to widen** if the relative difference in the proportion of students who met PALS benchmarks changed by 5 percentage points or more. JLARC examined the distribution of the change in PALS achievement across student subgroups and identified 5 percentage points as a threshold that reflected a notable change in achievement gaps.

Several achievement gaps—as measured through assessments for young K–12 students—widened during the pandemic (Table 4-2) (sidebar). For example, the proportion of Black and Hispanic first-grade students that met PALS benchmarks decreased 12 and 14 percent, respectively, from spring 2019 to spring 2022. In contrast, the proportion of white students meeting the benchmark decreased 5 percent. As a result, the achievement gaps between Black and white students and Hispanic and white students on PALS benchmarks increased by 7 and 9 percentage points, respectively. PALS achievement gaps also generally widened between economically disadvantaged students and students who are not economically disadvantaged and ELLs and non-ELLs during the pandemic.

TABLE 4-2
Many PALS achievement gaps widened due to pandemic

	PALS Kindergarten	PALS First Grade	PALS Second Grade
Black students versus white students	↑	↑	↑
Hispanic students versus white students	↑	↑	↑
Economically disadvantaged students versus peers	≈	↑	↑
English language learners versus peers	↑	↑	≈
Students with disabilities versus peers	≈	≈	↓

KEY
↑ achievement gap *widened* by 5 percentage points or more in spring 2022 compared with spring 2019
↓ achievement gap *narrowed* by 5 percentage points or more in spring 2022 compared with spring 2019
≈ less than 5 percentage point change in achievement gap in spring 2022 compared with spring 2019

SOURCE: JLARC analysis of PALS reports, spring 2019 through spring 2022.
NOTE: Achievement gaps represent the difference in the proportion of students from each subgroup meeting benchmarks. In the cases of economically disadvantaged students and English language learners, "peers" refers to students that are not economically disadvantaged or English language learners. In the case of students with disabilities, "peers" refers to all students.

Virginia fourth-grade reading and math scores declined more than other states on national test

Virginia students' performance on the National Assessment of Educational Progress (NAEP) tests declined during the pandemic, as did the performance of students nationally (sidebar). The NAEP is administered to a representative sample of students from all states and is widely considered by experts to be the most useful test metric when comparing student academic performance across states. More detailed data on state and national NAEP performance can be found in Appendix H.

During the pandemic, Virginia fourth-grade students' performance on the NAEP reading and math tests declined more than students nationwide and is now near national averages (Figure 4-3). In 2022, Virginia's statewide average fourth-grade reading and math NAEP scores were 6 percent and 5 percent lower, respectively, than before the pandemic (sidebar). In contrast, NAEP scores decreased nationally 2 percent compared with before the pandemic for both fourth-grade reading and math. As a result, Virginia students' scores declined to 1 percent below the national average in fourth-grade reading and equal to the national average in fourth-grade math in 2022 (Table H-1 in Appendix H). Virginia's scores on these tests were each 3 percent above average national scores before the pandemic.

The larger decline in Virginia's fourth-grade NAEP test scores compared with national averages adversely affected Virginia's 50-state ranking on the fourth-grade reading and math tests. Before the pandemic, Virginia ranked seventh and fourth out of 50 states for fourth-grade reading and fourth-grade math tests on average, but declined to 34th and 20th for those two tests in 2022 (Figure H-2 in Appendix H). Because average NAEP test scores across states tend to be relatively close to each other, the relatively larger decline in Virginia's fourth-grade scores compared with the national average (e.g., 6 percent in reading and 5 percent in math compared with the national average of 2 percent) had a large impact on its 50-state ranking.

During the pandemic, Virginia eighth-grade students' performance declined at a rate that was relatively consistent with students nationwide (Figure 4-3). NAEP scores among Virginia students and students nationwide each declined 2 percent in eighth-grade reading and 3 percent in eighth-grade math in 2022 when compared with years before the pandemic. Virginia students' eighth-grade reading scores were nearly identical to the national average before the pandemic and remained that way in 2022. Likewise, Virginia's eighth-grade math scores were 2 percent above national averages prior to the pandemic and remained that way in 2022 (Table H-1 in Appendix H).

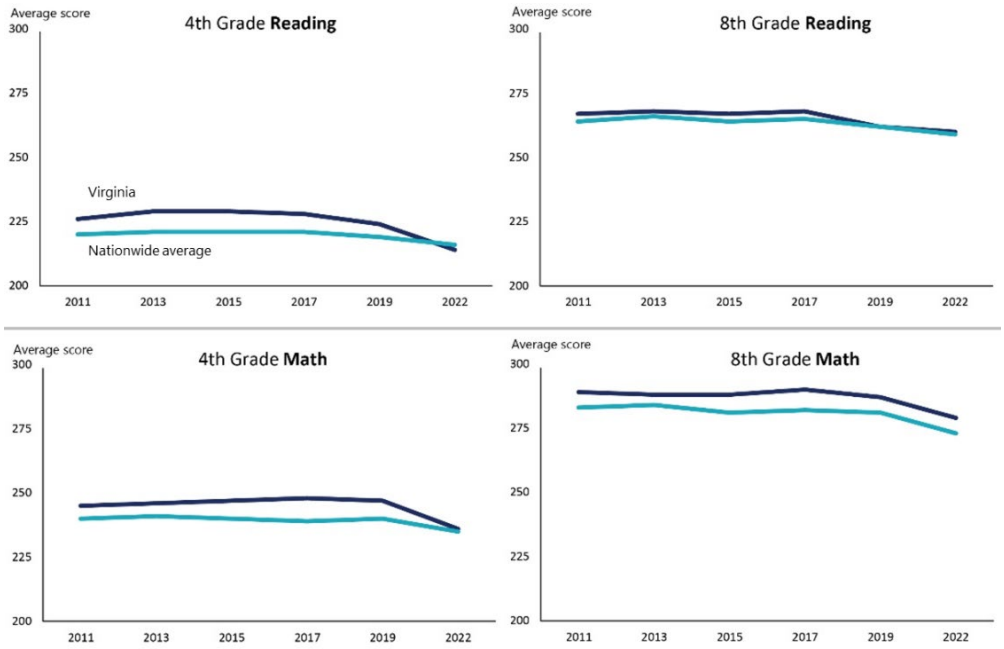
Virginia's 50-state ranking on the eighth-grade reading test (26th to 22nd) and eighth-grade math test (seventh to 10th) stayed relatively consistent with their average ranking before the pandemic to 2022 (Figure H-2 in Appendix H).

NAEP tests are administered biennially by the National Center for Education Statistics to a representative sample of fourth- and eighth- grade students in each state. Because of the pandemic, the 2021 administration of the NAEP was conducted in 2022.

NAEP tests are administered between late January and early March, whereas Virginia's SOL tests are given between April and June.

JLARC staff compared 2022 NAEP scores to a pre-pandemic average score comprising the 2015, 2017, and 2019 NAEP tests.

FIGURE 4-3
Virginia students had larger pandemic-related declines in fourth-grade reading and math test scores than students nationwide



SOURCE: JLARC analysis of National Center of Education Statistics data, 2011–2022.
NOTE: The NAEP is administered every two years to a representative sample of students across all states. Because of the pandemic, 2021 testing was conducted in 2022. Pre-pandemic performance referenced in report text represents three years of NAEP test results from 2015, 2017, and 2019. Five-years of test results appear in figure to illustrate longer-term trends.

High school graduation and dropout rates are similar to pre-pandemic averages

A **grade retention rate** represents the proportion of students retained in their grade (or "held back") for an additional school year because of poor academic performance.

Academic outcomes, such as graduation, dropout, and grade retention rates, are other important indicators of academic achievement, especially among high school students (sidebar).The pandemic's impact on these outcomes, especially graduation and dropout rates, may take years to fully realize as students that were affected by disruptions to instruction progress through the K–12 system. More detailed data on graduation, dropout, and grade retention rates can be found in Appendix G.

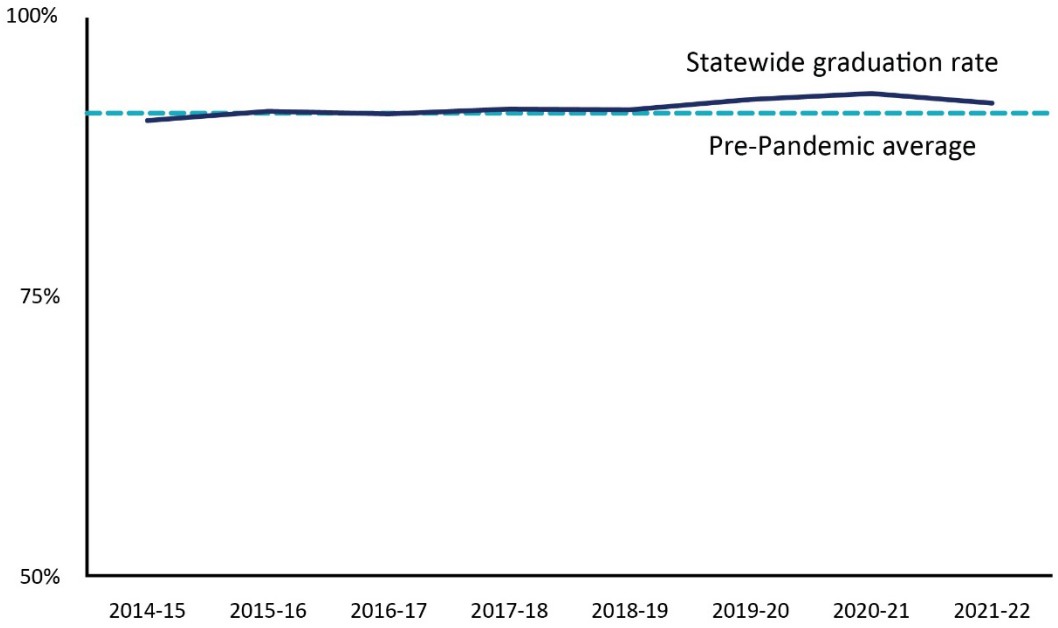
Pandemic-related disruptions led to an initial (and artificial) improvement in high school graduation and dropout rates. Because of the pandemic, the Virginia Board of Education waived graduation requirements in 2019–20 and significantly lessened them in 2020–21. These actions contributed to increases in high school graduation rates during both school years (Figure 4-4). Most other states also waived graduation requirements during the 2019–20 school year, and some states waived or lessened requirements in 2020–21.

Pre-pandemic graduation requirements were in effect for 2021–22, contributing to a slight decline in graduation rates and move towards the pre-pandemic average. The 2021–22 statewide graduation rate declined 0.9 percentage points from a historical peak during the previous school year. Despite the decline, Virginia's statewide graduation rate was slightly higher (0.9 percentage points) in 2021–22 when compared with pre-pandemic levels (Figure 4-4). The improvement in graduation rate represents about 3,000 more students graduating in 2022 compared with years before the pandemic, on average (sidebar).

There does not appear to be a relationship between division-level characteristics—such as fiscal stress, enrollment size, or whether the division is urban, suburban, or rural—and the extent to which graduation rates changed in each school division.

Fewer Virginia high school graduates enrolled in higher education during the pandemic. Four percent fewer Virginia high school graduating seniors—which represents about 1,700 students—continued to higher education in 2020–21. Enrollment in two- and four-year institutions declined 3 and 2 percent, respectively, compared with pre-pandemic rates. This is consistent with a similar decline nationally.

FIGURE 4-4
2021–22 graduation rate declined toward pre-pandemic average



SOURCE: JLARC analysis of Virginia Department of Education data, 2014–15 through 2021–22.
NOTE: "Pre-pandemic average" represents a five-year average from 2014–15 through 2018–19. "Statewide graduation rate" represents proportion of students who graduated with a Board of Education-approved diploma in four years or less.

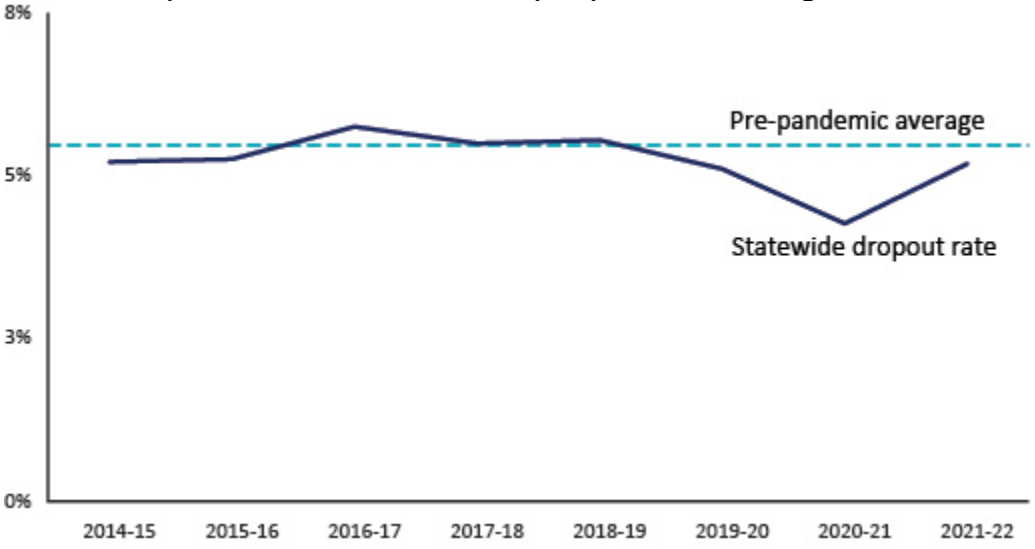
High school dropout rates in Virginia showed a similar pattern to graduation rates during the pandemic. Fewer high school students dropped out in 2019–20 and 2020–21 than before the pandemic, likely because of lower academic requirements during pandemic-era school years (sidebar). However, dropout rates increased 0.9 percentage points in 2021–22, returning to near pre-pandemic levels (Figure 4-5).

Dropout rates presented in this report are cohort dropout rates. VDOE defines the cohort dropout rate as the percentage of students in the cohort who left high school permanently at any time during the four-year cohort period or whose whereabouts are unknown. Dropout calculations exclude students who have transferred, have a school recognized temporary absence, or have died.

Dropout rates moved closer in 2021–22 to pre-pandemic levels in divisions in rural cities and divisions with higher fiscal stress and more economically disadvantaged students. There does not appear to be a relationship between the extent to which dropout rates changed during the pandemic and other division-level characteristics, such as enrollment size.

Graduation rates *and* dropout rates changed to a similar extent across different subgroups of students during the pandemic, so existing gaps did not widen. Students' graduation rates increased in a similar manner in 2019–20 and 2020–21 and declined in a similar manner in 2021–22 regardless of race/ethnicity, family economic advantage/disadvantage, or whether they were ELLs. Dropout rates followed a similar trend, decreasing in a similar manner across all students groups in 2019–20 and 2020–21, and then increasing in a similar manner across all student groups in 2021–22. As a result, there was little to no change to dropout rate achievement gaps.

FIGURE 4-5
2021–22 dropout rate increased toward pre-pandemic average



SOURCE: JLARC analysis of Virginia Department of Education data, 2014–15 through 2021–22.
NOTE: "Pre-pandemic average" represents a five-year average from 2014–15 through 2018–19. "Statewide dropout rate" represents a cohort dropout rate (i.e., the proportion of students in the graduating cohort who left high school permanently at some point in the prior four years).

Finally, statewide grade retention rates—or the percentage of students that do not progress to the next grade—increased in 2020–21 primarily among high school students. The statewide grade retention rate among all K–12 students increased about 0.5 percentage points in 2020–21 when compared with the pre-pandemic average, but there was almost no change in the extent to which elementary and middle school students were retained. In contrast, the high school grade retention rate increased about 1.25 percentage points in 2020–21 compared with years before the pandemic, representing roughly 5,000 more high school students retained in their grade.

Statewide grade retention data from the 2021–22 school year will not be available until mid-November 2022, however, teachers generally seem concerned about students' progress. In a JLARC survey of school staff (sidebar), 72 percent of principals and teachers surveyed reported that students made progress during 2021–22 at a slower pace than a normal school year.

JLARC surveyed school staff from a representative sample of 47 schools across 12 school divisions. The survey addressed their experience working in K–12 public education since the start of the COVID-19 pandemic. JLARC received responses from 1,175 staff (28 percent) across all school roles, including teachers, principals, and support staff (Appendix B).

Initiatives needed to address math declines and increased academic variation among students

Returning to in-person instruction was the most effective strategy to improve academic achievement after the onset of the pandemic. Rebounding SOL scores in 2021–22 is reason to be cautiously optimistic about academic recovery. As noted throughout this chapter, though, there are still significant declines in academic performance that need to be addressed.

In addition to returning to in-person instruction, many divisions have substantial efforts underway or plans to facilitate further student improvement. For example:

- Most school divisions (86 of 95) responding to JLARC's survey reported they have hired or plan to hire more instructional staff—most commonly, instructional specialists and/or teacher aides (sidebar).
- At least three-quarters of divisions surveyed reported implementing (or planning to implement) new or expanding existing academic support efforts such as tutoring; adjusting schedules to fit more instructional time into the existing school day; and/or providing additional instruction outside of the school day via summer school or before and after school programs.
- Nearly all divisions (94 of 95) surveyed indicated they are providing (or planning to provide) more training to instructional staff on strategies and methods to accelerate learning and address achievement gaps, and/or are making efforts to provide more support for teachers through teacher mentors, teacher coaches, or curriculum specialists.

JLARC surveyed school division superintendents on the effectiveness of strategies to address the impacts of the COVID-19 pandemic on students and staff. One hundred school divisions responded to the survey (76 percent); these divisions represented 84 percent of statewide student enrollment (Appendix B).

The state has also expanded existing or created new programs to target specific academic problems, especially related to reading. For example, the Early Intervention Reading Initiative (EIRI) received nearly twice its prior year funding levels in FY23 and FY24 ($51 million versus $27 million) (sidebar). The program will provide divisions between $2,500 and $4.7 million to target additional reading instruction to more than 115,000 K–3 students. The General Assembly also passed the Virginia Literacy Act, which has several components aimed at improving early literacy (sidebar, next page). Further, 25 low-performing school divisions will receive $77,000 to $1.3 million to hire a total of 82 reading specialists. These reading and literacy programs align with best practices and should help address pandemic-related reading loss and achievement gaps (as indicated by third-grade SOL and fourth-grade NAEP scores, and PALS performance), as well as declines in early childhood reading that were already occurring

Virginia's **Early Intervention Reading Initiative (EIRI)** program provides a state share of funding to school divisions to provide 2.5 hours of additional reading instruction each week to K–3 students who do not meet PALS benchmarks. State contributions represent the state share of program costs. Localities are expected to match funding according to their ability to pay as defined by the local composite index.

prior to pandemic. In addition, the 2022 state budget includes funding to address learning loss in high-poverty, low-performing schools (sidebar).

The 2022 General Assembly passed the **Virginia Literacy Act** (HB319 and SB616), which (i) requires early literacy instruction to be evidence-based; (ii) implemented individualized improvement plans for students needing literacy support; (iii) increased the reading specialist-to-student staffing ratio, and (iv) increased professional development on evidence-based literacy instruction.

Moving forward, the governor has proposed spending $30 million of the state's federal pandemic relief funds for learning recovery grants that can be used by families to cover between $1,500 and $3,000 of tutoring costs outside of school. Several other states (Idaho, Indiana, and New Hampshire) have also recently implemented similar initiatives. The administration is also launching partnerships with two nonprofits that will provide tutoring and homework help to middle and high school students.

JLARC has identified two additional strategies that could facilitate additional and faster academic recovery from the pandemic. These strategies result from

- interviews with and surveys of Virginia teachers and other school or division staff;
- research on effective academic intervention and remediation practices; and
- areas of needed improvement for which there are not yet statewide efforts already underway.

The 2022 state budget includes **$4 million to provide grants to community-based organizations working with school divisions to address learning loss** in high-poverty, low-performing schools via before, after, and summer school programs.

The first is remediation specifically focused on addressing performance declines and growing achievement gaps seen in younger students' math skills. The second is temporary, targeted funding to help hire instructional assistants to aid in providing differentiated and individualized instruction. Recommendations made in other chapters—such as those regarding student attendance; mental health; and teacher recruitment, retention, and quality—will also directly or indirectly facilitate academic recovery.

However, academic recovery faces several obstacles. First, school division and school staff cite student fatigue or burnout as a barrier to making up significant ground quickly. Staff commonly shared in interviews and via the JLARC survey that there is a limit to how much additional material a student can absorb. The school day and school year also have time constraints that make it difficult to provide high-intensity remediation across multiple subject areas. In addition, the vast majority of school division leaders (92 percent) cited staff fatigue or burnout as greatly hindering their ability to provide additional instruction to students, especially through efforts that occur outside of the traditional school day (e.g., extra work hours). Furthermore, more than two-thirds of division leaders cited instructional staff or support staff shortages as a barrier to implementing academic recovery programs.

Virginia's **Algebra Readiness Initiative (ARI)** program provides a state share of funding to school divisions to provide 2.5 hours of additional math instruction each week to sixth- through ninth-grade students who are at risk of failing the Algebra I end-of-course SOL test. Localities are expected to match funding according to their ability to pay as defined by the local composite index.

Virginia lacks program for additional or supplemental instruction to address declines in math performance among elementary students

For many years, the state has contributed funds to the Algebra Readiness Initiative (ARI), which provides supplemental math instruction to students. This initiative is designed for sixth- through ninth-grade students who are at risk of failing algebra (sidebar). ARI was allocated $16 million for FY23 and FY24 to target supplemental math instruction to 69,000 students across all divisions.

No state program, though, specifically focuses on providing supplemental math instruction and support to elementary school students. The 2021–22 test scores revealed that elementary school math performance remains furthest below pre-pandemic levels. Furthermore, pre-existing achievement gaps widened in math among subgroups of younger students. The state has substantial existing and new early literacy support efforts underway but no support efforts related to elementary school math.

Half of math teachers surveyed reported that providing additional math tutoring during the school day would have a *substantial* positive impact on students. Other states such as Tennessee, Colorado, and Texas have implemented programs aimed at providing tutoring to elementary school students to address pandemic-related academic declines in core subjects, such as math (sidebar). Research shows that targeting efforts to younger students has the additional benefit of building their foundational skills and thus helping improve their academic performance in future years.

Other states have implemented programs to provide additional instruction—including in math—to students since the onset of the pandemic:

Tennessee implemented a high-dosage tutoring grant program to fund additional instruction in math and English to elementary and middle school students.

Colorado implemented a high-dosage tutoring grant program to fund additional instruction within the school day.

Texas is requiring schools to either assign highly qualified teachers to third- through eighth-grade students that fail their standardized assessments, or provide them with supplemental accelerated instruction in the core subject areas.

Any additional math support for elementary students should be well designed and ideally be provided during the school day

Research indicates that well-designed remediation programs meet certain criteria related to the frequency, duration, content, and delivery of instruction. The most effective programs are those that provide instruction in-person to small groups of students, multiple times per week, for at least 10 weeks.

Research literature also indicates that during the traditional school day is the most effective time for delivering additional instruction. Providing additional instruction outside of the school day—such as via summer school, before and after school programs, and extended school years—can be beneficial, but these programs have limitations. For example, these programs can cause scheduling conflicts for both students and staff with other scholastic activities, work, or family time, or be constrained by students' inability to arrange alternative transportation. Several school staff reported in interviews that their school struggled to have sufficient staffing and student attendance at both after school and summer school programs during the pandemic. One high school teacher described how their division was struggling to get students to attend programs during the summer, stating: "Summer school attendance is way down—the lowest we've ever had." Furthermore, additional instructional time outside of the traditional school day would likely further contribute to staff and student burnout—two major barriers cited by school divisions. For example, one elementary school teacher stated: "After school programs are minimally helpful [because] the kids are drained."

State could fund a new math instructional support program for elementary students, designed similarly to existing EIRI and ARI programs

The state could create and fund a temporary program to address the pandemic-related declines in elementary student math skills. The program could be structured similarly to the EIRI and ARI programs, where funding is based on the cost of providing 2.5 hours of additional instruction each week to eligible students. Eligibility for program

funds could be based on the number of low-performing students in each division, such as students that failed their math SOL. Localities receiving funds could be required to match the funds based on their ability to pay as measured through the local composite index, as is the case with EIRI and ARI. Divisions would be able to use unobligated federal pandemic relief funding to provide the local share of the program.

The largest drivers of program costs are the number of students eligible to participate and the staffing ratios for delivering instruction. About 91,000 students statewide failed either their third-, fourth-, or fifth-grade math SOL in 2021–22. EIRI and ARI funding assume different student-to-teacher ratios. EIRI is a more intensive program that assumes a 5:1 ratio, while the ARI ratio is 10:1—still far more intensive than general staffing ratios. The state could use either of these ratios or some ratio in between for the new math program. Using 2021–22 math SOL failure rates and the EIRI or ARI funding ratios would result in state program costs between $19 million and $38 million (Table 4-3). This additional funding could be provided until math SOL scores at least return to pre-pandemic levels.

TABLE 4-3
New elementary math instruction initiative could cost $19 to $38 million

Number of eligible students	**Potential lower-end cost estimate** (based on ARI ratio)	**Potential high-end cost estimate** (based on EIRI ratio)
90,878	$19M	$38M

SOURCE: JLARC summary analysis of Virginia Department of Education data.
NOTE: EIRI = Early Intervention Reading Initiative. ARI = Algebra Readiness Initiative. EIRI ratio = five students-to-one teacher. ARI ratio = 10 students-to-one teacher. Number of eligible students based on the number of students that failed the 2021–22 third-, fourth-, and fifth-grade math SOL in each school division. Dollar amounts shown are for state share of funding based on each locality's composite index of local ability to pay.

In addition to decisions on program funding, the state would need to decide how much flexibility to give divisions to provide the additional math instructional support. The program should have specific design requirements that reflect best practices in terms of frequency of additional instruction, the number of weeks of instruction provided, and staffing ratios. Ideally, the program should require instruction to be provided during the school day. This would align with recommendations from research literature and the perspectives of school staff about student participation and program effectiveness. However, the ability of schools and teachers to find the needed instructional time within school hours would likely vary.

The state could provide some flexibility about who can provide this additional instruction. Some divisions that have not experienced issues recruiting or retaining qualified staff could use the additional funding provided through this program to hire new teachers or instructional specialists to provide supplemental instruction. However, other divisions that have experienced difficulty recruiting instructional staff could use

the funding in other ways. For example, these divisions could provide additional compensation to existing staff that are willing to provide supplemental instruction either during or outside of school, or divisions could use funding to compensate tutors or trained volunteers (sidebar).

Tutors or volunteers could be used to provide instruction to students, however teachers were concerned about **the quality of this instruction**. A few states have implemented initiatives to hire tutors to help with academic recovery. When asked about the viability of such an effort in Virginia, teachers believed there could be problems with untrained individuals working with students.

The state could incorporate measures to ensure the program is effective and additional math instruction is delivered with fidelity. These could include tracking the number of students receiving instruction through this program, monitoring that each student receives the appropriate amount of additional math instruction each week, and requiring and verifying that math instruction is evidence-based. Other similar programs, such as the ARI program, require school divisions to submit an annual report that includes how many students were identified as needing intervention, the number of students served, the number of students demonstrating improvement, and the types of interventions used.

In the short-term, unspent federal American Rescue Plan Act (ARPA) funding already appropriated to localities is likely still available to fund at least some of a math instruction initiative. These funds must be obligated by September 2024. VDOE is tracking how divisions are spending their ARPA funding allocations. The state has directed VDOE to collect data on (i) unspent funding and (ii) plans for remaining funds.

RECOMMENDATION 4

The General Assembly may wish to consider including language and funding in the Appropriation Act to create and fund a temporary math instructional improvement program to help elementary school students who fail their math Standards of Learning test.

Variation in students' academic skills grew during the pandemic

Classrooms always have students with varying academic skills, but variation in academic skill levels and achievement among K–12 students increased during the pandemic. For example, the standard deviation of eighth-grade math SOL scores—or the amount of variation across individual students' scores compared with the average score—was 26 percent greater in 2021–22 than the standard deviation of scores before the pandemic. The standard deviation of eighth-grade reading SOL scores was 22 percent greater. In addition, 80 percent of teachers and principals responding to the JLARC survey of school staff indicated there is now wider variation in academic skills among students in the same grade or class than before the pandemic. Teachers and principals also expressed similar sentiments in interviews. For example, one elementary school teacher described their experience of variation in their classroom, stating: "Some kids know the letters but still can't read. Some are a little behind grade level. Some are way behind grade level." A high school teacher also described having to deal with extensive variation in classes, sharing: "I'm having to differentiate learning even in AP classes."

> *"The educational gap between subsets of students increased. Some students excelled with the support of parents and the willingness to be self-motivated. Other students lacked the support at home to encourage them to continue their education."*
>
> **– Middle school teacher**

Research shows the best way to instruct students with varying skills is through small groups and individualized instruction. Providing instruction to individual students or small groups of students with similar skill levels can be a highly effective way to improve student performance. This allows teachers to individualize and tailor instruction to students' specific needs.

> *"I cannot close the gaps of students working at four different levels in every content area on my own."*
>
> **– Elementary school teacher**

Small group and individualized instruction is most feasible in classrooms with more than one instructor. An additional instructor can facilitate creating a small group (or groups) of students based on skill level and providing instruction tailored to their specific level. Without an additional instructor in a class, small group and individualized instruction requires focusing on a small portion of the students, potentially at the expense of the other students in the classroom. As one school teacher described: "So many [students] need individualized skill lessons. If I'm with that small group, there's 24 other students that I'm not with. It would help so much to have an instructional assistant in every classroom."

Instructional assistants can help address variation in academic skills by helping to facilitate small group instruction

Ideally, divisions would hire more and higher quality teachers. However, temporarily hiring additional instructional assistants to facilitate small group and individualized instruction may be more feasible, and would be more cost-effective, than hiring full-time teachers. Instructional assistants (alternatively known as instructional aides, paraprofessionals, teacher aides, and classroom assistants) work in classrooms with teachers and assist with instruction, behavior and classroom management, and administrative tasks. The requirements for becoming an instructional assistant are less stringent than that of a teacher (associate's degree versus bachelor's and/or master's degrees), creating a broader pool of eligible applicants. Furthermore, instructional assistants are paid less than teachers or reading or math specialists. For example, an instructional assistant may typically be paid about $22,000 a year—roughly half that of an entry-level teacher salary.

School staff reported that additional instructional assistants could help provide small group and individual instruction needed to address the wider variation in academic skills during the pandemic. In JLARC's survey of school staff, 50 percent of principals and teachers reported that hiring more instructional assistants would have a *substantial* positive impact on addressing issues with academic achievement during the pandemic. Furthermore, these staff also indicated that a substantial positive impact was more likely to be achieved through more instructional assistants than from hiring other types of staff, including instructional specialists.

Instructional assistants can also help address other pandemic-related challenges in K–12, such as student behavior and teacher workloads

Instructional assistants could also help with other challenges arising during the pandemic, such as addressing problematic student behavior (Chapter 2) and helping to

alleviate teacher workload issues (Chapter 5). One key duty of instructional assistants is to provide behavioral support to students and assist teachers with behavior management. The additional adult presence in the classroom can deter students from misbehaving. Further, VDOE staff indicate that trained instructional assistants can help effectively intervene and address student behavior. As one VDOE staff stated: "A well trained paraprofessional can do so much in terms of providing [behavioral] supports…It would be a game changer to have a paraprofessional in every classroom."

