



FINAL REPORT: THE STATE OF THE EDUCATOR WORKFORCE IN MICHIGAN

An In-Depth Look at K-12 Staffing Challenges

September 2023

Public Policy Associates is a public policy research, development, and evaluation firm headquartered in Lansing, Michigan. We serve clients in the public, private, and nonprofit sectors at the national, state, and local levels by conducting research, analysis, and evaluation that supports informed strategic decision-making.



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Foreword

The State of Michigan Educator Workforce Report presented here is the culmination of more than a year's worth of diligent research, extensive discussions, and unwavering dedication. It stands as a testament to our commitment to providing Michiganders with an exhaustive examination of the educator shortage crisis within the state.

We extend our sincere appreciation to the Legislature for their foresight in allocating the necessary funds to undertake this critical endeavor. When this resource was first approved, Michigan was just embarking on a concerted effort to address the widespread staffing shortages that were detrimentally affecting student learning. Even as the research was underway, Michigan has made significant strides in ensuring that all students have access to high-quality education. Decision-makers at all levels, including Governor Whitmer, the Michigan Department of Education, lawmakers, district leaders, and building leaders, have undertaken the formidable task of eradicating this shortage through a multitude of programs, both large and small.

The Fiscal Year 2023 budget includes over \$575 million for efforts to attract, retain, and train educators for Michigan schools. This includes \$175 million for Grow Your Own programs, \$305 million is for fellowships/scholarships paying tuition and other costs of higher education, up to \$10,000 per year for eligible aspiring teachers; \$50 million is for student teacher stipends to pay \$9,600 per semester for work as a student teacher; and \$10 million is for intermediate school districts to recruit and hire career and technical education (CTE) instructors. Beyond direct financial support, programs like the Michigan Department of Education's Proud Michigan Educator campaigns help elevate the profession and lift up the voices of the dedicated educators across our state.

As you peruse the following pages, it becomes evident that this educator shortage, while particularly affecting high-poverty districts and historically marginalized populations, casts a shadow over every corner of our state. These findings would not have come to fruition without the invaluable contributions of numerous individuals, from our dedicated research team to the public servants at the Michigan Department of Education who collaborated with us by providing essential data and feedback. This comprehensive report stands as a testament to the collaborative efforts of all involved, serving as a pivotal step toward addressing one of Michigan's most pressing challenges.

Peter Spadafore

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Executive Summary

The question of staffing shortages in the K-12 education sector has typically focused on the issue of teacher vacancies; that is, whether there is a sufficient supply of credentialed teachers ready and willing to make a commitment to school districts. Because of reports of increased shortages during and after the COVID-19 pandemic, the issue of teacher vacancies has recently attracted heightened attention. Yet, teacher vacancies represent only one aspect of the K-12 education labor market, and hence only one dimension of the larger topic of K-12 staffing.

The K-12 educator staffing shortage is not just about teacher vacancies, for example:

- There is the issue of day-to-day instructional coverage, which is affected by short-term teacher absences, as well as longer-term teacher vacancies.
- There is the difference between having a “warm body” in the room to monitor students versus having fully credentialed teachers at the appropriate grade level or area of specialization.
- The rough balance between aggregate demand for and supply of teachers can conceal massive differences in the availability of teachers by subject matter, grade level, and school demographic characteristics, and location (Edwards et al., 2022).
- Teachers make up only one component of the K-12 labor force.

Therefore, the health of the K-12 labor market requires attending to the full range of education professionals, including, but not limited to, administrators, support staff, and substitute teachers. This is because the absence of an adequate supply of any of these positions may influence the school climate, teacher workload and retention, and overall school staff morale.

To understand the severity of present staffing challenges in public schools, an integrated approach that takes the entire K-12 labor market into account should be employed. The Educator Workforce Project adopted this approach when defining and attempting to understand staffing shortages.

In this report, the following elements from a targeted literature review are considered in operationalizing shortages and the impact of shortages on schools, educators, and students:

1. **Vacancies (Staffing Supply).** The lack of a full-time appropriately credentialed teacher for a position, with the recognition that the impact of vacancies can vary depending on the context (e.g., district, grade level, and/or subject). Survey and teacher headcount data showed districts reported almost double the number of teaching vacancies. At the same time, applicants for teaching position are half what they were compared to prior to the pandemic.

2. **Mobility and Exiting the Profession (Staffing Demand).** This could be defined as moving to a different position (even within schools), to a different school (even within the same district), to another district, or exiting the profession altogether. While each has different organizational impacts and implications, each type creates demand and a vacancy.
3. **Instructional Coverage and Employee Absences.** Shortages of substitute teachers and other staff can create issues with instructional coverage or school operations that have the potential to adversely impact educators, leaders, students, and schools. In turn, the need for substitute teachers and instructional coverage is also impacted by problems with employee absences.

Each of these elements of staffing shortages are examined using state administrative data; statewide surveys and interviews with principals, district administrators, and substitute teachers; and comparative case studies of one urban and one rural district that include teacher absence data, as well as a variety of staff perspectives including teachers, paraprofessionals, principals, district administrators, and substitute teachers. Care was taken to preserve the anonymity and confidentiality of research participants. Together, these elements allowed the research team to take a detailed look at how each group perceives and experiences these various issues.

KEY FINDINGS

To understand and compare variation and prevalence of these problems in Michigan, a wide variety of districts, schools, and staff across the state were sampled. In general, consistent evidence was found that staffing shortage problems were much worse in low-income urban and rural districts, especially those serving high proportions of students of color.

These findings are intended to guide future deliberations by policymakers and support further research on K-12 education staffing.

STAFFING SUPPLY

Both state administrative data and reports from district administrators and school leaders (principals) suggest that adequately staffing schools has become more challenging in recent years. These difficulties affect both teaching and support personnel.

- **Educator Supply.** Experienced district leaders reported that applications for open positions that once numbered in double or even triple digits have reached as few as single digits or in some cases none (zero) in recent years, particularly in high-need staffing areas.
- **Vacancies.** Survey and teacher headcount data showed districts reporting vacancies nearly doubled and applications for teaching positions were half what they were compared to just prior

to the pandemic. Districts serving the highest percentage of economically-disadvantaged students reported nearly four times fewer applications per teaching position in 2022-23, as compared to those serving the least economically-disadvantaged students.

- **Areas of Shortage.** District leaders noted that the lowest supply and the greatest areas of need were teachers and substitutes (includes both long and short term), with high-need areas such as special education and STEM (science, technology, engineering, and math) being particularly difficult positions to fill. Leaders also expressed a strong need for paraprofessionals (instructional support staff) and bus drivers to name a few of the identified classifications.
- **Perceived Applicant Quality.** District leaders reported that the quality of applicants for vacant positions decreased across a variety of positions, with 3 out of 4 saying the quality of teachers and 3 out of 5 saying the quality of other instructional and non-instructional staff was “much less” or “somewhat less” compared to before the pandemic. In interviews, leaders from districts serving low-income students of color explained that sometimes this meant feeling pushed to hire teachers who potentially had been dismissed from other schools or districts.

STAFFING DEMAND

Increased competition over teachers, based on the data included in this study, appears to have led to widespread teacher mobility, and even deliberate recruitment away from districts (i.e., “poaching”) by neighboring districts. Based on the findings presented in this study, this phenomenon may be disadvantaging districts serving more low-income students, potentially exacerbating educational inequality.

