

Online education

$$\begin{aligned} (2x^2+7x-8)(2x^2+7x-2)-6 &= 0 \\ 2x^2+7x-5 &= a \\ (a-5)a-6 &= 0 \\ a^2-5a-6 &= 0 \\ D = b^2-4ac = 25+24 = 49 = 7^2 \\ a_{1,2} = \frac{-b \pm \sqrt{D}}{2a} = \frac{-5 \pm 7}{2} \end{aligned} \begin{cases} \frac{2}{2} = 6 \\ \frac{-12}{2} = -1 \end{cases}$$

$$\Rightarrow a_1 = 6, a_2 = -1$$

Replace

$$a_1 = 6 \Rightarrow$$

$$2x^2+7x-5=6$$

$$2x^2+7x-9=0$$

$$D = b^2-4ac = 49+72 = 121 = 11^2$$

$$x_{1,2} = \frac{-b \pm \sqrt{D}}{2a} = \frac{-7 \pm 11}{4} = \frac{-18}{4} = -4,5$$

$$a_2 = -1$$

$$2x^2+7x-5=-1$$

$$2x^2+7x-2=0$$

$$D = b^2-4ac = 49+16 = 65$$

$$x_{1,2} = \frac{-b \pm \sqrt{D}}{2a} = \frac{-7 \pm \sqrt{65}}{4}$$

Answer: $-4,5; \frac{-7-\sqrt{65}}{4}; \frac{-7+\sqrt{65}}{4}; 1.$



2021
PENNSYLVANIA

State of Education

On behalf of the Pennsylvania School Boards Association (PSBA) and the Pennsylvania Association of School Administrators (PASA), thank you to the 310 school districts that responded to our survey, which allowed us to develop the meaningful data represented here in the 2021 State of Education report. We appreciate the time and thought that chief school administrators dedicated to the survey.

Knowing that school leaders and administrators have faced what is likely the most challenging year-of-all-years, it is clear from the survey's findings that additional, consistent federal and state guidance may have made a significant difference in how district decision-makers navigated challenges without precedence.

With budget pressures elevated by the impacts of COVID-19, specific aggravators such as mandatory charter school tuition payments rose to the top, with an even greater expense resulting from cyber charter migration induced by the pandemic circumstances. Issues that lie ahead, such as academic regression, showed as a leading concern with more than 50% of respondents citing that as their top challenge.

We focused on this and other impacts of COVID-19 as the theme of this year's survey since there has been almost no aspect of how schools support and educate their students that has gone unchanged in some way over the past year.

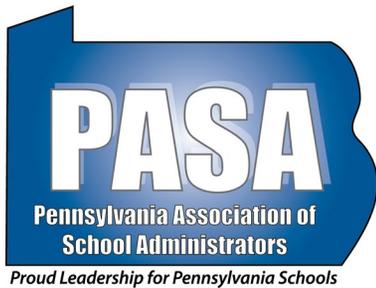
You are well-versed with what's going on in your own district, and we hope you benefit from the statewide barometer this report represents. For our two associations, the collection and dissemination of this important data contributes valuable insights as we work on behalf of Pennsylvania's public school districts and the 1.7 million students served.

Be well and know that PSBA and PASA are here supporting you. On we roll into 2021 with Pennsylvania's children at the forefront of our focus!

Dr. Mark DiRocco
PASA, executive director

Nathan G. Mains
PSBA, chief executive officer

The State of Education report is developed by the Pennsylvania School Boards Association (PSBA) in partnership with the Pennsylvania Association of School Administrators (PASA).



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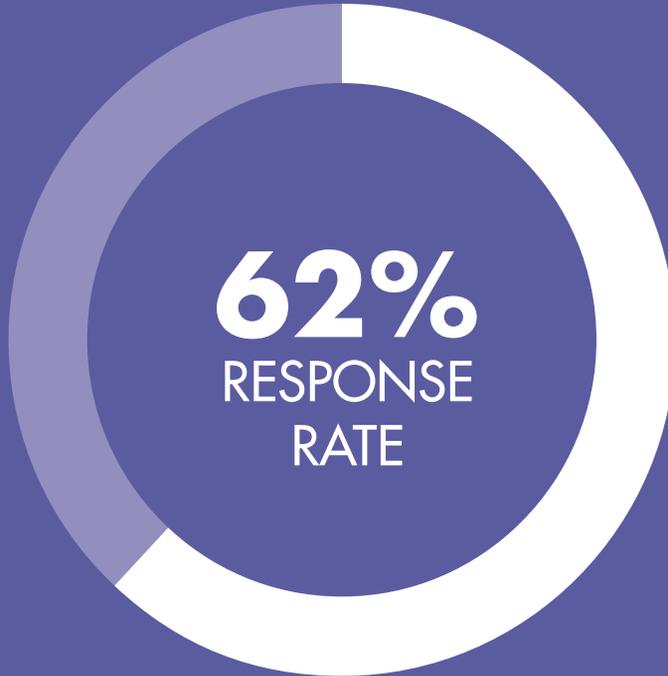
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2021 State of Education Survey¹

310
SCHOOL
DISTRICTS



Introduction

Since its creation in 2017, the annual State of Education report has served as a barometer of not only the key indicators of public school performance, such as standardized test scores and school finances, but also the timely challenges that public schools are facing and how they are coping with them.

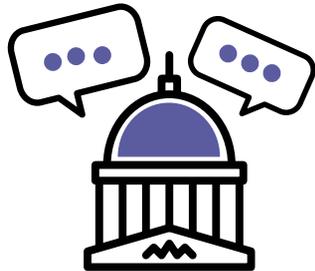
While the goal of the report is to provide a statewide view of the key indicators of the state of public education in the commonwealth, this year's report focuses solely on the impact of the COVID-19 pandemic (hereinafter referred to as "pandemic") on the state's 500 public school districts.

Data used in the report comes from two primary sources – first, a survey of chief school administrators at Pennsylvania's public school districts; and the second, the compilation and analysis of available data from sources such as the Pennsylvania Department of Education.

The key indicators used in this year's report are the challenges facing public schools during the pandemic and the impact that the pandemic has had on student instruction and school finances.

Some key findings from this year's report include:

Biggest Challenge



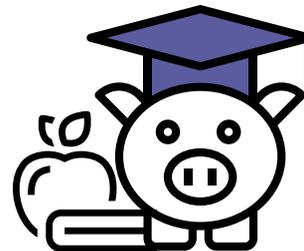
69% of school districts said that the most challenging part of navigating the pandemic was the inadequate and consistently changing guidance from state, federal and local authorities.

Cyber Migration



More than 22,000 students left their home school districts for cyber charter schools at the start of the 2020-21 school year taking with them at least \$335 million dollars in funding.

Finance



The migration to cyber charter schools contributed to charter school tuition costs being the **overwhelming budget pressure** facing school districts.

Instruction



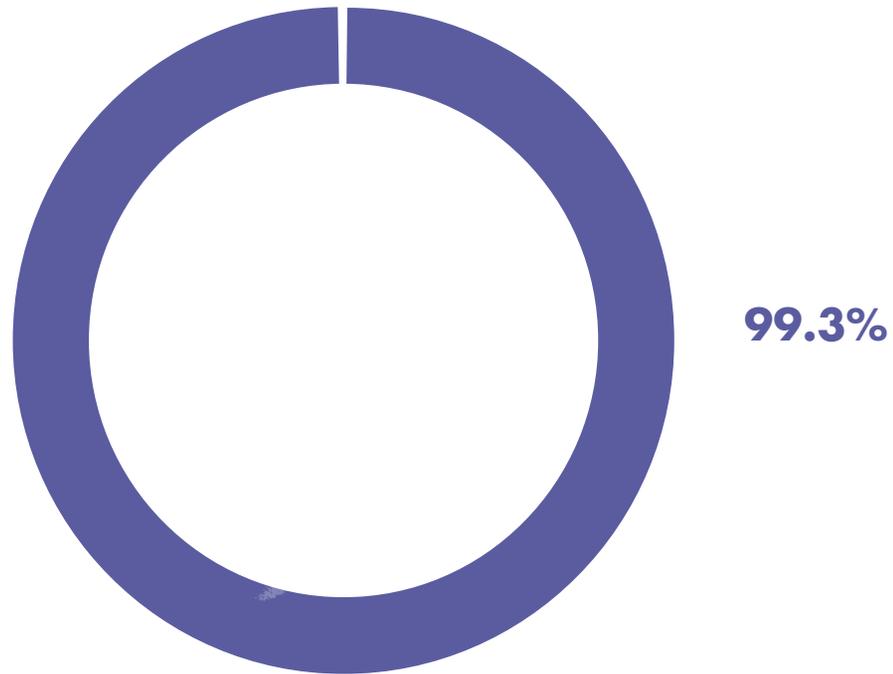
Since the start of the 2020-21 school year, **85% of school districts** were forced to change their instructional plans due to COVID-19, forcing teachers and students to adjust.



Almost every school district has been directly touched by COVID-19

Over 99% of school districts reported experiencing a positive COVID-19 case among their students and/or staff, making an impact directly on their school community.

School districts experiencing a positive COVID-19 case among students/staff

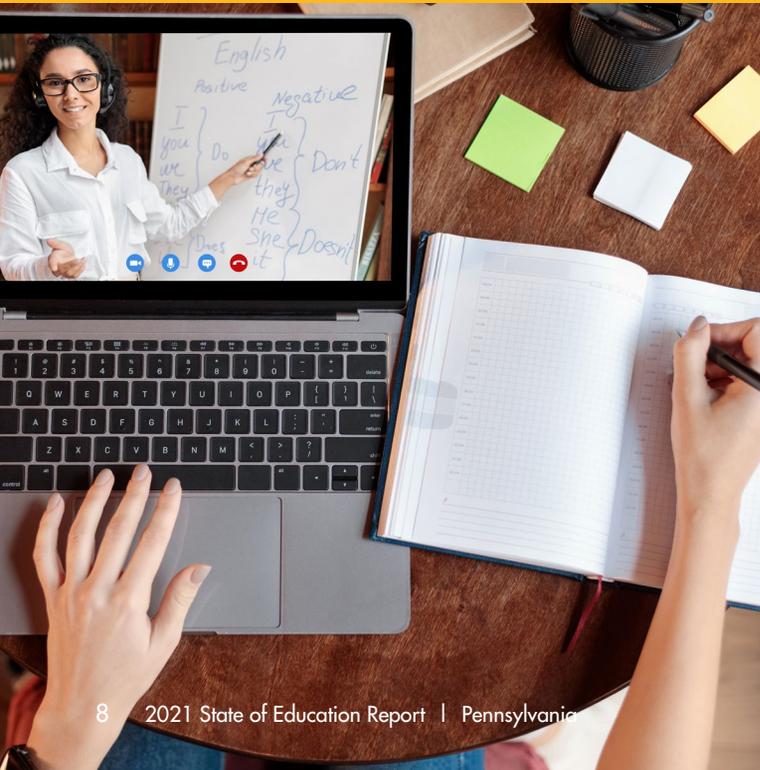


CHALLENGES

The last year in public education has truly been unprecedented. The pandemic has forced public schools to close school buildings, transition all students to remote learning, and reopen school buildings during a national health emergency. Yet school leaders, teachers and staff should be proud of how they stepped up in a time of need to navigate these challenges to provide a quality education and services to the 1.7 million students enrolled in Pennsylvania's public schools.