In addition to helping address student behavior issues, increasing the number of instructional assistants would provide extra assistance in the classroom and help teachers with various tasks that they typically have to accomplish themselves. Nearly 90 percent of divisions reported that additional instructional assistants would be an effective strategy to help their teachers. School staff indicated that the classroom support that instructional assistants provide would help address teacher workload issues by allowing teachers to take breaks or have more planning time. In JLARC's survey of school staff, 54 percent of principals and teachers reported that hiring more instructional assistants could have a *substantial* positive impact on addressing staff workload, morale, or satisfaction.

State could fund additional instructional assistants, which would be best targeted to schools that are not fully accredited

The state could provide temporary state funds to help localities hire more instructional assistants. Currently, Virginia provides school divisions with funding for instructional assistants through the Standards of Quality formula; however, this is limited to some kindergarten classes and special education. Additional funding for instructional assistants would be in addition to funds provided though the Standards of Quality, and may only need to be provided for several years to address pandemic-related challenges.

School accreditation status could be used to target funding for instructional assistants. The current accreditation system accounts for many aspects of academic performance discussed in this report, including graduation, dropouts, SOL proficiency, achievement gaps, and chronic absenteeism. Accreditation is an annual process, is readily available information, and could be used to target funding for instructional assistants. State funding for instructional assistants could be provided to schools that are not fully accredited to assist in areas that are not meeting standards. Localities receiving funds could be required to match the funds based on their ability to pay as measured through the local composite index. Divisions would be able to use unobligated federal pandemic relief funding to provide the local share of this initiative.

The General Assembly could fund instructional assistants in the state's lowest-performing schools by targeting schools that only meet a certain number of accreditation standards. For example, the state could target funding to the 20 lowest-performing schools in the state (schools below five or more accreditation standards). If targeting these 20 schools, about $3 million in funding for the state share could support one instructional assistant for every *100 students*—the goal of which would be to allow an

instructional assistant to spend one day per week in each classroom. Alternatively, the state could provide $12 million for one instructional assistant for every *20 students*, allowing an instructional assistant to be in each classroom among these schools each day of the week. The state could also help more schools. For example, the state share of funding for instructional assistants in the 59 lowest-performing schools (schools below three or more accreditation standards) would be $7 million to $34 million using these same ratios (Table 4-4). Funding more schools would become substantially more costly (e.g., $21 million to $106 million for the 189 schools below at least one accreditation standard).

TABLE 4-4
State support for more instructional assistants could cost $3 million to $34 million

Accreditation rating (2022–23)	Number of schools	Fall enrollment among schools	1 assistant per 100 students	1 assistant per 20 students
Schools with performance below *five or more* accreditation standards	20	13,598	$3M	$12M
Schools with performance below *three or more* accreditation standards	59	36,903	7M	34M

SOURCE: JLARC summary analysis of Virginia Department of Education data.
NOTES: Assuming an average of 20 students per classroom: 1 assistant per 100 students would allow one assistant to rotate among classrooms, spending one day each week in each classroom; 1 assistant per 20 students would allow one assistant in each classroom for each day of the week. Any school with performance below one or more accreditation standard is considered to be "Accredited with Conditions" under the state accreditation system. Dollar amounts shown are for state share of funding based on the average state share of kindergarten instructional assistants funded via the Standards of Quality ($18,352 per FTE).

In the short-term, unspent federal ARPA funding already appropriated to localities is likely still available to fund some portion of an instructional assistant initiative. These funds must be obligated by September 2024. VDOE is tracking how divisions are spending their ARPA funding allocations and has been directed to collect data on (i) unspent funding and (ii) plans for remaining funds.

RECOMMENDATION 5
The General Assembly may wish to consider including language and funding in the Appropriation Act to provide additional, temporary funding for a subset of schools accredited with conditions to hire more instructional assistants to (i) help teachers provide small group and individualized instruction necessitated by widening academic needs within classrooms, (ii) help teachers manage challenging student behaviors within classrooms, and (iii) reduce teacher workloads.

5 Teacher Workforce

Remote instruction during the pandemic significantly changed how teachers perform their jobs. At the start of the pandemic, teachers had to rapidly transition to remote instruction with little to no training, warning, or prior planning. As the pandemic continued, many teachers had to provide instruction both remotely and in-person, or switch between the two modes of instruction. When providing in-person instruction, teachers had to implement health and safety measures, such as making sure students were socially distanced, ensuring mask guidelines were being followed, and performing additional cleaning.

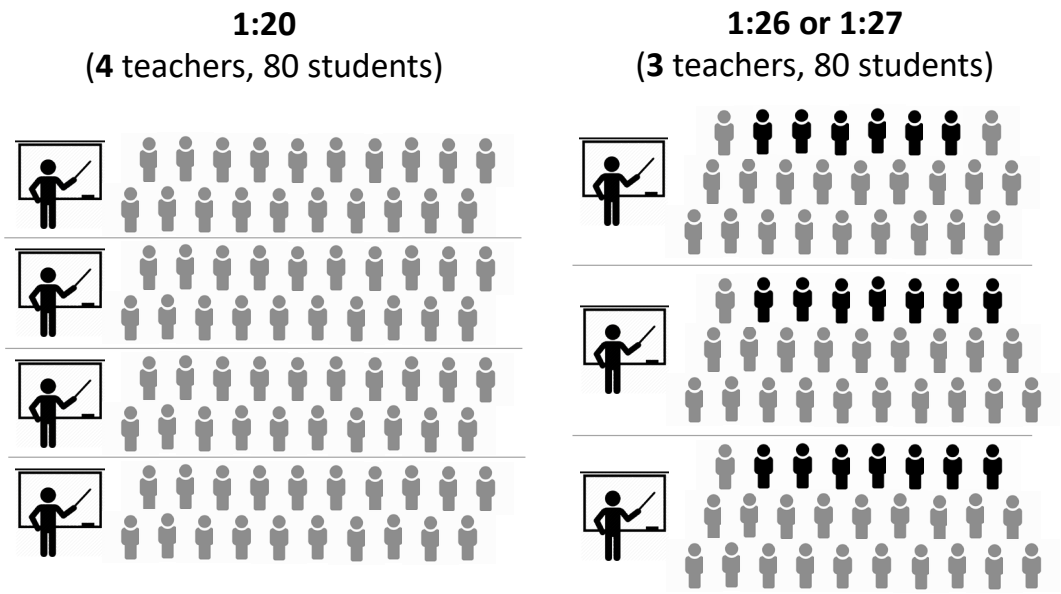
As the pandemic progressed, school staffing and student challenges created additional burdens for teachers. For example, some teachers took on additional classes or other responsibilities because of staffing shortages and a lack of substitute teachers, which often meant the loss of planning periods or lunch breaks. Teachers also had to teach more students who were chronically absent from school, had behavioral and mental health issues, and had academic challenges.

This chapter focuses on the teacher workforce instead of other school staff for two primary reasons: (i) teachers most directly support the mission of public education by delivering instruction to students, and (ii) teachers comprise the largest portion of school staff. Issues related to school mental health staff are discussed in Chapter 3, and some information about other types of school staff is included in Appendix I.

Pandemic exacerbated teacher recruitment and retention challenges, which have persisted

Not having enough teachers can create a variety of problems for teachers and students. Even just one vacant teaching position can create substantial challenges for schools, requiring either the use of a long-term substitute or larger class sizes. For example, an elementary school with 80 third-grade students that planned to have four teachers may be forced to substantially increase class sizes if it can only hire three teachers. Rather than having four classes of 20 students, the school may start the year with three classes of either 26 or 27 students (Figure 5-1). These larger class sizes often make it more challenging for the remaining teachers and can reduce the quality of instruction students receive—especially those needing individualized or small group assistance. In addition, teacher vacancies can result in schools reducing the number of courses they offer, such as advanced placement or elective courses. Finally, teacher vacancies often create a greater workload for remaining staff, which contributes to lower morale and job satisfaction.

FIGURE 5-1
One teaching vacancy can cause adverse impacts, such as larger class sizes



SOURCE: JLARC hypothetical scenario to illustrate impact of one vacant teaching position.

JLARC surveyed school division superintendents on the effectiveness of strategies to address the impacts of the COVID-19 pandemic on students and staff. One hundred school divisions responded to the survey (76 percent); these divisions represented 84 percent of statewide student enrollment (Appendix B).

For the purposes of this report, **"leaving the profession"** means teachers who are leaving their job as a teacher in the K–12 public education system.

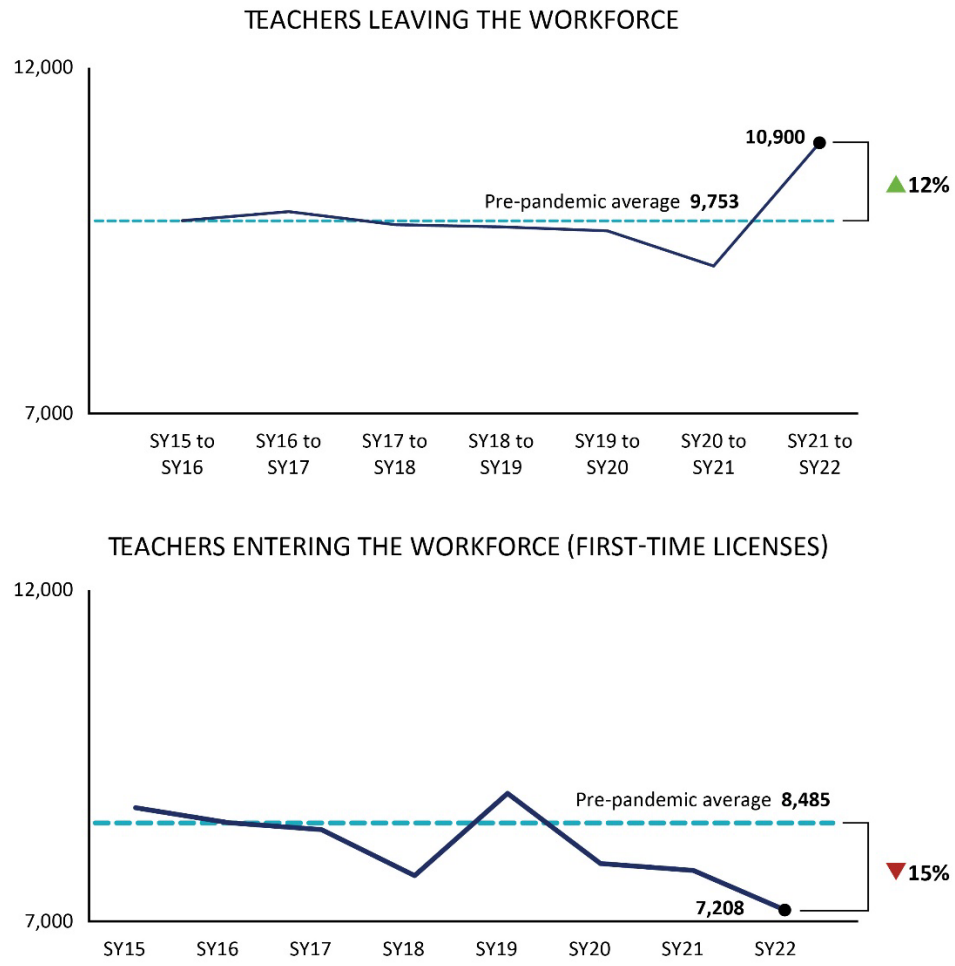
Most teachers leaving the profession (85 percent) left public education entirely. The remaining 15 percent stopped teaching to become administrators in the same division or another division.

Increasing gap between teachers leaving and entering the profession is leading to higher vacancy rates

Divisions report that the pandemic has made it more difficult to recruit and retain teachers. Division leadership in nearly all divisions surveyed (95 percent) indicated it has become more difficult to *recruit* classroom teachers than it was before the pandemic (sidebar). Nearly as many divisions (90 percent) also indicated it has become more difficult to *retain* classroom teachers.

While data is not yet available for teachers who left the profession (sidebar) between the 2021–22 and 2022–23 school years, Virginia experienced a significant increase in teachers leaving after the 2020–21 school year. The number of teachers leaving the profession in Virginia was less after the 2019–20 school year, but there was a substantial spike in teachers leaving the profession after the 2020–21 school year, with teachers leaving at a rate that was 12 percent higher than the pre-pandemic average (Figure 5-2). Given fewer teachers leaving in the first year of the pandemic, the number of teachers leaving the profession for the two-year combined period was just 3 percent greater than before the pandemic. However, teachers are generally hired on a just-in-time basis to replace teachers that left during the most recent school year. Therefore, most divisions found it difficult to fill the large number of positions that were vacant following the 2020–2021 school year.

FIGURE 5-2
More teachers leaving profession, while fewer teachers are receiving licenses



SOURCE: JLARC analysis of Virginia Department of Education data, 2015–16 to 2021–22.
NOTE: Pre-pandemic average includes five years from 2015–16 school year through the 2019–20 school year.

Though full data is not yet available, there are indications that teachers continue to leave the profession at a relatively high rate. Teacher licensure data on the number of teachers who departed the workforce following the 2021–22 school year will not be available until February 2023. However, available data suggests a continuing trend of departures. Compared to pre-pandemic rates, more teacher plan participants left the Virginia Retirement System (VRS) in FY22 (2021–22 school year) and a greater proportion of those leaving did so for reasons other than retirement (sidebar). Specifically:

- 14,500 VRS teacher plan participants left employment in FY22 (2021–22 school year) and 12,700 left during FY21 (2020-21 school year)—substantially more than the 10,950 average per year prior to the pandemic; and

VRS teacher retirement plan includes teachers and certain other school staff eligible for the teacher plan, such as counselors and principals. Therefore, while teachers make up a majority of plan membership, plan data cannot be used to measure the exact number of *teachers* leaving employment.

Staff leaving the retirement plan for reasons other than retirement includes members going from active employment to inactive employment or leaving the plan entirely.

- About 67 percent of those leaving the plan did not retire, but left for other reasons (such as to change careers or take a temporary break in employment), more than the 58 percent average prior to the pandemic.

Declines in student enrollment have helped to partially offset teacher workforce challenges faced in many divisions. Even though most divisions saw student enrollment decline, 50 of 130 school divisions still experienced a negative impact to their overall student to teacher ratio (more students per teacher) in the 2021–22 school year as compared to prior to the pandemic. In addition, student-teacher ratios are likely to worsen in most divisions as the gap between teachers entering and leaving the profession continues, while the student enrollment decline has stabilized.

As more teachers in Virginia began to leave the profession, fewer new teachers were licensed. The number of teachers who were issued a license in Virginia for the first time was 15 percent less in 2021–22 than the pre-pandemic average (Figure 5-2). This decline was likely due to the pandemic in part, although the number of new licenses issued was already declining in the year before the pandemic. New teachers do not represent the entire pool of teachers that enter the workforce each year, as individuals who had already been a licensed teacher also return to the teacher workforce. However, the number of new teacher licenses issued account for more than 85 percent of the total number of teachers entering the workforce any given year, meaning the number of new teachers is a key indicator of the teacher supply available.

Fewer individuals are entering and graduating from teacher preparation programs, which partially explains the decline in the number of newly licensed teachers. In Virginia, there were about one-third fewer enrollees, and one-fifth fewer graduates, in 2020 than there were in 2011. These declines have happened nationally as well during the same time period (Table 5-1). About half of Virginia's newly licensed teachers each year received their degrees from teacher preparation programs in other states, so national trends affect Virginia's teacher pipeline as much as state trends.

TABLE 5-1
Participation in teacher preparation programs has been decreasing

	2011	2020	% change
Virginia			
Enrollment	12,928	8,777	-32%
Graduates	3,710	2,995	-19%
Nationwide			
Enrollment	683,903	601,820	-12%
Graduates	179,707	117,481	-35%

SOURCE: Federal Higher Education Act Title II reports.
NOTE: Enrollment includes total students enrolled in all years of program. Because most programs are multi-year, not all enrolled students are expected to graduate each year.

The gap between the number of teachers departing the workforce and the number of newly licensed teachers entering the workforce is now the largest during the time period reviewed (2014–15 to 2021–22). Prior to the pandemic, the annual gap was about 1,250 teachers on average (9,750 teachers leaving versus 8,485 newly licensed teachers). As of last year it had grown to more than 3,500 (10,900 teachers leaving vs. 7,200 newly licensed teachers).

This growing gap between individuals leaving and entering the teaching profession likely helps explain the increase in vacant teaching positions. Prior to the pandemic, there were about 800 vacant teaching positions statewide, on average. This had

increased substantially to about 2,800 vacant teaching positions in October 2021 and represented 3 percent of all teaching positions statewide. More recently, VDOE conducted a one-time teacher vacancy data collection as of August 15, 2022, which represents the most recent data available at the time of this report (sidebar). One hundred and eleven divisions submitted data to VDOE and indicated approximately 3,300 teacher vacancies (3.6 percent of all teacher positions), a 25 percent increase compared with 2,655 vacancies reported in October 2021 among those same divisions. At the time of the data collection, most divisions still had several weeks to recruit and hire new teachers prior to the start of the school year, and some of these vacancies may have been filled. The VDOE school staff vacancy collection for October 2022 will allow for a more direct comparison of teacher vacancies in the 2022–23 school year with the previous year.

VDOE collects school staff vacancy data in October and June of each year as part of the Position and Exits Collection. **An additional, one-time, data collection occurred for teacher vacancies in August 2022 as required by language in the Appropriation Act.**

Many school divisions have higher turnover and vacancy rates since the pandemic, but some experienced especially large increases

The majority of divisions (86 of 131) had higher teacher turnover between the 2020–21 and 2021–22 school year when compared with before the pandemic (sidebar). The number of divisions with particularly high teacher turnover (above 15 percent) also increased when compared with the years before the pandemic (67 divisions to 91 divisions). Teacher turnover increased the most in Highland County (11 percent to 29 percent); King and Queen County (20 percent to 37 percent); and Southampton County (15 percent to 26 percent).

Division-level turnover includes teachers who left the public education workforce altogether and those who took a teaching job in another division.

The majority of divisions (93 of 132) also had an increase in teacher vacancies in fall 2021 compared with before the pandemic (sidebar). The number of teacher vacancies more than doubled in 68 divisions, with Campbell County having the largest percentage increase in the number of vacancies—from an average of less than one teacher vacancy division wide in the years before the pandemic to 21 vacancies in fall 2021.

JLARC staff compared teacher vacancy data from two different VDOE data collections: the new Positions and Exits Collection (PEC) instrument—which was used to collect data on divisions' vacant positions in 2021—and the Supply and Demand data collection instrument, which was used before 2021. Although the data collection instrument changed, VDOE staff indicated it is valid to compare the vacancy data from the two instruments. The most recent PEC data collection was for October 2021.

Some divisions experienced especially large teacher vacancy rates in fall 2021. Franklin City had the highest vacancy rate (32 percent), while Norfolk City had the second highest (17 percent). Four other divisions had vacancy rates that were higher than 10 percent (Charles City County, Prince Edward County, Waynesboro City, and Portsmouth City), and another 22 divisions had teacher vacancy rates from 5 percent to 10 percent. Among individual schools, 115 schools statewide had five or more teacher vacancies. An elementary school in Franklin City and a middle school in Richmond City had the highest number of teacher vacancies at 17 each.

Vacancy rates tended to be higher in eastern Virginia than southwest Virginia. There does not appear, though, to be a relationship between vacancies (or turnover) and fiscal stress or whether the division is urban, suburban, or rural. More detailed data on turnover and vacancies by division can be found in Appendix J.

Virginia is relying more on teachers who are not fully qualified

Many factors contribute to a student's academic performance, but research suggests that teacher quality matters most among factors over which school divisions have control. Teachers are estimated to have two to three times the effect on student performance on reading and math tests than any other school factor—including services, facilities, and leadership. A high quality teacher workforce is a critical element in ensuring student academic performance and achievement. In Virginia, a high quality teacher is typically fully licensed, has experience, is teaching in a field in which they are fully licensed, and in many cases has an advanced degree (particularly in certain fields such as high school math). Teachers who are fully qualified are much more likely to be a high quality teacher.

School divisions expressed concern about the declining quality of teacher applicants during the pandemic. Nearly all divisions surveyed (98 percent) indicated that an inadequate applicant pool for open positions was among their biggest challenges to meeting staffing needs. One division human resources director stated: "I'm surprised when we get an application from a fully qualified teacher."

JLARC's survey of school divisions defined a **suitable workforce** as one with a *sufficient number* of *qualified* teachers to effectively deliver day-to-day instruction.

Divisions also expressed concern about the suitability of their current workforce (sidebar). More than half of school divisions (53 percent) responding to the JLARC survey indicated their teacher workforce is less suited to perform their instructional responsibilities than it was before the pandemic. Just 13 divisions (14 percent) reported that they believe their teacher workforce has become more suitable.

More Virginia teachers are provisionally licensed and teaching outside their field than before the pandemic

The growing number of teacher vacancies has caused school divisions to become more reliant on *provisionally* licensed teachers. Full licensure is important because it requires coursework related to methods of teaching (pedagogy), which contributes to teacher effectiveness at all grade levels. Therefore, a teacher who has not completed this coursework is more likely to be less effective than a fully licensed teacher. Teachers who have not met all requirements to become a fully licensed teacher can still teach but receive a provisional license (sidebar).

The Virginia Administrative Code defines a **provisional license** as a "nonrenewable license valid for a period not to exceed three years issued to an individual who has allowable deficiencies for full licensure" (8VAC20-23-50). A provisionally licensed teacher is not required to have taken any teacher preparation courses. A school division can request a provisional license for an individual it hires to fill a teacher vacancy.

An increasing percentage of Virginia's teachers are teaching on a provisional license, rather than being fully licensed. Approximately 9.5 percent of teachers statewide were provisionally licensed in 2021–22, compared with 7.7 percent in the average year before the pandemic. This is a 24 percent increase in the number of provisionally licensed teachers statewide, from an average of 6,797 provisionally licensed teachers in the years prior to the pandemic to 8,434 teachers for the 2021–22 school year. This represents an unusually large change to the proportion of teachers with a provisional license, which did not exceed 8.3 percent in any previous year examined for this study. Data

for the proportion of teachers with a provisional license during the 2022–23 school year was not available at the time of this report.

In addition, an increasing number of Virginia's teachers are not fully endorsed for the content area they are teaching (sidebar). These teachers are referred to as teaching "out of field" because they have not completed coursework or certification in the content area they are teaching. Research indicates teachers teaching in their field contribute to more positive student education outcomes, especially for certain content areas like math. The number of out-of-field teachers more than doubled when compared with the years before the pandemic. Out-of-field teachers accounted for just 2.4 percent of all teachers before the pandemic, on average, but increased to 6.2 percent of all teachers during the 2021–22 school year (from about 2,100 prior to the pandemic to 5,350 teachers statewide in 2022). Data for the proportion of out-of-field teachers during the 2022–23 school year was not available at the time of this report.

Teachers are "endorsed" in their content area if they have taken the appropriate courses and/or passed the appropriate licensing exam for the endorsed content area. VDOE must verify and approve that the requirements have been fulfilled for endorsement.

Some divisions have experienced substantial reductions in fully qualified teachers

Many divisions (93 of 132) employ more provisionally licensed teachers compared with before the pandemic. Franklin City had the largest increase in provisionally licensed teachers—from an average 24 percent of teachers prior to the pandemic to 41 percent of teachers in 2022 (Table 5-2). Prior to the pandemic, there were only 17 divisions with a particularly high reliance on provisionally licensed teachers (15 percent or more of the teacher workforce was provisionally licensed); in 2022, there were 30 divisions. The 10 divisions with the largest increase in provisionally licensed teachers are both large and small, and account for approximately 7 percent (83,000) of the public school students in the state.

A higher number of divisions (112 of 132) had more of their teacher workforce teaching outside their fields compared with before the pandemic. Franklin City (4 to 35 percent), Colonial Beach (12 to 38 percent), and Buena Vista (2 to 20 percent) had the largest increases (Table 5-3). Prior to the pandemic, only one division had 15 percent or more of its teacher workforce teaching outside their field. In 2022, that number had increased to 15 divisions. A majority of the divisions (six out of 10) with the largest increase in out-of-field teachers are small divisions; these 10 divisions account for 4 percent (48,000) of the public school students in the state. More detailed data on provisionally licensed and out-of-field teachers by division can be found in Appendix J.

TABLE 5-2
Divisions with largest increase in provisionally licensed teachers

Division	Average daily membership (March 2022)	% of provisionally licensed teachers: Pre-pandemic average	% of provisionally licensed teachers: 2021–2022	Change (in percentage points)
Franklin City	939	24%	41%	16
Surry County	620	7	23	15
Halifax County	4,246	12	23	11
Fredericksburg City	3,376	14	24	10
Newport News City	25,268	9	19	10
Rappahannock County	715	5	15	10
Stafford County	29,830	10	19	9
Sussex County	952	10	18	8
King George County	4,329	14	21	7
Roanoke City	12,941	4	12	7

SOURCE: JLARC analysis of VDOE teacher licensure data, 2016–17 through 2021–22.
NOTE: Includes both provisionally licensed and unlicensed teachers. Pre-pandemic average represents a three-year average from 2016–17 through 2018–19.

TABLE 5-3
Divisions with largest increase in out-of-field teachers

Division	Average daily membership (March 2022)	% of out-of-field teachers: Pre-pandemic average	% of out-of-field teachers: 2021–2022	Change (in percentage points)
Franklin City	939	4%	35%	32
Colonial Beach	571	12	38	26
Buena Vista City	819	2	20	18
Halifax County	4,246	4	22	18
Highland County	174	16	31	14
Norton City	794	2	16	14
Tazewell County	5,244	1	15	14
Stafford County	29,830	2	15	13
Surry County	620	2	15	13
Orange County	4,722	8	20	12

SOURCE: JLARC analysis of VDOE school quality data, 2014–15 through 2021–22.
NOTE: Pre-pandemic average represents a five-year average from 2014–15 through 2018–19.

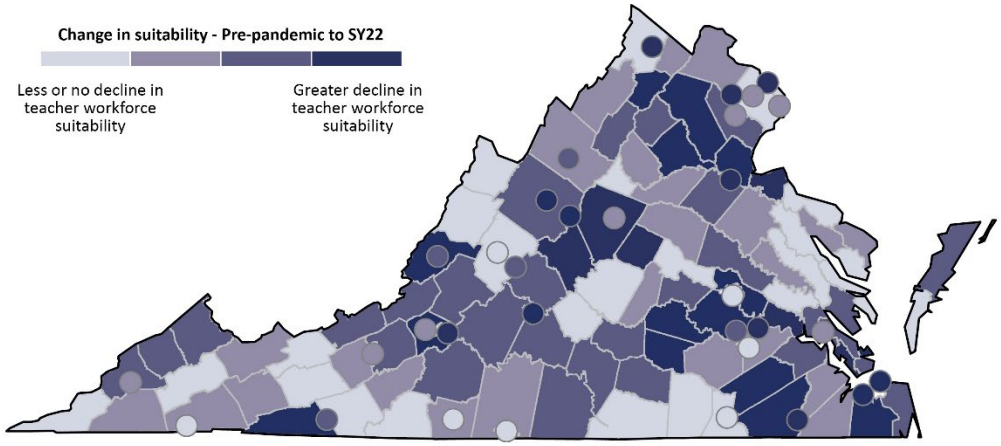
Some divisions are facing substantial declines in teacher quality and quantity

Some divisions have experienced declines in the overall suitability of their workforce because of lower teacher quality *and* lower quantity of teachers. JLARC staff ranked divisions based on the change in the quality of teachers (using the proportion of provisionally licensed teachers as a proxy) and the *change* in the quantity of teachers (using

the change in the number of teacher vacancies as a proxy) (sidebar). Based on this combined ranking, the divisions with the greatest negative change to their teacher workforce in 2021–22 compared with before the pandemic are represented by the darkest shading in Figure 5-3.

Divisions were ranked from 1 to 132 based on teacher qualification (provisional licensure) and adequacy of the number of staff (teacher vacancies). These two rankings were combined into a single statewide ranking to represent the overall suitability of each division's teacher workforce. Divisions were then divided into quartiles to indicate which divisions had the greatest to least workforce challenges.

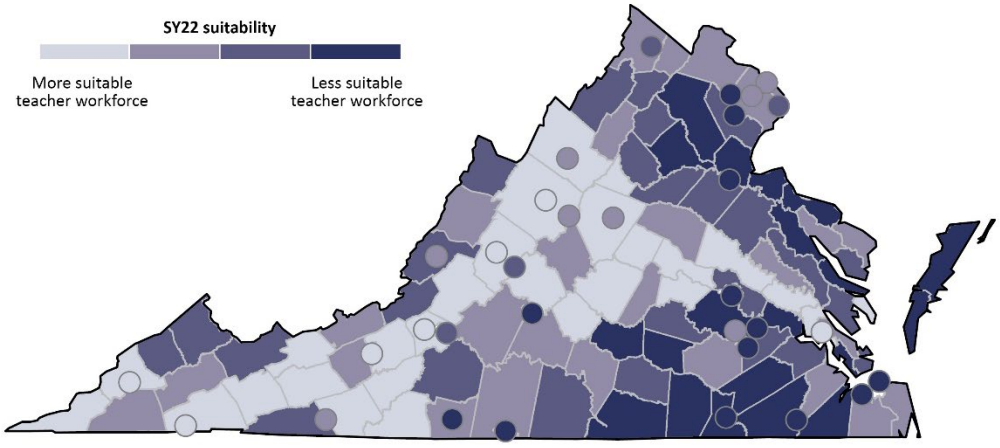
FIGURE 5-3
Change in overall suitability of teacher workforce by division (pre-pandemic to 2021-22)



SOURCE: JLARC analysis of VDOE provisional licensure data (2016–17 through 2021–22) and VDOE teacher vacancy data (2014–15 through 2021–22).

JLARC staff also ranked divisions on overall suitability of their workforce as of the 2021–22 school year without regard to change. Some divisions had especially low overall suitability because of changes in teacher quality and quantity that occurred during the pandemic, while others already had particularly low overall suitability of their workforce that began prior to the pandemic and continued through it. JLARC staff ranked divisions based on the number of fully qualified teachers (using the proportion of provisionally licensed teachers as a proxy) and the adequacy of the number of teachers (using the number of teacher vacancies as a proxy). Based on this combined ranking, the divisions facing the greatest challenges with their teacher workforce in 2021–22 are represented with the darkest shading in Figure 5-4.

FIGURE 5-4
Overall suitability of teacher workforce by division (2021–22)



SOURCE: JLARC analysis of VDOE provisional licensure data (2021–22) and VDOE teacher vacancy data (2021–22).