- **The Problem of Teacher Poaching.** Given the apparent low supply of teacher applicants across the state, district leaders consistently reported having to actively recruit teachers or having teachers recruited by surrounding districts. Sixty percent of surveyed district leaders agreed or strongly agreed that “poaching” was a serious staffing problem for them, with the problem felt most urgently in urban districts. Sixty-seven percent also reported that one of the biggest reasons for teacher vacancies in their district is that teachers were leaving to teach in another district.
- **The Importance of Salary Steps and Employee Compensation in the Competition for Teachers.** Analyses of interview data illustrate how and why teacher poaching disproportionately affects low-income districts (both rural and urban) because they are unable to compete in terms of salary and benefits. Purposive sampling of urban district leaders serving high proportions of students of color that were able to offer some of the highest salaries in the region provided suggestive evidence that employee compensation is a key driver of mobility beyond working

conditions. These districts reported fewer struggles with staffing as a result of their ability to compete via teacher pay in spite of the perception that these districts are perceived to have among the most difficult working conditions.

THE ISSUE OF SUBSTITUTE TEACHERS: INSTRUCTIONAL COVERAGE, WORKING CONDITIONS, AND JOB DECISIONS

Instructional coverage of classrooms due to teacher absences is a significant problem for many districts. Both survey and administrative data indicated that teacher absence rates increased in many districts, while the substitute teacher fill rate had declined.

- **An Increase in Teacher Absences and a Shortage of Substitutes.** Both district leader and principal surveys suggested that teacher absences increased in recent years, and nearly all reported a lack of short-term substitute teachers. Although it has its limitations, state-level personnel data indicated that the number of substitute teachers may have declined between 2018 and 2021, a trend that affected districts of all types. Case study personnel data in two sample districts also provided evidence for higher teacher absences and lower coverage rates in the most recent school year (2022-23).
- **Connecting Substitute Working Conditions and Placement Decisions.** When substitute teachers were asked about what they liked least about their jobs, 63% of those surveyed disliked the pay and 57% disliked student behavior problems. Interviews with substitutes corroborated these findings and showed that those who depended on substitute jobs for pay made it a strong priority in choosing where they worked. To the extent that larger proportions of substitutes are highly dependent on the rate of pay, these findings have implications for recruitment and retention of the substitute workforce. Comparing the interview findings with the survey results of a random, representative sample of substitutes across the state, pay was the number one thing they disliked about the job, and over a third said that they subbed because they needed the money. This suggests that a sizable portion of the substitute teacher workforce has moderate or high levels of pay dependency. Districts and policymakers can respond accordingly by attempting to increase compensation for substitute teachers, particularly for districts with acute substitute teacher shortages.

IMPACT OF SHORTAGES

Teacher vacancies and absences have a substantial impact on student learning, school operations, and climate and culture. Severe staffing challenges can also contribute to a negative feedback loop, in which over-stressed teachers need more time off or begin considering other jobs.

- **Impact of Teacher Absences and Vacancies.** Eighty-one percent of district leaders agreed or strongly agreed that the lack of substitute teachers is having a negative effect on student learning in their district, and the majority of surveyed principals said that teacher absences and vacancies had a moderate or major effect on student learning, school climate and culture, and the morale of school staff.
- **Mechanisms Impacting Instruction, Operations, and Climate.** Interview and supplemental survey analyses highlighted six key mechanisms impacting instruction, operations, and culture:
 - Substitutes lacked technical knowledge required for teaching. This led to leaders having to focus on developing the very basics of teaching in staff.
 - High turnover and inexperienced staff led to lack of continuity and constant resetting of instructional efforts, intervention support, professional development, and relationships.
 - Hiring cycles and time devoted to hiring were ongoing throughout the year.
 - Bus staffing shortages adversely impacted students and leaders; needing to cover instructional or other staff responsibilities contributed to burnout.
 - Parents reported dissatisfaction with schools because of inexperienced staff.
 - Turnover and job-switching was perceived as “contagious.”

SCHOOL AND DISTRICT RESPONSES TO SHORTAGES

Pandemic relief funds seemed to allow district leaders to adopt shortage mitigation strategies, but these funds will soon be exhausted. Although districts often see the wisdom of proactive strategies, short-term pressures often forced them to resort to triaging or bandaging an issue without fixing it.

- **Use of COVID Relief Funds.** Seventy-nine percent of district leaders reported using COVID relief funds to help with efforts such as teacher recruitment, retention, compensation/benefits, and new teaching and support positions. Despite using these resources to address shortages, over one third of surveyed school leaders still reported that they asked a teacher to give up their planning period to provide coverage, and most district leaders are not confident they will be able to continue new staffing initiatives once COVID relief funds are exhausted and/or expired.
- **Responses to Vacancies and Absences.** Interview analysis revealed common coverage responses to vacancies and absences, which fell into three broader categories:

- Proactive planned strategies, such as allocating funding for vacant positions or for a building substitute.
- Reactive approaches that minimize the impact on instruction, such as pulling building teachers or other certified instructional staff on prep periods.
- Less ideal reactive approaches that severely impact instruction, such as combining classrooms or having non-certified staff cover classrooms.

LIMITED STATE AND DISTRICT DATA INFRASTRUCTURE

This study provided several examples of the current limits to state-level data systems with respect to K-12 educator staffing, and the challenges districts currently have in collecting and analyzing their own personnel data.

- **State-Level Data.** As presently constituted, state-level data systems made it difficult to develop accurate, reliable estimates of teacher vacancies, teacher absences, and instructional coverage (among other items). At present, the state's data system does not make it possible to determine the number of days an individual substitute teacher actually worked in a district. These issues could be alleviated with the implementation of Michigan's new education personnel data system.
- **Lack of District Capacity.** Some districts sampled for this study possessed outdated data systems that make it challenging to accurately report vacancies or even to internally track absences and substitute assignments. Further, the shift to year-round educator staff recruitment may also place additional administrative burdens on district human resource departments. The attention required to address short- and long-term staffing problems appears to be pulling district leaders and school administrators away from core functions and placing an additional burden on existing staff.

REDUCING STAFFING SHORTAGES

A review of state policies and the extant research base on reducing staffing strategies suggests that, although most of the focus is on teachers, many of the same lessons could be applied to other K-12 personnel. This review suggests that (1) money matters, especially in the short run, as does (2) teacher preparation and school working conditions, and (3) the evidence base on the effectiveness of these approaches remains fairly weak, particularly for staff other than teachers. Among the most common strategies are:

Improving Recruitment and Retention

- Compensation
- Professional preparation, induction, and early support

- Working conditions

Program and Regulatory Strategies

- Induction and early career support strategies, such as mentoring
- Reduced teaching loads
- A focus on professional development

The research literature does suggest some significant considerations to inform an understanding of the findings presented here and to support the application of certain policy considerations when responding to staffing challenges. Based on the study's findings in light of the research, the following considerations for policy were developed:

1. Stabilize and enhance resources post-COVID (mitigating any cliff effect), and reinforce efforts to promote more equitable education funding
2. Expand efforts to provide resources for hard-to-staff subject areas, school districts, and strengthening the teacher pipeline
3. Account for poaching, absences in addition to vacancies, and other problem areas in the formulation of policy
4. Improve working conditions and professional status of instructional staff
5. Consider permanent district/building subs, and improving substitute expertise
6. Strengthen data and evaluation systems (such as an integrated statewide human resource system for districts)
7. Streamline data collection and research (to overcome "research fatigue" by educators)