“The biggest challenge for our district was the inconsistencies in information provided by CDC, DoH, and governmental entities. In addition, when information was provided, it was usually in the 11th hour.

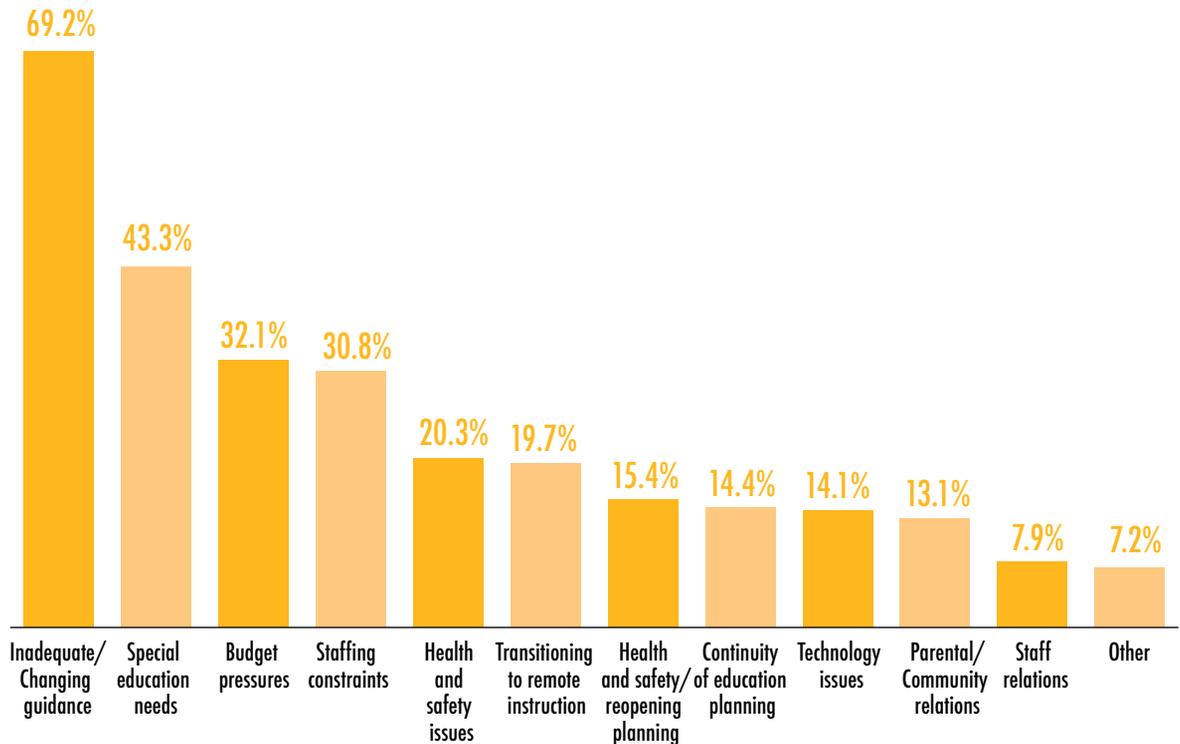
- Survey respondent



The biggest challenge since the start of the pandemic has been the guidance coming from state, federal and local authorities

Nearly 70% of school district leaders rated inadequate or consistently changing guidance from state, federal and local agencies as one of their biggest challenges since the start of the pandemic, making it the biggest challenge they faced. The pandemic also brought on or intensified many other challenges.

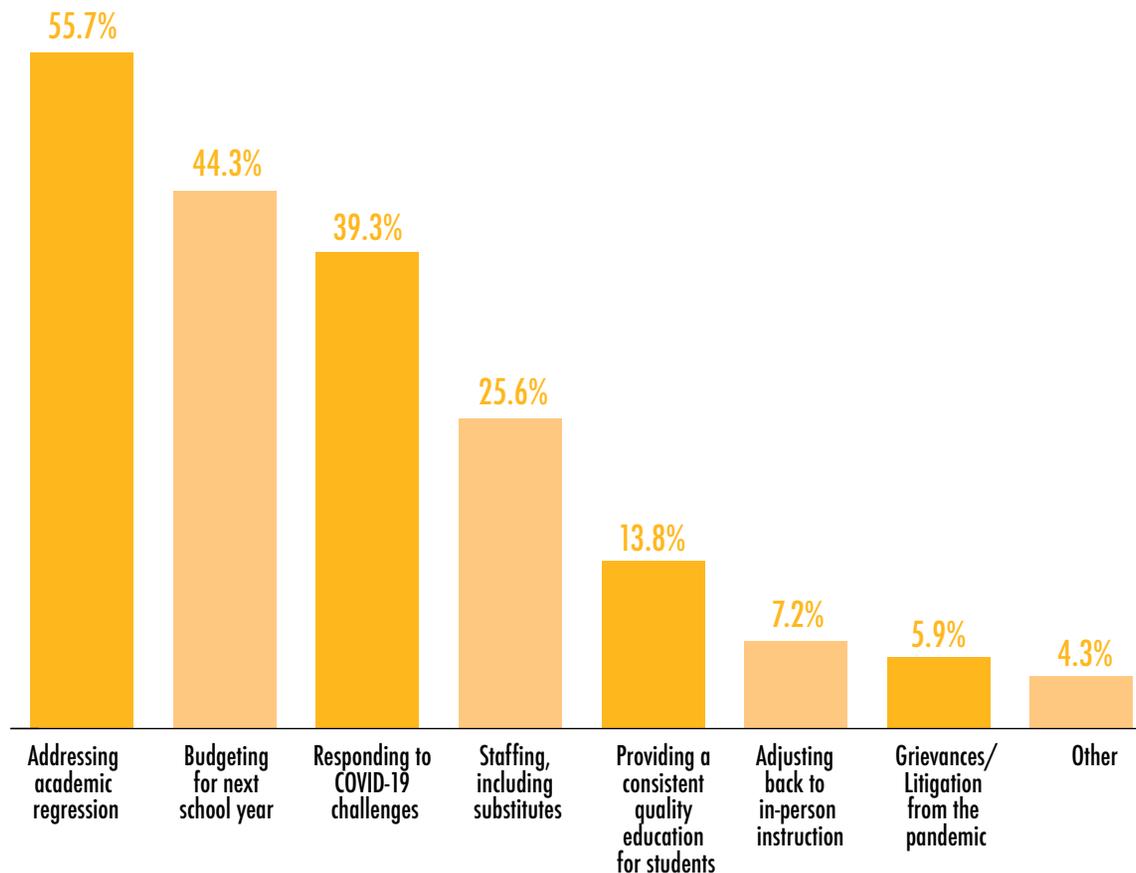
Biggest challenges since the start of the pandemic



No shortage of challenges lie ahead

As the pandemic lingers on into 2021, school leaders expect to deal with a number of challenges caused by the pandemic into the future. Primary among them is how to identify and address the academic and financial impacts of the pandemic.

Biggest challenges in the coming year



“All of these items are on the radar. Our primary concern is providing education and services to students and families.

- Survey respondent

What School Districts Had to Say...

The lack of timely and useful guidance from state and federal government made leading the district very hard. We were asked to make decisions that had medical implications without sufficient guidance.

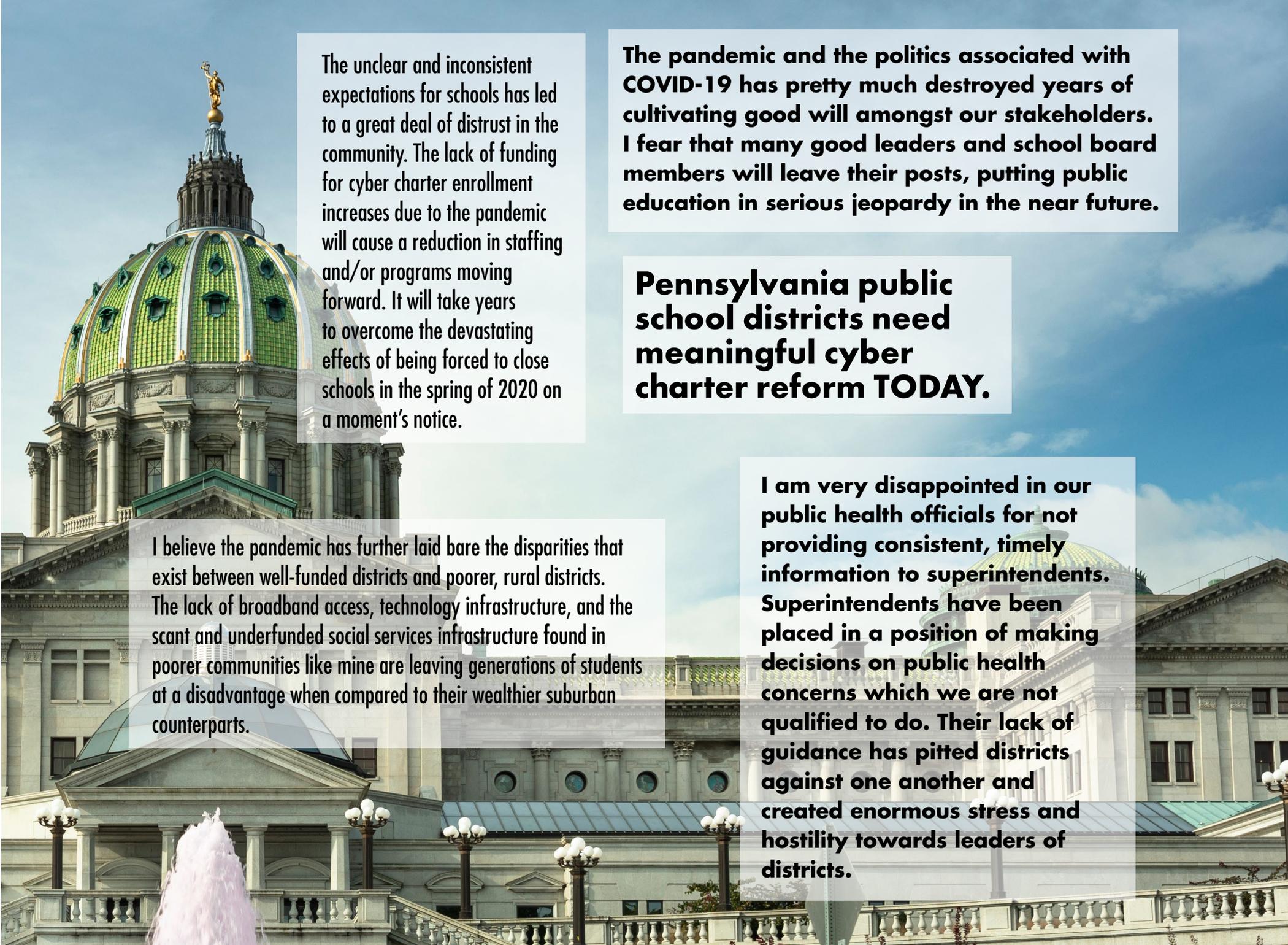
I feel education as we know it will never be the same. The need for virtual instruction is going to place more demands on all schools.