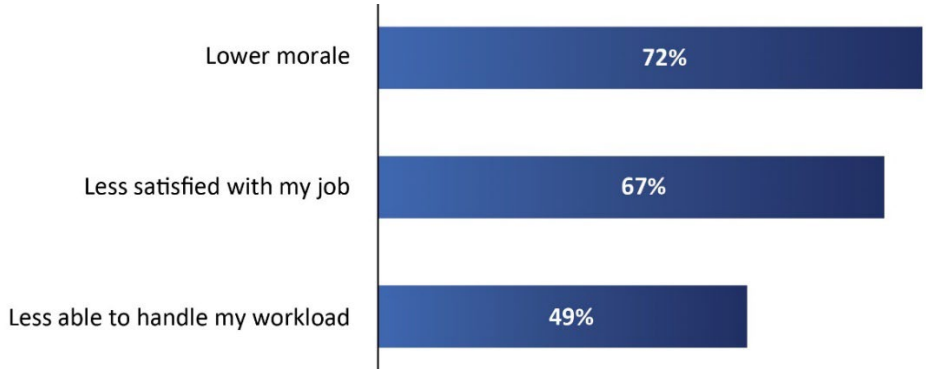
Divisions are pessimistic, and teacher morale has worsened since the pandemic

While complete 2022–23 teacher workforce data is not yet available, school divisions were not confident they would have adequate teacher staffing this year, and more teachers than usual report they are planning to leave. A majority of divisions (87 percent) said it was seeming more difficult to hire and retain teachers for the 2022–23 school year than in the previous two years, according to a JLARC survey. In addition, more than half of divisions surveyed (52 percent) were not optimistic about their ability to employ a suitable classroom teacher workforce for the 2022–23 school year. Fifteen percent of Virginia teachers responding to JLARC's staff survey indicated they are "definitely leaving" or "likely to leave" their job in public education by the end of the 2022–23 school year. This is higher than the 9 percent of all teachers surveyed by VDOE in 2019 who indicated they were planning to leave.

JLARC surveyed school staff from a representative sample of 47 schools across 12 school divisions. The survey addressed their experience working in K–12 public education since the start of the COVID-19 pandemic. JLARC received responses from 1,175 staff (28 percent) across all school roles, including teachers, principals, and support staff (Appendix B).

Teachers responding to JLARC's survey indicated they are less satisfied with their profession (sidebar) than before the pandemic. The majority of teachers reported having lower morale (72 percent) and lower job satisfaction (67 percent) compared with before the pandemic (Figure 5-5). Similarly, 36 percent of high school teachers said working conditions at their school became "worse" or "much worse" during the past year, according to VDOE's 2022 working conditions survey. Teachers who indicated on the JLARC survey they are likely to leave by the end of the 2022–23 school year cited effects of the pandemic—including negative impacts to morale, job satisfaction, and workload—as a contributing factor.

FIGURE 5-5
Most teachers report morale and job satisfaction are lower since the pandemic



SOURCE: JLARC survey of local school staff, May 2022.
NOTE: Percentages of instructional staff who said "somewhat decreased" or "greatly decreased."

The effects of the pandemic, as well as other factors, are contributing to teachers' lower job satisfaction. According to JLARC's survey, teachers cited the following issues as the most serious problems they face:

- a more challenging student population, including behavior issues (56 percent indicated this is a very serious issue) and student anxiety and mental health (43 percent);
- low pay (51 percent);
- lack of respect from parents and the public (47 percent); and
- higher workload because of unfilled vacancies (40 percent).

The state and divisions can try to address teacher concerns about behavioral and mental health issues among students, pay, and high workload. This and other chapters of this report provide recommendations to address these issues.

However, the lack of respect from parents and the public is difficult for the state and divisions to address and is not assessed in this report. Almost half of the teachers surveyed indicated that the perceived lack of respect from parents and the public was a very serious issue they have faced since the start of the pandemic, ranking third among all issues surveyed. This sentiment was also shared during interviews with JLARC and in written survey responses, with teachers citing ongoing debates over how schools should teach students about certain subjects and more outside involvement in curriculum from parents and the public as serious concerns that negatively affected their working conditions.

Teachers generally viewed issues related most directly to the pandemic's public health crisis—including concerns about their health and safety and the increased workload associated with implementing health and safety measures—as being less serious. How-

ever, JLARC's survey was conducted in May 2022 when the full effects of the pandemic had started to diminish; teachers may have considered these issues as more serious if surveyed earlier in the pandemic.

State could provide additional temporary, targeted assistance to address teacher workforce challenges

It is too early to determine whether the pandemic-related teacher workforce challenges will begin to recede during the 2022–23 school year. Whatever actions the General Assembly takes will need to be done in the context of the most recent teacher workforce data for the 2022–23 school year, which will become available at various points throughout the year. As noted in other chapters, some unobligated federal pandemic funding already provided to localities may be available for temporary initiatives.

The state and school divisions already have taken some actions to help address the pandemic-related teacher workforce challenges. For example, divisions report using a variety of financial incentives, such as bonuses, to improve teacher recruitment and retention. During the 2022 General Assembly, the state appropriated additional funding for the state share of 5 percent salary increases in FY23 and FY24 ($232 million and $525 million, respectively) and a $1,000 bonus payable in December 2022 ($130 million). In addition, the current budget includes $10 million for divisions to provide signing bonuses for teachers hired between August 15 and November 30, 2022. Some divisions have added local funding to these amounts to provide higher salary increases or bonuses. The state also annually provides funding to address recruiting and retention issues, especially in critical teacher shortage areas ($2.2 million in FY23 and FY24), and for teacher mentoring programs ($1 million in FY23 and FY24). VDOE is developing a plan to help school divisions with the most substantial teacher recruitment and retention challenges in critical shortage areas ($395,000 in FY23 and FY24). VDOE also used $1 million in federal grant funds to launch a social media advertising campaign to encourage more Virginians to become a teacher and developed a website to help prospective teachers navigate the teacher licensure process based on their current education level and circumstances. Finally, the governor issued Executive Directive Number Three in September 2022, which directs VDOE staff and the secretary of education to take several actions to address teacher recruitment and retention issues.

The state also has several programs that began before the pandemic to increase the teacher pipeline. For example, the Career Switcher program makes it easier for individuals who do not have an education degree—but have life experiences, career achievements, and other academic backgrounds—to become teachers. The state also allows retired teachers to return to the classroom and teach in critical shortage areas while still receiving retirement benefits. The Teachers for Tomorrow program is Virginia's statewide "grow your own" program for recruiting high school students into the teaching profession; the program is designed to attract high school students to the field of education through exposure to a curriculum and hands-on experience that

focuses on teaching. The state has also supported a teacher residency program at Virginia Commonwealth University (VCU), in which "residents" complete a one-year graduate program in the VCU School of Education while working alongside an experienced teacher in their area of choice.

Recommendations in other chapters of this report would also help address teacher workforce challenges, especially Recommendation 5 (Chapter 4) to provide temporary funding to hire additional instructional assistants to help teachers provide individualized instruction and to ease teacher workloads.

School divisions and teachers identified a wide range of additional actions that would help address challenges with recruiting and retaining a qualified teacher workforce. JLARC relied on the insight of school division leadership and staff through surveys and interviews to determine which strategies they have already implemented or plan to implement in the near future, as well as those they have not implemented but believe would have a substantial positive impact on teacher staffing, workload, morale, or satisfaction (sidebar).

JLARC staff prioritized (1) strategies that can be implemented in the shorter term to address the impacts of the pandemic, as opposed to longer term strategies that are more suitable for addressing longstanding staffing issues; and (2) strategies where state assistance would be most beneficial, rather than strategies that divisions could implement on their own.

Several of the strategies most favored by teachers or school division leadership are high-cost and long-term structural changes that extend beyond the scope of the pandemic and its more immediate impacts to school staff. For example:

- Over 90 percent of *divisions* reported that raising salaries would help recruit and retain teachers, and 70 percent of *teachers* said raising salaries would have a substantial positive impact on their morale and job satisfaction.
- 76 percent of *divisions* reported that having more teachers to reduce class sizes and teacher workload would improve teacher morale, recruiting, and retention.
- 72 percent of *teachers* indicated having more teachers would have a substantial positive impact.

However, permanent changes to teacher compensation or the number of teachers may not be the most cost-effective way to address the immediate impacts of the pandemic and would have a substantial ongoing cost. For example, if changes to student-to-staff ratios were imposed that resulted in a 5 percent increase in the number of teachers needed, the cost would be an estimated $400 million to $450 million annually for the state and local share of funding combined (sidebar).

JLARC is conducting a **comprehensive review of the state's K–12 funding formulas** as directed by SJ294 (2021). The review is assessing how the state calculates prevailing teacher salaries and the student-to-staff ratios used in the formula. The review will be released in 2023.

Finally, teachers indicated that standardized testing creates pressure to cover all necessary content in a limited amount of time, reduces teachers' ability to be creative, and adds stress to teachers and students. Two-thirds of teachers surveyed responded that reduced or more flexible standardized testing would have a substantial positive impact on their morale and workload. However, some changes have already been made to testing requirements (sidebar), and further reducing the amount of testing would be a systematic change to the state's school accountability and accreditation system, rather than a short-term solution that will help address the impacts of the pandemic.

In September 2021, the Virginia Board of Education approved **revisions to Standards of Learning (SOL) testing.** Divisions are no longer required to administer the SOL test for history and social studies. The state also eliminated five elementary and middle school SOL tests in 2014.

Retention bonuses can be an effective way to help divisions with high turnover retain teachers

Divisions indicated that providing retention bonuses to teachers could help them maintain a suitable teacher workforce. More than half of divisions (57 percent) responding to the JLARC survey indicated they have provided, or are planning to provide, retention bonuses. Nearly three-fourths of divisions who have not yet used retention bonuses reported they would substantially improve their ability to maintain their workforce.

Retention bonuses can be structured in several ways, the most effective of which maximizes the financial incentive for teachers to remain in their position through the end of a school year or into the next. For example, teachers in Danville Public Schools received a $3,000 retention bonus in the fall of 2021 and an additional $1,500 in December if they agreed to stay for the rest of the school year. Teachers that left their position before the end of the agreement would be required to return the December portion of the bonus. Similarly, Richmond Public Schools provided a $3,000 teacher retention bonus late in the 2021–22 school year to incentivize teachers to remain in their position through the end of the school year and offered another $1,000 in the fall to help incentivize teachers to return for the 2022–23 school year. Virginia Beach offered a $2,500 retention bonus in 2021–22 and paid the bonus in installments over five months from January to June.

A challenge with additional compensation is knowing **whether it actually incentivizes the desired behavior**. For example, many teachers who receive a retention bonus would likely not have left their jobs. Research shows these bonuses, though, can temporarily improve staff morale even for staff who would not have left.

Though many factors determine whether a teacher will stay, research shows retention bonuses can be effective (sidebar). Properly structured retention bonuses are effective, and, because they are temporary, are well suited to address the disruptions of the pandemic. Evidence indicates retention bonuses have helped Virginia's school divisions limit teacher turnover during the pandemic. Divisions that indicated they have used retention bonuses, or plan to in the near future, had an increase in teacher turnover of just 0.8 percentage points compared with their pre-pandemic average turnover rate. Conversely, divisions that indicated they have not provided a retention bonus saw their turnover rate increase by 2.5 percentage points. Retention bonuses are especially useful because they are directly targeted at maintaining the existing teacher workforce, which comprises the largest pool of qualified and experienced teachers available to the state and its school divisions.

The governor's Executive Directive Number Three supports the use of bonuses to address teacher recruitment and retention issues. It directs VDOE to target discretionary grants for teacher recruitment and retention bonuses to school divisions with the highest and most persistent vacancy rates.

The General Assembly should provide additional funding for retention bonuses to help divisions that experienced the greatest teacher turnover during the pandemic. Divisions would be able to use unobligated pandemic funding to provide the local share for retention bonuses. Funding for these bonuses should be contingent on establishing

a bonus structure that incentivizes teachers to stay for an extended period. For example, the bonus could be contingent on the recipient staying through at least the end of the school year. Alternatively, the bonus could be provided incrementally over a longer period of time. Larger or ongoing bonuses would likely have a bigger positive impact, whereas smaller or one-time bonuses are likely to have less impact. Funding for retention bonuses could target school divisions with the greatest increases in teacher turnover since the start of the pandemic. The state could also provide funding to more divisions, but that would result in a higher total cost (Table 5-4). Retention bonuses could be funded using the same approach as the FY23 bonus payable this December, in which the state provides funding for the state share of the bonus amount.

TABLE 5-4
State could narrowly or more broadly fund retention bonuses of varying amounts

Amount of retention bonus	Divisions with ... *More than 10% point increase in teacher turnover*	Divisions with ... *More than 5% point increase in teacher turnover*	All divisions with increased teacher turnover
$1,000	$173,000	$2.1M	$19.2M
2,500	432,000	5.3M	48.1M
5,000	864,000	10.7M	96.2M

SOURCE: JLARC analysis of VDOE data.
NOTE: Dollar amounts shown are for state share of funding. For illustrative purposes, average state share of 45 percent is assumed across divisions.

RECOMMENDATION 6
The General Assembly may wish to consider including language and funding in the Appropriation Act to provide the state share of funding to divisions that experienced an increase in teacher turnover during the pandemic to be used for providing retention bonuses for teachers. Retention bonuses should be structured to maximize the financial incentive for teachers to remain in their position.

Signing bonuses can be an effective way to help divisions recruit teachers; state funding has been provided in the short term

Divisions indicated that offering signing bonuses to prospective teachers is one of the most effective strategies to maintain a suitable teacher workforce. Nearly three-fourths of divisions that have not yet used signing bonuses reported they would substantially improve their ability to maintain their workforce. Nearly half of divisions (42 percent) responding to the JLARC survey indicated they have provided, or are planning to provide, signing bonuses. The 2022 Appropriation Act includes $10 million for divisions to offer signing bonuses for teachers hired between August 15 and November 30, 2022.

Though many factors determine whether a teacher will choose to work for a division—such as working conditions, school leadership, family and personal considerations, and

compensation—research shows signing bonuses can be effective. Signing bonuses are a best practice and, because they are temporary, are well suited to addressing the disruptions of the pandemic. Signing bonuses can help "tip" a teacher's decision to work in a certain division or a school with a more challenging student population. Signing bonuses also may entice teachers who have left the workforce—a segment of the workforce that has grown in recent years—to return, or attract teachers from other states. Signing bonuses also cost less in aggregate than retention bonuses because there are far fewer newly hired teachers each year than returning teachers.

The 2022 Appropriation Act requires school divisions to certify that the locality will fully match the state share of funding with their required local match to ensure teacher signing bonuses are fully funded at the desired amounts ($2,500 and $5,000).

Signing bonuses can be structured to specifically target certain types of vacancies, more experienced teachers, or higher performing teachers. For example, one division offered a $1,000 signing bonus for *all* new teachers and a $5,000 bonus to target teachers in critical shortage areas, such as math, science, and special education. Similarly, the Appropriation Act funding for signing bonuses provides the state share of $5,000 for teachers hired in hard-to-fill positions or hard-to-staff schools, and $2,500 for all other newly hired teachers (sidebar). Signing bonuses can also be used to help divisions address teacher quality issues by offering larger bonuses to teachers who have more years of experience or can demonstrate highly effective performance or qualifications.

Signing bonuses can also be structured to help retain the teachers who receive them. This is typically done by delaying the bonus payout until teachers have stayed in their position for a specified period of time. The signing bonuses in the current state budget, for example, are to be provided in two installments: the first installment is paid on or after January 1, 2023, and the second installment is to be paid on or after May 1, 2023, *if* the teacher provides a written commitment to return to the same school in the 2023–24 school year and receives a satisfactory performance evaluation.

Budget language requires VDOE to report on the number of hires who participated in this program in each school division and the anticipated amount of state funding each division uses for these bonuses. This information could be used to help evaluate the extent to which the funding for signing bonuses succeeded in attracting new teachers.

The General Assembly's funding for signing bonuses is a positive step for teacher recruitment but is only temporary. The current funding is reserved for teachers hired between August 15 and November 30, 2022. Divisions are likely to still be experiencing recruitment and vacancy challenges for the next several years. If the bonuses are found to be effective (sidebar), the General Assembly could continue funding signing bonuses to school divisions, prioritizing those with the highest vacancy rates. To receive a signing bonus, teachers could be required to stay at least through the school year, and potentially through the next school year (as required by the current budget language). Larger bonuses would likely have a bigger positive impact. Divisions that have already used signing bonuses generally provided between $2,500 and $5,000 to new teachers, which is similar to the bonuses authorized by the current budget. Funding for signing bonuses could target school divisions that have had the greatest increases in teacher vacancies since the start of the pandemic. The state could also provide funding to more divisions, but that would result in a higher total cost (Table 5-5). The state could fund the state share of the bonus amount based on the local composite index. Divisions would be able to use unobligated pandemic funding to provide the local share for signing bonuses.

TABLE 5-5
State could narrowly or more broadly fund signing bonuses of varying amounts

Amount of signing bonus	Divisions with ... 10x or more increase in vacancies	5x or more increase in vacancies	All divisions with increase in vacancies
$1,000	$147,000	$434,000	$829,000
2,500	367,000	1.1M	2.1M
5,000	736,000	2.2M	4.1M

SOURCE: JLARC analysis of VDOE data.
NOTE: Dollar amounts shown are for state share of funding. For illustrative purposes, average state share of 45 percent assumed across divisions.

POLICY OPTION 4
The General Assembly could include language and funding in the Appropriation Act to provide the state share of funding for one-time signing bonuses to be offered to teachers who agree to accept employment with a school division that has experienced an increase in teacher vacancies during the pandemic.

Tuition assistance can be an effective way to improve teacher quality

Many divisions (80 percent) responding to the JLARC survey reported already offering or planning to offer some form of tuition assistance to help teachers complete educational courses so that they can improve their credentials. Fifty percent of divisions who have not yet used tuition assistance in some form reported it would substantially improve their ability to maintain their workforce.

Tuition assistance can be structured in several ways (sidebar). For example, some divisions partner directly with colleges or universities to pay for provisionally licensed teachers to become fully licensed; others reimburse the teacher for tuition costs upon completion of a course. Further, some divisions use tuition assistance to complement other programs. For example, Colonial Beach uses an existing career switcher program to incentivize people to relocate to the area, then pays for them to get licensed (in return for agreeing to stay employed in the division for five years). Tuition assistance can also be targeted to teachers who teach in particular programs or subject areas. For example, Virginia provides tuition assistance for high school teachers to obtain credentials to teach dual enrollment courses and for provisionally licensed special education teachers to complete their required coursework.

Tuition assistance is different from loan repayment programs. Tuition assistance precludes taking out loans because it is provided before or during the educational programming. The state currently has no loan repayment programs for K–12 staff.

Tuition assistance can be an effective way to encourage teachers to obtain the additional credentials or coursework necessary to become fully licensed. This has become especially important as divisions have become more reliant on provisionally licensed teachers. Tuition assistance is also increasingly valuable given the increased need for existing teachers to earn new endorsements to be able to be fully qualified to teach in subject levels of greatest need. Ninety percent of divisions responding to the JLARC

survey felt that offering tuition assistance can substantially improve their ability to maintain a suitable teacher workforce. Providing tuition assistance to help teachers obtain additional skills or endorsements could also help improve teacher morale and job satisfaction. For example, teachers indicate that providing tuition assistance shows them that their school division is committed to their career advancement.

The General Assembly should provide additional tuition assistance funding to divisions that experienced the greatest increase in provisionally licensed teachers during the pandemic. The state could fund assistance for one or more years to specifically address the pandemic-related increase in provisionally licensed teachers (sidebar). To ensure that the incentive improves teacher retention, additional criteria could be added to be eligible for tuition assistance. For example, a teacher could be required to remain in their position at least through the next school year to receive or keep the tuition assistance. Assistance could be limited to teachers who complete the coursework or training necessary to become fully licensed. Funding for tuition assistance could target school divisions that have had the greatest increases in provisionally licensed teachers since the start of the pandemic. The state could also provide funding to additional divisions, but that would cost more (Table 5-6). The state could fund the state share of the amount based on the local composite index. Divisions would be able to use unobligated pandemic funding to provide the local share for this assistance.

The **average cost of a credit hour at a Virginia four-year institution is $450 and less than $200 at a community college**. A typical college course is three credit hours.

TABLE 5-6
State could narrowly or more broadly fund tuition assistance for teachers to become fully licensed

Amount of tuition assistance	Divisions with ... *10% or more increase in provisional licenses*	Divisions with ... *5% or more increase in provisional licenses*	All divisions with increase in provisional licenses
$450	$52,100	$169,300	$372,000
900	104,200	338,600	743,200
1,350	156,300	507,900	1.15M

SOURCE: JLARC analysis of VDOE data.
NOTE: Dollar amounts shown are for state share of funding. For illustrative purposes, average state share of 45 percent assumed across divisions. Amounts shown represent maximums because there are provisionally licensed staff currently with adequate coursework, but who have not yet taken or passed the required test(s).

RECOMMENDATION 7
The General Assembly may wish to consider including language and funding in the Appropriation Act to provide the state share of funding for teacher tuition assistance to divisions that experienced an increase in the number of provisionally licensed teachers during the pandemic to help provisionally licensed teachers in those divisions become fully licensed.

Providing tuition assistance could also help other school staff become licensed teachers, such as instructional assistants or support staff. Division leadership indicated that

helping other staff become teachers is an effective way to increase the teacher supply. These staff, who are already working in a school, have demonstrated a commitment to education and often have an interest in transitioning to the teaching profession. Helping other school staff pursue teacher licensure expands the pool of potential teachers, which is valuable because participation in the traditional licensure path (i.e., teacher preparation programs) has declined. Divisions with the highest teacher vacancy rates could be prioritized for such funding.

Simplifying and clarifying complex teacher licensing could help increase the number of teachers

School divisions responding to the survey said streamlining the teacher licensure process could improve teacher staffing. JLARC did not fully review Virginia's licensure process for this study because it was out of scope of this project. However, divisions responding to the JLARC survey indicated that improving the teacher licensure process (beyond the flexibilities granted during the pandemic) was the *most substantial* state policy change that would help them increase the number of new and future teachers:

- 80 percent of divisions said the state should establish more alternative paths to licensure for teachers (sidebar);
- 76 percent of divisions said the state should establish alternative teacher certification pathways for current school employees, such as instructional assistants, teacher aides, or other non-teachers; and
- 53 percent of divisions said the state should make it easier for teachers with licenses from other states to teach in Virginia (i.e., simpler or expanded reciprocity).

The state currently offers some **alternative paths to licensure**, including provisional licensure and the Career Switchers program. The state also provides advice to military veterans on the different options available to obtain licensure—including the alternative paths—and connects them to resources (Troops to Teachers program).

During the pandemic, VDOE and the General Assembly granted several teacher licensure flexibilities. These included: waiving certain training requirements for individuals applying for a new license or a renewal (e.g., CPR training and behavior intervention and support training); issuing extensions to certain individuals with expiring licenses, including provisionally licensed teachers and those unable to meet renewal requirements during the pandemic; and issuing a one-year license to individuals who completed a Virginia educator preparation program, but not the assessments, in the spring or summer of 2020. Division human resources directors indicated these flexibilities were helpful during the pandemic. HB 236 passed by the 2022 General Assembly allows the Board of Education to grant a two-year extension for all licenses expiring on June 30, 2022 to provide sufficient additional time to complete the requirements for licensure or license renewal.

In addition, Executive Directive Number Three (2022) directs the secretary of education and superintendent of public instruction to work with other state entities to develop legislative proposals to reduce red tape associated with teacher licensure to recruit more out-of-state teachers, retired teachers, career switchers, military veterans,

and other professionals. VDOE will also be permitted to issue teaching and renewal licenses to out-of-state and retired teachers whose licenses may have lapsed.

Division leadership indicated concern with the complexity and the confusing nature of Virginia's teacher licensure process. One division human resources director stated that the licensure process is "complicated and people need help. It's hard for teachers to figure it out on their own," and that teachers from other states indicate Virginia's licensure process is more complex than the states they came from. Another human resources director stated that it is often unclear whether VDOE will accept certain college credits, such as credits from online universities. Division staff cite this confusion as a deterrent to individuals potentially pursuing teacher licensure, especially those pursing an alternative path to teaching, such as a career switcher. The complex process also places more burden on division staff to determine whether an applicant would ultimately be able to become licensed.

Recommending changes to the teacher licensure requirements or process is outside the scope of this review but merits further attention. There are at least 10 types of teacher licenses and over 40 endorsements/credentials. The level of degree, types of courses, and number of credits vary by endorsement area. In addition, other requirements such as CPR training, behavior intervention and support, and dyslexia awareness apply to each type of license.

Any changes to the licensure process to increase flexibility or reduce requirements must be balanced with potential impacts these changes may have on teacher quality. Licensing requirements, especially those related to educational attainment and certification, are intended to ensure that prospective teachers have completed the coursework and training necessary to become a high quality teacher.

The General Assembly could direct a review of Virginia's teacher licensure requirements and process. The goal of the review would be to identify opportunities to update, improve, and streamline requirements and the process to become licensed. The review would need to:

- evaluate current requirements for licensure, including the rationale for specific requirements;
- evaluate ways the existing process could be streamlined and/or made more flexible;
- assess the current alternative paths to licensure and whether there are other alternatives paths that could be implemented;
- compare Virginia's licensure requirements and processes to those in other states to look for areas where additional flexibility could be achieved to improve Virginia's competitiveness;
- assess whether improvements can be made to teacher licensure reciprocity with other states;

- identify potential for expedited licensure and certification requirements for existing school staff, such as instructional assistants, or for individuals from other professions such as military veterans; and
- identify instances where changes to licensing requirements could have an adverse impact on teacher quality.

POLICY OPTION 5

The General Assembly could include language in the Appropriation Act directing the Virginia Department of Education and the State Council of Higher Education for Virginia to review Virginia's teacher licensure requirements and process, and propose updates, improvements, and simplifications. A summary of proposed changes could be submitted to the Virginia Board of Education and House Education and Senate Education and Health committees by November 1, 2023.

6 Preparedness for Future Disruptions to In-Person Learning

The study resolution directed JLARC to "evaluate public schools' level of emergency preparedness to face another pandemic or statewide crisis." Though health experts have worried about pandemics for years, predicting the exact timing of when one would occur—or the magnitude or duration—was impossible. There had not been a health crisis of similar proportions in the United States since 1918.

The U.S. may not experience an emergency requiring extended periods of remote learning anytime soon. However, school divisions should use lessons learned during the COVID-19 pandemic to better prepare for future emergencies that require closure of schools. For example, school divisions and schools need to quickly adapt their operations for remote learning. This includes logistics discussed in Chapter 1, such as distributing IT devices (e.g., laptops, tablets, network hotspots) to students and families. Guidance also needs to be provided to teachers and school staff on best approaches to remote learning.

Few, if any, divisions were adequately prepared to transition to long-term remote instruction

Prior to the pandemic, divisions were required to have plans for several possible disruptions to school. Nearly all of these were related to inclement weather (e.g., tornados), fires, or the threat of active school shootings. School divisions are required by the Code of Virginia to develop and annually review a "school crisis, emergency management, and medical emergency response plan." This planning is intended to address immediate, short-term emergencies, such as where to evacuate in case of an emergency (e.g., fire, tornado).

School divisions are not required to develop a plan on how to provide remote instruction for a long period of time. Consequently, after the start of the pandemic, it was unclear how: teachers should transition to and maintain remote instruction; school divisions could deliver other school-based supports such as meals or mental health supports; or school facilities should change for additional uses during remote instruction.

> *"I think we had a lot of 'programs' thrown at us, but did not have adequate time to be instructed on how to use them."*
>
> **– K–12 teacher**

The pandemic's quick onset presented challenges as schools transitioned to and maintained a remote instruction model. For example, some teachers did not know how to properly enforce grading or attendance policies. Many parents did not know how to access virtual learning resources for their children. School mental health providers lacked guidance on the appropriate ways to provide counseling or psychology services to students in a remote setting—such as how to ensure confidentiality and comply

with privacy laws. These challenges further increased uncertainty, stress, and workload among school staff, as well as contributed to frustrations for students and families.

Teachers reported feeling unprepared for providing remote instruction in the 2020–21 school year. Most teachers in Virginia had rarely or never taught students remotely prior to the pandemic. Education policy researchers interviewed by JLARC said teachers' lack of experience teaching remotely was a contributing factor to learning loss during the pandemic: "With COVID, every teacher essentially became a 'first-time teacher.' It's really different, and you have to be fluent in the technology for monitoring assignments, building rapport, and culture."

Lack of guidance about remote instruction was a serious issue for teachers, according to a JLARC survey (sidebar). The survey asked teachers to identify issues that most affected them during remote instruction. Teachers surveyed by JLARC were most likely to identify inadequate guidance on providing remote instruction or using a virtual learning platform as very serious issues that affected them during the pandemic. According to these teachers, this lack of guidance made it difficult to transition to and maintain a fully or hybrid remote instruction model. One teacher expressed: "We had no training in strategies in working with students in an online environment like Zoom."

The state provided additional support for remote instruction through the Virginia Department of Education's (VDOE) expansion of its Virtual Virginia program, but it was used by just one in five teachers surveyed by JLARC (sidebar). During the pandemic, VDOE expanded Virtual Virginia, including offering public school teachers free access to its learning management system and virtual curriculum content, increasing staffing, and providing more centralized support to help divisions augment their own remote instruction. The number of students who completed coursework through Virtual Virginia more than doubled during the pandemic—from about 9,000 to more than 19,000—including both part-time and full-time students. However, less than 20 percent of teachers surveyed by JLARC had used services offered by Virtual Virginia, though the majority of those who had used its learning management system found it very useful.

JLARC surveyed school staff from a representative sample of 47 schools across 12 school divisions. The survey addressed their experience working in K–12 public education since the start of the COVID-19 pandemic. JLARC received responses from 1,175 staff (28 percent) across all school roles, including teachers, principals, and support staff (Appendix B).

Virtual Virginia was created in the mid-2000s when VDOE merged all of its existing virtual learning initiatives under one program. Its original purpose was to provide courses that were unavailable because of a lack of qualified local instructors for those courses or because student enrollment would be too low to offer the courses locally, including Advanced Placement courses.

JLARC surveyed school division superintendents on the effectiveness of strategies to address the impacts of the COVID-19 pandemic on students and staff. One hundred school divisions responded to the survey (76 percent); these divisions represented 84 percent of statewide student enrollment (Appendix B).

Divisions are planning for long-term remote learning, but some school staff feel unprepared

Many school divisions have begun to develop plans to deliver long-term remote instruction if necessary. As of summer 2022, 73 percent of divisions reported having a formal document or plan to use for a future disruption to in-person learning, according to JLARC's survey of school divisions (sidebar). Almost all of the remaining divisions reported they are currently developing a plan (8 percent) or planning to develop one in the future (18 percent). One division responded that it has no intentions to create such a plan.

School staff recognize the importance of planning for any future returns to remote instruction. Nearly all school staff surveyed by JLARC indicated that it is very important to effectively plan for remote learning, such as how to ensure students have internet access and how to help parents and students access virtual resources. Further, teachers expressed a need for more proactive preparation for the possibility of future closures, including educating families and students about their division's virtual learning platform prior to a transition to remote learning.

The majority of teachers and principals reported feeling prepared to return to remote instruction, if necessary. However, 41 percent of teachers and 22 percent of principals responded that they felt either *not prepared* or only *somewhat prepared* to return to remote instruction should it be necessary to do so. The number of staff feeling unprepared will likely increase in future years as turnover results in fewer teachers and other staff having first-hand experience in delivering remote instruction.

State can provide supplemental assistance through template and training resources

Rather than creating new mandates or requirements, the state should help divisions prepare for future emergencies requiring remote instruction. A new state requirement for school divisions to develop long-term remote instruction plans is likely not needed. Many divisions appear to be developing these plans on their own. Moreover, there is likely little desire currently for a return to statewide, long-term remote instruction.

Divisions could benefit from a standardized template to help plan for future disruptions to in-person learning

A comprehensive and effective plan is imperative for schools to quickly and successfully transition to the remote delivery of instruction and other school-based services for future long-term emergencies. Continuity of operations plans (COOPs) are a best practice for government agencies and private companies that provide essential services (sidebar). These plans are already used in Virginia state government. A well-planned transition to remote instruction should help minimize learning disruptions. Likewise, planning better ensures that students will have sufficient access to non-academic services, such as mental health services, meals, and medical assistance.