Introduction

Under contract with the Michigan Department of Education (MDE), the Michigan Alliance for Student Opportunity (MASO) partnered with Public Policy Associates (PPA), as well as researchers from Michigan State University and the University of Michigan, to examine the status of Michigan’s K-12 education labor market. This report was funded by Section 27f of the School Aid Act, 2022 Public Act No. 144 (July 14, 2022).¹ In the Act, the legislature called for the following:

- (a) The identification of effective and financially sustainable strategies districts have developed to address staffing shortages.
- (b) An evaluation of how educator workforce shortages compare among the various districts across this state in efforts to improve the diversity of the workforce and to understand how workforce shortages relate to questions of equity in education.
- (c) Recommendations for both short-term and long-term solutions to address educator shortages.
- (d) An examination of educator workforce policies in other states to identify approaches that have been useful in addressing educator shortages and diversity.
- (e) An analysis of district-level personnel data from urban and rural districts that have faced the largest declines in staff and face the greatest burdens in addressing educator shortages.
- (f) The inclusion of targeted feedback from school-level educators, as well as district-level administrators. (Page 41)²

In two previously published interim reports,³ the research team (1) reviewed the existing research base on teacher staffing problems (including those from other states) and (2) presented preliminary results from three surveys of state district leaders, principals, and substitute teachers (in Michigan).

In this final overarching report, the research team will elaborate upon the interim reports and synthesize all research findings with results of extensive primary data collection, including interviews with district administrators, school principals, and certified substitute teachers; analysis of state administrative data related to substitute teachers; and detailed case studies from two school districts (one from an urban/suburban district and one from a rural/town district).

¹ Michigan Legislature (2022, July 14). *Act No. 144*. <http://www.legislature.mi.gov/documents/2021-2022/publicact/pdf/2022-PA-0144.pdf>

² The language (Sec. 27f) also required that the study include “representation from various stakeholders, including, but not limited to, teachers, school administrators, and human resources directors.”

³ As part of the research reporting for FY 2023, three interim reports have been submitted to MASO. Information from the first (December 2022) and third (June 2023) interim reports have been incorporated into this final report. They are also included as Attachments to this report.

In conducting this research, the following research questions were explored:

1. What is the current state of the K-12 labor market in Michigan, including teachers, administrators, substitute teachers, and other staff?
2. How does K-12 staffing vary across types of school districts?
3. What short- and long-term factors contribute to any existing staffing challenges?
4. What impact do staffing challenges have on schools and students?
5. What strategies are available to improve the quality and quantity of education staffing in Michigan?

K-12 STAFFING: GOING BEYOND TEACHER VACANCIES

The question of staffing problems in the K-12 education sector has typically focused largely on the issue of teacher vacancies; that is, whether there is a sufficient supply of credentialed teachers ready and willing to make a commitment to school districts. The issue of teacher vacancies attracted increased attention due to reports of increased staffing problems during and after the COVID-19 pandemic. However, teacher vacancies represent only one aspect of the K-12 education labor market, and hence only one dimension of the larger topic of K-12 staffing.

K-12 staffing shortages are not just about teacher vacancies.

- First, there is the issue of day-to-day instructional coverage, which is affected by short-term teacher absences, as well as longer-term teacher vacancies.
- Second, there is the difference between having a “warm body” in the room to monitor students versus having fully credentialed teachers at the appropriate grade level or area of specialization.
- Third, a rough balance between aggregate demand for and supply of teachers can conceal massive differences in the availability of teachers by subject matter, grade level, and school demographic characteristics and location.
- Fourth, teachers make up only one component of the K-12 labor force.

The health of the K-12 labor market requires attending to all education professionals, including administrators, support staff, and substitute teachers as well because the absence of an adequate supply of these staff can have a significant impact on outcomes like school climate, educator workload, teacher retention, and staff morale (Benhenda, 2022; Miller et al., 2008). In short, to understand the severity of present staffing challenges in public schools, there is a need to adopt a comprehensive approach that takes the entire K-12 labor market into account.

In this section, a targeted review of the extant literature on educational staffing problems is presented. The emphasis for this study is on the most recent data on the health of K-12 labor markets in the wake of the pandemic, including whether that market has deteriorated over the last several years. It begins with the most prevalent body of work, which is focused on teacher vacancies. These studies are largely based on surveys of school administrators or state administrative data.

Then, the smaller body of research on variations in teacher availability by subject and type of school, teacher absences, and the status of the labor market for administrators and support staff is discussed. A particular emphasis is placed on the critical role of substitute teachers in compensating for other staffing challenges.

RECENT RESEARCH ON K-12 STAFFING

The waning of the COVID-19 pandemic was accompanied by numerous concerns about school staffing problems. Newspaper headlines and media reports around the country have been dominated by reports of an acute lack of K-12 teachers and support staff. The scope of nationwide shortages remains unclear, with different methods yielding varying estimates. National employment statistics suggest that as of March 2022, there were still fewer K-12 staff than two years earlier (Bleiberg & Kraft, 2022), while surveys of administrators indicate that teacher turnover has increased (Diliberti & Schwartz, 2023).

During the height of the Covid-19 pandemic, there were doubts about whether teacher turnover was increasing, yet the last school year (2022-23) seems to indicate a breaking point: some states have reported record levels of teacher attrition and turnover in 2022-23 with teachers leaving at “historic highs” (Goldhaber & Theobald, 2023, p. 1; also see: Camp, Zamarro, & McGee, 2023). An analysis of turnover rates in 15 different states saw more teachers leave in 2022-23 than any other year on record as noted by Barnum (2023).

Recent national estimates suggest that the number of teacher vacancies have risen from 36,000 last year to 55,000 this year, figures that are likely underestimates (Nguyen et al., 2022, teachershortages.com). Michigan may be particularly hard hit. A 2021 National Center for Education Statistics (NCES) survey (Learning Policy Institute, 2023) of all 50 states found that, on average, 47% of district leaders had unfilled or hard-to-fill teaching positions. According to this survey, Michigan ranked second among states (65%) reporting staff challenges, behind only Alaska. Michigan education personnel data also indicates an increase in vacancies, more new and inexperienced hires, and growing reliance on temporary credentials over the last several years (Kilbride et al., 2023).

It remains unclear whether the recent challenges in teacher staffing are part of a long-term trend. Although enrollment in traditional Michigan teacher preparation programs is far lower than in the past (Kilbride et al., 2023), historically, the national supply of teachers has regularly exceeded the number of new hires (Cowan et al., 2016), and state data systems suggest that the number of unfilled positions is quite modest (Kilbride et al., 2021; Bruno, 2023).

The findings are at odds with reports of district and school leaders in part because scholars are noting limitations in existing datasets that obscure the nature and extent of vacancies. For instance, aggregate descriptions mask considerable within-district variation, which suggests that shortages are highly localized (Edwards et al., 2022). In addition, these discrepancies might be the result of limitations in the administrative data. As such, researchers have looked to more creative approaches, such as gathering news reports (Nguyen et al., 2022) and public job postings (Goldhaber & Gratz, 2022).

In terms of limitations in administrative data in Michigan, Kilbride et al. (2021) identified a number of challenges with the state's system, the Registry of Educational Personnel (REP). For example, the REP's indicator of teacher vacancies only counts funded vacant positions and is conducted at specific points in time. State reporting requirements also do not allow researchers to understand key issues about supply and demand in the educator labor market, such as vacancies, why educators leave, where they leave to, or whether/when long-term substitute teachers filling assignments are being conflated with full-time teachers in existing datasets (Kilbride et al., 2021; Mauriello & Higgins, 2022).