Public education IS working in PA.

The greatest frustration is the constant moving target of what is required of the districts and the short-notice to implement the changes. The stress of meeting the demands of the PDE/DoH, supporting staff and students in changing venues, mitigating differing opinions of board members, the lack of consistency and direction from PIAA, etc., have been overwhelming and have taken a definite toll on the health of those in leadership.

We are very concerned about the number of students who will choose to remain virtual next year. We are a small district and cannot afford a large increase to our cyber charter numbers, nor can we afford to open our own cyber academy.

I am concerned about the mental health of our students. School is a safety net. The heat works, the water works, the lights are on and a group of adults care about them. I am also concerned about the drop in reports to Childline. Teachers tend to be the largest group of reporters. Without children in school, we may have many silently suffering.



The unclear and inconsistent expectations for schools has led to a great deal of distrust in the community. The lack of funding for cyber charter enrollment increases due to the pandemic will cause a reduction in staffing and/or programs moving forward. It will take years to overcome the devastating effects of being forced to close schools in the spring of 2020 on a moment's notice.

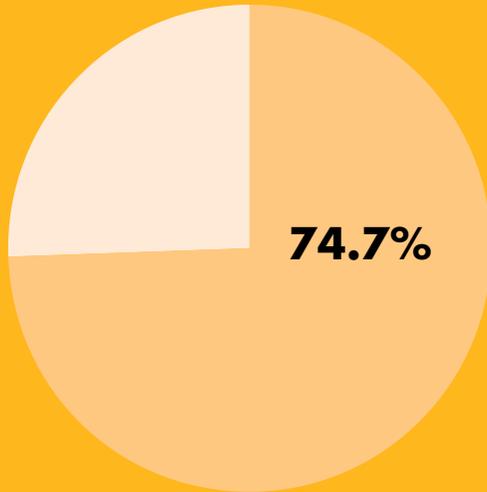
The pandemic and the politics associated with COVID-19 has pretty much destroyed years of cultivating good will amongst our stakeholders. I fear that many good leaders and school board members will leave their posts, putting public education in serious jeopardy in the near future.

Pennsylvania public school districts need meaningful cyber charter reform TODAY.

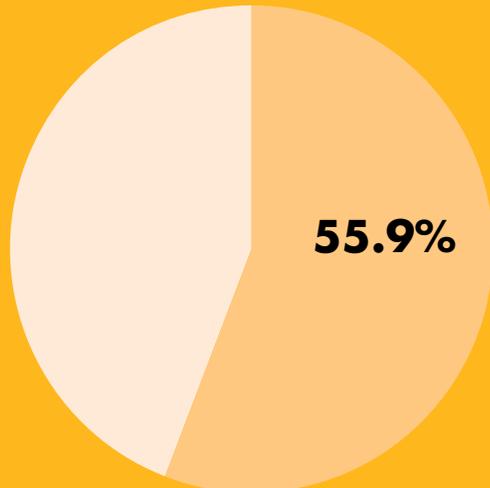
I believe the pandemic has further laid bare the disparities that exist between well-funded districts and poorer, rural districts. The lack of broadband access, technology infrastructure, and the scant and underfunded social services infrastructure found in poorer communities like mine are leaving generations of students at a disadvantage when compared to their wealthier suburban counterparts.

I am very disappointed in our public health officials for not providing consistent, timely information to superintendents. Superintendents have been placed in a position of making decisions on public health concerns which we are not qualified to do. Their lack of guidance has pitted districts against one another and created enormous stress and hostility towards leaders of districts.

Superintendents reporting feeling “burned out” by pandemic



School districts experiencing or expecting an increase in retirements/resignations



Dealing with the pandemic has been hard on school leaders and staff

Three-quarters of responding superintendents said that they felt burned out as a result of dealing with the pandemic and its challenges. Similarly, a majority of school districts have experienced, or expect to experience, an increase in retirements or resignations as a result of the pandemic.

“Being a superintendent during a pandemic has been the most stressful time in my career as a superintendent. By far, it is the most stressful time in my career in education.”

-Survey respondent

Find further information at www.psba.org

STUDENT INSTRUCTION

Since public school buildings were closed in March of 2020, one of the biggest challenges facing school districts has been to continue providing a quality educational program despite not being able to conduct consistent daily in-person instruction. And now into the 2020-21 school year, school districts are also working to identify and address any academic regression resulting from the pandemic.

35%

School districts starting the school year with full-time, in-person learning

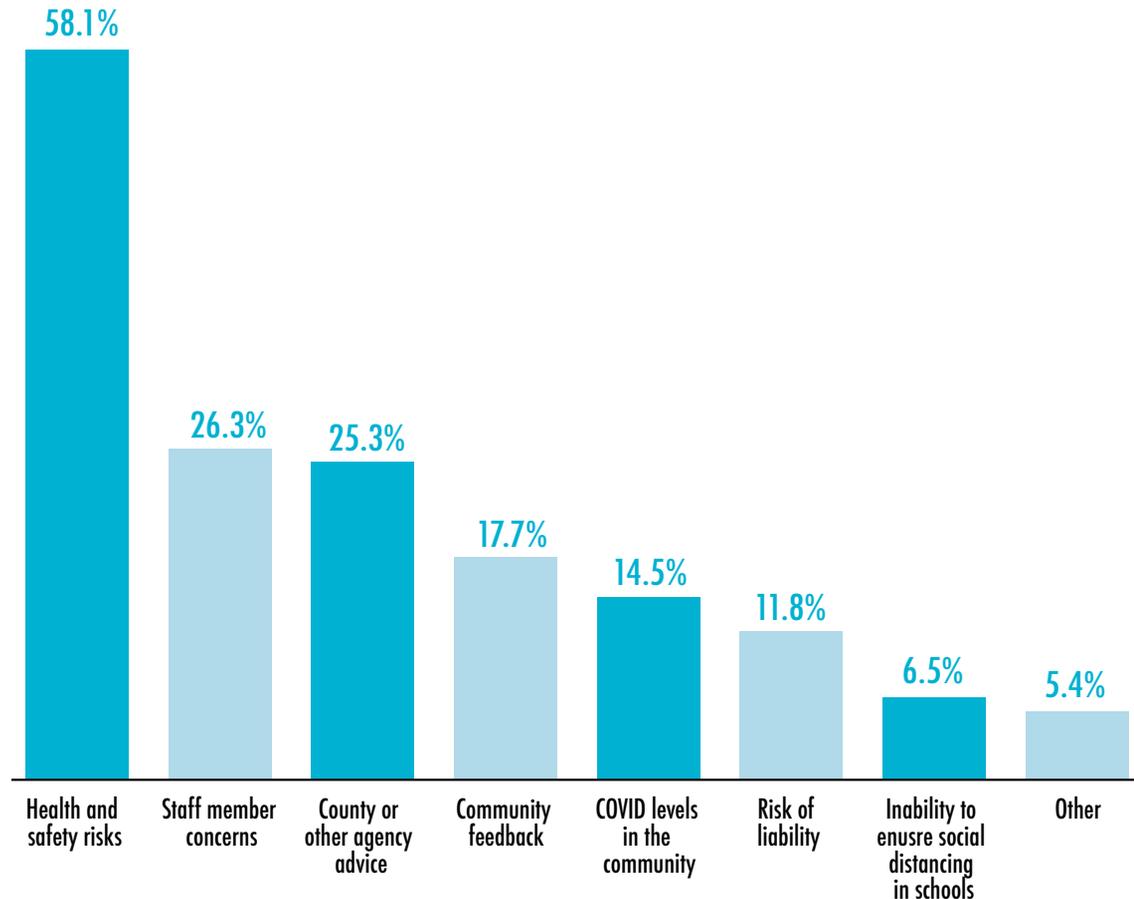
"I'm really proud of the work of our district, board and community in opening our doors at the beginning of the year to in-person (five days a week) instruction as well as properly staffing to offer a complete online program for those families that chose that option."

- Survey respondent

Most school districts did not start the school year with in-person learning

Roughly two-thirds of school districts began the 2020-21 school year with students not attending in-person classes full time (five days a week). The biggest reason for not resuming full-time, in-person instruction was the health and safety of students and staff.