Continuity of operations plans (COOPs) are plans developed by organizations to ensure that their mission-critical functions can continue during a wide range of emergencies, including localized acts of nature, accidents, and technological or attack-related emergencies.

School divisions in Virginia could benefit from having a standardized COOP template to help them develop a plan or update their own. This template would ensure their plans effectively address the most important considerations for transition to remote or hybrid instruction. Also, a template could help reduce division workload associated with creating these plans. The template could also be pre-populated with best practices to ensure all school divisions have access to the most up-to-date guidance. A template would provide guidance to divisions that have not yet started or are currently working on a plan. A template could also help benefit divisions that already have a plan to identify potential weaknesses or omissions in their plan.

The Virginia Department of Emergency Management has already created a template for continuity of operation plans to be used by executive branch agencies in Virginia, which is available on their website.

VDOE could create and distribute a template to help divisions develop a plan or update their existing plans for long-term emergencies. VDOE is best positioned to develop the standardized template, and creating such a template would be more efficient than for each division to try to develop a plan entirely on its own. Many divisions, especially smaller or more rural ones, often do not have staff with this level of expertise or are not readily positioned to consult with experts. VDOE staff can leverage their expertise and collaborate with other state agencies, such as the Virginia Department of Emergency Management (sidebar). Finally, VDOE has already published the Recover, Redesign, Restart plan from 2020, which includes some content that could be repurposed for a COOP template (sidebar). For example, that document includes guidance on how to design a hybrid schedule, how to ensure equity in a virtual learning environment, and how to set up virtual learning curricula.

VDOE collaborated with a wide range of subject matter experts to produce a report in July 2020 called '**Recover, Redesign, Restart**.' The report was focused on how schools could return to in-person or hybrid instruction.

The template VDOE develops could be based on COOP best practices generally, but also address specific K–12 topics cited by school staff as being important. Best practices indicate that a COOP addresses: (a) identification of an organization's essential functions; (b) identification of key roles and responsibilities, including delegation of authority; and (c) risk identification, assessment, and mitigation. K–12 staff also noted a plan should address:

- learning management systems, including how (if at all) the division will collaborate with other state systems (e.g., Virtual Virginia);
- planning for (a) acquisition and distribution of laptops and hotspots as needed, (b) meals, physical, and mental health services, (c) physical spaces where a responsible adult can be present as needed, and (d) strategies to reduce stress or anxiety on school staff, students, and families, such as additional holidays, flex days, or teacher workdays; and
- guidance for teachers and staff about attendance, learning management systems, and grading policies.

RECOMMENDATION 8

The Virginia Department of Education should develop and make available a standard template school divisions can use to develop their own continuity of operations plans for future prolonged periods of remote instruction.

Professional development courses could ensure school staff are better prepared for future remote learning

Professional development courses are important for ensuring teachers can effectively deliver instruction in a remote learning environment. The U.S. Department of Education now recommends that teacher preparation programs include virtual learning in their programs. However, that guidance is relatively new; according to the National Virtual Teacher Association, fewer than 5 percent of teacher training programs include

a virtual learning component. Further, experienced teachers may never have received formal education or training on providing remote learning.

VDOE does not offer professional development courses specifically related to teaching remotely or using virtual learning resources. Colleges and universities provide related training, but teachers are required to pay for these courses. VDOE also offers a collection of online resources related to virtual instruction, but teachers must sort through a long list of links and documents to find them. These resources are not a sufficient substitute for a formal professional development course where information has already been prioritized, organized, summarized, and delivered.

VDOE should develop and make professional development available that focuses on a rapid transition to remote instruction. Because of concerns about K–12 staff's existing workload, this professional development should not be mandatory. However, it would be beneficial to have training resources available to be used, as needed, in the event of a future wide-scale disruption to in-person instruction.

> *"We know virtual [learning] works; it's a matter of training and preparation. When you force someone into a new situation and have no standards and no way to hold people accountable, of course you don't get the results you want to see."*
>
> **– Subject matter expert on virtual learning**

RECOMMENDATION 9

The Virginia Department of Education should develop and include courses related to teaching remotely or using virtual learning resources in its catalog of professional development that address topics such as: (i) virtual classroom management, (ii) virtual curriculum, (iii) strategies for student engagement, (iv) use of learning management systems, (v) availability and offering of state resources like Virtual Virginia, and (vi) asynchronous strategies for students with limited internet.

Appendix A: Study resolution

Impact of COVID-19 on Virginia's public schools, students, and school employees

SJ 308 of the 2021 General Assembly

WHEREAS, the COVID-19 pandemic has proven to be one of the most disruptive forces ever exerted on Virginia's public schools. State guidance has given local school divisions wide latitude in deciding to what extent school programs should be delivered virtually, as opposed to in person, under revised protocols to protect health and safety; and

WHEREAS, strong and inclusive public education systems are essential to the short-term and long-term recovery of society, and there is an opportunity to leapfrog toward powered-up schools; and

WHEREAS, public education systems in the United States were not built to deal with extended shutdowns like those imposed as a result of the COVID-19 pandemic. Teachers, administrators, and parents have worked hard to keep learning alive, but these efforts are not likely to provide the quality of education that is delivered in the classroom; and

WHEREAS, the COVID-19 pandemic has exposed the many inadequacies and inequities in public education systems, such as lack of access to the broadband and computers needed for online education, lack of supportive environments needed to focus on learning, and the misalignment between resources and needs; and

WHEREAS, the extended period of restrictions on face-to-face instruction in the Commonwealth has exacerbated previously existing differences in student learning experiences, levels of support, and access to resources. NWEA, a nonprofit organization that develops and offers student assessments, estimates that students could return to school in the fall, either in person or virtually, (i) with roughly 70 percent of the learning gains in reading relative to a typical school year and (ii) with less than 50 percent of the learning gains in mathematics relative to a typical school year and, at some grade levels, nearly a full year behind in mathematics relative to what educators would observe in normal conditions; and

WHEREAS, researchers predict that the top one-third of students will make gains in reading during the extended period of restrictions on face-to-face instruction, possibly because they are likely to continue reading with their families while such restrictions are in place, thus widening the achievement gap; and

WHEREAS, one national survey shows that one-third of teacher respondents report that the pandemic has made them more likely to exit the profession or opt for early retirement, results that are concerning. Of such subset of teacher respondents, 45 percent are over the age of 50, 44 percent have over 20 years of experience as educators, and 42 percent live in the American South; and

WHEREAS, government funding for public education often fluctuates in response to external shocks, as governments prioritize other investments. The slowdown of economic growth associated with the spread of COVID-19 may affect the availability of public funding for education, as tax revenues decline and emergency funds are funneled into supporting increased health care expenditures for those in poverty; and

WHEREAS, in response to the COVID-19 pandemic, many students have opted for home school and private school alternatives during the 2020-2021 school year, a trend that has had an adverse

impact on the calculation of the number of students in average daily membership for the purpose of public education funding; and

WHEREAS, as public educators have an unwavering commitment to ensuring that Virginia's public education system is one that provides equitable educational opportunities to all students and to meeting the needs of all Virginia learners, especially those disproportionately impacted by restrictions on face-to-face instruction or learning loss; now, therefore, be it

RESOLVED by the Senate, the House of Delegates concurring, That the Joint Legislative Audit and Review Commission be directed to study the impact of COVID-19 on Virginia's public schools, students, and school employees.

In conducting its study, the Joint Legislative Audit and Review Commission shall:

1. Examine and determine reasons for barriers to student success in virtual and hybrid models as well as the overall impact of COVID-19 face-to-face learning restrictions on previously existing student achievement gaps, student achievement, and student well-being, including any disproportionate impact on at-risk populations;
2. Determine the impact of the COVID-19 pandemic on staffing levels, including the impact of teacher and school employee retirements and resignations on delivery of instruction and the ability of local school boards to fully staff their needs, employment levels, and local budgets;
3. Determine the short-term and projected long-term changes in student enrollment in response to the COVID-19 pandemic and the impact of such changes on funding levels;
4. Determine the impact of implementing COVID-19 health and safety measures in public schools;
5. Evaluate public schools' level of emergency preparedness to face another pandemic or statewide crisis and make recommendations to help guide planning for such events; and
6. Examine programs that can address learning loss and identify barriers to implementing those programs, including resource gaps.

Technical assistance shall be provided to the Joint Legislative Audit and Review Commission by the Department of Education and each local school board. All agencies of the Commonwealth shall provide assistance to the Joint Legislative Audit and Review Commission for this study, upon request.

The Joint Legislative Audit and Review Commission shall complete its meetings by November 30, 2022, and the chairman shall submit to the Division of Legislative Automated Systems an executive summary of its findings and recommendations no later than the first day of the 2023 Regular Session of the General Assembly. The executive summary shall state whether the Joint Legislative Audit and Review Commission intends to submit to the General Assembly and the Governor a report of its findings and recommendations for publication as a House or Senate document. The executive summary and report shall be submitted as provided in the procedures of the Division of Legislative Automated Systems for the processing of legislative documents and reports and shall be posted on the General Assembly's website.

Appendix B: Research activities and methods

Key research activities performed by JLARC staff for this study included:

- interviews with state agency staff, local K–12 staff, stakeholders, and subject-matter experts;
- surveys of local K–12 staff and division superintendents;
- focus groups of local K–12 school staff, including principals, teachers, and other staff, as well as school division human resources staff;
- analysis of academic performance and outcome data;
- analysis of school division staffing data, teacher quality data, and licensure data; and
- review of other documents, literature, and media sources.

Structured interviews and focus groups

Structured interviews were a key research method for this report. JLARC staff conducted 61 interviews and six focus groups with approximately 150 individuals. These individuals represented 38 different state and local entities, organizations, and stakeholder groups. Key interviewees included:

- state agency staff, including staff from the Virginia Department of Education (VDOE), Virginia Department of Emergency Management (VDEM), and Virginia Retirement System (VRS);
- local K–12 school staff, including teachers, principals, and mental health staff, as well as division-level central office staff and human resources staff;
- parents and guardians of students in Virginia's K–12 public schools;
- higher education staff at four Virginia universities; and
- stakeholder associations and subject-matter experts.

State agencies

JLARC staff conducted 23 interviews with staff from several state agencies, including VDOE, VDEM, and VRS. JLARC staff conducted more than 20 interviews with over 40 VDOE staff across most of the agency's major divisions. The primary purpose of these interviews was to understand how VDOE's programs are administered and services are provided, the challenges faced by staff both prior to and since the pandemic, and the availability of data. JLARC staff also conducted interviews with VDEM staff to understand VDEM's role in assisting or overseeing emergency preparedness activities among the state's K–12 schools, both before and during the pandemic. Finally, JLARC staff interviewed VRS staff to discuss the availability of teacher retirement data and the Teaching While Retired program.

Local K–12 school staff

JLARC staff conducted interviews with division-level staff in school divisions of various sizes, demographics, and geographic locations around the state. JLARC staff interviewed school staff in

Hampton City, Henrico County, and Hopewell City about novel school-based mental health initiatives being implemented in their divisions. JLARC staff interviewed staff in Roanoke City and Suffolk City to obtain their perspectives on the pandemic's impact on staff morale, workload, and job satisfaction; their division's ability to recruit and retain school staff; and potential strategies to improve their ability to recruit and retain school staff.

JLARC staff conducted three focus groups with teachers and principals, including a total of 14 participants. The primary purpose of these focus groups was to gather school staffs' perspectives on the impact of the pandemic on K–12 students. Staff were also asked about strategies their division or school was using to support students in response to the pandemic, and their perspectives on the practicality and efficacy of implementing evidence-based strategies to aid students' academic recovery and address mental health issues. These focus groups were conducted with school staff from similar school levels (e.g., elementary, secondary) and/or roles (e.g., instructional staff, principals).

JLARC staff also conducted a focus group with school division human resource directors, including a total of five participants. The primary purpose of this focus group was to obtain perspectives on the impact of the pandemic on (1) staff morale, workload, and job satisfaction; (2) divisions' ability to recruit and retain school staff; and (3) potential strategies to improve their ability to recruit and retain school staff.

Parents and guardians

JLARC staff conducted two focus groups with parents and guardians of students in Virginia's K–12 schools. Each participant was a member of the Virginia Parent Teacher Association (Virginia PTA). The participants were from eight different school divisions across the state, including both rural and urban divisions, and included parents and guardians of students in elementary, middle, and high school.

The primary purpose of these focus groups was to gather perspectives from parents and guardians on the impact of the pandemic on K–12 students. Participants were asked to provide their own perspectives as parents and guardians, as well as to share feedback they had heard from other parents and guardians through their involvement with the Virginia PTA. Participants were asked about a variety of topics, including (1) attendance; (2) student behavior; (3) student mental health; (4) academic performance; (5) and school staffing. They were also asked about initiatives implemented by their local schools or divisions, and ideas on additional ways the state could support local K–12 schools.

School psychologist preparation programs

JLARC staff conducted interviews with representatives from school psychologist preparation programs at four Virginia universities. JLARC staff interviewed faculty from George Mason University, James Madison University, Radford University, and the University of Virginia regarding the school psychologist pipeline, challenges related to training graduate students, and program capacity.

Stakeholders and subject-matter experts

JLARC staff interviewed representatives from multiple stakeholder organizations that interact with or have a role in K–12 education both nationally or specifically in Virginia, including;

- Virginia Education Association,
- Virginia Association of School Superintendents,
- Virginia Association of Secondary School Principals,
- Virginia State Special Education Advisory Committee,
- Virginia Teachers of English to Speakers of Other Languages,
- Virginia School Counselor Association,
- Virginia Academy of School Psychologists,
- Virginia Association of School Social Workers,
- Virginia Association of School Nurses,
- Virginia Association of Colleges and Teacher Educators,
- Virginia Parent Teacher Association,
- Virginia Council of Private Education, and
- National Virtual Teacher Association.

The purpose of these interviews was to gather stakeholder perspectives on several topics, including the impact of the pandemic on K–12 enrollment, student well-being, student academic achievement and existing achievement gaps, and school staff workloads and morale; the ability of schools to fully staff their operations; and challenges and concerns in K–12 education following the pandemic. In addition, JLARC gathered perspectives on strategies that could be implemented to mitigate the impact of the pandemic on K–12 students and school staff.

JLARC staff interviewed state-level experts on various research teams at the University of Virginia, including researchers at the School of Education and Human Development, the executive directors of the Virginia Kindergarten Readiness Program and Phonological Awareness Literacy Screening program, and staff from the Virginia Partnership for School Mental Health. These interviews included discussions of the pandemic's impact on students' academic achievement, the impact of the pandemic on students' mental health and well-being, and strategies to address academic declines and increased mental health issues among students following the pandemic, including strategies to improve the school-based mental health workforce.

JLARC staff also interviewed staff from the Virginia Mental Health Access Program—state-level experts on student mental health and well-being—to discuss the impact of the pandemic on students' mental health and well-being, and school-based strategies to identify and address mental health issues among students.

JLARC staff also interviewed several national subject-matter experts, including staff from the Center for Reinventing Public Education, NWEA, the Education Commission of the States, and the Learning Policy Institute. The purpose of these interviews was to obtain experts' perspectives on the impact of the pandemic on K–12 students and staff, ideas for mitigating the impact, and promising actions taken in other states.

Surveys

Two surveys were conducted for this study: (1) a survey of local K–12 school staff and (2) a survey of division superintendents.

Survey of local K–12 staff

JLARC staff administered an electronic survey to K–12 school staff, including teachers, principals, mental health staff, and other support staff from a sample of schools across the state. In total, JLARC staff sent the survey to 4,176 staff, and received a total of 1,175 survey responses (28 percent). The sample consisted of staff from a representative sample of 47 schools across 12 divisions, and accounted for 10 variables, including:

- division type (i.e., rural, urban, suburban);
- division region;
- learning model used by division during the pandemic (i.e., in-person, hybrid, or remote);
- division's fiscal status (including local composite index and fiscal stress);
- total student enrollment; and
- student demographics (including percentage of students who were minority, economically disadvantaged, English language learners, or disabled).

The survey covered numerous topics, including: general working conditions; the impact of COVID-19 on staff morale and workload; the impact of COVID-19 on students' mental health and academic achievement, and strategies to address those impacts; and the use of virtual learning, its impacts, and strategies to prepare for any potential future return to virtual learning.

Survey of division superintendents

JLARC staff administered an electronic survey to all 131 division superintendent offices in Virginia. One hundred divisions submitted a response to the survey (76 percent).

Survey topics included: remote learning preparedness and lessons learned; strategies for improving academic achievement; strategies to support student mental health and well-being; suitability of the K–12 workforce; and workforce management strategies.

Data collection and analysis

JLARC staff collected several types of data from VDOE to analyze for this study. JLARC received student-level data from VDOE on Standards of Learning (SOL) test scores, growth assessments, and remote learning metrics, and statewide and division-level data on grade retention rates and chronic absenteeism. JLARC received division-level data on teacher and school administrator licensure, school quality, and staffing. JLARC also received individual responses to the Virginia School Survey of Climate and Working Conditions.

JLARC staff also accessed and analyzed publicly available data from VDOE regarding SOL pass rates, cohort graduation rates, and high school dropout rates; the National Center for Education Statistics regarding post-secondary enrollment and National Assessment of Educational Progress (NAEP) results; two research groups at the University of Virginia regarding Phonological Awareness Literacy Screening (PALS) and Virginia Kindergarten Readiness Program (VKRP) results; and the Virginia Department of Health regarding self-harm and suicide among Virginia youth.

K–12 enrollment (Chapter 1)

JLARC staff used VDOE fall and spring average daily membership (ADM) to examine changes to student enrollment by grade, by division, and statewide over time, and VDOE fall full-time equivalent enrollment data to assess changes to enrollment by student demographics. Additional VDOE data pertaining to the number of students with a religious exemption, the number of students registering for home schooling, and the number of students that transferred to a private school in Virginia was used to examine the causes of changes to enrollment.

Remote learning metrics (Chapter 1)

JLARC staff used VDOE data to assess the level of internet and device access among students and families. This data was collected at the school and division level and aggregated by VDOE staff for both the 2020–21 and 2021–22 school years.

For internet access, students were categorized as having either: high-speed internet; low-speed internet; or no internet (including those relying on a public connection). For device access, students were categorized as having: a personal device (school-provided or family-provided); a device shared with a family member (school-provided or family-provided); a smartphone only; a public device (e.g., library, community center); or no device access at all. For both internet access and device access, 16 percent of students' internet access was listed as unknown while 11 percent of students' device access was listed as unknown.

JLARC staff used data from VDOE to assess the extent to which divisions provided remote instruction since the beginning of the COVID-19 pandemic, and the rate at which they returned to in-person instruction. This data was collected on an almost semi-monthly basis for the entire 2020–21 school year. School divisions' operating status could be defined as in-person (4+ days for all students), partial in-person (4+ days for some students), all hybrid (<4 days of in-person for all students), partial hybrid (<4 days of in-person for most students, all remote for others), or predominantly remote (remote for at least 95 percent of students).

Chronic absenteeism (Chapter 2)

JLARC staff used data from VDOE to analyze pandemic-related changes to rates of chronic absenteeism. JLARC staff calculated chronic absenteeism rates in accordance with VDOE guidelines, specifically: the number of students chronically absent in a given school year divided by the total number of students in that division. JLARC staff compared chronic absenteeism rates in 2020–21 and 2021–22 to the five-year pre-pandemic average chronic absenteeism rates from 2014–15 through 2018–19. JLARC staff calculated the change in chronic absenteeism rates from the pre-pandemic average to 2020–21 and 2021–22 statewide, by locality, by grade level, by federally reported race category, by economically disadvantaged status, by English language learner status, and by disability status. JLARC staff analyzed the pandemic-related change in chronic absenteeism rates across school division characteristics, including total enrollment, student body demographics, geographic region, and pandemic learning model.

Discipline (Chapter 2)

JLARC staff analyzed data from the 2021–22 Student Behavior and Administrative Response Collection and the Annual Report for Discipline, Crime & Violence for previous school years. Due to changes to data collection and reporting in 2021–22, comparisons of behavior outcomes for students over time were limited.

Youth self-harm and suicide (Chapter 3)

JLARC staff used publicly available data from the Virginia Department of Health to analyze pandemic-related changes to (1) rates of self-harm-related emergency department visits among Virginia youth from 2016 to 2021 and (2) rates of death by suicide among Virginia youth in 2020 and 2021 to a pre-pandemic average rate from 2015–2019.

SOL scores (Chapter 4)

JLARC staff used VDOE data to analyze pandemic-related changes in third- and eighth-grade math and reading SOL scores. JLARC staff compared SOL scores in the 2020–21 and 2021–22 school years to a five-year pre-pandemic average score across each of the four tests. The five-year pre-pandemic average represents scores from school years 2014–15 through 2018–19. JLARC staff chose to use a five-year average for the pre-pandemic comparison to account for changes to the SOL tests that could have affected scores, such as the new math test that was introduced in 2018–19 and affected scores statewide.

To compare pre-pandemic scores to pandemic-era scores, JLARC staff calculated the percent change in average third- and eighth-grade math and reading SOL scores in 2020–21 and 2021–22 school years from the pre-pandemic averages statewide, by locality, by federally reported race category, by economically disadvantaged status, by English language learner status, and by disability status. The average scores reflect one score per student per test from all students in the 132 school divisions that took the third- and eighth-grade math and reading tests, regardless of the grade of the student. In instances where students retook the SOL, the average score includes their highest score. JLARC staff analyzed the pandemic-related change in SOL scores across school division characteristics, including total enrollment, student body demographics, geographic region, and pandemic learning model.

To assess the pandemic's impact on achievement gaps, JLARC calculated the relative difference in SOL scores between students of different subgroups using the pre-pandemic five-year average score and scores from the 2020–21 and 2021–22 school years, and compared pre- to post-pandemic.

JLARC staff also used publicly available data from VDOE to analyze pandemic-related changes to fifth-grade science and eighth-grade science and writing SOL scores.

SOL pass rates (Chapter 4)

JLARC staff used publicly available data from VDOE to analyze pandemic-related changes to SOL pass rates. JLARC staff compared third- and eighth-grade math and reading SOL pass rates in 2021–22 to a five-year pre-pandemic average pass rate from 2014–15 through 2018–19. JLARC staff calculated the change in pass rates from the pre-pandemic average to 2021–22 statewide, by locality,

by federally reported race category, by economically disadvantaged status, by English language learner status, and by disability status.

PALS performance (Chapter 4)

JLARC staff used publicly available data from the University of Virginia's Phonological Awareness Literacy Screening (PALS) to analyze pandemic-related changes to PALS results. JLARC staff compared the proportion of kindergarten, first-, and second-grade students that met PALS benchmarks in spring 2019 and fall 2019 to fall 2020, spring 2021, fall 2021, and spring 2022 statewide, by federally reported race category, by economically disadvantaged status, by English language learner status, and by disability status. To assess the impact of the pandemic on PALS achievement gaps, JLARC staff calculated the relative difference in the proportion of students of different subgroups that met PALS benchmarks pre-pandemic, in fall 2020, fall 2021, and spring 2022, and compared pre- to post-pandemic.

VKRP performance (Chapter 4)

JLARC staff used publicly available data from the University of Virginia's Virginia Kindergarten Readiness Program (VKRP) to analyze pandemic-related changes to VKRP results JLARC staff compared the proportion of kindergarten students that met VKRP benchmarks—including overall and in math, literacy, social skills, and self-regulation—in fall 2019 to fall 2020, spring 2021, fall 2021, and spring 2022 statewide, by federally reported race category, by economically disadvantaged status, by English language learner status, and by disability status. To assess the impact of the pandemic on VKRP achievement gaps, JLARC staff calculated the relative difference in the proportion of students of different subgroups that met VKRP benchmarks pre-pandemic, in fall 2020, fall 2021, and spring 2022, and compared pre- to post-pandemic.

Graduation rates (Chapter 4)

JLARC staff used publicly available data from VDOE to analyze pandemic-related changes to graduation rates. JLARC staff compared on-time four-year cohort graduation rates in 2020–21 and 2021–22 to a five-year pre-pandemic average on-time four-year cohort graduation rate from 2014–15 through 2018–19. JLARC staff calculated the change in graduation rates from the pre-pandemic average to 2020–21 and 2021–22 statewide, by locality, by federally reported race category, by economically disadvantaged status, by English language learner status, and by disability status. JLARC staff analyzed the pandemic-related change in graduation rates across school division characteristics, including total enrollment, student body demographics, geographic region, and pandemic learning model.

Dropout rates (Chapter 4)

JLARC staff used publicly available data from VDOE to analyze pandemic-related changes to high school dropout rates. JLARC staff compared cohort dropout rates in in 2020–21 and 2021–22 to a five-year pre-pandemic average cohort dropout rate from 2014–15 through 2018–19. JLARC staff calculated the change in dropout rates from the pre-pandemic average to 2020–21 and 2021–22 statewide, by locality, by federally reported race category, by economically disadvantaged status, by

English language learner status, and by disability status. JLARC staff analyzed the pandemic-related change in dropout rates across school division characteristics, including total enrollment, student body demographics, geographic region, and pandemic learning model.

Grade retention rates (Chapter 4)

JLARC staff used data from VDOE to analyze pandemic-related changes to grade retention rates. JLARC staff compared grade retention rates in 2020–21 to five-year pre-pandemic average grade retention rates from 2014–15 through 2018–19. JLARC staff calculated grade retention rates as: the number of students retained in a school year divided by the end of year membership in that same year. JLARC staff calculated the change in grade retention rates from the pre-pandemic average to 2020–21 statewide, by locality, by grade level, by federally reported race category, by economically disadvantaged status, by English language learner status, and by disability status. JLARC staff analyzed the pandemic-related change in grade retention rates across school division characteristics, including total enrollment, student body demographics, geographic region, and pandemic learning model.

NAEP results (Chapter 4)

JLARC staff used the State Profiles Data Tool from the National Center for Education Statistics' National Assessment of Educational Progress (NAEP) to analyze pandemic-related changes to Virginia and other states' NAEP scores and rankings. This data is collected biennially, but was collected in 2022 rather than 2021 because of the pandemic.

JLARC staff compared fourth- and eighth-grade math and reading average NAEP scores in Virginia and nationally from 2022 to pre-pandemic average scores from 2015 through 2019. JLARC staff also compared the proportion of students in Virginia and nationally that achieved basic and proficient achievement levels in fourth- and eighth-grade math and reading in 2022 to pre-pandemic averages from 2015 through 2019. JLARC staff calculated the percent change in average scores and the change in the proportion of students achieving basic and proficient achievement levels on the four assessments from the pre-pandemic averages to 2022 both in Virginia and nationally. JLARC staff also determined how Virginia's average score on each assessment compares to other states, and compared changes in state rankings from prior to the pandemic to 2022.

Post-secondary enrollment (Chapter 4)

JLARC staff used publicly available data from VDOE and the National Center for Education Statistics' Integrated Postsecondary Education Data System (IPEDS) to analyze pandemic-related changes to post-secondary enrollment rates. JLARC staff calculated post-secondary enrollment rates from 2012–13 through 2020–21, and compared post-secondary enrollment rates in 2020–21 to a biennial pre-pandemic average post-secondary enrollment rate from 2012–13 through 2018–19. JLARC staff calculated the change in post-secondary enrollment rates from the pre-pandemic average to 2020–21 overall, and in terms of the number of students that enrolled in two- and four-year institutions.

Virginia School Survey of Climate and Working Conditions (Chapters 2, 3, and 5)

JLARC staff assessed student responses to mental health and well-being questions on VDOE's Virginia School Survey of Climate and Working Conditions (Virginia School Survey). This includes the 2021 survey which was administered to middle school students and the 2022 survey administered to high school students. JLARC staff also compared results for questions about student mental health from VDOE's 2022 Virginia School Survey to relevant questions on the 2011 to 2019 Virginia Youth Surveys, administered by the Virginia Department of Health and Virginia Foundation for Healthy Youth.

JLARC staff also assessed teacher and staff responses to several questions related to job satisfaction, workload, morale, and student behavior from the survey. Responses were compared over time, and also compared to similar questions on JLARC's staff survey.

Teacher quality (Chapter 5)

JLARC staff analyzed teacher quality using two primary indicators: (1) number of provisionally licensed teachers and (2) number of teachers not fully endorsed for the content area they are teaching (out-of-field teachers). Staff used data from VDOE's licensure database to analyze the number of provisionally licensed teachers, and data from VDOE's School Quality Profiles for out-of-field teachers.

VDOE provided data on the number of fully licensed, provisionally licensed, and unlicensed teachers for 2016–17 through 2021–22 by division. JLARC staff combined provisionally licensed and unlicensed teachers, and calculated the proportion of these teachers in each division for each school year. Staff also calculated a three-year pre-pandemic average from 2016–17 through 2018–19, and compared it to the proportion of provisionally and unlicensed teachers in 2021–22 to determine changes to teacher quality over time.

For out-of-field teachers, VDOE provided the percentage of teachers teaching out-of-field each year for 2014–15 through 2021–22 by division. Staff calculated a five-year pre-pandemic staffing ratio from 2014–15 through 2018–19, and compared it to the 2021–22 percentage to determine change over time.

Teacher turnover (Chapter 5)

JLARC staff analyzed data on teacher and administrator licenses from VDOE's Master Schedule Collection database to assess changes in teacher employment each year. Staff compared data on license type (i.e., teacher license vs. administrator license) and division number to determine whether teachers remained in the workforce, in the same role, and/or in the same division from year to year. Staff were grouped into the following categories:

- teachers who remained teachers in the same division;
- administrators who remained administrators in the same division;
- teachers who became administrators in the same division;
- administrators who became teachers in the same division;
- teachers who switched divisions;

- administrators who switched divisions;
- teachers who became administrators and switched divisions;
- administrators who became teachers and switched divisions;
- teachers who were not teaching at any K–12 public school in Virginia; and
- administrators who left Virginia's K–12 system altogether.

JLARC staff calculated the number of staff in each category each school year, and used this data to calculate turnover rates. To calculate *statewide* teacher turnover, JLARC staff included teachers that left the teaching profession altogether (i.e., who were not teaching at any K–12 public school in Virginia, and teachers who became administrators in the same division or another division). For division-level turnover, JLARC staff also included teachers who switched divisions.

Vacancies (Chapters 3 and 5)

JLARC staff analyzed school division vacancy data using two data sources: VDOE's Positions and Exits Collection (PEC) and Supply and Demand reports. The PEC data is a new data collection effort and at the time of this report, data for all teachers and staff was only available for October 2021. This data was used to analyze teacher and staff vacancy rates statewide, by division, and by region as of October 2021. For teachers, JLARC staff also analyzed vacancy rates by type of teacher, including those who teach in critical shortage areas. In August 2022, VDOE collected additional vacancy data for teachers as part of a one-time data collection effort that was required by language in the Appropriation Act. JLARC staff analyzed teacher vacancy data as of August 15, 2022 for the 111 divisions that submitted data for this data collection effort.

Supply and Demand reports were used for 2015–16 through 2020–21. These reports had some limitations:

- Some types of positions, like bus drivers, are not included.
- The total number of positions for each staff type is not included, so staff could not calculate a vacancy *rate* for these prior years.