Accordingly, researchers in Michigan recommend the use of surveys and interviews to supplement administrative data and provide more context about the experiences of teachers and administrators (Kilbride et al., 2021, p. 54). This recommendation is followed in this report. Gaining insights from educational leaders at the district and school level is especially important because they are the most knowledgeable about hiring needs, vacancies, and issues of educator quality.

While the scope of an overall teacher staffing "crisis" is unclear or in dispute, there is compelling evidence for geographic, economic, and racial inequalities in K-12 staffing. These inequalities may have been exacerbated during the pandemic.

Data from the National Teacher and Principal Survey (NTPS) and the School Pulse Panel (SPP) show a substantial increase in vacancies by subject matter over the last ten years, particularly for special education (Schwartz & Diliberti, 2022). According to survey data, schools in urban areas with larger proportions of minority students and students from families with low incomes have seen higher teacher vacancies (Diliberti & Schwartz, 2023; Schwartz & Diliberti, 2022).

State administrative data also show greater staffing challenges in lower-income districts (Goldhaber & Gratz, 2022, Goldhaber & Theobald, 2023). There is also considerable geographic variation in the number of vacancies, which reflects the intensely localized character of teacher labor markets (Bruno, 2023; Edwards et al., 2022), including in Michigan (Kilbride et al., 2023).

Finally, the focus on the quantity of vacancies overlooks the fact that not all vacancies are equal. Contextual considerations such as the size of districts, school context, socioeconomic status, and student demographics or needs shape the impact of the quantity and type of vacancy in any given district (Craig, Hill-Jackson, & Kwok, 2023).

OTHER STAFF IN THE K-12 LABOR FORCE

Although teachers are probably the largest and most crucial element of the K-12 labor force, their work is enabled by the support of a host of other staff, both instructional and non-instructional. Shortages among other K-12 staff can impinge on the proper functioning of schools. Current trends in teacher staffing are mirrored in other slices of the education labor market.

The pandemic gave way to greater challenges in recruiting enough paraprofessionals (Diliberti & Schwartz, 2023; Theobald et al., 2023; Zuo et al., 2023), bus drivers (Diliberti & Schwartz, 2023; Schwartz & Diliberti, 2022), and substitute teachers. Shortages of these kinds of support and other non-instructional staff have an impact on teachers and administrators because they must spend considerable time dealing with new demands that often fall outside of the instructional core and their main responsibilities (Diliberti & Schwartz, 2023; Schwartz & Diliberti, 2022; Zuo et al., 2023).

The lack of substitute teachers in 2022 was particularly intense, with virtually all surveyed district leaders indicating an insufficient supply (Schwartz & Diliberti, 2022). The challenges with the educator labor market may have also affected staffing of school administrators, with some indication of higher turnover rates by principals (Diliberti & Schwartz, 2023) and superintendents (Rosenberg 2022).

However, other studies have found that administrator vacancies have remained fairly steady (Bruno, 2023; Schwartz & Diliberti, 2022). As with teachers, current trends may reflect a worsening of long-term problems in adequate K-12 staffing. For example, Burroughs et al. (2019) found shortages of Michigan substitute teachers prior to the pandemic; two-thirds of district administrators reported moderate to severe shortages; 64% of administrators stated that teacher absences could not be filled multiple times a week.

At the same time, the demand for substitute teacher coverage has never been greater because schools and districts are increasingly faced with teacher absence challenges. Concerns about teacher absences emerged before the COVID-19 pandemic (e.g., Thomas B. Fordham Institute, 2017; Gardner, 2020), but these concerns became more pronounced with the arrival of the COVID-19 pandemic and continued into the 2021-2022 school year (U.S. Department of Education, 2022). Recent research found that teachers are more likely to be chronically absent, or missing ten percent or more of school days, since the onset of the pandemic (U.S. Department of Education, 2022).

While there is evidence teacher absences are on the rise in both high-poverty and low-poverty districts, research supports that teacher absences are worse in schools with higher minority student populations (Greene & Butcher, 2023). It is worth noting that in addition to being absent for physical health (i.e., illness), teachers frequently report being absent for reasons related to job-induced mental health challenges (e.g., job stress, job dissatisfaction, etc.) (Gardner 2020). Teacher absence challenges are exacerbated by the inability for schools to secure day-to-day substitute teachers.

STAFFING SHORTAGES AND INSTRUCTIONAL COVERAGE: SUBSTITUTE TEACHERS AS CRITICAL COMPONENTS OF A HEALTHY K-12 LABOR MARKET

The narrow focus on teacher vacancies in the extant literature may conceal an equally severe problem with instructional coverage. Vacancies are often filled by long-term substitute or teachers with temporary teaching credentials. By contrast, instructional coverage refers to day-to-day placement of an individual who satisfies the minimum requirements to be a substitute in a classroom.⁴

Teacher absences can compound teacher staffing problems by requiring additional personnel to cover a classroom on a particular day (Sparks, 2022). Zuo et al. (2023) include instructional coverage as part of their definition of a shortage, arguing that shortages can be understood as regularly having insufficient staff to cover classrooms, which can result from vacant or unfilled positions, teachers absent or on leave, and generally an insufficient number of substitute teachers or other staff to provide coverage when needed. District leaders indicated that instructional coverage was a much more severe problem than prior to the pandemic because of a lack of substitute teachers. Short-term substitute teachers play a critical role in the functioning of schools, yet there is precious little data and few rigorous studies elaborating the supply, demand, or impact of substitute teachers.

⁴ It should be noted that substitute teachers are not credentialed teachers, and in fact Michigan recently reduced the educational requirements to work as a substitute (e.g. Public Act 2018, No. 236, <http://www.legislature.mi.gov/documents/2017-2018/publicact/pdf/2018-PA-0236.pdf>)

In part, the need for substitute teachers reflects the problem of teacher absences, with teachers out of the classroom on average 11 days a year (Joseph et al., 2014). However, even in districts without a severe absence problem, schools require a ready supply of available substitute teachers to accommodate workplace obligations (conferences, professional development) and personal demands (illness, etc.) (Citizens Research Council, 2019; Gonzales, 2017).

Like any other worker, there will be times when teachers have to be out of the classroom. The difference is that, unlike other jobs, a classroom cannot function without a suitable replacement, hence the need for a pool of available substitute teachers. Without one, schools most often must resort to re-assigning other staff (e.g., interventionists, paraprofessionals, and administrators) or redistributing students across other classrooms, with potentially negative effects on students and staff (Benhenda, 2022; Fairfax Education Association, 2017; Henderson et al., 2002; Russo, 2001; and Starr, 2000a).

Substitute teachers therefore play a key role in supplementing school staffing when there are either short- or long-term shortages in instructional staff. Even if the pandemic had not led to higher teacher vacancies, a reduction in the supply of substitute teachers would pose severe challenges to school functioning. The tight labor market after the pandemic may have created just such a situation by luring substitute teachers to different jobs.

Taken together, these myriad studies suggest that a more comprehensive approach to defining and understanding shortages is needed. The following elements were used to operationalize shortages and the impact of shortages on schools, educators, and students:

1. **Vacancies (Staffing Supply).** The lack of a full-time, appropriately credentialed teacher for a position, with the recognition that impact of vacancies can vary depending on the context.
2. **Mobility and Exiting the Profession (Staffing Demand).** This could be defined as moving positions (even within schools), schools (even within district), districts, or exiting the profession. While each has different organizational impacts and implications, each type creates demand and a vacancy.
3. **Instructional Coverage and Employee Absences.** As noted, the lack of substitute teachers and other staff can create issues with instructional coverage or school operations that have the potential to impact educators, leaders, and schools significantly and adversely. In turn, the need for substitute teachers and instructional coverage is also impacted by problems with employee absences.