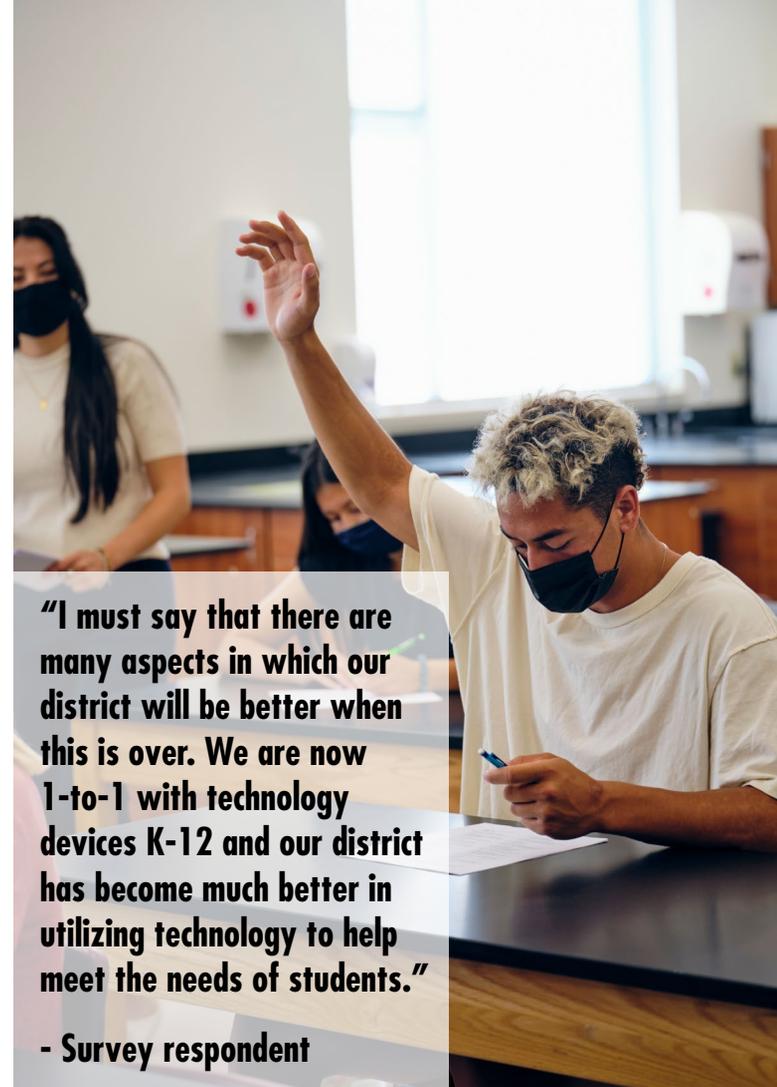
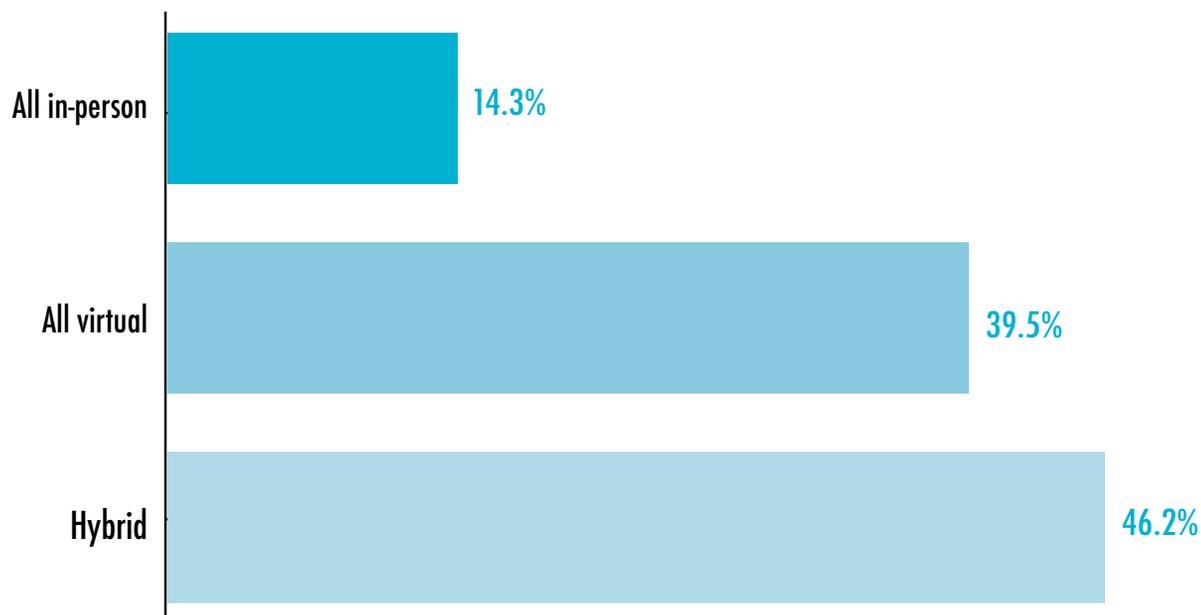
Reasons why schools did not resume full-time, in-person instruction



Most school districts remain or have transitioned to virtual or hybrid

At the time of the survey, the instructional model being used by more than 85% of school districts was virtual or hybrid (partly in-person and partly virtual). Since the start of the school year, most school districts have also been forced to make changes to their instructional model due to the pandemic.

December/January instructional model



85%
School districts forced to change instructional plans due to COVID-19

“We are all COVID, all the time. We need to be responsible during this pandemic, but we need to realize the peripheral damage as well. All of our tested grade levels showed deficits. I expect these to continue and grow when measured next year.”

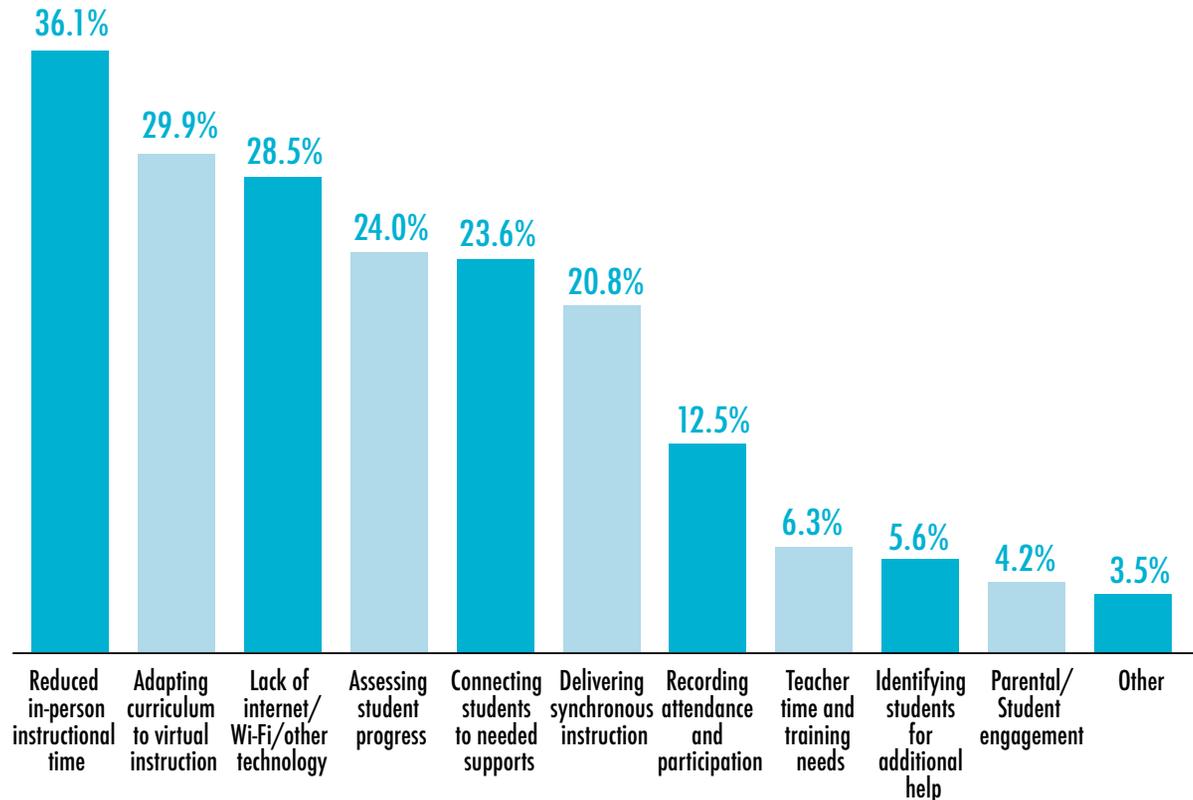
- Survey respondent



Pandemic presents numerous instructional challenges

Closing school buildings and adapting to a completely new way of providing instruction was a tremendous challenge for administrators and teachers. The most difficult to overcome were the reduction in face-to-face instructional time and adapting curriculum to virtual instruction.

Instructional challenges during the pandemic



School districts are adjusting to address academic regression

As school districts transitioned to virtual learning, almost all districts provided their teaching staff with trainings and supports to assist in the move to virtual instruction. School districts are also employing a variety of means to monitor and overcome learning losses.

“During remote periods we have utilized all available paraprofessionals and specialty teachers to keep track of student work and offer additional support.”

“Using diagnostic tests, online tutoring and planning for remediation.”

“We’re looking to offer summer school for students who may have struggled in the hybrid or virtual models.”