Staff calculated a five-year pre-pandemic average number of vacancies for 2014–15 through 2018–19 and compared that average to the number of vacancies in the 2021 PEC data. This was done statewide, by division, and by region for teachers, mental health and wellness staff, and other staff that were included in both data sources.

Teacher retirements (Chapter 5)

JLARC staff analyzed data from the VRS teacher retirement plan, including the number of retirements and exits from the plan per year, and the average length of service at retirement. Staff calculated three-year pre-pandemic averages for 2016–17 through 2018–19 and compared those averages to 2021 and 2022 data. Staff also analyzed data on the number of retirees who returned to work in a critical shortage area, by year and by division.

Staffing ratios (Chapter 3 and 5)

Staffing ratios for *mental health* positions—school psychologists, school counselors, and school social workers—were calculated using VDOE's October 2021 PEC data and fall 2021 ADM data to calculate statewide staffing ratios (i.e., the average number of students per staff).

Staffing ratios for *teachers* were calculated using VDOE's teacher licensure data (2014–2015 through 2021–2022) and fall ADM data to calculate statewide and division-level teacher staffing ratios for each school year (i.e., the average number of students per teacher).

First-time licensures (Chapter 5)

JLARC staff analyzed VDOE teacher licensure data on the number of teachers who received a teaching license for the first time in 2014–15 through 2021–22. Analysis included all individuals receiving a teaching license for the first time (provisional and full licenses). JLARC staff calculated a five-year pre-pandemic average for 2014–15 through 2018–19 and compared that average to the number of first-time licenses issued in 2021–22.

Licensure by state of educator preparation (Chapter 5)

JLARC staff received data from VDOE on the state in which newly licensed teachers received their degree. Staff calculated the proportion of teachers who received their degree from Virginia vs. another state or country for 2014–15 through 2021–22.

Federal teacher preparation program enrollment and graduates (Chapter 5)

JLARC staff used national data from the Higher Education Act Title II State Report Card System (U.S. Department of Education) to analyze trends in participation in teacher preparation programs in Virginia and nationwide. Staff compared the number of students enrolled in teacher preparation programs, and the number who graduated, in 2019–20 (the most recent year data was available at the time of this report) to data from 2010–11.

Review of documents and literature

JLARC staff reviewed other documents and literature pertaining to K–12 public education in Virginia and other states, such as:

- Virginia laws, regulations, policies, and guidance documents;
- K–12 public education standards and best practices;
- prior studies and reports on issues related to K–12 public education and the impact of the pandemic in Virginia and the U.S.;
- other states' laws, regulations, and policies; and
- national, state, and local media reports.

Appendix C: Agency responses

As part of an extensive validation process, the state agencies and other entities that are subject to a JLARC assessment are given the opportunity to comment on an exposure draft of the report. JLARC staff sent an exposure draft of this report to the secretary of education and the Virginia Department of Education (VDOE).

Appropriate corrections resulting from technical and substantive comments are incorporated in this version of the report. This appendix includes response letters from the secretary of education and VDOE.

COMMONWEALTH of VIRGINIA
Office of the Governor

Aimee Rogstad Guidera
Secretary of Education

October 31, 2022

Hal E. Greer, Director
Joint Legislative Audit and Review Commission
919 East Main Street Suite 2101
Richmond, VA 23219

Director Greer,

Thank you for the opportunity to review and provide comments on JLARC's report on the *Pandemic Impact on Public K-12 Education.* I appreciate the time and effort invested in ensuring we capture, synthesize and analyze the many impacts of Covid-19 and Virginia's response to it. We must learn from what worked and what didn't work during the pandemic to continuously improve our efforts to prepare every Virginian for success in life.

Your actions to listen to teachers and school leaders are particularly revealing. Those closest to students—including parents and students themselves—are critical partners in our efforts to support student achievement, development, and learning recovery. Our administration's commitment to the success of our students includes working to build and support strong working relationships among parents and teachers.

While the report highlighted several of the devastating effects that Virginia's students experienced as a result of school closures and other pandemic responses, your conclusions should not be a surprise to anyone. We have already seen this evidence in recent data from the ACT, SOLs, PALS and most recently, the state's NAEP scores. The NAEP scores were especially heart-wrenching: since 2017, Virginia's fourth graders had the largest decline in 4th grade reading and math scores in the nation. We know that the average student in Virginia lost an estimated 15 weeks of math instruction and 11 weeks of reading instruction because of pandemic-related disruptions, and actions taken over the past five years puts Virginia at risk of losing an entire generation of our children.

Nothing is more important than ensuring every one of Virginia's students has access to a quality education that is grounded in high expectations. I would like to offer the Youngkin Administration's *Commitment to Virginia's Children* as additional recommendations to address the significant learning loss and support our students:

1. **Raise the floor and the ceiling:** Virginia has the lowest proficiency "cut" scores in the nation. We know from prior student performance that when standards are raised, Virginia's students and teachers rise to meet them. We recommend raising Virginia's cut scores defining proficiency on our SOLS from the lowest in the nation (as benchmarked to the NAEP assessments) to the highest by the time our students take their SOL exams next spring.
2. **Empower parents with emergency support for students:** One of the strongest evidence-based interventions to combat learning loss is high-dosage tutoring, defined as one-on-one tutoring or tutoring in very small groups at least three times a week, or for about 50 hours over a semester. The Administration recommends that school divisions build upon the state's $30 million investment in learning recovery grants directly to families to pay for in-person, virtual, or hybrid high-dosage tutoring.

3. **Hold ourselves and our schools accountable:** The school accreditation system is broken. Amidst the catastrophic learning loss of the pandemic, 89% of schools received the top accreditation rating in 2022. There is not a single school that has been denied accreditation in the Commonwealth despite mounting evidence that these schools are failing large proportions of their students. Only 32% of 4th graders in Virginia are proficient in reading, and 38% in math according to the 2022 NAEP results. The Board of Education should revise the accreditation system and design a transparent system to hold schools accountable for student performance.

4. **Strengthen Virginia's teacher pipeline:** Teachers had a difficult job during the pandemic. The JLARC report provided alarming statistics on Virginia's teacher workforce: by 2021–22, the number of teachers leaving the profession was 12 percent higher than the pre-pandemic yearly average. The Virginia Department of Education has invested in several programs to attract new people to the profession including apprenticeship programs, paid internships, and HBCU teacher residency programs. The Department also has a new recruiting website called becomeateacher.virginia.gov. Divisions should utilize these resources to recruit, grow and retain the most high-quality teachers in Virginia classrooms.

5. **Provide parents, students, and teachers with actionable information:** Parents and teachers should know how their students are performing. The Department has a "Learning Needs Dashboard" platform that allows parents, students, and teachers to see and compare learning loss, recovery, and the current status of student performance in Virginia across grades, subjects, and demographics. Beginning in February 2023, every 4-12 grade teacher and family will have direct access to individualized, comprehensive student success reports. Parents and teachers should use this information to provide individualized support to students where they are struggling.

6. **Challenge School Divisions to Spend Nearly $2 Billion in Remaining Federal K-12 Funds on Learning Recovery:** Finally, many of the recommendations in the JLARC report call for investments in new staff or programs. As of the end of October 2022, Virginia school divisions have nearly $2 billion in federal relief funds that can be used to address learning loss and other pandemic related impacts. School divisions should consider investing their remaining balances in evidence-based tutoring and academic supports to restore excellence in Virginia's schools.

Thank you for your work, on this report and always, to provide analysis and recommendations on how to make government serve the people of the Commonwealth more effectively and efficiently.

With appreciation,

Aimee Rogstad Guidera

Secretary of Education

COMMONWEALTH of VIRGINIA

DEPARTMENT OF EDUCATION
P.O. BOX 2120
RICHMOND, VA 23218-2120

10/28/22

The Honorable Hal E. Greer, Director
Joint Legislative Audit and Review Commission
919 East Main Street, Suite 2101
Richmond, VA 23219

Dear Director Greer:

I have reviewed the forthcoming Joint Legislative Audit and Review Commission (JLARC) report, *Pandemic Impact on Public K-12 Education*. First, I would like to express my appreciation to you and your team for taking on such a large and complex topic and one of critical importance in understanding how we might correct our course within the Virginia public education system in the years following the COVID-19 related school closures.

The report presents a variety of findings and recommendations related to student attendance, mental health, academic achievement, teacher workforce, and preparedness for future disruptions to in-person learning; specifically, how the pandemic highlighted or exacerbated concerning trends in these areas. By and large, Virginia Department of Education (VDOE) leadership and I appreciate the report's findings as well as the need for urgent and concerted action to address the short- and long-term impacts of the COVID-19 related school closures.

However, a critical context that must also be recognized are the state-level actions pre-dating the pandemic that set in motion the eroding student achievement outcomes we are seeing in Virginia today, particularly among our most vulnerable students. Beginning in 2017 and evident in the most recent data from the Standards of Learning tests, early childhood assessments, and worst in the nation decline in Virginia's NAEP scores, are the predictable outcomes of the pre-pandemic dismantling of standards and accountability for Virginia's public schools and students grounded in excellence, high expectations, transparency, and results. These pre-pandemic decisions must be quickly reversed at the state-level to restore high expectations for schools and students and get them back on track towards success. The pandemic and long-sustained closures of schools only served to accelerate the regression of student proficiency in Virginia.

This letter includes suggestions for improving the technical accuracy of the draft report and its supporting data as well as broader feedback on findings. I appreciate the opportunity to review the report contents and offer the below comments in advance of the report's release. Thank you again for the opportunity to work with you and your team throughout this process. VDOE is committed to providing leadership and direction to our local school boards and divisions as we continue to navigate out of the effects of COVID-19 related school closures and restore excellence in Virginia's public education system.

Student Academic Achievement

The report provides a sobering look at how COVID-19 related school closures have impacted student academic achievement, namely, in core subjects like reading and math. Continuing our recovery from the stark declines in reading and math Standards of Learning (SOL) scores during and following the pandemic should be a priority for education leaders and policymakers at the state and local levels. While the report shows there has been some rebound in reading and math SOL scores since the return to in-person learning, the report may not have captured the full scale of learning loss. Prior to the pandemic, changes to SOL cut scores, which are used as the threshold for determining proficiency in subject area tests, were lowered in reading. This means, any measure of student proficiency in reading is artificially inflated and does not provide an apples-to-apples comparison of where our students were prior to the pandemic or how much ground was truly lost. Not having an honest, comparative indicator of student achievement and test performance in reading during this time may disguise the gravity of the issue and, as such, not convey the sense of urgency we should all have in addressing student achievement concerns.

Impact of In-Person Learning

The report indicates that the return to in-person learning was still variable during the 2021-2022 school year. As a point of clarification, Senate Bill 1303 (2021) did require all of Virginia's local school divisions to provide the minimum number of teaching time in-person unless the school or division reached a certain health risk threshold, as determined by guidance provided by the Virginia Department of Health. Therefore, in-person learning was available and the primary mode of instructional delivery during the 2021-2022 school year. However, we recognize that closures and virtual alternatives did affect how many students were consistently receiving in-person instruction during 2021-2022.

Relatedly, while research and observation has demonstrated, unequivocally, the positive impact of in-person learning on student learning and outcomes, there are a number of other variables that contributed to student academic achievement during the pandemic. In addressing topics such as attendance and mental health, the report does imply there are other relevant considerations but it is worthwhile to note the confounding effect of all of these factors, including in-person vs. remote instruction, on student achievement.

Early Literacy and Learning

I realize JLARC staff was only able to use data available to its team during the drafting of the report, but I would like to note that since the conclusion of their research, more data from the Virginia Literacy Partnerships and the Virginia Kindergarten Readiness Program (VKRP) from Spring 2022 has now been released and may be found on their websites. In finalizing the report, we recommend staff consider this new data to provide the most up-to-date information on where our youngest learners are post-pandemic.

As of Spring 2022, 44% of Virginia's kindergarteners ended the 2021-2022 school year still needing to build skills in Literacy, Mathematics, Self-Regulation, and/or Social Skills. When looking at both Fall 2021 and Spring 2022, 53% of kindergarteners did not meet the benchmark at least once. Kindergarteners are more likely to be below benchmark in literacy and math as compared to self-regulation and social skills.

With regard to early literacy, the 2022 below-benchmark rate remained higher than that of pre-pandemic Spring 2019. Compared to kindergarten and first grade students, second graders showed the least improvement in below-benchmark rates from Spring 2021 to Spring 2022. In addition, in Spring 2022, a large majority of K-2 students were at high or medium risk for

reading difficulties. Since the onset of the pandemic, the distribution of PALS scores has shifted, with the proportion of students at high risk for reading difficulties increasing and the proportion of students at low risk for reading difficulties decreasing. Finally, when looking only at the Spring 2022 data, students who are Black, Hispanic, economically disadvantaged, English learners, or who have a disability had a below-benchmark rate 2.2 times higher, on average, compared to students who are Asian, White, non-economically disadvantaged, or non-English learners.

Student Mental Health

The impact of the pandemic on student mental health has been alarming and continues to be reaffirmed through surveys and data collections about our students' wellbeing. I appreciate the findings presented in the report about the toll the pandemic has taken on our students, and how this has disproportionately impacted certain subsets of our student population. The JLARC report makes note of the mental health concerns for our middle and high school students. With the availability of new VKRP statewide data, we can also observe the increasing concern our teachers have about young learner's mental health. Kindergarten teachers reported being moderately, very, or extremely concerned about the mental health of 13% of their students. This number was stable from fall 2021 to spring 2022 and up slightly compared to 11% in the 2020-2021 school year. Moreover, when compared to students whose teachers did not report significant mental health concerns, students whose teachers reported being concerned were much more likely to not meet the overall readiness benchmark and be below benchmarks academically, in Literacy and Math. It is important to acknowledge how mental health concerns have impacted students of all ages so that any resources or policy changes are responsive to the needs of all of our learners.

Preparedness for Future Disruptions to In-Person Learning

JLARC's report not only offered reflections on how the pandemic has impacted Virginia's public education system but was also forward-looking in evaluating how our school communities might be better prepared for future disruptions to in-person learning. Among the recommendations offered is to require every division to have a continuity of operations plan in place with the support of resources provided by the state. While I understand the need for contingency plans, I want to also acknowledge that emergency and continuity of operation planning is only one component of preparedness when we evaluate the effectiveness of a division-wide remote learning plan. In addition to the reporting structures, communications and technology needs, safety considerations, etc. provided in a continuity of operations plan, there need to be clear expectations, maintenance of rigor, and accountability to ensure students and teachers are well-positioned to learn and teach in the remote environment. These are policies and practices best set in place by local school boards who understand the needs of their school communities. The JLARC report does address the need for additional professional development for teachers to better provide remote and/or hybrid instruction, however, this is only part of what should be a multi-dimensional plan for preparedness.

Lastly, and on a broader note about the recommendations provided in the report, JLARC staff was thoughtful in crafting its recommendations to address when there is a need for additional appropriations or resources from the General Assembly to implement some of these recommendations with fidelity. We appreciate that JLARC has provided a true sense of need, both programmatically and financially, in supporting the work that needs to be done. And, as recently noted by Governor Youngkin and his administration, it is critical that our school divisions immediately prioritize their remaining federal pandemic education funds by quickly initiating evidence-based learning interventions that will address the various student needs

highlighted in this report, notwithstanding longer-term support that may be needed from additional state funding. As an advocate for both our Virginia public school communities and VDOE staff, I also ask that the General Assembly consider which of these recommendations will require additional support for implementation at the state-level and make allowances for staff capacity, especially to support learning recovery, within the VDOE. We are committed to executing this work and executing it well, so we want to ensure we have the right subject matter experts and the time to dedicate to such important work.

Again, thank you for the opportunity to provide our perspective on the JLARC findings and recommendations as it relates to the impact of COVID-19 related school closures on public education in Virginia. We share in JLARC's commitment to better understanding the short- and long-term effects of these closures as well as how we can play a meaningful role in recovery for our students, families, and educators, within the broader context of quickly restoring high expectations for our students and public schools through a system of SOL assessments and state accreditation grounded in excellence, transparency, and results. We look forward to continued collaboration with JLARC and policymakers on addressing the issues identified in the report.

Sincerely,

Jillian Balow

Jillian Balow
Virginia Superintendent of Public Instruction

Appendix D: Federal funding to address effects of pandemic

The state and school divisions have started to address COVID-19 related impacts to students and staff, primarily using one-time federal funding. The federal government has directed significant funding to school divisions and states to support schools and mitigate the impact that the COVID-19 pandemic has had on public education. This funding was part of three stimulus bills passed in 2020 and 2021: the Coronavirus Aid, Relief, and Economic Security Act (CARES); the Coronavirus Response and Relief Supplemental Appropriations Act (CRRSA), and the American Rescue Plan Act (ARPA). Funding from each of these bills was provided to the Elementary and Secondary School Emergency Relief (ESSER) and Governor's Emergency Education Relief (GEER) funds.

In total, Virginia received approximately $3.3 billion in federal COVID-19 relief funding (Table D-1). The amount of federal funding the state received is in proportion to the amount of funding it receives under Title I-A of the Elementary and Secondary Education Act (ESEA). The state is required to distribute at least 90 percent ($3.0 billion) of federal funding to school divisions, while the remaining 10 percent ($329 million) can be used by the Virginia Department of Education (VDOE). The amount of funding each school division received is also based on its proportional share of funding under ESEA Title I-A, and ranged from $322,000 (West Point) to $189 million (Fairfax County).

TABLE D-1
Virginia has received nearly $3.3 billion in federal pandemic relief funding

	Total allocation
CARES	$239M
CRRSA	939
ARPA	2,109
Total	**3,287**

SOURCE: NCSL Elementary and Secondary School Emergency Relief Fund Tracker.
NOTE: CARES = Coronavirus Aid, Relief, and Economic Security Act. CRRSA = Coronavirus Response and Relief Supplemental Appropriations Act. ARPA = American Rescue Plan Act.

Beyond a few requirements, school divisions can use federal COVID-19 relief funding at their own discretion. Among other things, funding can be used for health and safety measures, school construction and renovations, teacher salaries, and interventions to address student needs. Funding provided through CARES and CRRSA was generally aimed at supporting schools while they were navigating disruptions to in-person instruction, while ARPA funding was aimed more at addressing the impacts of the pandemic. As such, at least 20 percent of ARPA funding must be used by school divisions to address learning loss that resulted from lost instructional time. School divisions need to obligate funding by September 30, 2024.

School divisions and VDOE are required to report to the federal government how they plan to use federal pandemic relief funding. In general, VDOE has used federal relief funding to expand access to technology, develop resources to support virtual learning, develop a formative assessment to measure learning loss, implement strategies to address learning loss, and support school staff recruitment

efforts. Likewise, school divisions have used funding to implement health and safety measures, conduct school construction and renovations, pay salaries, increase salaries, expand staff recruitment efforts, and implement interventions to address learning loss.

The 2022 General Assembly required VDOE to report on divisions' plans regarding remaining federal funds (2022 Appropriation Act Item #137.B.31). The Act requires VDOE to "prescribe the format and timeline required for the reporting of such information, which shall include obligated and unobligated amounts, planned uses and planned timing for the use of the remaining obligated and unobligated amounts." VDOE is directed to submit the report to the money committees no later than September 1, 2023 and September 1, 2024.

Appendix E: Chronic absenteeism data

This appendix provides data on chronic absenteeism by grade level, student subgroups, and school division. This data was used to examine the extent to which the pandemic affected K–12 student attendance (Chapter 2). Comparing pre-pandemic trends to results from pandemic-era school years can provide understanding of how the pandemic affected chronic absenteeism in Virginia.

Students are considered chronically absent if they miss 10 percent or more days in the school year (approximately 18 of 180 days in a typical school division). This includes excused absences, unexcused absences, suspensions, and quarantining due to COVID-19. Chronic absenteeism is the primary measure available for assessing attendance statewide. In 2017, the Virginia Board of Education added chronic absenteeism to the state's Standards of Accreditation as an indicator of school quality.

TABLE E-1
Change in chronic absenteeism rates by grade level

	% of students chronically absent				
Grade level	**Pre-pandemic average**	**SY20**	**SY21**	**SY22**	**% point change pre-pandemic to SY22**
K–5	8%	10%	12%	18%	10%
6–8	10%	11%	9%	19%	9%
9–12	16%	15%	11%	24%	9%
All students	**11%**	**12%**	**11%**	**20%**	**9%**

SOURCE: JLARC analysis of VDOE data, 2014–15 through 2021–22.
NOTE: SY20 = 2019–20 school year. SY21 = 2020–21 school year. SY22 = 2021–22 school year. Pre-pandemic average represents a five-year average rate of chronic absenteeism from 2014–15 through 2018–19. % point change = difference from pre-pandemic average to SY22.

TABLE E-2
Change in chronic absenteeism rates by student subgroup

	% of students chronically absent				
Student subgroup	**Pre-pandemic average**	**SY20**	**SY21**	**SY22**	**% point change pre-pandemic to SY22**
Asian	6%	8%	3%	11%	5%
Black	13%	14%	18%	25%	12%
Hispanic	12%	14%	14%	25%	13%
White	10%	11%	8%	17%	7%
EDS	16%	17%	19%	30%	14%
Non-EDS	7 %	8 %	5 %	12%	5 %
ELL	11%	13%	14%	23%	12%
Non-ELL	11%	12%	11%	20%	9 %
SWD	17%	17%	16%	26%	10%
Non-SWD	10%	11%	10%	19%	9 %
All students	**11%**	**12%**	**11%**	**20%**	**9%**

SOURCE: JLARC analysis of VDOE data, 2014–15 through 2021–22.
NOTE: SY20 = 2019–20 school year. SY21 = 2020–21 school year. SY22 = 2021–22 school year. Pre-pandemic average represents a five-year average rate of chronic absenteeism from 2014–15 through 2018–19. % point change = difference from pre-pandemic average to SY22. EDS = economically disadvantaged students. ELL = English language learners. SWD = students with disabilities. In SY22, Asian, Black, Hispanic, and white students comprised 93 percent of total K-12 enrollment. 11. VDOE defines economically disadvantaged students as students who are eligible for free or reduced price lunch, receive Temporary Assistance for Needy Families, are eligible for Medicaid, and/or are identified as either migrant or experiencing homelessness. VDOE defines English language learners as students whose native language is a language other than English, and whose difficulties speaking, reading, writing, or understanding English may hinder their education. VDOE defines students with disabilities as students that receive special education and related services under the Individuals with Disabilities Education Act.

TABLE E-3
Change in chronic absenteeism rates by school division

	% of students chronically absent				
Division	**Pre-pandemic average**	**SY20**	**SY21**	**SY22**	**% point change pre-pandemic to SY22**
Accomack County	10%	14%	21%	17%	7%
Albemarle County	7%	10%	5%	16%	9%
Alexandria City	10%	8%	32%	23%	12%
Alleghany County	16%	24%	23%	41%	25%
Amelia County	17%	13%	6%	22%	5%
Amherst County	16%	12%	26%	26%	10%
Appomattox County	10%	11%	29%	18%	8%
Arlington County	6%	9%	5%	9%	4%
Augusta County	10%	11%	7%	17%	7%
Bath County	12%	14%	10%	20%	8%
Bedford County	10%	9%	17%	15%	5%
Bland County	15%	12%	4%	17%	2%

Botetourt County	6%	6%	6%	8%	2%
Bristol City	22%	19%	26%	35%	13%
Brunswick County	20%	19%	14%	26%	6%
Buchanan County	21%	18%	31%	33%	12%
Buckingham County	18%	20%	3%	29%	12%
Buena Vista City	13%	16%	19%	27%	14%
Campbell County	9%	9%	6%	16%	7%
Caroline County	21%	24%	20%	28%	7%
Carroll County	9%	8%	12%	14%	5%
Charles City County	14%	21%	13%	38%	24%
Charlotte County	17%	14%	13%	23%	6%
Charlottesville City	9%	10%	10%	19%	9%
Chesapeake City	7%	7%	9%	19%	12%
Chesterfield County	8%	12%	9%	20%	12%
Clarke County	12%	14%	5%	24%	12%
Colonial Beach	6%	8%	17%	13%	7%
Colonial Heights City	13%	17%	18%	17%	4%
Covington City	19%	28%	23%	47%	28%
Craig County	10%	11%	32%	40%	30%
Culpeper County	11%	10%	9%	34%	23%
Cumberland County	16%	19%	2%	34%	19%
Danville City	17%	19%	23%	28%	10%
Dickenson County	26%	19%	17%	43%	17%
Dinwiddie County	15%	11%	27%	28%	13%
Essex County	12%	12%	36%	23%	11%
Fairfax County	9%	10%	5%	15%	7%
Falls Church City	5%	5%	3%	8%	3%
Fauquier County	6%	9%	4%	15%	9%
Floyd County	10%	12%	14%	31%	21%
Fluvanna County	16%	18%	15%	42%	27%
Franklin City	16%	24%	39%	52%	36%
Franklin County	16%	11%	17%	18%	2%
Frederick County	13%	12%	11%	21%	8%
Fredericksburg City	8%	11%	70%	36%	28%
Galax City	12%	8%	20%	18%	6%
Giles County	14%	15%	7%	13%	0%
Gloucester County	13%	15%	11%	14%	1%
Goochland County	10%	10%	8%	13%	3%
Grayson County	16%	10%	10%	15%	-1%
Greene County	15%	15%	10%	21%	6%
Greensville County	25%	18%	18%	28%	3%
Halifax County	13%	14%	7%	44%	31%
Hampton City	15%	14%	10%	19%	5%
Hanover County	4%	6%	5%	8%	4%
Harrisonburg City	13%	14%	20%	29%	16%
Henrico County	10%	10%	10%	19%	9%
Henry County	11%	12%	14%	21%	10%

Highland County	23%	31%	16%	26%	2%
Hopewell City	12%	18%	21%	39%	27%
Isle of Wight County	9%	12%	8%	30%	21%
King and Queen County	16%	17%	5%	21%	6%
King George County	14%	13%	10%	21%	7%
King William County	16%	15%	11%	16%	0%
Lancaster County	22%	18%	15%	26%	4%
Lee County	22%	21%	13%	31%	9%
Lexington City	6%	6%	4%	7%	1%
Loudoun County	7%	10%	5%	13%	6%
Louisa County	10%	9%	5%	10%	1%
Lunenburg County	16%	14%	10%	15%	-1%
Lynchburg City	14%	15%	33%	29%	15%
Madison County	9%	9%	10%	19%	11%
Manassas City	15%	18%	12%	23%	8%
Manassas Park City	10%	13%	16%	25%	16%
Martinsville City	16%	11%	5%	28%	12%
Mathews County	13%	13%	13%	25%	12%
Mecklenburg County	16%	14%	6%	35%	19%
Middlesex County	14%	12%	14%	24%	10%
Montgomery County	10%	12%	12%	17%	7%
Nelson County	12%	14%	7%	35%	23%
New Kent County	10%	16%	5%	25%	16%
Newport News City	15%	15%	23%	28%	14%
Norfolk City	16%	17%	17%	24%	8%
Northampton County	18%	18%	14%	33%	15%
Northumberland County	15%	12%	29%	29%	15%
Norton City	19%	19%	9%	31%	13%
Nottoway County	17%	18%	29%	26%	9%
Orange County	14%	13%	27%	38%	24%
Page County	13%	19%	5%	29%	16%
Patrick County	11%	10%	5%	14%	3%
Petersburg City	24%	28%	33%	39%	15%
Pittsylvania County	13%	13%	7%	20%	7%
Poquoson City	6%	11%	5%	13%	7%
Portsmouth City	16%	17%	29%	30%	14%
Powhatan County	8%	7%	6%	15%	7%
Prince Edward County	18%	19%	36%	35%	16%
Prince George County	12%	13%	14%	32%	20%
Prince William County	12%	14%	5%	21%	9%
Pulaski County	13%	12%	25%	21%	8%
Radford City	10%	12%	6%	9%	-2%
Rappahannock County	26%	14%	4%	28%	2%
Richmond City	19%	18%	16%	28%	9%
Richmond County	9%	10%	4%	15%	6%
Roanoke City	17%	15%	29%	27%	10%
Roanoke County	7%	8%	5%	14%	7%

Rockbridge County	17%	10%	5%	29%	12%
Rockingham County	7%	10%	9%	26%	19%
Russell County	18%	14%	4%	27%	9%
Salem City	8%	9%	9%	19%	10%
Scott County	11%	9%	14%	21%	9%
Shenandoah County	12%	14%	10%	36%	24%
Smyth County	16%	15%	14%	23%	6%
Southampton County	12%	7%	3%	20%	8%
Spotsylvania County	13%	13%	31%	25%	12%
Stafford County	8%	11%	7%	17%	8%
Staunton City	11%	17%	19%	31%	20%
Suffolk City	11%	16%	17%	27%	16%
Surry County	9%	9%	15%	30%	21%
Sussex County	21%	16%	28%	26%	5%
Tazewell County	22%	15%	7%	54%	32%
Virginia Beach City	9%	10%	11%	18%	10%
Warren County	20%	18%	16%	33%	14%
Washington County	14%	13%	11%	21%	7%
Waynesboro City	12%	15%	33%	26%	14%
West Point	11%	10%	2%	15%	4%
Westmoreland County	16%	13%	11%	22%	6%
Williamsburg-James City County	11%	12%	13%	15%	5%
Winchester City	14%	14%	12%	28%	13%
Wise County	16%	14%	11%	19%	3%
Wythe County	13%	12%	15%	32%	19%
York County	7%	8%	4%	13%	6%
Statewide	**11%**	**12%**	**11%**	**20%**	**9%**

SOURCE: JLARC analysis of VDOE data, 2014–15 through 2021–22.

NOTE: SY20 = 2019–20 school year. SY21 = 2020–21 school year. SY22 = 2021–22 school year. Pre-pandemic average represents a five-year average rate of chronic absenteeism from 2014–15 through 2018–19. % point change = difference from pre-pandemic average to SY22.

Appendix F: Virginia student performance prior to the pandemic

Appendix F shows Virginia students' academic performance and achievement across several key indicators for the school years before the pandemic. Examining student performance before the pandemic is important for understanding (i) where Virginia students stood before the impacts of the pandemic and (ii) the magnitude of the impacts of the pandemic relative to changes that had previously been occurring.

Overall, Virginia students' academic performance remained relatively stable before the pandemic, with the exception of reading among younger students, which was declining slightly across several indicators.

- The proportion of kindergarten students meeting the benchmark for Virginia's **Phonological Awareness Literacy Screening** (PALS) assessment was declining about 1 to 2 percentage points annually in years before the pandemic (2016–17 to 2018–19).
- Student performance on **Virginia's Standards of Learning assessments** (SOLs) remained relatively stable year-to-year before the pandemic across tests from different grade levels and subject areas. However, third-grade reading SOL scores did decline by 0.8 percent on average annually during the five years before the pandemic.
- Statewide **graduation, dropout, and grade retention rates** were relatively unchanged during the five school years before the pandemic (2014–15 to 2018–19).
- Virginia students' performance on the **National Assessment of Educational Progress (NAEP) tests** mostly mirrored national trends prior to the pandemic (2010–11 to 2018–19). Scores were declining slightly for students in both Virginia and nationally, on average, in fourth- and eighth-grade reading and eighth-grade math; fourth-grade math scores were improving in Virginia and were relatively steady nationwide.

PALS performance

Kindergarten students' performance on the PALS assessments was generally declining before the pandemic (2015–16 to 2018–19). The proportion of kindergarten students that met PALS benchmarks generally declined year-to-year before the pandemic, declining 1 percent annually on average, respectively (Table F-1).