Each of these elements of staffing problems are exemplified in this report, taking a detailed look in particular at how district administrators, principals, teachers, and substitute teachers perceive and experience these various issues. These three factors related to shortages comprise the first three sections of this report. The final sections of the report examine how schools and districts perceive the impacts of these collective problems on instruction, operations, morale, and culture, and how they proactively and reactively responded to those problems.

Methods

A mixed-method study was conducted that included surveys and interviews of Michigan district administrators, school principals, and substitute teachers; an analysis of state REP data to analyze patterns in substitute teacher assignments; and case studies of two Michigan school districts (discussed in detail at the end of this section). The case studies incorporated analyses of district personnel data, as well as interviews and focus groups with district and school administrative staff, teachers, and instructional support staff. In this section, the methods used for each study component is reported.⁵

This study explicitly builds on studies by Michigan State University's Education Policy Innovation Collaborative (EPIC), which analyzed teacher vacancies, mobility, and qualifications using state administrative data (Kilbride et al., 2021, 2023). This research expands on their work by examining potential shortages among other K-12 staff, considering the effects of teacher absences (as opposed to just vacancies), and meets their suggestion of soliciting the perspectives of school personnel on the state of school staffing.

QUANTITATIVE DATA

OVERVIEW OF SURVEYS

Three separate statewide surveys were created, one for each target population (district leaders, school leaders, and substitute teachers). Participants were recruited via email, and surveys were administered online via SurveyMonkey. Survey responses were collected between November 2022 and April 2023.

District leaders and school leaders were asked about staffing conditions in the current school year (2022-23). To gain insights on short-term trends across districts, district leaders were also asked to make comparisons to staffing prior to the pandemic. In the email invitation, district leaders and school leaders were informed that some questions asked about estimated number of teacher vacancies, absences, and applicants, and that it may be helpful to gather that information prior to initiating the

This study explicitly builds on studies by Michigan State University's Education Policy Innovation Collaborative (EPIC), which analyzed teacher vacancies, mobility, and qualifications using state administrative data (Kilbride et al., 2021, 2023).

⁵ *Quantitative*: surveys and administrative data. *Qualitative*: interviews and focus groups.


survey. Substitute teachers were asked about their working conditions, professional background, and career trajectories.

SURVEY SAMPLE AND PROCEDURES

The district leader and school leader surveys relied on a convenience sample of individuals who elected to respond to the survey invitation, which was sent via email to the entire population of school district administrators and principals. Contact information for all district administrators and school principals was pulled from Michigan's Educational Entity Master (EEM) as of October 2022. A total of 114 district leaders, including district administrators, superintendents, and key senior staff (primarily directors of human resources), completed the district leader survey. A smaller number of these respondents ($n = 70$) also reported on staffing for the 2019-2020 school year (i.e., pre- vs. post-pandemic). A total of 205 school leaders (primarily principals and assistant principals) completed the school leader survey.

District and school leaders gave information on their districts and buildings, allowing for an examination of how survey responses varied by demographic and geographic characteristics of the respondent's district/building. The research team compared the demography and geography of survey respondents to the population of districts and buildings in Michigan as a whole, finding that the survey samples generally reflect the population (see Technical Appendix for details). However, it should be noted that the sub-sample of district leaders who compared staffing in 2022-23 to before the pandemic was somewhat more rural, less economically-disadvantaged, and have a smaller share of non-White students.

The sample for the substitute survey was recruited from a scientific random sample drawn from REP contact information. A sample drawn in this fashion has a higher probability of providing valid, generalizable results because the risk of selection bias is lowered. A random sample of 525 Michigan-based individuals who worked as substitute teachers during the 2018-2021 period responded to the email survey invitation and are included in the substitute survey analyses.



To the knowledge of the researchers, this is the first rigorous survey of a representative sample of substitute teachers in an entire state.

To the knowledge of the researchers, this is the first rigorous survey of a representative sample of substitute teachers in an entire state. The demographic characteristics of substitute teachers from the sample generally align with the demographics of substitute teachers in Michigan as a whole, using

Michigan Online Educator Certification System (MOECS) records drawn from analyses of REP substitute assignment data (see Table 38 in the Technical Appendix).

Additional details on survey recruitment methodologies, as well as specific characteristics of the responding districts, schools, and substitute teachers, can be found in the Technical Appendix.

SURVEY ANALYSES

Most of the analyses presented in this report are descriptive statistics, used to summarize and present key characteristics, trends, and patterns observed in the data. These include basic summaries of key variables, such as means and frequencies. Subgroup differences were examined to see variations in demographic characteristics, such as district/school locale, size, percentage of economically-disadvantaged students, and percentage of students who are non-White.

Following Arsen et al. (2022), the research team operationalized the urban/rural distinction by grouping “urban” and “suburban” locales into a “non-rural” category, and “rural” and “town” locales into a “rural” category. Economic disadvantage was measured using the percentage of students eligible for free and reduced meals, while minority population was calculated as the percentage of students that were other than non-Hispanic White. School districts were grouped into quartiles, i.e., 0-25% economically-disadvantaged, 25-50%, 50-75%, and 75-100%. School count information was drawn from the 2021-2022 MI School Data school count totals. Only statistically significant ($p < .05$) differences are reported.

ANALYSIS OF SUBSTITUTE ADMINISTRATIVE DATA

The research team analyzed data from Michigan’s REP to explore to what extent the use of substitute/temporary teachers has changed since the 2018-19 school year. The REP is maintained by the Center for Educational Performance and Information (CEPI) and reports basic employment elements relating to all educational personnel in Michigan’s K-12 schools, including their district and type of assignment. Data are submitted by districts annually and are used to meet state and federal reporting requirements, as well as for the teacher certification audit.

Detailed data on substitute and temporary teaching assignments during the 2018-19, 2019-20, and 2020-21 school years were obtained from MDE. These years were selected to examine the substitute labor market immediately preceding and during the acute phase of the COVID-19 pandemic. The analysis was primarily conducted on those assigned as day-to-day substitute teachers (i.e., assignment period less than 90 days, filling in for an assigned teacher), but a smaller number of assignments that met the following two criteria were also included in the analyses: (1) their funded position status

indicates the position is not filled by a permanently assigned employee (e.g., filled by temporary employee or outside contractor), and (2) their assignment code identifies them as a classroom teacher.⁶

In some cases, an individual may hold multiple assignments in the same district for the same year. Assignments were collapsed by individual, district code, and school year in order to examine which years and in which districts an individual worked as a substitute. Detailed information on the length of any assignment is not available. A total of 228,323 substitute and temporary teaching assignments in all Michigan districts in the study period were analyzed, which were filled by 58,945 individuals.

Analyses were conducted at multiple levels: (1) market-level analyses, to examine the pool of substitute assignments in the state as a whole; (2) individual-level analyses, to examine an individual's level of engagement in the substitute/temporary teaching labor market over time; (3) district-level analyses, to examine a district's use of substitute teachers and/or temporary teachers relative to their teacher headcount. At each level, we also examine differences by district's demographic and geographic features. As with the surveys of district leaders, district data (e.g., locale and enrollment) were downloaded from MI School Data and merged by school year and district code.