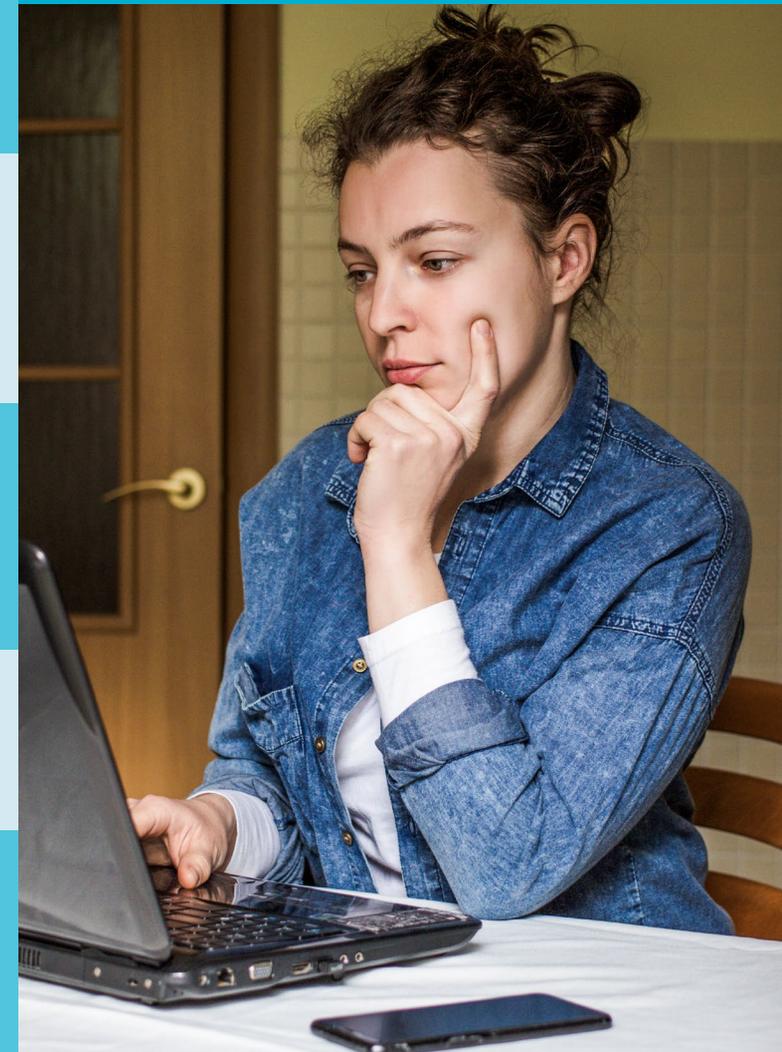
“We are planning for enhanced after-school tutoring and plan to create a Saturday Academy for all students.”

“Home visits, phone calls, and virtual meetings with parents.”

“Benchmark assessments and additional extra-assistance teachers to work with at-risk students.”

98%

School districts providing their teachers with training and supports for virtual instruction

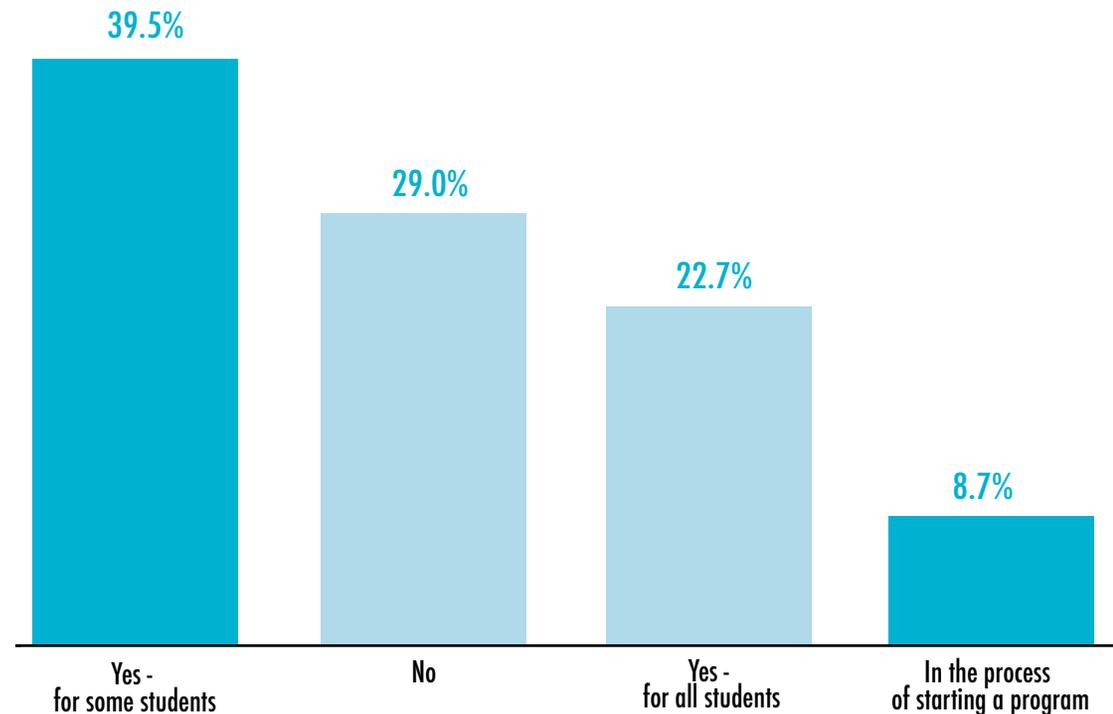




Many school districts had begun providing students with devices prior to the pandemic

Even before the pandemic, most school districts in the state had begun or completed implementing programs to provide all or some of their students with electronic devices.

1-to-1 electronic device programs at the start of the pandemic



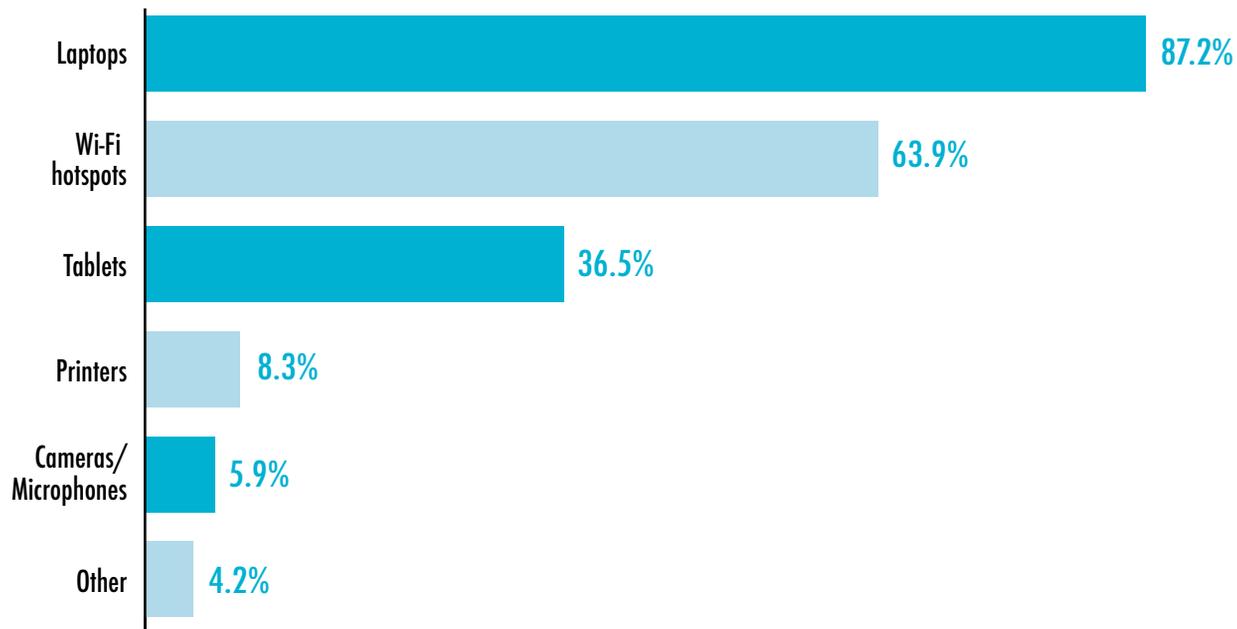
“While we ordered 2,400 Chromebooks in June 2020, we have only received 200 to date. This delay has significantly impacted access to tech in our rural, low-income school district.

- Survey respondent

School closures led to increased demand for devices

The transition to virtual learning caused almost every school district to purchase electronic devices such as laptops, Wi-Fi hotspots and tablets to provide its students and staff. The increased demand led to delays for most districts to obtain those devices.

Devices most needed



78%

School districts experiencing delays in obtaining needed devices



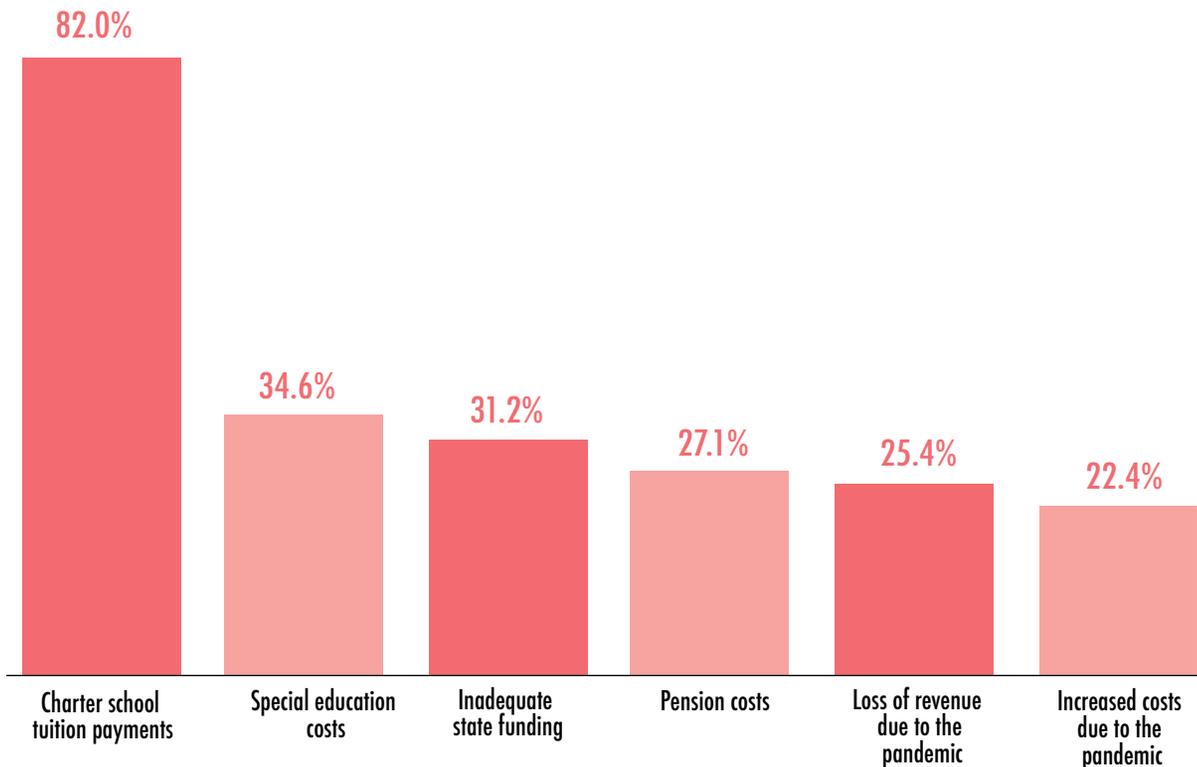
SCHOOL FINANCES

The pandemic has not only been a challenge for school districts academically and logistically, but school districts have also been significantly impacted financially.