TABLE F-1
Kindergarten PALS performance was generally declining before pandemic

Indicator	2015–16	2016–17	2017–18	2018–19	4–year annual change	2020–21	2021–22	PPA average pass rate	2021–22 vs. PPA
% Kindergarteners meeting PALS benchmark	85%	84%	83%	82%	-1.0%	73%	74%	84%	-10%

SOURCE: JLARC analysis of PALS data, 2015–16 to 2021–22.
NOTE: PPA = Pre-pandemic average (i.e., average score from 2015–16 to 2018–19). 4-year annual change represents the average annualized change in scores across the four school years prior to the pandemic.

SOL scores

SOL scores remained relatively stable across subjects and grade levels during the five school years before the pandemic (2014–15 to 2018–19) (Table F-2). Statewide third-grade reading scores experienced the most meaningful average annual decline during that time period, at 0.8 percent annually. Conversely, third-grade math scores were improving at the greatest rate during that period, 0.5 percent annually.

TABLE F-2
SOL test scores were relatively stable prior to the pandemic

Indicator	2014–15	2015–16	2016–17	2017–18	2018–19	5-year annual % change	2021–22	PPA average score	2021–22 vs. PPA % change
3rd grade reading	440	431	433	430	426	-0.8%	419	432	-3.0%
3rd grade math	436	437	432	429	444	0.5%	417	436	-4.4%
5th grade science	445	450	445	444	442	-0.2%	411	445	-7.7%
8th grade reading	429	432	433	432	429	-0.1%	423	431	-1.8%
8th grade math	424	421	422	419	428	0.2%	399	423	-5.6%
8th grade science	436	436	437	434	436	0.0%	408	436	-6.4%
8th grade writing	439	439	444	441	438	-0.1%	408	440	-7.3%

SOURCE: JLARC analysis of VDOE data, 2014–15 to 2021–22.
NOTE: PPA = Pre-pandemic average (i.e., average score from 2014–15 to 2018–19). 5-year annual change represents the average annualized change in scores across the five school years prior to the pandemic.

NAEP scores

NAEP scores were generally declining slightly in Virginia and nationwide during the five testing periods before the pandemic (2010–11 to 2018–19). Virginia's fourth-grade reading scores experienced an average annual decline of 0.2 percent over the five testing periods prior to the pandemic, similar to the nationwide trend of a 0.1 percent average annual decline (Table F-3). Likewise, Virginia's eighth-grade math scores were declining at the same rate as national scores, 0.2 percent annually. Virginia's eighth-grade reading scores were declining before the pandemic faster than the national average (-0.5 percent annually vs. -0.2 percent annually). Finally, Virginia's fourth-grade math scores were increasing by an average of 0.2 percent annually compared with nationwide scores that remained stable.

TABLE F-3
NAEP scores were declining slightly in Virginia and nationwide prior to the pandemic

Indicator	2010–11	2012–13	2014–15	2016–17	2018–19	Pre-pandemic average annual % change	2021–22	PPA average rate	2021–22 vs. PPA % change
VA 4th grade reading	226	229	229	228	224	-0.2%	214	227	-5.8%
National 4th grade reading	220	221	221	221	219	-0.1%	216	220	-2.0%
VA 4th grade math	245	246	247	248	247	0.2%	236	247	-4.3%
National 4th grade math	240	241	240	239	240	0.0%	235	240	-2.1%
VA 8th grade reading	267	268	267	268	262	-0.5%	260	266	-2.4%
National 8th grade reading	264	266	264	265	262	-0.2%	259	264	-2.0%
VA 8th grade math	289	288	288	290	287	-0.2%	288	288	-3.3%
National 8th grade math	283	284	281	282	281	-0.2%	282	282	-3.3%

SOURCE: JLARC analysis of National Center of Education Statistics data, 2011–2022.
NOTE: PPA = Pre-pandemic average (i.e., average score from 2010–11 to 2018–19). 5-year annual change represents the average annualized change in scores across the five school years prior to the pandemic

Graduation, dropout, and grade retention rates

Virginia's statewide graduation, dropout, and grade retention rates remained relatively stable before the pandemic (2014–15 to 2018–19). The statewide graduation rate improved slightly year-to-year, on average, at 0.2 percent annually (Table F-4). The statewide dropout rate worsened slightly, with high school dropouts increasing by an average of 0.1 percent annually. The statewide grade retention rate improved slightly, averaging 0.1 percent fewer students each year.

TABLE F-4
Graduation, dropout, and grade retention rates relatively stable in years before pandemic

Indicator	2014–15	2015–16	2016–17	2017–18	2018–19	Pre-pandemic average annual change (% point)	2019–20	2020–21	2021–22	PPA average score	2021–22 vs. PPA (% point)
Graduation rate	90.6%	91.4%	91.2%	91.6%	91.5%	0.2%	92.5%	93.0%	92.1%	91.3%	0.9%
Dropout rate	5.2%	5.3%	5.8%	5.5%	5.6%	0.1%	5.1%	4.3%	5.2%	5.5%	-0.3%
Grade retention rate	1.8%	1.7%	1.6%	1.6%	1.5%	-0.1%	1.1%	2.1%	N/A	1.6%	-1.6%

SOURCE: JLARC analysis of VDOE data, 2014–15 to 2021–22.
NOTE: PPA = Pre-pandemic average (i.e., average score from 2014–15 to 2018–19). 5-year annual change represents the average annualized change in scores across the five school years prior to the pandemic. Dropout rate represents only high school dropouts.

Appendix G: Academic achievement and outcomes data

This appendix provides data on various academic performance indicators and outcomes referenced in Chapter 4 of this report. This data was used to examine the extent to which the pandemic affected K–12 students' academic achievement. These include (1) third and eighth grade math and reading Standards of Learning test scores and pass rates, (2) Phonological Awareness Literacy Screening benchmark achievement, (3) Virginia Kindergarten Readiness Program benchmark achievement, (4) high school graduation rates, (5) high school dropout rates, and (6) grade retention rates. Comparing pre-pandemic trends to results from pandemic-era school years can provide understanding of how the pandemic affected students' academic achievement in Virginia. For the purposes of this report, the pre-pandemic trend constitutes a five-year pre-pandemic average from the 2014–15 through 2018–19 school years.

Standards of Learning (SOL) test scores and pass rates

Virginia students in grades three through 12 generally complete SOL tests in two to four subject areas each year. SOLs are scored on a scale from 0–600. Students must score a 400 to pass their SOL. Scores from 400–499 are considered proficient, and scores from 500–600 are considered advanced.

TABLE G-1
Change in SOL scores by student subgroup

*PPA: Pre-pandemic average

	3rd Grade Reading			3rd Grade Math			8th Grade Reading			8th Grade Math		
Student subgroup	**PPA***	**SY22**	**% change**	**PPA***	**SY22**	**% change**	**PPA***	**SY22**	**% change**	**PPA***	**SY22**	**% change**
Asian	459	447	-3%	471	454	-4%	463	462	0%	463	440	-5%
Black	404	394	-3%	407	384	-6%	402	399	-1%	401	377	-6%
Hispanic	409	394	-3%	415	393	-5%	411	403	-2%	411	385	-6%
White	447	434	-3%	450	434	-3%	444	435	-2%	434	411	-5%
EDS	405	395	-2%	411	391	-5%	403	399	-1%	405	381	-6%
Non-EDS	452	438	-3%	455	437	-4%	449	441	-2%	438	414	-5%
ELL	386	378	-2%	400	381	-5%	353	349	-1%	376	354	-6%
Non-ELL	438	426	-3%	441	423	-4%	434	428	-1%	426	403	-5%
SWD	378	379	0%	382	374	-2%	378	379	0%	380	366	-4%
Non-SWD	441	426	-3%	444	424	-5%	441	432	-2%	433	407	-6%
All students	**432**	**419**	**-3%**	**436**	**417**	**-4%**	**431**	**423**	**-2%**	**423**	**399**	**-6%**

SOURCE: JLARC analysis of VDOE data, 2014–15 through 2021–22.

NOTE: Scores represent the average scaled score across given student subgroup. PPA = pre-pandemic average. SY22 = 2021–22 school year. % change = change from pre-pandemic average to SY22. EDS = economically disadvantaged students. Pre-pandemic average represents a five-year average SOL score from 2014–15 through 2018–19. ELL = English language learners. SWD = students with disabilities. In SY22, Asian, Black, Hispanic, and white students comprised 93 percent of total K–12 enrollment in SY22. VDOE defines economically disadvantaged students as students who are eligible for free or reduced price lunch, receive Temporary Assistance for Needy Families, are eligible for Medicaid, and/or are identified as either migrant or experiencing homelessness. VDOE defines English language learners as students whose native language is a language other than English, and whose difficulties speaking, reading, writing, or understanding English may hinder their education. VDOE defines students with disabilities as students that receive special education and related services under the Individuals with Disabilities Education Act.

TABLE G-2
Change in SOL scores by school division

*PPA: Pre-pandemic average

	3rd Grade Reading			3rd Grade Math			8th Grade Reading			8th Grade Math		
Division	**PPA***	**SY22**	**% change**	**PPA***	**SY22**	**% change**	**PPA***	**SY22**	**% change**	**PPA***	**SY22**	**% change**
Accomack County	404	393	-3%	412	388	-6%	413	424	2%	414	407	-2%
Albemarle County	433	420	-3%	431	410	-5%	441	434	-2%	402	371	-8%
Alexandria City	420	408	-3%	416	394	-5%	418	411	-2%	334	331	-1%
Alleghany County	416	405	-3%	410	415	1%	414	406	-2%	418	389	-7%
Amelia County	424	404	-5%	434	414	-5%	422	416	-1%	436	401	-8%
Amherst County	426	408	-4%	420	404	-4%	429	403	-6%	427	383	-10%
Appomattox County	425	428	1%	435	434	0%	427	414	-3%	415	393	-5%
Arlington County	455	439	-4%	454	436	-4%	450	443	-2%	437	426	-3%
Augusta County	421	414	-2%	431	419	-3%	424	423	0%	402	406	1%
Bath County	435	393	-10%	427	406	-5%	427	413	-3%	413	409	-1%
Bedford County	432	423	-2%	424	424	0%	431	425	-1%	406	405	0%
Bland County	432	414	-4%	432	442	2%	421	434	3%	399	385	-3%
Botetourt County	446	449	1%	443	447	1%	441	439	0%	427	418	-2%
Bristol City	422	414	-2%	432	403	-7%	419	420	0%	412	393	-5%
Brunswick County	389	384	-1%	396	391	-1%	408	383	-6%	403	361	-10%
Buchanan County	417	419	1%	415	397	-4%	419	403	-4%	408	384	-6%
Buckingham County	398	390	-2%	408	391	-4%	411	389	-5%	426	395	-7%
Buena Vista City	411	434	5%	434	436	1%	410	407	-1%	391	384	-2%
Campbell County	428	416	-3%	436	423	-3%	419	417	-1%	409	383	-6%
Caroline County	428	414	-3%	431	410	-5%	413	393	-5%	389	374	-4%
Carroll County	432	421	-2%	430	421	-2%	424	437	3%	412	408	-1%
Charles City County	416	392	-6%	417	366	-12%	407	419	3%	372	358	-4%

Charlotte County	430	422	-2%	430	429	0%	423	407	-4%	437	402	-8%
Charlottesville City	432	426	-1%	430	404	-6%	425	409	-4%	416	359	-14%
Chesapeake City	434	428	-1%	437	434	-1%	435	427	-2%	437	412	-6%
Chesterfield County	437	415	-5%	439	407	-7%	430	410	-5%	453	387	-14%
Clarke County	415	416	0%	421	412	-2%	433	415	-4%	404	402	-1%
Colonial Beach	421	438	4%	429	415	-3%	422	422	0%	410	405	-1%
Colonial Heights City	424	416	-2%	423	407	-4%	423	401	-5%	404	368	-9%
Covington City	414	437	6%	423	442	5%	403	400	-1%	397	394	-1%
Craig County	430	411	-5%	425	406	-4%	428	431	1%	415	417	0%
Culpeper County	420	400	-5%	434	410	-6%	426	417	-2%	443	412	-7%
Cumberland County	416	405	-3%	446	422	-5%	412	413	0%	394	397	1%
Danville City	396	382	-4%	396	369	-7%	395	392	-1%	374	358	-4%
Dickenson County	433	399	-8%	435	400	-8%	428	410	-4%	431	403	-6%
Dinwiddie County	430	419	-3%	442	421	-5%	412	407	-1%	416	393	-6%
Essex County	414	405	-2%	418	399	-5%	405	402	-1%	401	387	-4%
Fairfax County	439	430	-2%	442	427	-3%	449	443	-2%	443	418	-6%
Falls Church City	472	451	-4%	469	452	-4%	467	472	1%	452	456	1%
Fauquier County	429	415	-3%	429	413	-4%	431	419	-3%	402	392	-3%
Floyd County	426	421	-1%	433	426	-2%	425	421	-1%	415	406	-2%
Fluvanna County	434	410	-6%	431	402	-7%	430	426	-1%	440	403	-8%
Franklin City	380	369	-3%	407	361	-11%	406	391	-4%	414	347	-16%
Franklin County	436	423	-3%	438	427	-2%	428	422	-1%	432	413	-4%
Frederick County	421	412	-2%	427	409	-4%	426	414	-3%	418	388	-7%
Fredericksburg City	407	380	-7%	412	378	-8%	419	388	-7%	412	357	-13%
Galax City	429	418	-3%	460	420	-9%	417	421	1%	317	383	21%
Giles County	430	375	-13%	443	363	-18%	422	405	-4%	413	378	-8%
Gloucester County	437	424	-3%	451	435	-3%	423	422	0%	413	416	1%
Goochland County	440	415	-6%	444	422	-5%	441	441	0%	425	410	-4%
Grayson County	438	426	-3%	444	418	-6%	428	432	1%	412	409	-1%
Greene County	415	395	-5%	417	402	-4%	421	410	-3%	390	349	-11%
Greensville County	390	390	0%	406	405	0%	397	388	-2%	391	371	-5%
Halifax County	424	407	-4%	425	409	-4%	413	413	0%	411	409	0%
Hampton City	418	411	-2%	422	409	-3%	420	419	0%	424	412	-3%
Hanover County	447	424	-5%	458	436	-5%	441	435	-1%	438	435	-1%

Harrisonburg City	404	385	-5%	411	378	-8%	411	394	-4%	384	350	-9%
Henrico County	433	419	-3%	435	414	-5%	426	413	-3%	398	370	-7%
Henry County	423	409	-3%	434	417	-4%	422	418	-1%	422	401	-5%
Highland County	452	433	-4%	446	435	-3%	420	455	8%	360	406	13%
Hopewell City	405	384	-5%	398	371	-7%	411	400	-3%	433	362	-16%
Isle of Wight County	444	426	-4%	446	430	-4%	437	429	-2%	424	406	-4%
King and Queen County	435	401	-8%	422	368	-13%	420	406	-3%	394	390	-1%
King George County	437	416	-5%	438	414	-5%	437	431	-1%	425	393	-8%
King William County	427	412	-4%	437	412	-6%	416	408	-2%	409	359	-12%
Lancaster County	415	410	-1%	427	418	-2%	403	325	-19%	376	321	-15%
Lee County	434	415	-4%	431	404	-6%	418	412	-1%	404	396	-2%
Lexington City	476	484	2%	489	477	-2%	459	452	-1%	417	386	-7%
Loudoun County	445	430	-4%	447	432	-3%	449	434	-3%	403	401	0%
Louisa County	424	412	-3%	433	419	-3%	424	413	-3%	419	404	-4%
Lunenburg County	422	392	-7%	417	392	-6%	417	382	-8%	404	356	-12%
Lynchburg City	418	405	-3%	419	396	-6%	412	411	0%	414	387	-6%
Madison County	403	344	-15%	417	342	-18%	418	401	-4%	411	389	-5%
Manassas City	413	394	-5%	417	385	-8%	411	414	1%	398	380	-5%
Manassas Park City	416	392	-6%	412	379	-8%	425	407	-4%	434	386	-11%
Martinsville City	401	394	-2%	406	401	-1%	401	414	3%	350	384	10%
Mathews County	428	437	2%	425	432	2%	416	401	-3%	379	361	-5%
Mecklenburg County	426	426	0%	440	435	-1%	417	423	1%	413	415	0%
Middlesex County	423	393	-7%	435	406	-7%	432	407	-6%	398	422	6%
Montgomery County	440	435	-1%	442	439	-1%	434	426	-2%	411	400	-3%
Nelson County	418	399	-4%	416	406	-2%	421	425	1%	422	450	7%
New Kent County	446	428	-4%	440	430	-2%	432	405	-6%	407	391	-4%
Newport News City	409	393	-4%	411	379	-8%	407	405	-1%	382	374	-2%
Norfolk City	413	409	-1%	416	396	-5%	407	406	0%	400	373	-7%
Northampton County	410	388	-5%	406	368	-9%	401	394	-2%	385	364	-5%
Northumberland County	447	411	-8%	470	413	-12%	421	407	-3%	396	355	-10%
Norton City	433	419	-3%	436	408	-7%	427	426	0%	427	421	-1%
Nottoway County	427	407	-5%	435	400	-8%	406	398	-2%	402	386	-4%
Orange County	429	404	-6%	433	403	-7%	430	402	-7%	418	372	-11%
Page County	416	396	-5%	422	399	-5%	425	417	-2%	428	402	-6%

Patrick County	441	442	0%	440	441	0%	425	437	3%	389	379	-3%
Petersburg City	403	378	-6%	403	365	-9%	384	366	-5%	389	343	-12%
Pittsylvania County	445	436	-2%	447	439	-2%	429	430	0%	427	413	-3%
Poquoson City	463	455	-2%	466	455	-2%	449	448	0%	415	431	4%
Portsmouth City	415	396	-5%	421	387	-8%	403	405	0%	393	379	-4%
Powhatan County	446	416	-7%	441	420	-5%	433	416	-4%	415	382	-8%
Prince Edward County	407	396	-3%	421	410	-3%	407	402	-1%	401	374	-7%
Prince George County	439	415	-6%	436	417	-4%	421	418	-1%	397	393	-1%
Prince William County	432	424	-2%	441	427	-3%	433	423	-2%	435	404	-7%
Pulaski County	423	410	-3%	428	412	-4%	416	407	-2%	414	382	-8%
Radford City	431	376	-13%	432	361	-17%	438	386	-12%	368	366	0%
Rappahannock County	423	409	-3%	440	408	-7%	433	417	-4%	422	413	-2%
Richmond City	401	376	-6%	403	366	-9%	388	388	0%	382	350	-8%
Richmond County	429	417	-3%	435	422	-3%	425	408	-4%	412	384	-7%
Roanoke City	421	388	-8%	432	383	-11%	413	399	-3%	401	365	-9%
Roanoke County	445	438	-2%	446	437	-2%	444	434	-2%	429	418	-2%
Rockbridge County	428	420	-2%	433	419	-3%	417	424	2%	419	426	2%
Rockingham County	428	400	-7%	428	395	-8%	428	403	-6%	420	373	-11%
Russell County	441	429	-3%	443	432	-2%	430	430	0%	442	309	-30%
Salem City	448	426	-5%	451	431	-4%	436	433	-1%	418	404	-3%
Scott County	441	424	-4%	450	434	-3%	428	420	-2%	453	439	-3%
Shenandoah County	404	408	1%	417	417	0%	410	402	-2%	411	380	-8%
Smyth County	426	411	-4%	427	405	-5%	425	423	-1%	419	404	-4%
Southampton County	430	406	-6%	441	412	-7%	425	414	-3%	431	389	-10%
Spotsylvania County	428	420	-2%	438	421	-4%	427	418	-2%	406	377	-7%
Stafford County	430	414	-4%	437	412	-6%	435	420	-3%	420	370	-12%
Staunton City	431	428	-1%	438	435	-1%	412	422	2%	401	389	-3%
Suffolk City	422	410	-3%	423	407	-4%	416	423	2%	429	406	-5%
Surry County	428	405	-5%	414	385	-7%	409	438	7%	414	419	1%
Sussex County	427	416	-2%	440	411	-7%	417	438	5%	425	408	-4%
Tazewell County	439	428	-3%	440	432	-2%	431	424	-2%	448	428	-4%
Virginia Beach City	449	431	-4%	453	427	-6%	437	438	0%	429	417	-3%
Warren County	418	420	1%	418	416	0%	422	409	-3%	402	387	-4%
Washington County	459	441	-4%	452	442	-2%	430	441	3%	440	432	-2%

Waynesboro City	408	401	-2%	411	389	-5%	409	367	-10%	418	395	-5%
West Point	473	457	-3%	496	468	-6%	452	430	-5%	427	416	-3%
Westmoreland County	417	407	-3%	419	404	-3%	415	428	3%	429	429	0%
Williamsburg-James City County	440	426	-3%	445	429	-4%	439	437	0%	393	400	2%
Winchester City	415	402	-3%	424	396	-7%	417	407	-2%	406	415	2%
Wise County	450	435	-3%	451	438	-3%	441	437	-1%	465	439	-6%
Wythe County	443	429	-3%	438	428	-2%	435	444	2%	435	429	-1%
York County	456	456	0%	454	453	0%	441	447	1%	431	442	2%
Statewide	**432**	**419**	**-3%**	**436**	**417**	**-4%**	**431**	**423**	**-2%**	**423**	**399**	**-6%**

SOURCE: JLARC analysis of VDOE data, 2014–15 through 2021–22.
NOTE: Scores represent the average scaled score across given school division. PPA = pre-pandemic average. SY22 = 2021–22 school year. % change = change from pre-pandemic average to SY22. Pre-pandemic average represents a five-year average SOL score from 2014–15 through 2018–19.

TABLE G-3
Change in SOL pass rates by student subgroups

*PPA: Pre-pandemic average

	3rd Grade Reading			3rd Grade Math			8th Grade Reading			8th Grade Math		
Student subgroup	**PPA***	**SY22**	**change**	**PPA***	**SY22**	**change**	**PPA***	**SY22**	**change**	**PPA***	**SY22**	**change**
Asian	86%	83%	-3%	90%	84%	-6%	90%	89%	-1%	90%	81%	-9%
Black	60%	53%	-7%	62%	47%	-15%	59%	58%	-1%	60%	41%	-19%
Hispanic	62%	51%	-11%	67%	52%	-15%	65%	59%	-6%	67%	45%	-22%
White	81%	77%	-4%	83%	78%	-5%	84%	79%	-5%	81%	67%	-14%
EDS	60%	53%	-7%	64%	51%	-13%	60%	57%	-3%	62%	44%	-18%
Not EDS	84%	79%	-5%	85%	79%	-6%	86%	82%	-4%	83%	69%	-14%
ELL	49%	40%	-9%	60%	43%	-17%	22%	19%	-3%	43%	20%	-23%
Not ELL	76%	71%	-5%	78%	70%	-8%	78%	75%	-3%	75%	60%	-15%
SWD	42%	39%	-3%	44%	39%	-5%	34%	34%	0%	38%	27%	-11%
Not SWD	78%	72%	-6%	81%	71%	-10%	82%	77%	-5%	80%	62%	-18%
All students	**73%**	**68%**	**-5%**	**76%**	**67%**	**-9%**	**76%**	**72%**	**-4%**	**73%**	**57%**	**-16%**

SOURCE: JLARC analysis of VDOE data, 2014–15 through 2021–22.

NOTE: PPA = pre-pandemic average. SY22 = 2021–22 school year. Change = difference from pre-pandemic average to SY22. Pre-pandemic average represents a five-year average SOL pass rate from 2014–15 through 2018–19. EDS = economically disadvantaged students. ELL = English language learners. SWD = students with disabilities. In SY22, Asian, Black, Hispanic, and white students comprised 93 percent of total K–12 enrollment in SY22. VDOE defines economically disadvantaged students as students who are eligible for free or reduced price lunch, receive Temporary Assistance for Needy Families, are eligible for Medicaid, and/or are identified as either migrant or experiencing homelessness. VDOE defines English language learners as students whose native language is a language other than English, and whose difficulties speaking, reading, writing, or understanding English may hinder their education. VDOE defines students with disabilities as students who receive special education and related services under the Individuals with Disabilities Education Act.

TABLE G-4
Change in SOL pass rates by school division

*PPA: Pre-pandemic average

	3rd Grade Reading			3rd Grade Math			8th Grade Reading			8th Grade Math		
Division	**PPA***	**SY22**	**change**	**PPA***	**SY22**	**change**	**PPA***	**SY22**	**change**	**PPA***	**SY22**	**change**
Accomack County	60%	54%	-6%	66%	53%	-14%	69%	73%	4%	75%	64%	-11%
Albemarle County	72%	66%	-6%	72%	62%	-10%	78%	75%	-4%	62%	37%	-25%
Alexandria City	67%	58%	-8%	66%	50%	-16%	66%	60%	-6%	--	--	--
Alleghany County	69%	61%	-8%	67%	60%	-7%	69%	69%	0%	76%	44%	-32%
Amelia County	70%	52%	-18%	77%	60%	-17%	73%	68%	-5%	84%	57%	-27%
Amherst County	72%	56%	-16%	71%	59%	-11%	78%	59%	-19%	80%	46%	-33%
Appomattox County	72%	70%	-3%	77%	75%	-2%	75%	67%	-9%	74%	53%	-22%
Arlington County	84%	77%	-7%	84%	76%	-8%	84%	80%	-4%	83%	73%	-10%
Augusta County	68%	63%	-5%	76%	68%	-8%	74%	72%	-2%	67%	60%	-6%
Bath County	81%	46%	-35%	72%	71%	-2%	78%	62%	-16%	72%	61%	-11%
Bedford County	75%	69%	-5%	72%	70%	-2%	78%	72%	-6%	68%	56%	-12%
Bland County	75%	68%	-7%	81%	85%	4%	74%	75%	0%	62%	49%	-13%
Botetourt County	81%	87%	6%	82%	88%	6%	86%	84%	-2%	84%	81%	-3%
Bristol City	70%	69%	-1%	73%	61%	-12%	71%	70%	-1%	71%	48%	-22%
Brunswick County	48%	48%	1%	55%	57%	3%	63%	48%	-14%	62%	31%	-31%
Buchanan County	66%	67%	0%	71%	51%	-20%	72%	58%	-15%	57%	47%	-10%
Buckingham County	54%	51%	-4%	64%	54%	-9%	66%	52%	-14%	79%	50%	-29%
Buena Vista City	62%	81%	19%	73%	81%	7%	72%	61%	-11%	53%	44%	-9%
Campbell County	73%	68%	-5%	79%	76%	-3%	75%	68%	-7%	73%	40%	-33%
Caroline County	72%	65%	-7%	74%	63%	-11%	65%	52%	-13%	51%	40%	-11%
Carroll County	76%	70%	-6%	76%	68%	-8%	75%	81%	6%	72%	63%	-9%
Charles City County	69%	43%	-26%	68%	23%	-44%	60%	59%	-1%	43%	18%	-25%
Charlotte County	76%	67%	-9%	77%	73%	-5%	75%	65%	-11%	86%	71%	-14%

Charlottesville City	72%	70%	-2%	73%	57%	-16%	68%	54%	-15%	70%	19%	-51%
Chesapeake City	75%	74%	-1%	79%	78%	-1%	80%	75%	-5%	84%	66%	-18%
Chesterfield County	78%	68%	-10%	80%	64%	-16%	77%	67%	-10%	84%	53%	-31%
Clarke County	64%	64%	-1%	67%	62%	-5%	78%	70%	-8%	95%	58%	-37%
Colonial Beach	68%	88%	20%	77%	65%	-12%	75%	71%	-4%	61%	48%	-13%
Colonial Heights City	74%	68%	-7%	73%	58%	-16%	75%	63%	-12%	70%	36%	-34%
Covington City	64%	84%	20%	76%	88%	11%	67%	54%	-13%	55%	43%	-11%
Craig County	73%	68%	-5%	77%	63%	-14%	76%	73%	-3%	76%	71%	-5%
Culpeper County	66%	56%	-10%	77%	65%	-12%	74%	64%	-10%	86%	63%	-23%
Cumberland County	66%	53%	-13%	79%	71%	-8%	65%	64%	0%	50%	59%	8%
Danville City	54%	39%	-15%	55%	33%	-22%	54%	47%	-7%	35%	22%	-13%
Dickenson County	78%	59%	-20%	77%	57%	-20%	81%	70%	-12%	82%	72%	-10%
Dinwiddie County	76%	70%	-6%	81%	70%	-12%	68%	60%	-8%	68%	49%	-19%
Essex County	74%	55%	-19%	73%	53%	-20%	63%	59%	-5%	61%	--	--
Fairfax County	76%	72%	-4%	78%	71%	-7%	83%	79%	-3%	81%	66%	-15%
Falls Church City	89%	87%	-2%	87%	86%	-1%	92%	93%	2%	87%	85%	-2%
Fauquier County	73%	66%	-7%	73%	64%	-9%	77%	74%	-3%	64%	55%	-9%
Floyd County	71%	63%	-8%	76%	70%	-6%	72%	68%	-3%	64%	62%	-2%
Fluvanna County	75%	62%	-13%	75%	56%	-18%	75%	68%	-7%	85%	54%	-30%
Franklin City	50%	30%	-20%	66%	37%	-30%	72%	56%	-16%	75%	19%	-56%
Franklin County	77%	71%	-6%	80%	73%	-7%	75%	74%	-1%	81%	65%	-16%
Frederick County	68%	64%	-4%	72%	63%	-9%	74%	65%	-8%	73%	50%	-24%
Fredericksburg City	60%	42%	-18%	66%	44%	-22%	71%	51%	-20%	68%	31%	-37%
Galax City	71%	65%	-6%	86%	66%	-19%	72%	71%	-1%	--	38%	--
Giles County	73%	58%	-15%	82%	46%	-36%	73%	73%	1%	68%	61%	-7%
Gloucester County	78%	72%	-6%	86%	77%	-8%	75%	74%	-1%	76%	71%	-5%
Goochland County	77%	65%	-12%	79%	73%	-6%	84%	80%	-4%	81%	71%	-10%
Grayson County	79%	73%	-6%	86%	72%	-14%	79%	82%	3%	66%	72%	6%
Greene County	65%	48%	-17%	69%	59%	-10%	72%	63%	-9%	55%	22%	-33%
Greensville County	51%	46%	-6%	62%	60%	-3%	55%	46%	-10%	51%	30%	-21%
Halifax County	69%	61%	-8%	72%	65%	-7%	67%	62%	-5%	71%	69%	-2%
Hampton City	68%	65%	-3%	72%	63%	-9%	73%	73%	0%	79%	74%	-5%
Hanover County	81%	75%	-5%	85%	81%	-4%	83%	81%	-3%	86%	82%	-4%
Harrisonburg City	60%	42%	-18%	68%	42%	-26%	63%	48%	-15%	50%	15%	-35%