QUALITATIVE DATA

OVERVIEW OF QUALITATIVE DATA

A mixed-method study was engaged for school staffing problems because qualitative data are ideally suited for answering “how” and “why” questions (Merriam & Tisdell, 2016). In this context, data aimed at understanding, and comparing how participants around the state are experiencing staffing shortages. Qualitative data allow researchers to gather rich contextual data about how staffing problems are impacting districts and schools, including how and why leaders choose to respond, how this may vary depending on the district or school context, and to what perceived effect.

Quantitative data are “deductive.” In other words, researchers form hypotheses and craft constructs that they then use to measure what is happening with respect to a given topic. Qualitative data are important because they inductively capture phenomena. That is, they can capture experiences and perceptions that researchers may be unaware of when they design instruments and studies.

This is important because the research team was able to gather rich contextual data, for example, which explained things like under what contexts and situations teacher mobility varied; why and how districts experienced teacher poaching differently; or why certain districts were minimally impacted

⁶ The research team used the MI School Data definition of a “teacher” obtained from the Assignment Code Table spreadsheet, https://www.michigan.gov/documents/cepi/AssignmentCodeTable_669834_7.xlsx.

while others deeply struggled. Another example is that the researchers were able to capture the strategies that districts and schools attempted to deal with shortages (and why) that were unavailable prior to data collection.

Another purpose of qualitative data is to understand variation; for example, answering questions about why and how different schools or districts have similar or distinct experiences, why they experience them differently and to what effect, etc.

While qualitative data can capture important patterns, the purpose is not to report quantities of responses like in quantitative survey analysis since the research team is not aiming for representative samples. Instead, the aim is to capture and explain variation and answer “how” and “why” questions. Therefore, most of the qualitative results and tables from this study largely point to what researchers call categories (Merriam & Tisdell, 2016), which show patterns and variations in responses.

Described below are the three distinct levels of data collection and analysis:

- State level interviews of district administrators and school leaders (n = 52)
- Interviews with substitute teachers who also participated in the substitute survey (n = 20)
- Two comparative case studies of an urban and rural district

STATE LEVEL INTERVIEWS: DATA COLLECTION AND ANALYSIS

The qualitative component of the research project began with purposive sampling of district administrators and principals in a variety of geographic regions of Michigan that were dealing with different student populations. Purposive sampling involves recruiting an individual or “unit” that can speak knowledgeably about the central phenomena (Merriam & Tisdell, 2016). In this case, that would be school and district level leaders who had deep knowledge about staffing efforts.

District level leaders allowed the research team to understand patterns in hiring and vacancies across a district, as well as district-level strategies and impacts. Principals were able to speak to building level patterns in hiring and vacancies and share a more fine-grained understanding of how others perceived and were impacted by staffing challenges.

The research team aimed for maximum variation sampling, which involves identifying “widely varying instances of [a] phenomenon” (Merriam & Tisdell, 2016, p. 98) such that categories, themes, patterns, and variations could be explained and emerge out of heterogeneity (Patton, 2015). For example, it was known from prior literature and experience that perceptions of shortages would vary depending on the severity of the shortage, the geographic region and locale (such as urban, suburban, or rural), and the

demographics and student population served. Sampling from a wide range of experience, students served, and geographic location enabled the researchers to check, triangulate, and compare findings within and across types of cases.

The research team conducted 52 total interviews. Thirty-two were with district administrators including superintendents and human resource (HR) leaders who were closest to the hiring and staffing data/processes, and 20 were with building principals (see Technical Appendix for more complete details on individuals and districts in the sample). The research team sampled until they achieved saturation (Merriam & Tisdell, 2016) in the data which involves sampling a highly varied range of participants until the responses received to common interview questions yield similar patterns and results across the sample. Sampling for maximum variation and saturation helped the research team to feel reasonably certain that they were capturing and representing sufficient variation in leaders' experiences across the state.

The tables below summarize relevant characteristics of district and school interview samples. The district size cutoffs are loosely based on the NCES enrollment size of district ranges. Similar to the quantitative data, the research team operationalized the urban/rural distinction by grouping "urban" and "suburban" locales into a "non-rural" category, and "rural" and "town" locales into a "rural" category.

Economic disadvantage was measured using the percentage of students eligible for free and reduced meals, while minority population was calculated as the percentage of students that were other than non-Hispanic White. School and/or districts were grouped into quartiles, i.e., 0-25% economically-disadvantaged, 25-50%, 50-75%, and 75-100%. District demographic data were drawn from the 2021-2022 MI School Data student counts.

Table 1. Characteristics of districts represented by state-level leader interviews⁷

District Characteristic	District Characteristic Sub-Category	District Count (N)	Percentage of Sample
District Size (based on student enrollment)	<1000	10	31%
	1000-2499	3	9%
	2500-4999	5	16%
	5000+	14	44%
	Total	32	100%
Prosperity Region	1	6	19%
	2	1	3%

⁷ Source: MISchoolData.org Student Count File 2021-22

District Characteristic	District Characteristic Sub-Category	District Count (N)	Percentage of Sample
	3	0	0%
	4	2	6%
	5	3	9%
	6	3	9%
	7	3	9%
	8	3	9%
	9	2	6%
	10	9	28%
	Total	32	100%
Locale	Rural	12	38%
	Non-Rural	20	63%
	Total	32	100%
%Economically Disadvantaged Quartile	Q1 (< 25% ED)	6	19%
	Q2 (=25 < 50% ED)	8	25%
	Q3 (=50 < 75% ED)	8	25%
	Q4 (=75 <= 100% ED)	10	31%
	Total	32	100%
%Non-White Quartile	Q1 (< 25% Non-White)	13	41%
	Q2 (=25 < 50% Non-White)	8	25%
	Q3 (=50 < 75% Non-White)	6	19%
	Q4 (=75 <= 100% Non-White)	5	16%
	Total	32	100%

Table 2. Characteristics of schools represented by state-level leader interviews⁸

School Characteristic	School Characteristic Sub-Category	School Count (N)	Percentage of Sample
District Size (based on district total student enrollment)	<1000	5	25%
	1000-2499	6	30%
	2500-4999	6	30%
	5000+	3	15%
	Total	20	100%
Prosperity Region	1	1	5%
	2	1	5%
	3	0	0%
	4	5	25%
	5	0	0%

⁸ Source: MISchoolData.org Student Count File 2021-22

School Characteristic	School Characteristic Sub-Category	School Count (N)	Percentage of Sample
	6	2	10%
	7	3	15%
	8	4	20%
	9	1	5%
	10	3	15%
	Total	20	100%
Locale	Rural	8	40%
	Non-Rural	12	60%
	Total	20	100%
%Economically Disadvantaged Quartile	Q1 (< 25% ED)	5	25%
	Q2 (=25 < 50% ED)	3	15%
	Q3 (=50 < 75% ED)	5	25%
	Q4 (=75 <= 100% ED)	7	35%
	Total	20	100%
%Non-White Quartile	Q1 (< 25% Non-White)	9	45%
	Q2 (=25 < 50% Non-White)	2	10%
	Q3 (=50 < 75% Non-White)	4	20%
	Q4 (=75 <= 100% Non-White)	5	25%
	Total	20	100%

More details on individual districts and schools can be found in the Technical Appendix.

Figure 1 (below) illustrates the regions that are represented in this sample, with darker shaded regions representing districts or schools that were represented. The research team broadly shaded these regions to preserve participant anonymity but made sure to sample a wide variety of regions across the state.



Figure 1. Geographic regions sampled in state-level leader interviews

The research team assigned pseudonyms to each district or school to preserve participant anonymity. Given the relatively large number of participants, each district or school was assigned the name of a national park (see Table 35 in Technical Appendix).