Charter tuition payments are easily the top budget pressure for school districts

Although the top four budget pressures are the same as last year, an overwhelming number of school districts identified mandatory charter school tuition payments as one of their biggest sources of budget pressure. However, the pandemic has also brought on several new budget pressures.

Top budget pressures



Find further information at www.psba.org

“We continue to improve our student experience to ensure that students receive the highest-quality education. However, financial constraints continue to threaten our capacity to provide the full spectrum of programming that all students deserve.

- Survey respondent



AVERAGE IMPACT OF CYBER CHARTER MIGRATION

70%

increase in students enrolled in cyber charters

\$674,000

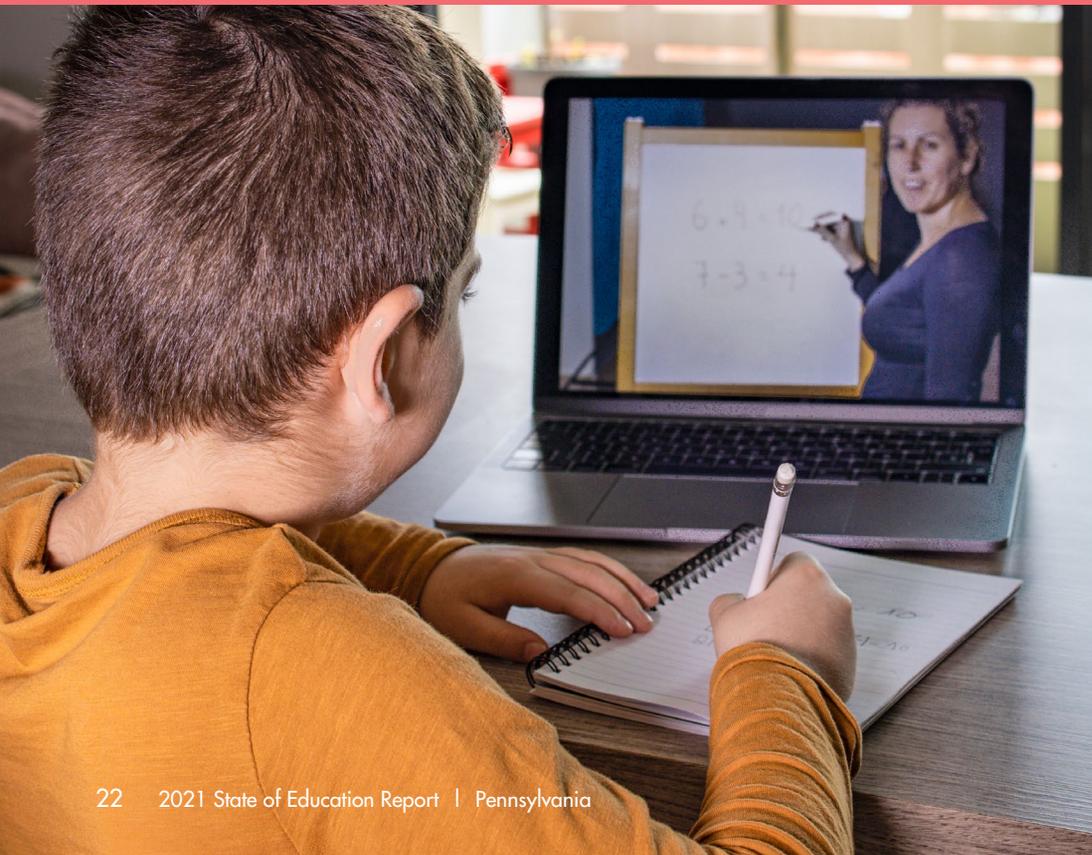
increase in new charter school tuition expenses

Cyber charter migration exacerbates budget pressure

At the start of the 2019-20 school year, 38,600 students were enrolled in a cyber charter school. By the start of the 2020-21 school year, that number had grown to 60,900 – a 58% increase. That increase in enrollments will conservatively lead to an estimated \$335.5 million in charter school tuition payments for school districts.²

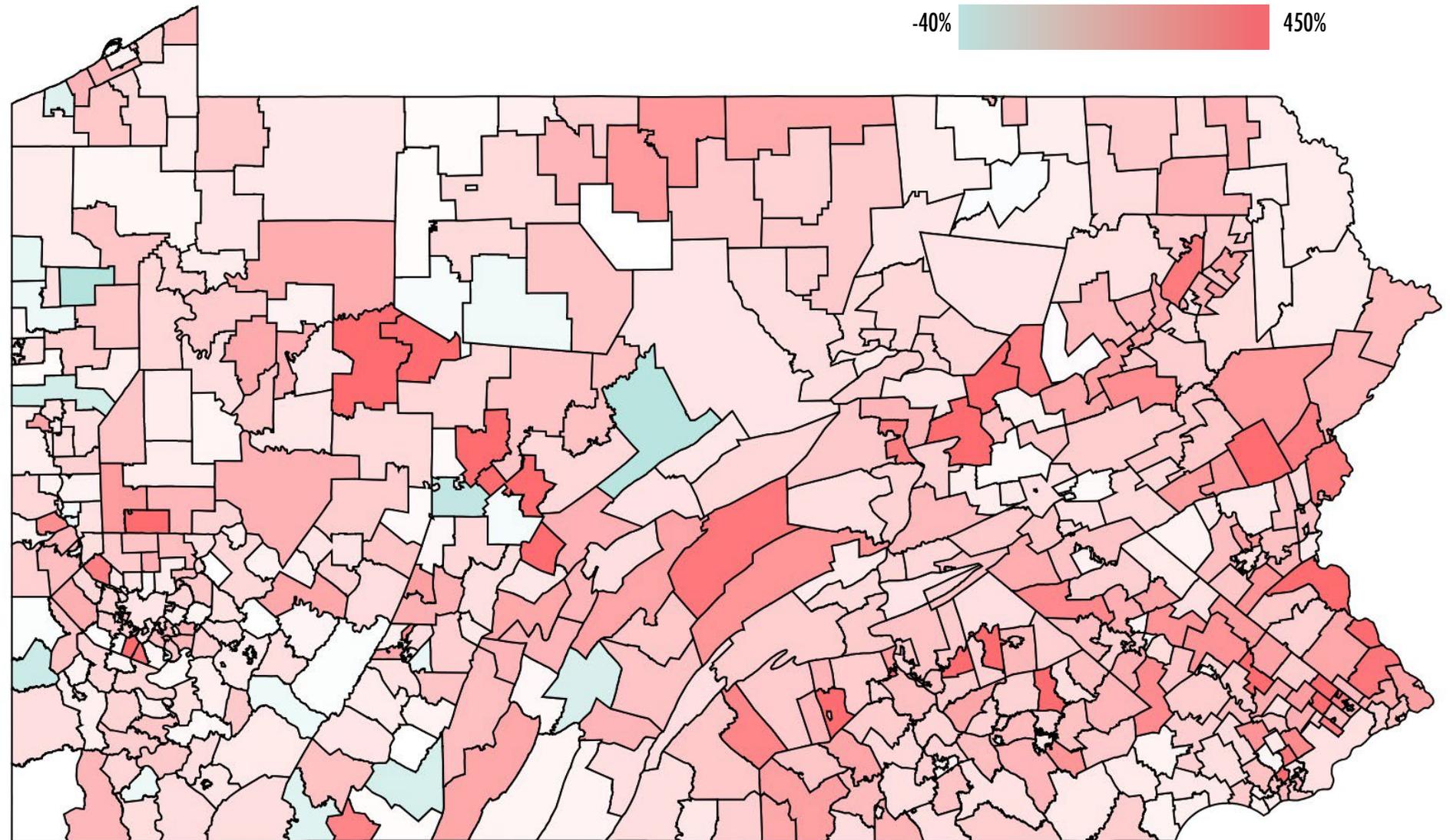
“Our district continues to prove that we can provide outstanding online learning opportunities for our students, whether it be full-time or a hybrid. We do it better than state cyber schools, we do it at a fraction of the cost that cyber schools charge, and we keep those local tax dollars in the community.

- Survey respondent



Percent change in cyber charter enrollment in 2020-21

Cyber charter enrollment growth varied significantly across the state, as illustrated by the map below.



AVERAGE REPORTED COST
INCREASE DUE TO PANDEMIC

> \$1,000,000

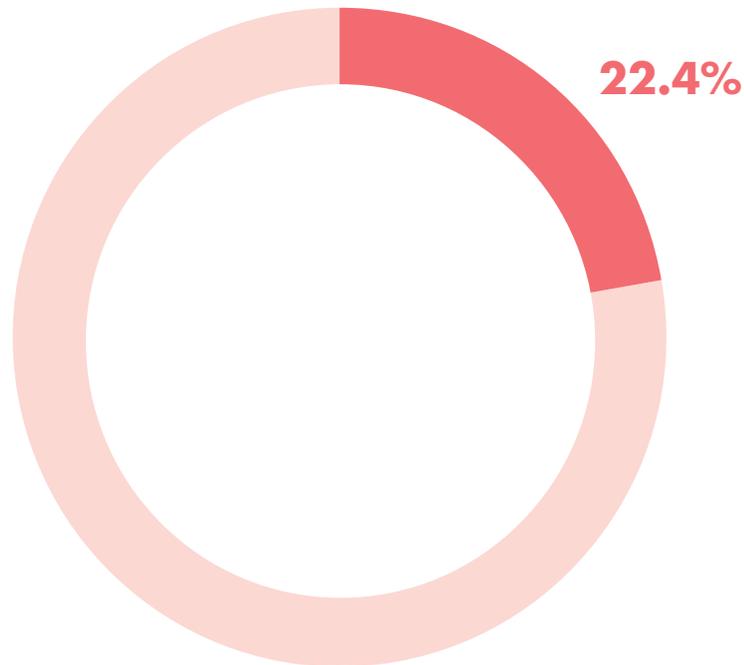
“Without the CARES Act
funding, we would not have
been able to remain open.