Henrico County	74%	67%	-7%	76%	63%	-13%	73%	67%	-6%	60%	44%	-16%
Henry County	71%	60%	-12%	78%	68%	-9%	72%	68%	-4%	75%	56%	-20%
Highland County	--	71%	--	--	71%	--	78%	89%	11%	--	60%	--
Hopewell City	62%	46%	-16%	58%	35%	-22%	66%	57%	-9%	83%	27%	-56%
Isle of Wight County	79%	73%	-5%	82%	77%	-5%	80%	77%	-4%	80%	60%	-19%
King and Queen County	74%	63%	-11%	71%	31%	-39%	78%	67%	-11%	50%	63%	12%
King George County	77%	70%	-7%	79%	72%	-7%	80%	75%	-5%	77%	52%	-25%
King William County	71%	69%	-2%	79%	78%	-1%	71%	60%	-11%	73%	35%	-38%
Lancaster County	66%	65%	0%	76%	71%	-5%	63%	43%	-20%	43%	28%	-15%
Lee County	76%	64%	-13%	78%	61%	-17%	72%	64%	-8%	66%	54%	-12%
Lexington City	88%	94%	6%	92%	96%	4%	83%	87%	5%	74%	--	--
Loudoun County	80%	76%	-4%	81%	76%	-5%	85%	78%	-7%	64%	62%	-2%
Louisa County	71%	66%	-5%	77%	74%	-3%	75%	74%	-1%	76%	67%	-10%
Lunenburg County	69%	48%	-21%	65%	57%	-8%	70%	61%	-10%	63%	46%	-17%
Lynchburg City	67%	59%	-8%	68%	52%	-15%	62%	63%	1%	68%	43%	-25%
Madison County	61%	38%	-22%	69%	44%	-25%	71%	58%	-13%	76%	44%	-32%
Manassas City	63%	51%	-12%	69%	43%	-25%	65%	62%	-2%	61%	41%	-20%
Manassas Park City	65%	46%	-19%	64%	39%	-25%	73%	60%	-13%	87%	43%	-44%
Martinsville City	60%	54%	-6%	66%	61%	-4%	59%	68%	8%	44%	40%	-4%
Mathews County	77%	83%	6%	73%	84%	11%	70%	67%	-3%	51%	29%	-23%
Mecklenburg County	72%	74%	2%	80%	81%	1%	71%	73%	2%	66%	62%	-5%
Middlesex County	67%	44%	-23%	76%	60%	-16%	78%	60%	-18%	--	77%	--
Montgomery County	78%	76%	-1%	80%	79%	-1%	79%	73%	-6%	69%	61%	-9%
Nelson County	65%	59%	-6%	68%	57%	-11%	72%	65%	-7%	79%	85%	6%
New Kent County	81%	75%	-7%	80%	77%	-3%	77%	70%	-7%	65%	58%	-8%
Newport News City	62%	50%	-12%	64%	41%	-23%	61%	59%	-2%	45%	34%	-10%
Norfolk City	64%	59%	-5%	67%	51%	-16%	63%	59%	-4%	61%	32%	-29%
Northampton County	65%	51%	-14%	65%	35%	-30%	62%	55%	-7%	52%	33%	-19%
Northumberland County	84%	63%	-21%	91%	69%	-23%	69%	67%	-2%	53%	21%	-33%
Norton City	80%	71%	-9%	82%	64%	-19%	73%	81%	8%	79%	70%	-8%
Nottoway County	72%	59%	-14%	75%	59%	-16%	60%	56%	-4%	61%	42%	-19%
Orange County	71%	61%	-11%	74%	63%	-11%	77%	62%	-15%	75%	46%	-29%
Page County	68%	55%	-13%	70%	56%	-14%	72%	64%	-8%	77%	60%	-17%
Patrick County	81%	86%	5%	83%	84%	1%	75%	84%	9%	55%	40%	-15%

Petersburg City	60%	38%	-22%	61%	32%	-29%	43%	47%	3%	50%	28%	-22%
Pittsylvania County	81%	79%	-2%	84%	81%	-3%	77%	75%	-1%	77%	66%	-11%
Poquoson City	88%	89%	0%	90%	86%	-4%	87%	85%	-2%	71%	84%	13%
Portsmouth City	66%	55%	-12%	70%	46%	-24%	61%	58%	-3%	55%	39%	-16%
Powhatan County	80%	65%	-15%	80%	69%	-11%	78%	71%	-7%	75%	58%	-18%
Prince Edward County	58%	55%	-4%	70%	61%	-8%	60%	58%	-2%	60%	31%	-29%
Prince George County	83%	72%	-11%	83%	76%	-8%	76%	72%	-3%	60%	59%	-1%
Prince William County	75%	71%	-3%	79%	74%	-6%	77%	72%	-5%	79%	61%	-17%
Pulaski County	72%	66%	-6%	76%	68%	-8%	70%	64%	-6%	73%	49%	-24%
Radford City	72%	57%	-15%	73%	51%	-21%	81%	73%	-8%	--	64%	--
Rappahannock County	68%	55%	-14%	82%	53%	-28%	80%	75%	-5%	76%	65%	-11%
Richmond City	57%	43%	-13%	59%	37%	-22%	48%	46%	-1%	43%	18%	-26%
Richmond County	75%	71%	-4%	81%	75%	-7%	75%	62%	-12%	74%	45%	-30%
Roanoke City	70%	44%	-26%	77%	43%	-34%	67%	55%	-12%	64%	27%	-37%
Roanoke County	82%	81%	0%	83%	80%	-3%	83%	80%	-3%	82%	74%	-8%
Rockbridge County	73%	66%	-6%	80%	66%	-14%	70%	73%	4%	76%	77%	1%
Rockingham County	73%	56%	-17%	74%	52%	-23%	75%	63%	-12%	78%	44%	-34%
Russell County	81%	82%	1%	85%	82%	-3%	78%	78%	0%	76%	--	--
Salem City	81%	73%	-8%	84%	79%	-5%	80%	76%	-4%	72%	64%	-8%
Scott County	83%	77%	-6%	89%	80%	-8%	78%	82%	5%	88%	79%	-9%
Shenandoah County	59%	61%	2%	67%	71%	4%	66%	59%	-7%	69%	43%	-26%
Smyth County	73%	65%	-8%	74%	59%	-15%	75%	70%	-5%	75%	48%	-27%
Southampton County	74%	57%	-17%	85%	62%	-23%	75%	65%	-11%	82%	39%	-43%
Spotsylvania County	72%	69%	-3%	77%	67%	-10%	74%	67%	-7%	65%	36%	-29%
Stafford County	73%	66%	-7%	77%	65%	-11%	80%	70%	-9%	75%	29%	-46%
Staunton City	72%	68%	-4%	76%	74%	-2%	68%	67%	-1%	66%	53%	-12%
Suffolk City	70%	63%	-7%	72%	63%	-9%	72%	73%	1%	82%	58%	-24%
Surry County	76%	62%	-14%	70%	58%	-12%	70%	89%	20%	80%	73%	-7%
Sussex County	75%	67%	-8%	82%	63%	-19%	72%	78%	6%	75%	60%	-15%
Tazewell County	81%	72%	-8%	83%	81%	-2%	79%	76%	-3%	86%	80%	-5%
Virginia Beach City	81%	76%	-6%	84%	75%	-9%	81%	82%	0%	79%	72%	-7%
Warren County	69%	67%	-1%	70%	67%	-3%	73%	66%	-7%	--	46%	--
Washington County	86%	82%	-4%	85%	83%	-2%	79%	81%	3%	85%	80%	-4%
Waynesboro City	63%	56%	-7%	64%	51%	-13%	62%	48%	-14%	75%	50%	-26%

West Point	93%	87%	-5%	96%	91%	-5%	93%	78%	-15%	88%	65%	-23%
Westmoreland County	66%	59%	-7%	68%	58%	-10%	68%	76%	8%	80%	74%	-6%
Williamsburg-James City County	77%	71%	-6%	81%	74%	-7%	81%	78%	-2%	--	60%	--
Winchester City	66%	51%	-15%	71%	49%	-21%	68%	65%	-3%	66%	66%	0%
Wise County	85%	82%	-2%	87%	83%	-5%	85%	82%	-3%	95%	85%	-10%
Wythe County	82%	77%	-5%	82%	75%	-7%	80%	84%	4%	82%	79%	-2%
York County	87%	86%	0%	87%	86%	-1%	83%	84%	1%	82%	82%	0%
Statewide	**73%**	**68%**	**-5%**	**76%**	**67%**	**-9%**	**76%**	**72%**	**-4%**	**73%**	**57%**	**-16%**

SOURCE: JLARC analysis of VDOE data, 2014–15 through 2021–22.

NOTE: PPA = pre-pandemic average. SY22 = 2021–22 school year. Change = difference from pre-pandemic average to SY22. Pre-pandemic average represents a five-year average SOL pass rate from 2014–15 through 2018–19. In some cases, data for Alexandria, Essex, Galax, Highland, Lexington, Middlesex, Radford, Russell, Warren, and Williamsburg-James City were excluded due to issues in how data was reported.

Phonological Awareness Literacy Screening (PALS) performance

The PALS is a statewide assessment that measures students' early literacy in kindergarten, first, and second grade. Students who fall below the PALS benchmark are considered at-risk for third grade reading failure in the absence of effective interventions. PALS was not administered in the spring of 2020 because of the pandemic.

TABLE G-5
Change in PALS performance among first grade students by student subgroup

	% of first grade students meeting PALS benchmark					
Student subgroup	**Spring 2019**	**Fall 2019**	**Fall 2021**	**Spring 2022**	**change fall 2019 to fall 2021**	**change spring 2019 to spring 2022**
Asian	90%	92%	83%	86%	-9%	-4%
Black	70%	77%	51%	58%	-26%	-12%
Hispanic	68%	69%	47%	54%	-22%	-14%
White	83%	87%	73%	78%	-14%	-5%
EDS	69%	74%	49%	57%	-25%	-12%
Non-EDS	86%	88%	75%	80%	-13%	-6%
ELL	64%	66%	43%	51%	-23%	-13%
Non-ELL	80%	84%	67%	72%	-17%	-8%
SWD	54%	62%	46%	46%	-16%	-8%
All students	**78%**	**82%**	**63%**	**69%**	**-19%**	**-9%**

SOURCE: JLARC analysis of PALS data, 2019 through 2022.

NOTE: PALS was not administered in spring 2020 due to the pandemic. EDS = economically disadvantaged students. ELL = English language learners. SWD = students with disabilities. In SY22, Asian, Black, Hispanic, and white students comprised 93 percent of total K–12 enrollment in SY22. VDOE defines economically disadvantaged students as students who are eligible for free or reduced price lunch, receive Temporary Assistance for Needy Families, are eligible for Medicaid, and/or are identified as either migrant or experiencing homelessness. VDOE defines English language learners as students whose native language is a language other than English, and whose difficulties speaking, reading, writing, or understanding English may hinder their education. VDOE defines students with disabilities as students who receive special education and related services under the Individuals with Disabilities Education Act.

TABLE G-6
Change in PALS performance among second grade students by student subgroup

	% of second grade students meeting PALS benchmark					
Student subgroup	**Spring 2019**	**Fall 2019**	**Fall 2021**	**Spring 2022**	**change fall 2019 to fall 2021**	**change spring 2019 to spring 2022**
Asian	88%	83%	82%	83%	-1%	-5%
Black	69%	64%	44%	54%	-20%	-15%
Hispanic	66%	58%	43%	53%	-15%	-13%
White	80%	77%	66%	74%	-11%	-6%
EDS	67%	62%	43%	54%	-19%	-13%
Non-EDS	83%	79%	70%	77%	-9%	-6%
ELL	63%	53%	42%	50%	-11%	-13%
Non-ELL	78%	73%	60%	68%	-13%	-10%
SWD	46%	45%	35%	41%	-10%	-5%
All students	**76%**	**71%**	**58%**	**65%**	**-13%**	**-11%**

SOURCE: JLARC analysis of PALS data, 2019 through 2022.
NOTE: PALS was not administered in spring 2020 due to the pandemic. EDS = economically disadvantaged students. ELL = English language learners. SWD = students with disabilities. In SY22, Asian, Black, Hispanic, and white students comprised 93 percent of total K–12 enrollment in SY22. VDOE defines economically disadvantaged students as students who are eligible for free or reduced price lunch, receive Temporary Assistance for Needy Families, are eligible for Medicaid, and/or are identified as either migrant or experiencing homelessness. VDOE defines English language learners as students whose native language is a language other than English, and whose difficulties speaking, reading, writing, or understanding English may hinder their education. VDOE defines students with disabilities as students who receive special education and related services under the Individuals with Disabilities Education Act.

Virginia Kindergarten Readiness Program (VKRP) performance

The VKRP is a statewide assessment that measures students' literacy, math, self-regulation, and social skills at the beginning and end of kindergarten. Students are measured relative to benchmarks on three assessments: the Early Mathematics Assessment System, the Child Behavior Rating Scale, and the Phonological Awareness Literacy Screening (PALS). If a student does not meet one of the three benchmarks, they are considered to not meet the overall benchmark. VKRP was first administered statewide in the fall of 2019. It was not administered in the spring of 2020 because of the pandemic.

TABLE G-7
Change in VKRP performance by assessment

	% of students meeting VKRP benchmark						
Student subgroup	**Fall 2019**	**Fall 2020**	**Spring 2021**	**Fall 2021**	**Spring 2022**	**change fall 2019 to fall 2021**	**change fall 2019 to spring 2022**
Literacy	82%	74%	68%	75%	78%	-7%	-4%
Math	79%	79%	66%	77%	75%	-2%	-4%
Self-regulation	80%	83%	76%	83%	81%	3%	1%
Social skills	78%	77%	82%	84%	79%	6%	1%
Overall	**56%**	**55%**	**48%**	**58%**	**56%**	**2%**	**0%**

SOURCE: JLARC analysis of VKRP data, 2019 through 2022.
NOTE: VKRP was not administered in spring 2020 because of the pandemic. Failing to meet one or more assessment benchmarks results in student not meeting overall benchmark. The VKRP Literacy component is the Kindergarten level Phonological Awareness Literacy Screening (PALS).

High school graduation rates

High school graduation rates represent the proportion of students who graduated high school with a Board of Education approved-diploma in four years or less.

TABLE G-8
Change in four-year high school graduation rate by student subgroups

	% of high school students who graduated in four years or less				
Student subgroup	**Pre-pandemic average**	**SY20**	**SY21**	**SY22**	**% point change pre-pandemic to SY22**
Asian	96.8%	98.1%	98.5%	98.3%	1.4%
Black	88.5%	91.4%	90.9%	90.3%	1.8%
Hispanic	81.8%	82.0%	85.2%	83.1%	1.3%
White	94.0%	95.4%	95.3%	95.0%	0.9%
EDS	86.8%	89.2%	89.3%	87.7%	0.9%
Non-EDS	93.5%	94.4%	95.2%	94.8%	1.4%
ELL	70.5%	73.0%	77.2%	72.7%	2.2%
Non-ELL	92.6%	94.3%	94.3%	93.7%	1.1%
SWD	88.1%	90.4%	90.7%	89.9%	1.8%
Non-SWD	91.7%	92.8%	93.3%	92.4%	0.7%
All students	**91.3%**	**92.5%**	**93.0%**	**92.1%**	**0.9%**

SOURCE: JLARC analysis of VDOE data, 2014–15 through 2021–22.
NOTE: SY20 = 2019–20 school year. SY21 = 2020–21 school year. SY22 = 2021–22 school year. Pre-pandemic average represents a five-year average four-year high school graduation rate from 2014–15 through 2018–19. % point change = difference from pre-pandemic average to SY22. EDS = economically disadvantaged students. ELL = English language learners. SWD = students with disabilities. In SY22, Asian, Black, Hispanic, and white students comprised 93 percent of total K–12 enrollment in SY22. VDOE defines economically disadvantaged students as students who are eligible for free or reduced price lunch, receive Temporary Assistance for Needy Families, are eligible for Medicaid, and/or are identified as either migrant or experiencing homelessness. VDOE defines English language learners as students whose native language is a language other than English, and whose difficulties speaking, reading, writing, or understanding English may hinder their education. VDOE defines students with disabilities as students who receive special education and related services under the Individuals with Disabilities Education Act.

High school dropout rates

High school dropout rates represent the percentage of students in the graduation cohort who left high school permanently at any time during the four-year cohort period or whose whereabouts are unknown. Dropout calculations exclude students who have transferred, have a school recognized temporary absence, or have died.

TABLE G-9
Change in high school dropout rate by student subgroup

	% of student who dropped out of high school				
Student subgroup	**Pre-pandemic average**	**SY20**	**SY21**	**SY22**	**% point change pre-pandemic to SY22**
Asian	2.0%	1.2%	0.9%	1.1%	-0.8%
Black	6.4%	5.0%	4.8%	5.5%	-0.9%
Hispanic	14.7%	15.8%	12.2%	14.0%	-0.8%
White	3.3%	3.0%	2.8%	2.7%	-0.6%
EDS	7.9%	6.8%	6.0%	7.7%	-0.1%
Non-EDS	4.3%	4.1%	3.3%	3.7%	-0.6%
ELL	25.7%	25.5%	21.2%	24.8%	-0.9%
Non-ELL	4.1%	3.2%	2.9%	3.6%	-0.6%
SWD	9.5%	7.5%	7.3%	7.9%	-1.6%
Non-SWD	4.9%	4.8%	3.9%	4.8%	-0.1%
All students	**5.5%**	**5.1%**	**4.3%**	**5.2%**	**-0.3%**

SOURCE: JLARC analysis of VDOE data, 2014–15 through 2021–22.
NOTE: SY20 = 2019–20 school year. SY21 = 2020–21 school year. SY22 = 2021–22 school year. Pre-pandemic average represents a five-year average cohort dropout rate from 2014–15 through 2018–19. % point change = difference from pre-pandemic average to SY22. EDS = economically disadvantaged students. ELL = English language learners. SWD = students with disabilities. In SY22, Asian, Black, Hispanic, and white students comprised 93 percent of total K–12 enrollment in SY22. VDOE defines economically disadvantaged students as students who are eligible for free or reduced price lunch, receive Temporary Assistance for Needy Families, are eligible for Medicaid, and/or are identified as either migrant or experiencing homelessness. VDOE defines English language learners as students whose native language is a language other than English, and whose difficulties speaking, reading, writing, or understanding English may hinder their education. VDOE defines students with disabilities as students who receive special education and related services under the Individuals with Disabilities Education Act. Dropout calculations exclude students who have transferred, have a school recognized temporary absence, have graduated or have died.

Grade retention rates

Grade retention rates represent the proportion of students retained in their grade for an additional school year because of their academic performance.

TABLE G-10
Change in grade retention rates by grade level

	% of students retained in their grade			
Grade level	**Pre-pandemic average**	**SY20**	**SY21**	**% point change pre-pandemic to SY22**
K–5	1.0%	0.7%	1.0%	0.0%
6–8	0.4%	0.2%	0.4%	0.1%
9–12	3.6%	2.5%	4.8%	1.2%
All students	**1.7%**	**1.1%**	**2.1%**	**0.4%**

SOURCE: JLARC analysis of VDOE data, 2014–15 through 2020–21.
NOTE: SY20 = 2019–20 school year. SY21 = 2020–21 school year. Pre-pandemic average represents a five-year average grade retention rate from 2014–15 through 2018–19. % point change = difference from pre-pandemic average to SY22.

TABLE G-11
Change in grade retention rates by student subgroup

	% of students retained in their grade			
Student subgroup	**Pre-pandemic average**	**SY20**	**SY21**	**% point change pre-pandemic to SY22**
Asian	0.7%	0.5%	0.6%	0.0%
Black	2.8%	1.6%	3.3%	0.5%
Hispanic	2.3%	1.5%	2.4%	0.2%
White	1.1%	0.9%	1.6%	0.5%
EDS	2.5%	1.5%	3.0%	0.6%
ELL	2.5%	1.5%	2.1%	-0.4%
SWD	4.6%	3.5%	4.7%	0.1%
All students	**1.7%**	**1.1%**	**2.1%**	**0.4%**

SOURCE: JLARC analysis of VDOE data, 2014–15 through 2020–21.

NOTE: SY20 = 2019–20 school year. SY21 = 2020–21 school year. Pre-pandemic average represents a five-year average grade retention rate from 2014–15 through 2018–19. % point change = difference from pre-pandemic average to SY22. EDS = economically disadvantaged students. ELL = English language learners. SWD = students with disabilities. In SY22, Asian, Black, Hispanic, and white students comprised 93 percent of total K–12 enrollment in SY22. VDOE defines economically disadvantaged students as students who are eligible for free or reduced price lunch, receive Temporary Assistance for Needy Families, are eligible for Medicaid, and/or are identified as either migrant or experiencing homelessness. VDOE defines English language learners as students whose native language is a language other than English, and whose difficulties speaking, reading, writing, or understanding English may hinder their education. VDOE defines students with disabilities as students who receive special education and related services under the Individuals with Disabilities Education Act.

Appendix H: Virginia performance on National Assessment of Educational Progress test data

This appendix provides data from the National Assessment of Educational Progress (NAEP) tests, which can provide an understanding of how the pandemic's impact on Virginia students compares to students nationally (Chapter 4).

The NAEP tests are national assessments of student achievement administered biennially by the National Center for Education Statistics (NCES) and are considered the most useful standardized test metric when making comparisons by state and nationwide. The assessments measure fourth- and eighth-grade reading and math performance across a representative sample of students in each state. As a result of representative sampling, NAEP test scores can be used to compare state performance to other states and to national averages.

During the pandemic, Virginia fourth-grade students' performance on the NAEP tests declined to a greater extent than students nationwide, while eighth-grade students' performance declined at a rate that was relatively similar to students nationwide. Virginia fourth-grade students' statewide average reading and math scores were 6 percent and 5 percent lower, respectively, in 2022 than before the pandemic on average (Table H-1). Nationally, NAEP scores decreased 2 percent in 2022 compared with before the pandemic for both fourth-grade reading and math. Pandemic-related declines in Virginia students' eighth-grade statewide average reading and math NAEP scores were more consistent with national declines. Scores among Virginia students and students nationwide each declined 2 percent in eighth-grade reading and 3 percent in eighth-grade math in 2022 when compared with years before the pandemic.

TABLE H-1
NAEP scores decreased following pandemic in Virginia and nationally but more significantly in Virginia in fourth-grade reading and math

	4th Grade Reading			4th Grade Math			8th Grade Reading			8th Grade Math		
	PPA	2022	% change	PPA	2022	% change	PPA	2022	% change	PPA	2022	% change
Virginia	227	214	-6%	247	236	-5%	266	260	-2%	288	279	-3%
National	220	216	-2%	240	235	-2%	264	259	-2%	281	273	-3%

SOURCE: JLARC analysis of National Center of Education Statistics data, 2015–2022.
NOTE: PPA = pre-pandemic average. % change = percentage change from pre-pandemic average to 2022. Pre-pandemic average represents average score from 2015–2019.

The proportion of Virginia students who scored at the basic or proficient levels on the NAEP tests also declined in Virginia and nationwide during the pandemic, but more so among Virginia fourth-grade students. The proportion of Virginia students who scored at or above a proficient level on the fourth-grade reading and math tests decreased 9 and 10 percentage points, respectively, in 2022 compared with years before the pandemic (Table H-2). In contrast, the proportion of students nationally that scored at or above a proficient level decreased 3 and 5 percentage points, respectively, on those tests. Conversely, the difference in the proportion of Virginia students and those nationally that scored at or above a proficient level on the eighth-grade tests was the same in reading in 2022 compared with years before the pandemic, and differed by only 1 percentage point in math.

TABLE H-2
NAEP performance decreased during pandemic in Virginia and nationally but more significantly in Virginia in fourth-grade reading and math

Achievement level	Region	4th Grade Reading			4th Grade Math			8th Grade Reading			8th Grade Math		
		PPA	2022	Change	PPA	2022	Change	PPA	2022	Change	PPA	2022	Change
Basic	Virginia	72%	60%	-12%	87%	75%	-12%	75%	69%	-6%	77%	65%	-12%
	National	67%	61%	-6%	80%	74%	-6%	74%	68%	-6%	71%	60%	-11%
Proficient	Virginia	41%	32%	-9%	48%	38%	-10%	35%	31%	-4%	39%	31%	-8%
	National	35%	32%	-3%	40%	35%	-5%	33%	29%	-4%	33%	26%	-7%

SOURCE: JLARC analysis of National Center of Education Statistics data, 2015–2022.
NOTE: Represents the proportion of students that achieved at or above the respective achievement level. PPA = pre-pandemic average. Change = percentage point change from pre-pandemic average to 2022. Pre-pandemic average represents average proportion of students meeting achievement level from 2015–2019. NAEP tests also have an "advanced" achievement level which is not included in the table.

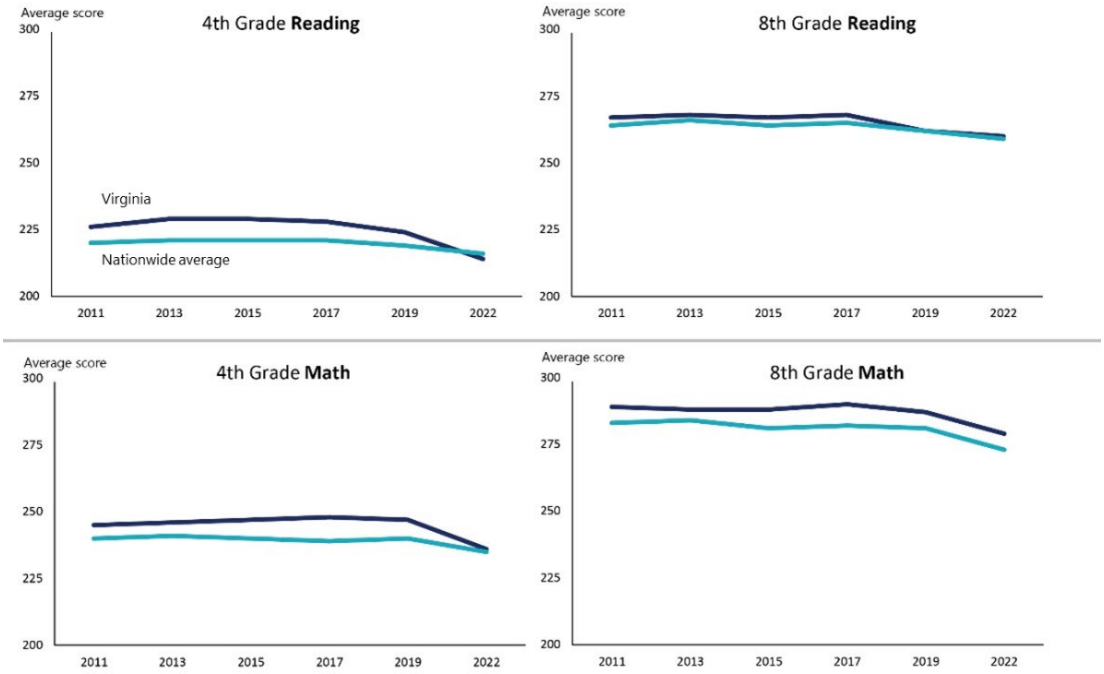
Historically, Virginia students consistently scored above students nationwide on the NAEP assessments, but greater declines among Virginia students during the pandemic have brought Virginia's statewide average scores closer to nationwide averages in 2022 (Figure H-1). Before the pandemic, Virginia's fourth-grade reading and math scores were each 3 percent higher than national scores. In 2022, Virginia students' scores declined to 1 percent below the national average in fourth-grade reading and equal to the national average in fourth-grade math. Virginia students' eighth-grade reading scores were 1 percent higher than national averages before the pandemic, but declined slightly in 2022 to be in-line with the nationwide average. In contrast, Virginia's eighth-grade math scores were 2 percent above national averages prior to the pandemic and remained that way in 2022.

The larger decline in Virginia's fourth-grade NAEP test scores compared with national averages adversely affected Virginia's 50-state ranking on the fourth-grade reading and math tests. Before the pandemic, Virginia ranked seventh and fourth out of 50 states for fourth-grade reading and fourth-grade math tests on average but declined to 34th and 20th for those two tests in 2022 (Figure H-2). Because average NAEP test scores across states tend to be relatively close to each other, the relatively larger decline in Virginia's fourth-grade scores compared with the national average (e.g., 6 percent in reading and 5 percent in math compared with the national average of 2 percent) had a large impact on its 50-state ranking.

Given the smaller pandemic-related declines that were more in-line with national averages, Virginia's 50-state ranking did not change as much on the eighth-grade reading and math tests. Before the pandemic, Virginia ranked 26th and seventh out of 50 states for eighth-grade reading and math tests, on average. In 2022, Virginia ranked 22nd and 10th, respectively.

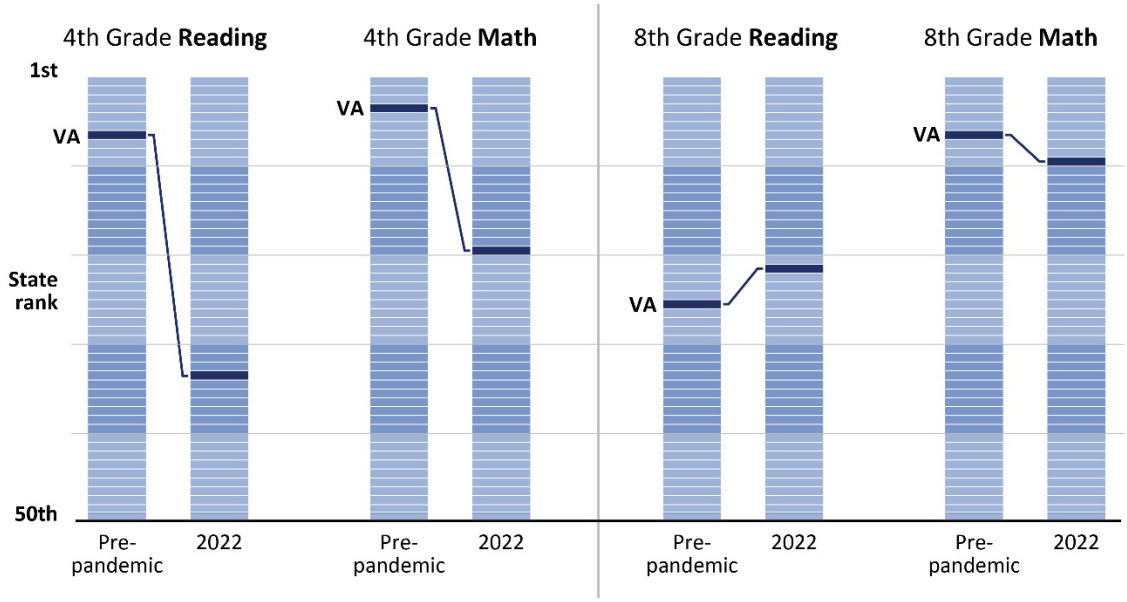
Despite Virginia's relatively larger pandemic-related declines, NCES generally characterizes Virginia students' performance in 2022 as not being significantly different from the national averages. NCES indicates that Virginia students' average scores are not significantly different from students nationwide in fourth- and eighth-grade reading and fourth-grade math. In eighth-grade math, NCES indicates that Virginia students performed significantly better than the national average.

FIGURE H-1
Larger pandemic-related declines in NAEP scores among Virginia students resulted in Virginia's performance becoming more in-line with national averages



SOURCE: JLARC analysis of National Center of Education Statistics data, 2011–2022.
NOTE: The NAEP is administered every two years to a representative sample of students across all states. Because of the pandemic, 2021 testing was conducted in 2022. Pre-pandemic performance referenced in report text represents three years of NAEP test results from 2015, 2017, and 2019. Five years of test results appear in figure to illustrate longer term trends.

FIGURE H-2
Pandemic-related declines in Virginia's NAEP affected ranking relative to other states



SOURCE: JLARC analysis of National Center of Education Statistics data, 2015–2022.
NOTE: Pre-pandemic average represents average from 2015–2019.