Once data collection was complete, the research team transcribed and cleaned each interview, then uploaded each transcript into Dedoose.⁹ The research team first used a deductive coding scheme to reduce the most important data in alignment with the research questions, for example, capturing cross-case patterns in staff vacancy quantity and quality, the impact of shortages, and strategies used to

⁹ Dedoose. <https://www.dedoose.com/>

address shortages. The second round of coding involved exporting codes from Dedoose then crafting categories from the data to answer each research question by checking for patterns, trends, and variations.

SUBSTITUTE INTERVIEWS: DATA COLLECTION AND ANALYSIS

When the substitute survey was distributed, participants were offered the opportunity to complete a separate survey that independently asked if they would be willing to participate in a follow-up interview. About 148 Michigan-based respondents from the survey sample provided their preferred contact information along with the name of the district(s) they worked in. Participants were substitute teachers who had worked in Michigan in the 2022-23 school year. They were offered a \$50 gift card for participation in a semi-structured interview about their experiences with substitute teaching, including details about their job preferences, satisfaction, and career decisions.

From this initial list, interviews with twenty substitute teachers were conducted (see Technical Appendix for demographic and other details). The research team again aimed for purposeful and maximum variation sampling, contacting individuals who varied in terms of their race, gender, personal background (e.g., retiree, prospective teacher, stay at home parent, etc.) and type of district they worked in (see Technical Appendix for detail about participants).

As the researchers invited and interviewed the first several substitute teachers, attention was paid to whether and how there was variation in the sample. There was initially less variation along the lines of the race of substitute teachers and where they worked (e.g., most worked in high-income districts and were White). The researchers then engaged in theoretical sampling, which “begins with an initial sample chosen for its obvious relevance to the research problem... [and] the data lead the investigator to the next [stage of data collection]” (Merriam & Tisdell, 2016, p. 99).

It was necessary to recruit individuals who varied in terms of race and who worked in lower-income urban districts, so individuals who fit this were contacted using the list of interested substitute teachers. This allowed the research team to see and test, for example, what substitute teachers liked and disliked about their jobs, why they would or would not work in districts with more difficult working conditions, and the extent to which working conditions and pay mattered depending on the context.

It also helped answer questions about racial equity and inequality depending on race and class in various communities where substitute teachers taught. The researchers continued theoretical sampling until saturation was achieved. Finally, data analysis followed a similar process described in the prior section on state-level leader interviews.

URBAN AND RURAL DISTRICT COMPARATIVE CASE STUDIES

The research team complemented the statewide data collection and analysis by implementing a case study design that involved two traditional public school districts. This method was used to investigate in depth the school staffing issues manifesting in particular “cases” within their real-world contexts (Yin, 2014; see Miles, Huberman, and Saldana, 2014). [These studies included both qualitative elements via focus groups and interviews and quantitative analysis of district administrative data.](#)

Unlike the state level data, the case study data would comprise the firsthand experiences and ground-level perspectives of differently situated instructional personnel (teachers, paraprofessionals, administrators) working in concrete contexts. The research team focused on, and triangulated among accounts of, how those closest to the core functions of actual schools experienced and made sense of the sources and effects of the staffing challenges. The juxtaposition of such granular case study data with more broadly distributed statewide data would not only inform but enrich the interpretation and understanding of both.

The research team chose to conduct a multiple case study, so they could examine two districts with differing contextual characteristics shaping the staffing challenges each confronted and the responses each implemented. A multiple case study that seeks to maximize variation enhances the value of single case study data by enabling comparisons between, as well as within, divergent cases (Miles et al., 2014).

The research team then identified how similar and differing factors contributed to staffing challenges, responses, and results. This, in turn, provided insights into the nature of staffing challenges more generally (Maxwell 2013). Moreover, the results of comparisons between multiple cases of granular, concretely situated data improved the research team’s ability to elaborate on and give nuance to the state level data.

Finally, the advanced research design represented an embedded case study structure. That is, while the unit of analysis were case school districts, nested within each were schools and other worksites, and further within those subunits were groups of staff members working in various positions (e.g., teachers, substitute teachers, paraprofessionals, central and building administrators, bus drivers). Data collected from those embedded subunits and their constituent members entailed gathering and triangulating different experiences and perspectives relevant to the larger phenomenon of interest (Yin 2014).

The research team sought a purposive sample of two districts exhibiting substantial variation in characteristics likely affecting school staffing: for example, location and locale, workforce and student

enrollment size and composition. The team determined to recruit a rural school district and an urban school district of varied sizes and located in different regions of the state where superintendents were already interviewed for the state-level sample. Therefore, the research team knew the districts were experiencing staffing problems. The research team partnered with a rural district in South-Central Michigan, whose pseudonym is **Big Bend**; and an urban district in Southeastern Michigan, whose pseudonym is **North Cascades**.

Rural districts in Michigan are known to experience significant staffing challenges because of their remoteness, size, and geography (Arsen et al., 2022), while larger urban districts often struggle to recruit and retain staff because of student demographics and because teachers often perceive these schools to have the most difficult working conditions (Simon & Johnson, 2015). Understanding and comparing the staffing challenges and responses in districts operating in such disparate contexts improved the research team's ability to ascertain those conditions, factors, and implications both relevant to similarly situated districts and considering the vast contextual differences in these districts.

CASE STUDY QUALITATIVE DATA COLLECTION & ANALYSIS

Given the study timeline and resources, the initial qualitative data collection plan aimed to maximize the breadth and diversity of contexts, experiences, and perspectives of educators (administrators, teachers, paraprofessionals). Staffing challenges around educators, and particularly teachers, had been the focus of the overall study, and its primary impetus, from the beginning but the research team did not gather their perspectives directly in the state level surveys and interviews. Therefore, the aim was to collect the perspectives and experiences of a variety of educators from these case studies.

The research team planned individual interviews of at least one central administrator other than the superintendent¹⁰, and at least one principal from each level of school building (elementary, middle school, high school), since it was hypothesized that different school types could be experiencing staffing problems in different ways. The research team also planned for one cross-district mixed school level focus group of classroom teachers and paraprofessionals, respectively, followed by more focused interviews of two to five teachers in varying assignments from at least one school at each level.

The research team ended up collecting one semi-structured Big Bend principal interview and two principal interviews from North Cascades: each lasting about 45 minutes. Additional interviews were conducted with two Big Bend central administrators and one North Cascades central administrator. The team also conducted two teacher focus groups in North Cascades. The first session had nine

¹⁰ Both superintendents had already been interviewed during the statewide school leader data collection process.

participants and the second twelve participants: each lasting about 90 minutes. Both included significant variation in district experience, building level, and teaching assignment. Focus group recruitment was unsuccessful for North Cascades paraprofessionals and for both teachers and paraprofessionals in Big Bend. The research team accordingly adjusted the interview outreach in Big Bend to include the teaching staff as a whole plus most of the paraprofessional staff. The team also directed recruitment efforts toward most of the North Cascades' paraprofessionals.

Ultimately, the researchers conducted semi-structured interviews of about 45 minutes each with seven Big Bend teachers across all three school levels and two long-term substitute teachers in full-time classroom teaching positions; one Big Bend paraprofessional; and three North Cascades paraprofessionals.