- Survey respondent

Pandemic expenses add to budget pressure

A budget pressure many school districts cited was increased costs due to the pandemic. When asked how much in additional expenditures their school districts have incurred since the start of the pandemic, the amounts ranged from \$20,000 to \$6,000,000. While school districts did receive additional funding to help cover those additional costs, only 22% reported that those funds covered all of their additional expenses.³

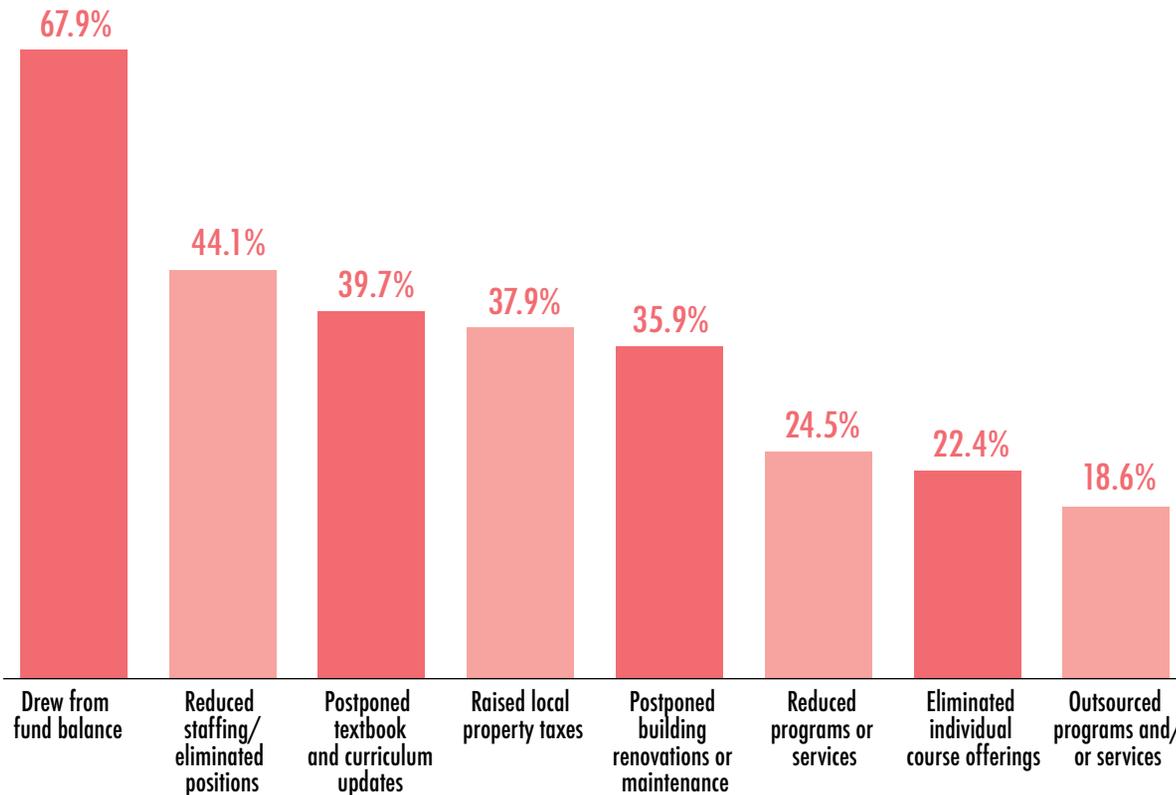
Districts whose 2020 pandemic relief funding covered all pandemic-related expenses



Budget pressures force tough choices

When asked to select the actions their school districts would be taking due to budget pressures, drawing from fund balance was selected most frequently. Budget pressures and the forced move to virtual instruction has led to furloughs and staffing reductions in some districts.

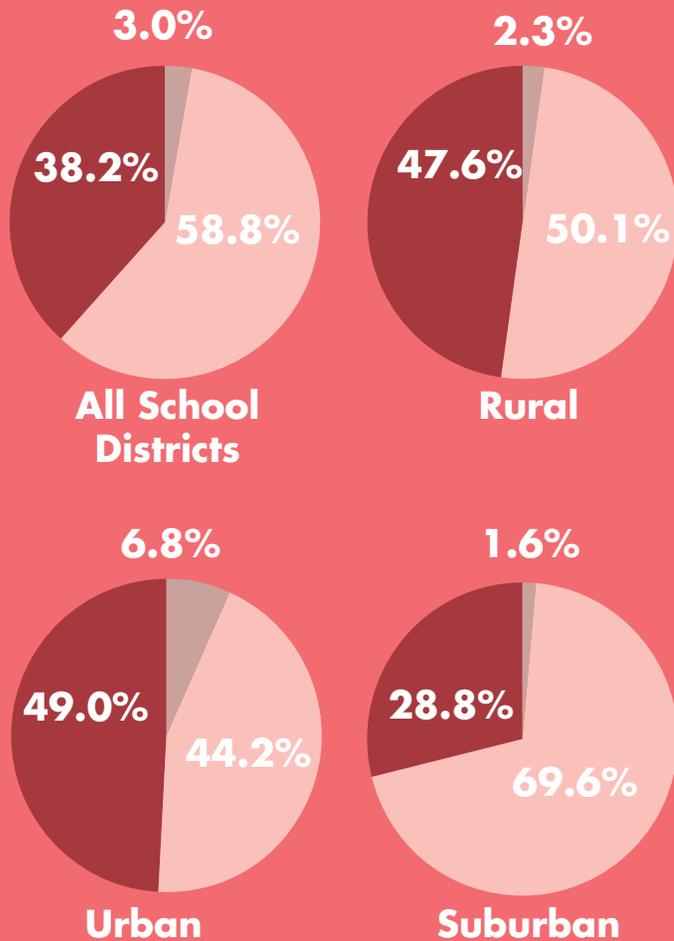
Actions taken due to budget pressures



“We’ll make it through this year financially, but next year will be ugly.”

- Survey respondent

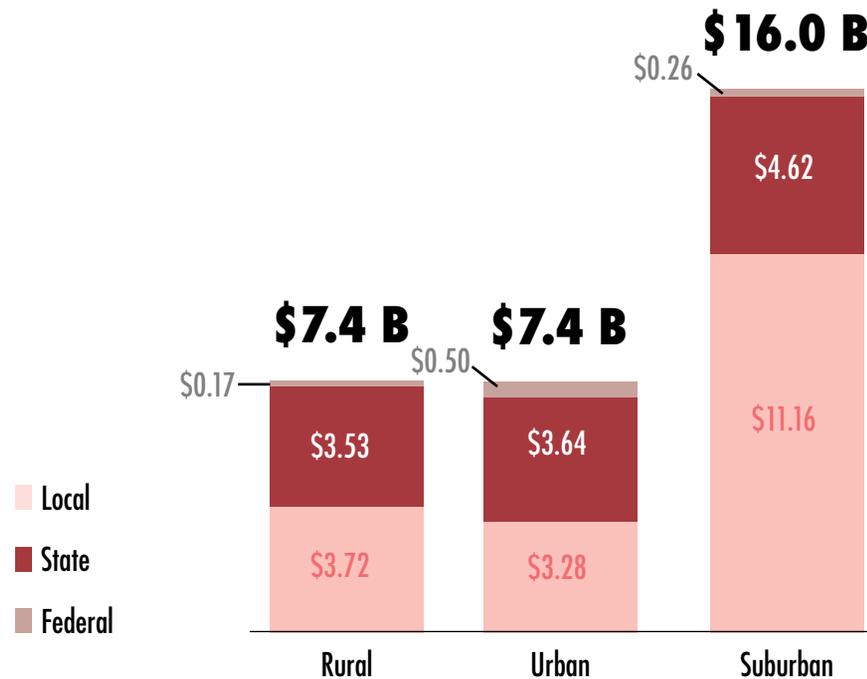
REVENUE SOURCES AS A PERCENTAGE



Most school districts still reliant on local revenues

For a majority of school districts, especially those in suburban areas, the largest share of their revenues come from local sources. This makes any pandemic relief funding extremely valuable in terms of offsetting necessary local revenue increases.⁴

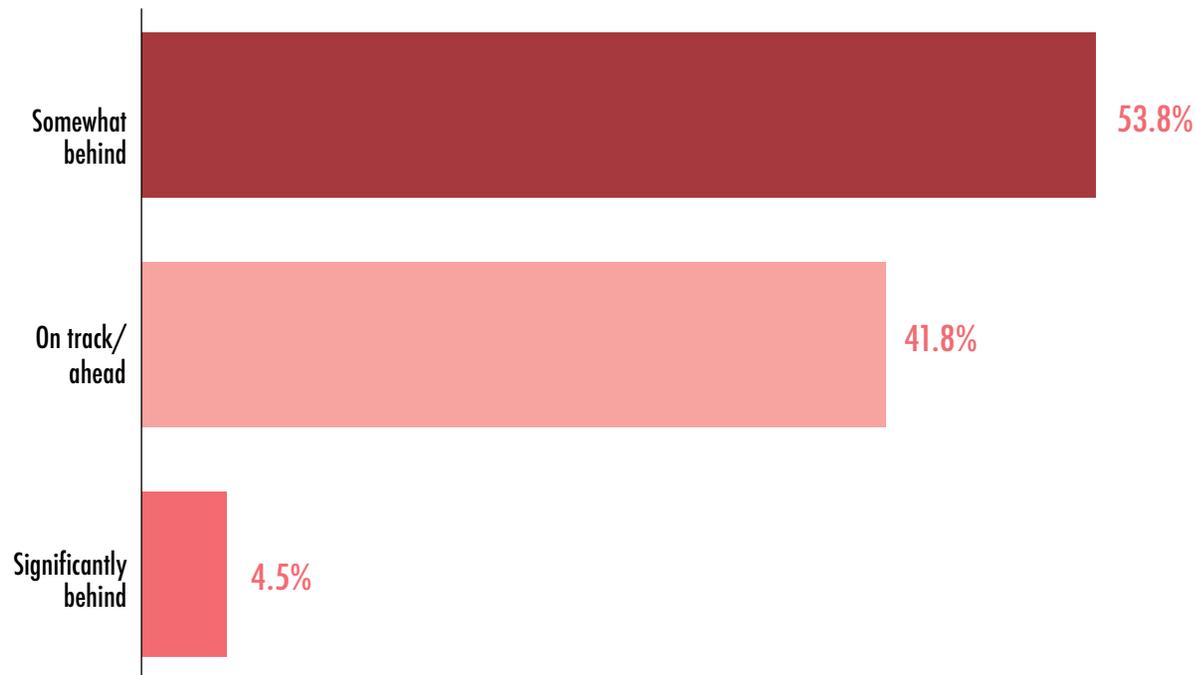
Amount and Source of Revenue (in Billions)



Local revenue collections are lagging behind

For the majority of school districts, local revenue collections, such as property and earned income taxes, have been slowed as a result of the pandemic.