Appendix I: School staffing and workforce

The pandemic's impact on school mental health staff and classroom teachers were addressed in Chapters 3 and 5, respectively. This appendix provides information on the pandemic's impacts on other types of school staff, as well as additional data on mental health staff that was not included in Chapter 3.

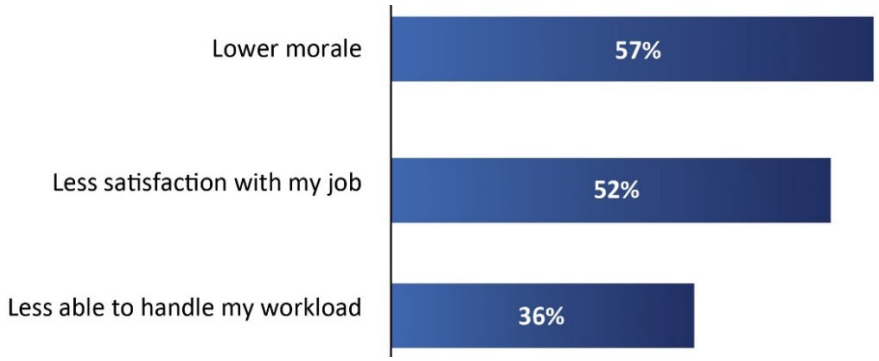
Most types of school staff experienced changes to their responsibilities and increased workload during the pandemic. For example:

- **Bus drivers** were responsible for more routes because of reduced bus capacity from social distancing and driver shortages, and additional cleaning responsibilities.
- **Principals and administrators** gained new responsibilities, such as changing school scheduling and format (in-person vs. virtual); covering classes for teachers who were absent because of illness and quarantine; handling logistical considerations such as redesigning classroom and cafeteria space or changing bus routes and drop-off procedures; managing workforce challenges such as staffing shortages and resignations; and addressing public concerns and criticism regarding health and safety policies.
- **Mental health support staff** faced students with social issues stemming from isolation, students facing trauma and loss, students dealing with stress from changes in their routines, and lack of supports at home.
- **School nurses** had new responsibilities such as COVID-19 screening procedures, contact tracing, and COVID testing of staff and students.

Pandemic negatively affected staff morale, job satisfaction, and workload

The COVID-19 pandemic has had a negative impact on the working conditions for school staff. As of spring 2022, staff who had been in their position for more than two years indicated that their morale, job satisfaction, and ability to handle their workload effectively had decreased since before the pandemic (Figure I-1).

FIGURE I-1
Slightly more than half of school staff say morale and job satisfaction have decreased during pandemic



SOURCE: JLARC survey of local school staff, May 2022.
NOTE: Percentages indicate percentage of school staff (excluding teachers) who said "somewhat decreased" or "greatly decreased."

The effects of the pandemic, as well as other factors, are the primary reasons for staffs' lower job satisfaction. According to JLARC's survey, staff cited the following issues as the most serious problems they face:

- a more challenging student population, including student anxiety and mental health (63 percent said this is a very serious issue) and student behavior issues (60 percent);
- lack of respect from parents and the public (53 percent); and
- higher workload because of temporary staff absences due to COVID (39 percent).

In addition, 54 percent of principals reported that their ability to fill vacant positions was a very serious issue that they faced.

An increasing number of school staff are considering leaving their jobs. Ten percent of school staff responding to the JLARC survey indicated they are "definitely leaving" or "likely to leave" their job in K–12 public education in Virginia by the end of the next school year (June 2023). This is an increase from before the pandemic; just 5 percent of school staff were considering leaving in 2019 and 6 percent in 2021, according to the VDOE survey of School Climate and Working Conditions.

Some school staff positions had high vacancy rates, and vacancies for some positions increased during pandemic

Several types of school staff had high vacancy rates as of October 2021 (Table I-1). Bus drivers had the highest vacancy rate: 16 percent of full-time bus driver positions were vacant (1,624 vacant positions) and 13.5 percent of part-time positions were vacant (421 vacant positions). Mental health and wellness staff also had high vacancy rates, with psychologists having the second highest vacancy rate (11 percent) after bus drivers.

TABLE I-1
Bus drivers and some mental health staff had highest vacancy rates statewide (fall 2021)

	Vacancy rate	Number of vacancies
Bus driver (full time)	16%	1,624
School psychologist	11	117
School social worker	8	74
Special ed. paraprofessional (ages 6-21)	7	715
Instructional aides & paraprofessional	6	596
Math specialist	4	15
School counselor	4	167

SOURCE: VDOE Positions and Exits Collection, October 2021.

Vacancies for some positions have also increased during the pandemic (Table I-2).

TABLE I-2
Statewide vacancies for some positions have increased since before the pandemic

	Pre-pandemic avg. vacancies	2020–21 vacancies	% change in vacancies
School social worker	5	74	1,509%
School counselor	18	167	828%
School psychologist	27	117	327%
Gifted education	8	28	241%
Library media	29	73	155%
English as a second language PK–12	39	92	136%
Reading specialist	26	45	74%
Mathematics specialist (elem./middle)	10	14	37%

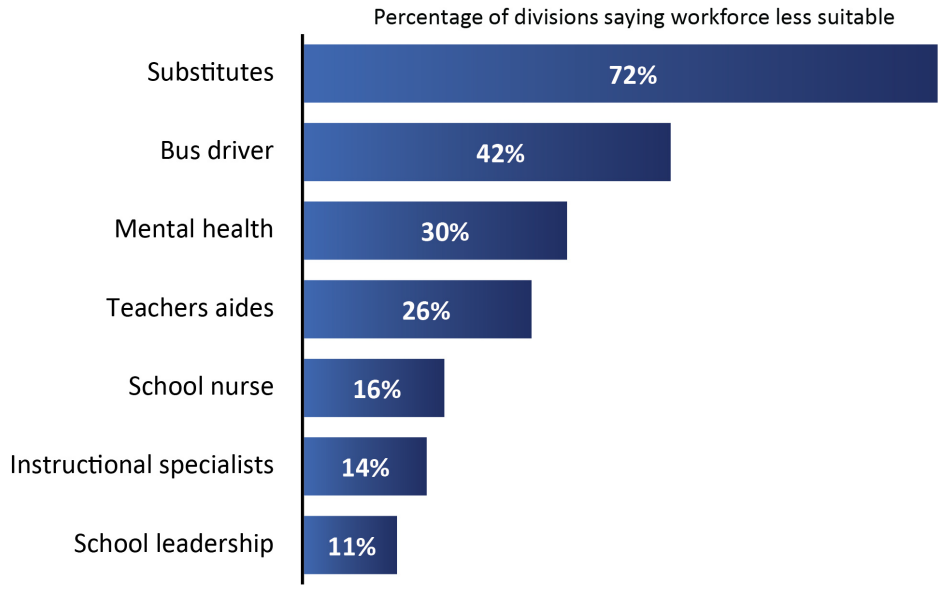
SOURCE: VDOE Supply and Demand data (2015–16 to 2020–21) and Positions and Exits Collections data as of October 2021.
NOTE: Pre-pandemic data was not available for all types of staff, including bus drivers. "Pre-pandemic average vacancies" represents a statewide 5-year average vacancy rate across the 2015-16 through 2019-20 school years.

Divisions concerned about suitability of some staff positions—especially substitute teachers and bus drivers—and are not optimistic about maintaining an adequate workforce for 2022–23 school year

School divisions indicate that several types of staff positions have been negatively impacted since the start of the pandemic (Figure I-2). JLARC's survey of school divisions defined a suitable workforce as one with a "sufficient number of qualified staff to effectively deliver day-to-day instruction." More than 70 percent of school divisions responding to the JLARC survey indicated their substitute teacher workforce is less suited to conduct day-to-day operations than it was before the pandemic. Forty-two percent of divisions said their bus driver workforce is less suited.

Divisions are not optimistic about meeting their substitute teacher and bus driver staffing needs during the 2022–23 school year. Divisions were most pessimistic about their ability to employ suitable numbers of substitute teachers, bus drivers, and mental health and well-being staff (counselors, school psychologists, social workers) over the course of the next year (74, 60, and 53 percent of divisions were "very" or "somewhat" pessimistic, respectively). Divisions were less pessimistic about other positions, including instructional assistants and teachers' aides (35 percent of divisions were pessimistic), school nurses (29 percent), instructional specialists (24 percent), and school leadership (15 percent).

FIGURE I-2
Divisions report some positions are less suitable to effectively conduct day-to-day school operations now compared to before the pandemic



SOURCE: JLARC survey of local school divisions, July 2022.
NOTE: Percentages indicate percentage of divisions who said each position is "much less suitable now" or "somewhat less suitable now" compared to before the pandemic.

Appendix J: Teacher workforce data

This appendix provides division-level data on the teacher workforce statistics referenced in Chapter 5 of this report. Data includes (1) teacher vacancies, (2) number of teachers leaving each division (i.e., turnover), and (3) teacher quality data, including provisionally licensed teachers and out-of-field teachers. Pre-pandemic averages are compared to school years following the onset of the pandemic to determine impacts to the teacher workforce.

Teacher vacancies

The Virginia Department of Education (VDOE) collects data on the number of vacant teacher positions in each division in October of each year. Prior to 2021, this data was collected through Supply and Demand reports. In 2021, VDOE started collecting vacancy data through the Positions and Exits Collection (PEC) system. For both data collection methods, data is as of a specific point in time.

TABLE J-1
Number of teacher vacancies by school division
*PPA: Pre-pandemic average

Division	PPA* # vacant	SY22 # vacant	SY22 % vacant	% change
Accomack County	5.8	12.0	3%	107%
Albemarle County	1.2	17.3	2%	1,344%
Alexandria City	10.6	29.1	3%	175%
Alleghany County	0.2	4.0	2%	1,900%
Amelia County	0.8	2.0	2%	150%
Amherst County	0.6	4.0	1%	567%
Appomattox County	3.8	0.0	0%	-100%
Arlington County	9.8	18.0	1%	84%
Augusta County	0.8	2.0	0%	150%
Bath County	1.6	0.0	0%	-100%
Bedford County	2.2	7.0	1%	219%
Bland County	3.8	0.0	0%	-100%
Botetourt County	0.6	1.0	0%	67%
Bristol City	0.0	0.0	0%	
Brunswick County	7.2	2.0	3%	-72%
Buchanan County	3.0	3.0	2%	0%

Buckingham County	0.0	5.0	5%	
Buena Vista City	0.2	3.0	5%	1,400%
Campbell County	0.2	21.0	4%	10,400%
Caroline County	8.6	4.0	2%	-53%
Carroll County	1.0	1.0	0%	0%
Charles City County	1.0	18.0	15%	1,700%
Charlotte County	0.6	2.0	1%	233%
Charlottesville City	2.8	9.5	3%	239%
Chesapeake City	20.2	81.1	3%	301%
Chesterfield County	16.4	229.5	5%	1,299%
Clarke County	1.4	0.0	0%	-100%
Colonial Beach	1.2	4.0	9%	233%
Colonial Heights City	1.6	3.0	1%	88%
Covington City	0.2	3.0	4%	1,400%
Craig County	0.2	0.0	0%	-100%
Culpeper County	4.2	25.0	4%	495%
Cumberland County	1.2	0.0	0%	-100%
Danville City	26.6	39.5	9%	48%
Dickenson County	3.2	4.0	2%	25%
Dinwiddie County	6.4	2.0	1%	-69%
Essex County	3.2	4.0	4%	25%
Fairfax County	97.0	193.4	1%	99%
Falls Church City	0.4	7.0	3%	1,650%
Fauquier County	6.2	34.5	4%	456%
Floyd County	0.2	1.0	1%	400%
Fluvanna County	0.2	1.0	0%	400%
Franklin City	5.6	28.0	32%	400%
Franklin County	1.6	6.5	1%	306%
Frederick County	15.4	28.0	3%	82%
Fredericksburg City	1.0	11.0	4%	1,000%
Galax City	0.6	0.0	0%	-100%
Giles County	0.6	2.0	1%	233%
Gloucester County	3.2	4.0	1%	25%
Goochland County	0.4	0.0	0%	-100%
Grayson County	0.6	3.0	2%	400%
Greene County	2.0	2.0	1%	0%

Greensville County	18.4	7.0	4%	-62%
Halifax County	3.2	1.0	0%	-69%
Hampton City	9.8	20.7	1%	111%
Hanover County	2.2	15.5	1%	605%
Harrisonburg City	2.0	7.0	1%	250%
Henrico County	17.2	117.5	3%	583%
Henry County	3.6	7.0	1%	94%
Highland County	0.8	0.0	0%	-100%
Hopewell City	2.8	11.0	3%	293%
Isle of Wight County	3.4	3.8	1%	13%
King and Queen County	0.6	1.0	2%	67%
King George County	2.8	24.0	8%	757%
King William County	2.4	0.0	0%	-100%
Lancaster County	2.8	0.0	0%	-100%
Lee County	1.8	2.0	1%	11%
Lexington City	0.4	0.0	0%	-100%
Loudoun County	24.2	101.5	2%	319%
Louisa County	0.6	2.0	1%	233%
Lunenburg County	2.2	4.0	3%	82%
Lynchburg City	0.6	29.3	5%	4,783%
Madison County	0.6	6.0	5%	900%
Manassas City	10.0	19.0	4%	90%
Manassas Park City	1.6	17.0	7%	961%
Martinsville City	5.8	7.0	5%	21%
Mathews County	2.0	0.0	0%	-100%
Mecklenburg County	8.2	24.6	8%	200%
Middlesex County	8.0	7.0	7%	-12%
Montgomery County	0.2	2.0	0%	900%
Nelson County	0.0	1.7	1%	-
New Kent County	1.4	0.0	0%	-100%
Newport News City	16.6	101.4	6%	511%
Norfolk City	52.2	365.0	17%	599%
Northampton County	2.8	8.0	6%	186%
Northumberland County	0.4	0.0	0%	-100%
Norton City	0.2	0.0	0%	-100%
Nottoway County	1.4	11.0	7%	686%

Orange County	2.0	10.0	3%	400%
Page County	0.8	5.0	2%	525%
Patrick County	0.8	1.0	1%	25%
Petersburg City	24.2	14.0	5%	-42%
Pittsylvania County	5.8	14.7	2%	153%
Poquoson City	0.4	6.0	4%	1,400%
Portsmouth City	40.2	102.5	11%	155%
Powhatan County	0.4	1.0	0%	150%
Prince Edward County	5.8	20.0	13%	245%
Prince George County	4.8	26.5	6%	452%
Prince William County	37.2	269.8	5%	625%
Pulaski County	3.2	4.0	1%	25%
Radford City	0.2	0.0	0%	-100%
Rappahannock County	2.0	1.0	1%	-50%
Richmond City	33.0	48.6	2%	47%
Richmond County	0.2	2.0	2%	900%
Roanoke City	4.4	33.5	3%	661%
Roanoke County	0.2	2.0	0%	900%
Rockbridge County	0.4	0.0	0%	-100%
Rockingham County	2.4	7.7	1%	219%
Russell County	6.4	10.2	3%	59%
Salem City	0.0	0.0	0%	-
Scott County	0.6	1.0	0%	67%
Shenandoah County	3.8	16.5	4%	334%
Smyth County	2.2	1.5	0%	-32%
Southampton County	4.4	9.0	6%	105%
Spotsylvania County	13.8	53.0	4%	284%
Stafford County	25.4	86.0	5%	239%
Staunton City	0.4	4.0	2%	900%
Suffolk City	23.4	53.7	5%	129%
Surry County	2.6	1.0	1%	-62%
Sussex County	0.0	2.0	2%	-
Tazewell County	7.0	10.2	2%	46%
Virginia Beach City	11.8	107.8	2%	814%
Warren County	0.8	8.0	2%	900%
Washington County	5.0	5.0	1%	0%

Waynesboro City	5.6	25.0	11%	346%
West Point	0.2	0.0	0%	-100%
Westmoreland County	5.4	6.0	5%	11%
Williamsburg-James City County	3.4	1.0	0%	-71%
Winchester City	1.4	9.0	3%	543%
Wise County	1.4	2.0	0%	43%
Wythe County	1.6	2.0	1%	25%
York County	5.8	26.4	3%	355%

SOURCE: JLARC analysis of Virginia Department of Education vacancy data, 2015–16 through 2021–22
NOTE: SY22 vacancies are as of October 2021. Pre-pandemic average represents a five-year average from 2015–16 through 2019–20.

Teacher turnover

JLARC staff used teacher licensure data from VDOE's Master Schedule Collection database to calculate the number of teachers who departed employment from each school division from one school year to the next (Appendix B). The number of teachers departing each division includes teachers who left employment in Virginia's public school system altogether, teachers who became administrators in their current school division or another school division, and teachers who accepted a teaching position in another division; it does *not* include teachers who took another teaching job in their current division.

TABLE J-2
Teacher turnover by school division

*PPA: Pre-pandemic average

Division	# departing from SY21 and SY22	% departing from SY21 and SY22	PPA* departing per year	% point change
Accomack County	62	21%	14%	7%
Albemarle County	167	16%	14%	2%
Alexandria City	254	23%	21%	2%
Alleghany County	32	22%	15%	7%
Amelia County	21	19%	19%	0%
Amherst County	51	19%	14%	5%
Appomattox County	20	13%	15%	-2%
Arlington County	322	16%	15%	1%
Augusta County	93	13%	12%	1%
Bath County	6	13%	18%	-5%

Bedford County	92	15%	13%	1%
Bland County	3	6%	16%	-10%
Botetourt County	34	11%	10%	1%
Bristol City	22	14%	13%	1%
Brunswick County	31	28%	26%	2%
Buchanan County	13	7%	12%	-5%
Buckingham County	28	21%	11%	10%
Buena Vista City	11	19%	21%	-2%
Campbell County	79	15%	15%	0%
Caroline County	34	16%	25%	-8%
Carroll County	33	13%	10%	3%
Charles City County	12	24%	26%	-2%
Charlotte	120	n.a.	n.a.	n.a.
Charlottesville City	78	24%	20%	4%
Chesapeake City	319	12%	9%	2%
Chesterfield County	594	14%	12%	2%
Clarke County	31	25%	15%	10%
Colonial Beach	11	29%	26%	3%
Colonial Heights City	36	18%	11%	6%
Covington City	9	14%	11%	3%
Craig County	13	28%	23%	5%
Culpeper County	101	18%	17%	2%
Cumberland County	7	7%	19%	-12%
Danville City	121	29%	21%	8%
Dickenson County	20	12%	13%	-1%
Dinwiddie County	41	15%	14%	1%
Essex County	32	29%	25%	4%
Fairfax County	1737	13%	13%	0%
Falls Church City	31	20%	17%	2%
Fauquier County	166	20%	14%	6%
Floyd County	22	20%	16%	4%
Fluvanna County	35	15%	12%	3%
Franklin City	24	32%	31%	0%
Franklin County	92	18%	14%	4%
Frederick County	136	14%	14%	0%
Fredericksburg City	53	22%	20%	1%

Galax City	14	14%	12%	2%
Giles County	31	17%	10%	7%
Gloucester County	55	16%	12%	4%
Goochland County	35	17%	14%	3%
Grayson County	20	17%	14%	3%
Greene County	24	15%	19%	-5%
Greensville County	32	18%	20%	-1%
Halifax County	73	20%	12%	8%
Hampton City	190	15%	20%	-5%
Hanover County	172	17%	12%	4%
Harrisonburg City	76	17%	15%	2%
Henrico County	353	12%	15%	-3%
Henry County	78	16%	14%	3%
Highland County	7	29%	11%	18%
Hopewell City	48	17%	22%	-5%
Isle of Wight County	60	17%	14%	4%
King and Queen County	22	37%	20%	16%
King George County	59	21%	16%	4%
King William County	33	22%	14%	8%
Lancaster County	15	21%	26%	-5%
Lee County	23	10%	11%	-2%
Lexington City	3	8%	14%	-6%
Loudoun County	719	12%	11%	2%
Louisa County	50	14%	12%	2%
Lunenburg County	20	17%	15%	3%
Lynchburg City	116	20%	20%	0%
Madison County	18	17%	17%	0%
Manassas City	106	21%	19%	3%
Manassas Park City	57	23%	17%	6%
Martinsville City	20	15%	24%	-9%
Mathews County	13	15%	11%	4%
Mecklenburg County	55	17%	16%	1%
Middlesex County	14	15%	18%	-3%
Montgomery County	111	14%	12%	2%
Nelson County	17	13%	13%	0%
New Kent County	41	19%	13%	6%

Newport News City	353	20%	17%	3%
Norfolk City	340	17%	18%	-2%
Northampton County	34	29%	23%	6%
Northumberland County	9	9%	13%	-4%
Norton City	6	12%	18%	-6%
Nottoway County	24	17%	17%	0%
Orange County	69	23%	15%	8%
Page County	30	14%	14%	-1%
Patrick County	32	19%	16%	3%
Petersburg City	70	25%	30%	-6%
Pittsylvania County	79	13%	10%	3%
Poquoson City	29	20%	18%	2%
Portsmouth City	181	19%	17%	2%
Powhatan County	32	11%	9%	1%
Prince Edward County	32	23%	25%	-2%
Prince George County	81	20%	14%	5%
Prince William County	709	12%	14%	-1%
Pulaski County	43	15%	16%	0%
Radford City	32	22%	15%	7%
Rappahannock County	13	19%	13%	6%
Richmond City	368	23%	23%	0%
Richmond County	8	10%	14%	-4%
Roanoke City	147	16%	16%	0%
Roanoke County	120	12%	11%	1%
Rockbridge County	38	18%	12%	7%
Rockingham County	110	14%	11%	4%
Russell County	56	20%	10%	10%
Salem City	33	12%	10%	3%
Scott County	29	12%	9%	3%
Shenandoah County	68	16%	18%	-2%
Smyth County	47	15%	9%	6%
Southampton County	46	26%	15%	11%
Spotsylvania County	268	19%	14%	4%
Stafford County	393	22%	17%	5%
Staunton City	25	14%	17%	-3%
Suffolk City	161	16%	14%	2%

Surry County	12	16%	19%	-3%
Sussex County	18	19%	17%	2%
Tazewell County	65	18%	13%	5%
Virginia Beach City	656	15%	13%	2%
Warren County	63	18%	17%	0%
Washington County	64	13%	10%	3%
Waynesboro City	26	14%	19%	-5%
West Point	8	14%	12%	1%
Westmoreland County	29	24%	21%	3%
Williamsburg-James City County	134	19%	15%	3%
Winchester City	79	25%	17%	8%
Wise County	47	11%	9%	2%
Wythe County	29	10%	12%	-1%
York County	149	18%	13%	5%

SOURCE: JLARC analysis of Virginia Department of Education data, 2015–16 to 2021–22.
NOTE: Pre-pandemic average includes five years from 2015-16 school year through the 2019-2020 school year. n.a. = not available.

Teacher quality

JLARC staff assessed the change in teacher quality during the pandemic by analyzing two indicators of teacher quality: proportion of teachers that are provisionally licensed and proportion that are teaching out-of-field (e.g., a subject area they are not certified to teach).

TABLE J-3
Teacher quality by school division

*PPA: Pre-pandemic average

	Provisionally licensed teachers			Out-of-field teachers		
Division	**SY22**	**PPA***	**% point change**	**SY22**	**PPA***	**% point change**
Accomack County	17%	14%	3%	15%	5%	10%
Albemarle County	5%	4%	1%	4%	6%	-2%
Alexandria City	8%	8%	0%	8%	2%	5%
Alleghany County	13%	8%	5%	8%	1%	8%
Amelia County	11%	6%	4%	2%	3%	-1%
Amherst County	5%	4%	1%	4%	1%	3%
Appomattox County	8%	11%	-3%	12%	8%	3%

Arlington County	7%	6%	1%	3%	2%	0%
Augusta County	7%	3%	4%	4%	1%	3%
Bath County	10%	9%	1%	2%	1%	0%
Bedford County	9%	5%	4%	4%	2%	2%
Bland County	9%	14%	-5%	5%	5%	0%
Botetourt County	6%	2%	3%	4%	1%	3%
Bristol City	5%	3%	1%	7%	5%	2%
Brunswick County	15%	19%	-4%	4%	9%	-4%
Buchanan County	11%	5%	6%	0%	3%	-3%
Buckingham County	9%	7%	2%	11%	0%	11%
Buena Vista City	5%	10%	-4%	20%	2%	18%
Campbell County	5%	5%	0%	4%	2%	2%
Caroline County	13%	10%	3%	14%	4%	10%
Carroll County	3%	3%	0%	5%	3%	3%
Charles City County	9%	8%	1%	4%	10%	-5%
Charlotte County	NA	7%	NA	NA	3%	-3%
Charlottesville City	6%	6%	0%	4%	2%	2%
Chesapeake City	7%	3%	4%	1%	0%	1%
Chesterfield County	10%	6%	4%	4%	1%	3%
Clarke County	12%	8%	3%	10%	4%	6%
Colonial Beach	18%	28%	-10%	38%	12%	26%
Colonial Heights City	11%	6%	5%	2%	1%	1%
Covington City	3%	6%	-3%	0%	0%	0%
Craig County	20%	12%	7%	0%	0%	0%
Culpeper County	13%	10%	3%	8%	2%	5%
Cumberland County	10%	6%	4%	3%	3%	0%
Danville City	16%	16%	0%	10%	6%	3%
Dickenson County	9%	5%	4%	1%	0%	1%
Dinwiddie County	12%	6%	6%	3%	1%	3%
Essex County	18%	18%	-1%	9%	3%	6%
Fairfax County	7%	8%	-1%	9%	3%	6%
Falls Church City	6%	5%	2%	6%	2%	3%
Fauquier County	15%	10%	5%	13%	4%	8%
Floyd County	6%	10%	-5%	12%	8%	4%
Fluvanna County	7%	3%	4%	2%	0%	1%
Franklin City	41%	24%	16%	35%	4%	32%

Franklin County	12%	9%	3%	3%	4%	-1%
Frederick County	6%	9%	-2%	3%	2%	1%
Fredericksburg City	24%	14%	10%	6%	0%	6%
Galax City	10%	3%	7%	7%	2%	5%
Giles County	7%	5%	2%	2%	1%	2%
Gloucester County	11%	6%	5%	1%	0%	1%
Goochland County	5%	7%	-2%	5%	3%	2%
Grayson County	12%	5%	7%	7%	2%	5%
Greene County	4%	5%	-1%	8%	5%	4%
Greensville County	29%	33%	-3%	8%	9%	-1%
Halifax County	23%	12%	11%	22%	4%	18%
Hampton City	15%	12%	3%	1%	0%	1%
Hanover County	6%	5%	0%	6%	1%	4%
Harrisonburg City	8%	5%	3%	6%	4%	2%
Henrico County	8%	6%	2%	2%	3%	0%
Henry County	7%	5%	1%	3%	2%	1%
Highland County	20%	19%	1%	31%	16%	14%
Hopewell City	17%	13%	4%	15%	4%	11%
Isle of Wight County	11%	8%	3%	11%	2%	10%
King and Queen County	11%	16%	-6%	12%	10%	2%
King George County	21%	14%	7%	15%	7%	8%
King William County	12%	6%	6%	4%	2%	2%
Lancaster County	17%	19%	-2%	4%	4%	0%
Lee County	6%	9%	-3%	8%	4%	4%
Lexington City	0%	3%	-3%	0%	1%	-1%
Loudoun County	7%	7%	0%	3%	2%	2%
Louisa County	11%	10%	0%	1%	1%	0%
Lunenburg County	13%	9%	3%	13%	4%	9%
Lynchburg City	11%	9%	2%	15%	3%	12%
Madison County	9%	11%	-2%	7%	7%	-1%
Manassas City	12%	10%	2%	14%	3%	11%
Manassas Park City	17%	14%	3%	6%	3%	3%
Martinsville City	18%	17%	1%	8%	3%	5%
Mathews County	6%	4%	2%	1%	5%	-4%
Mecklenburg County	14%	16%	-2%	12%	6%	5%
Middlesex County	9%	13%	-4%	13%	8%	4%

Montgomery County	4%	3%	1%	1%	1%	1%
Nelson County	9%	6%	4%	5%	1%	4%
New Kent County	6%	4%	2%	3%	0%	3%
Newport News City	19%	9%	10%	12%	2%	10%
Norfolk City	17%	11%	6%	7%	3%	4%
Northampton County	19%	27%	-8%	4%	3%	0%
Northumberland County	14%	10%	4%	3%	0%	2%
Norton City	8%	6%	3%	16%	2%	14%
Nottoway County	13%	7%	6%	7%	3%	3%
Orange County	13%	13%	-1%	20%	8%	12%
Page County	8%	6%	1%	7%	3%	4%
Patrick County	7%	11%	-5%	4%	4%	0%
Petersburg City	37%	35%	1%	13%	9%	3%
Pittsylvania County	7%	5%	2%	3%	3%	0%
Poquoson City	7%	5%	2%	6%	2%	5%
Portsmouth City	19%	15%	4%	10%	2%	7%
Powhatan County	6%	2%	4%	1%	0%	1%
Prince Edward County	17%	19%	-2%	9%	3%	6%
Prince George County	9%	9%	0%	9%	3%	6%
Prince William County	9%	9%	0%	6%	4%	2%
Pulaski County	7%	5%	2%	3%	2%	1%
Radford City	5%	2%	3%	4%	1%	3%
Rappahannock County	15%	5%	10%	9%	3%	6%
Richmond City	18%	17%	1%	4%	5%	0%
Richmond County	5%	12%	-7%	8%	2%	6%
Roanoke City	12%	4%	7%	9%	0%	9%
Roanoke County	6%	5%	1%	1%	0%	0%
Rockbridge County	7%	5%	2%	4%	1%	4%
Rockingham County	3%	3%	1%	3%	1%	2%
Russell County	7%	6%	1%	3%	3%	1%
Salem City	6%	1%	4%	6%	2%	3%
Scott County	9%	7%	2%	9%	6%	3%
Shenandoah County	9%	10%	-1%	6%	3%	3%
Smyth County	7%	4%	2%	9%	11%	-3%
Southampton County	21%	14%	7%	20%	9%	11%
Spotsylvania County	10%	9%	2%	11%	3%	8%

Stafford County	19%	10%	9%	15%	2%	13%
Staunton City	4%	3%	2%	4%	1%	3%
Suffolk City	11%	9%	2%	6%	3%	3%
Surry County	23%	7%	15%	15%	2%	13%
Sussex County	18%	10%	8%	8%	3%	5%
Tazewell County	8%	7%	1%	15%	1%	14%
Virginia Beach City	7%	5%	2%	3%	0%	3%
Warren County	12%	10%	2%	9%	1%	8%
Washington County	4%	2%	2%	4%	0%	3%
Waynesboro City	8%	3%	5%	7%	1%	6%
West Point	6%	3%	3%	14%	2%	12%
Westmoreland County	11%	21%	-10%	13%	8%	5%
Williamsburg-James City County	7%	4%	4%	4%	1%	3%
Winchester City	9%	6%	4%	12%	1%	11%
Wise County	7%	2%	5%	1%	0%	0%
Wythe County	5%	7%	-1%	2%	4%	-1%
York County	4%	2%	1%	3%	1%	2%

SOURCE: JLARC analysis of Virginia Department of Education teacher licensure data, 2014–15 through 2021–22

NOTE: Provisionally licensed teachers include both provisionally licensed and unlicensed teachers. Pre-pandemic average for provisionally licensed teachers represents a three-year average from 2016–17 through 2018–19; pre-pandemic average for out-of-field teachers represents a five-year average from 2014–15 through 2018–19.

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