Local revenue collections compared to prior year



“We are very concerned about how COVID will impact our budget beyond the 2021-22 school year.

- Survey respondent

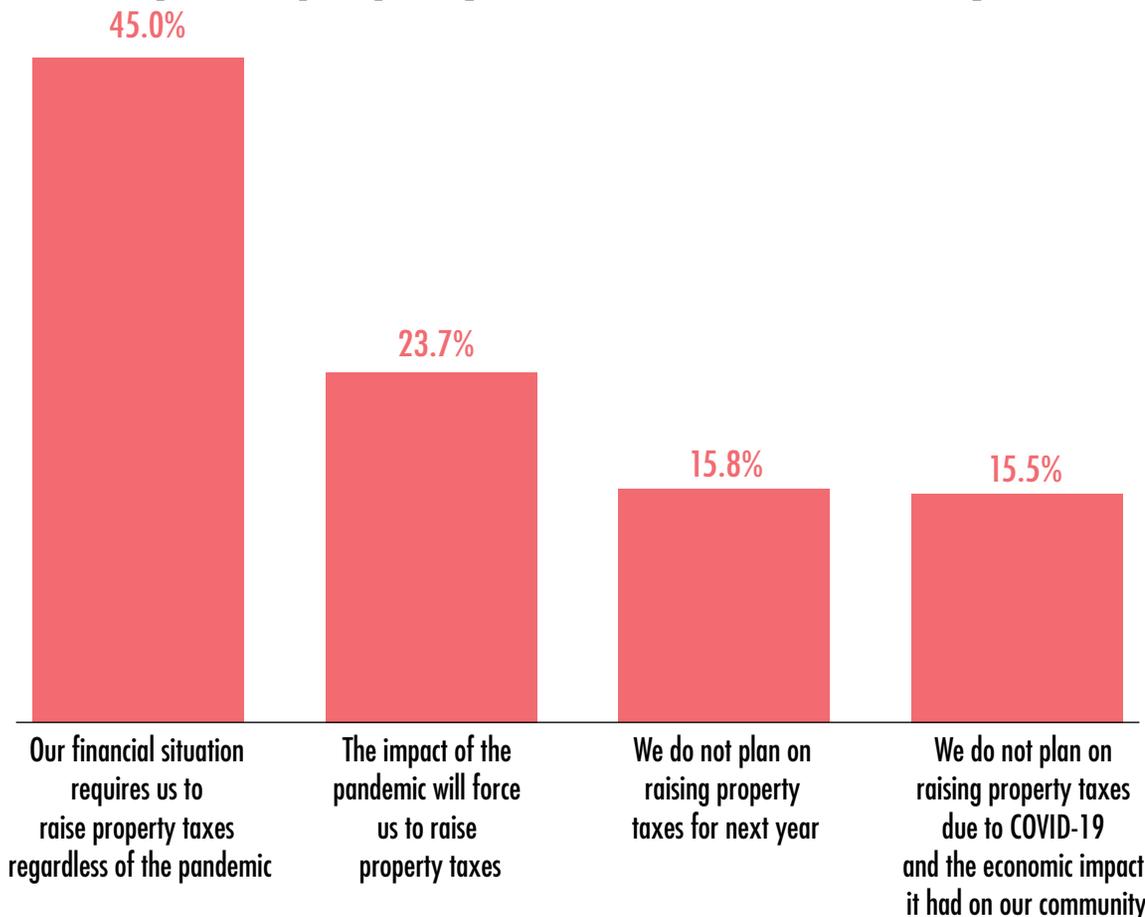




Most school districts will be forced to raise property taxes again

For the majority of school districts, their financial situation – both due to and despite the pandemic – will require them to increase property taxes. Several school districts responded, however, that their districts are making an effort to not raise property taxes on account of the pandemic.

Anticipated property tax outlook for next year



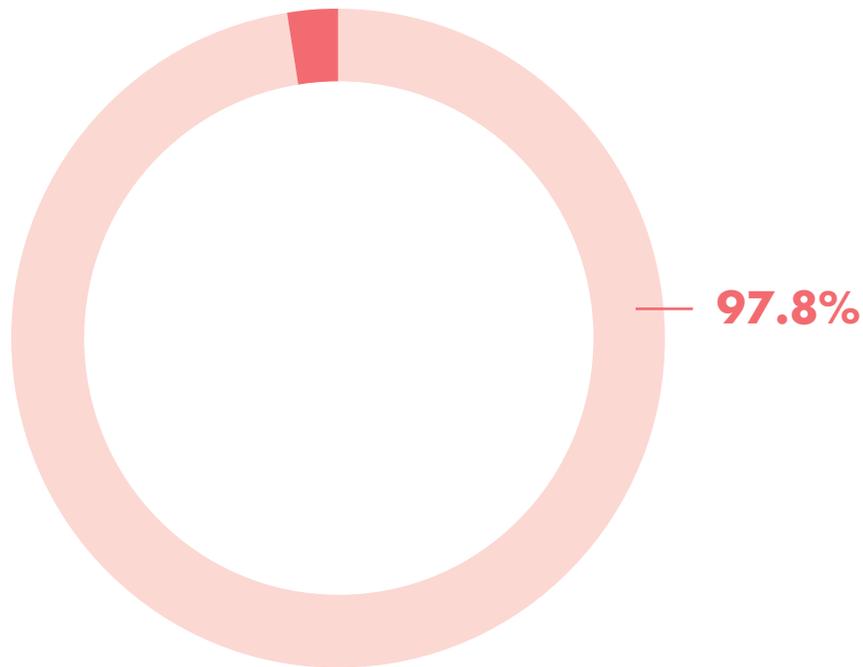
“Property tax increases will be considered. However, we have to look at the fiscal position of the district residents as well.

- Survey respondent

As education has moved toward virtual learning, the shift also came with increased costs for school districts

With demand and need for virtual instruction programs soaring during the pandemic, almost every school district was forced to expend additional resources and funding in order to expand the district's virtual learning options.

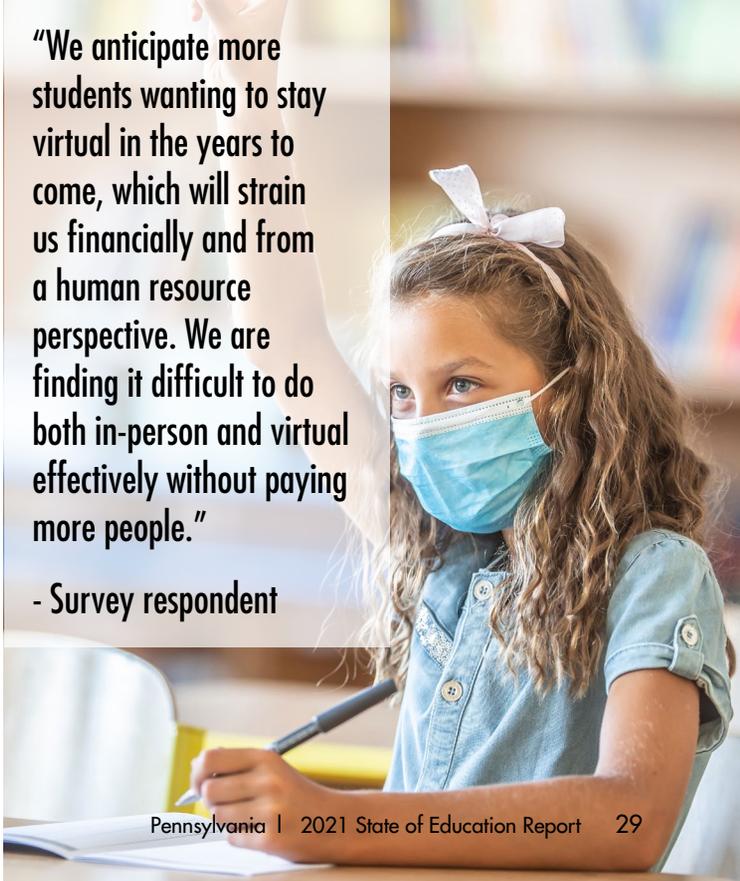
School districts spending resources to expand virtual learning options



INCREASED ENROLLMENT IN SCHOOL DISTRICT VIRTUAL PROGRAMS⁵

For the school districts that reported their virtual program enrollments prior to and during the pandemic, the average increase in their virtual program was

592%



"We anticipate more students wanting to stay virtual in the years to come, which will strain us financially and from a human resource perspective. We are finding it difficult to do both in-person and virtual effectively without paying more people."

- Survey respondent

ENDNOTES



¹Response rate is based on the number of survey invitations sent. Survey invitations were emailed on November 30, 2020, to 497 school district superintendents. When the survey was closed on January 8, 2021, 310 responses were received. The data in this report is meant to be representational of the school districts in Pennsylvania as a whole. However, due to the diversity and differences between school districts around the state, specific data points may not apply to all school districts.

² Based on an analysis of PDE data.

³ This data is based solely on the first round of Elementary and Secondary School Emergency Relief (ESSER) funding from May 2020.

⁴ Revenue comes from four primary sources – local sources such as local property taxes; state sources such as state budget line items like basic education funding; federal sources such as federal programs to educate students with disabilities; and other sources such as issuing bonds and fund transfers. Other revenue sources were excluded from this analysis to 1) avoid skewing the fiscal picture of public schools due to the inconsistency in other revenue sources year-to-year; 2) to more closely reflect actual revenue generated; and 3) to allow general comparisons to other states. 2018-19 Annual Financial Reports for revenues available:

<https://www.education.pa.gov/Teachers%20-%20Administrators/School%20Finances/Finances/AFR%20Data%20Summary/Pages/default.aspx>.

⁵ This percentage did not include school districts that did not have a virtual program prior to the pandemic. Percentage growth could not be calculated for those school districts.



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