The focus group sessions and all but two interviews¹¹ were recorded and transcribed. In team deliberations, it was determined that the richest case study data concerned the perceived and experienced impact of school staffing challenges on students and instructional personnel. The collected data also seemed to warrant analysis concerning two strategies both case districts had adopted in different forms to address staffing challenges—implementation of Grow Your Own (GYO) teacher certification pathways and the assignment of building substitute teachers to each school in the district. Excel was used to compile and code interview and focus group excerpts on the types and sources of impacts and the adoption, implementation, and results of the two strategies. Table 3 below summarizes the interviews and focus groups we conducted at the two case study sites.

Table 3. Case study interviews and focus groups

	Big Bend	North Cascades
Interview With Central Administrator (Other Than Superintendent)	2	1
Principal Interviews	1	2
Teacher Focus Groups	0	2 (9 & 12 participants)
Teacher Interviews	7	0
Paraprofessional Interviews	1	3

¹¹ Two interviewees declined to be recorded.

The deeper dive into the two case districts led to the creation of six “vignettes,” which provide a focused snapshot of staffing in our two case study sites.

The deeper dive into the two case districts led to the creation of six “vignettes,” which provide focused snapshots of staffing in the two case study sites. They each comprise multiple perspectives on the kind and nature of an impact from a staffing challenge or district strategy. Each contributes context-specific insights and results to the more general and abstract findings from the statewide data. They are presented near the state-level findings that they illustrate or elaborate on.

ANALYSIS OF CASE STUDY DISTRICT ADMINISTRATIVE DATA

The two case study sites each provided data on teacher absences. In the case of the rural case study site (Big Bend), absences were reported by date at the individual-level (with a building code), and data indicated whether each absence required the use of a substitute teacher, the reason for the absence (e.g., sick leave, administrative leave, etc.), as well as whether the absence was covered by a substitute.

In the case of the urban case study site (North Cascades), absences were reported by school year for the district as a whole, by reason, and by whether a substitute was needed, but details on substitute coverage was not included. Each district provided absence data for the 2020-21, 2021-22, and 2022-23 school years¹², and North Cascades also provided absence data for the 2019-20 school year. Table 4 below outlines some of the differences in teacher absence data between the two case study sites.

For each district for each year, the number of absences were reported, as well as the number of absences requiring a substitute, both overall (i.e., across the district) and by teacher FTE (full-time equivalent).¹³ In the case of Big Bend, the percentage of absences that required a substitute was also reported. Finally, the research team estimated the daily teacher absence rate for each district.

Table 4. Details of teacher absence data provided by each case study district

Absence Data Element	Big Bend	North Cascades
Tracking program used by district	Red Rover	AESOP
Unit of analysis	Individual absence	District
Unit of time	Specific date	School year
Substitute coverage	Reported for each absence	Not reported

¹² In the case of Big Bend, absence data was provided from August 18, 2020, through March 9, 2023. Because the absence data did not encompass the entirety of the 2022-23 school year, when reporting for this year, the number of teacher absences were prorated to estimate the number of teacher absences so that it was in line with the number of days supplied by the other two study years.

¹³ Employee indicators were provided for Big Bend which makes it feasible to estimate the average number of absences per person. To facilitate comparison to North Cascades, we computed the average number of absences per teacher by dividing total number of absences by teacher FTE (obtained for each school year from MI School Data).

In addition to teacher absence data, Big Bend also provided teacher rosters for the 2020-21, 2021-22, and 2022-23 school years. Using these data, the research team estimated the rates of teacher turnover year-over-year for Big Bend.

Below, we provide brief descriptions of both of our case study sites.

CASE STUDIES

Big Bend

Big Bend is a small, rural PreK-12 public school district located in Southcentral Michigan. Enrollment has been in a steady decline for years. White students constitute over 90% of enrollment, and Hispanic students represent the second largest group by race/ethnicity. A significant majority of students are economically-disadvantaged, and more than one in ten have a disability. Student enrollment levels and composition in recent years led to the narrowing of educational offerings.

Big Bend employs less than a hundred teachers and administrators in total. This educator group experienced turnover in recent years due to retirements and other departures. In the last few years, the administrator group had undergone several changes in composition due to a combination of new hires, exits, and reassignments. Due to the high need for special education services, the district also employs about 20 paraprofessionals, an employee group that has grown over the years. Other support staff, such as transportation, are much smaller employee groups. Both teachers and support staff are unionized and represented by local affiliates of the Michigan Education Association.

The rural character of the region contributed to a close-knit, mutually supportive relationship that the community and schools have enjoyed over the years. Successive generations grew up attending Big Bend schools. The district would itself end up employing alumni who stayed in the area. Indeed, historically, a sizable number of local graduates followed a well-studied teacher career path by leaving the area to enter a traditional teacher preparation program, only to return and make their careers in the district schools that they attended (Reininger, 2012; Strauss, Bowes, Marks, and Plesko, 2000).

Also, historically, this process helped the district meet its staffing needs and maintain staff stability. Pre-pandemic, teacher continuity and commitment also helped to keep absences manageable so that substitute availability was usually sufficient to meet need.

Perhaps reflecting larger forces in the teacher labor market, traditional workforce dynamics had been in decline for some time, particularly in areas like special education. Also, more recently, the district's location has contributed to several developing school staffing challenges.

The district's necessary efforts to recruit further afield are significantly hampered by long travel distances and times, limited local housing and amenities, and financial and other resource constraints. Other districts in the region, including those in more populated and resourced areas, can more effectively compete for the limited pool of early career teachers, and they are able to offer more to experienced teachers with a willingness to move.

The pandemic and its aftermath have only seemed to amplify adverse trends. An elevated level of teacher absences is ongoing in some schools, together with a concomitant decrease in the availability of substitute teachers. Other districts' competition for new and experienced teachers intensified to the district's disadvantage. District finances preclude significant increases in compensation in any form, whether for existing or prospective personnel. Depending on certification, the size, let alone of quality, the teacher applicant pools radically declined; there are no applicants for some positions, most prominently special education positions. The district felt compelled to rely on long-term substitute teachers and other staff with limited or special certificates or permits. Each teacher retirement, departure, or other separation creates a vacancy that tends to persist.

As the district emerged from the pandemic, some degree of workforce stability had been restored. In this, the district benefited from community support, including the willingness of retired personnel to reenter and stay in the district's workforce. Further, knowledgeable, flexible, and energetic district leadership noted a dedication to further improving the situation. They are willing and able to draw on personal connections to identify and recruit staff.

North Cascades

North Cascades is a mid-sized, urban PreK-12 public school district located in Southeast Michigan. It has a number of elementary schools that feed into middle and high schools. Student enrollment has steadily declined over the past ten years, with current enrollment in the low thousands. More than two-thirds of the students are African American, and a similar proportion of students are economically-disadvantaged. Nearly a fifth of students are classified by the state as students with a disability, which is quite a bit higher than the state average (13.9% in 2022-23). In short, the student demographic in North Cascades is among the most historically marginalized and disadvantaged, which also means it faces chronic staffing challenges.

North Cascades employs a few hundred teachers and administrators in total, with several hundred staff employed in other support positions. North Cascades experienced substantial turnover in recent years (before, during, and after the pandemic) that is attributed to retirements, departures to other districts, or departures from the education profession entirely. At the time of data collection, North Cascades reported having more than 60 vacancies for both instructional and non-instructional staff. Of those vacancies, over one third of them were for regular classroom teachers, with the remaining being for special education teachers, paraprofessionals, social workers, psychologists, and non-instructional support positions.

While North Cascades' greatest need, according to a district administrator, is for certified special education teachers given that a fifth of their student population is classified with a disability, the district also has vast needs for self-contained classroom teachers at the elementary level and subject area teachers at the middle and high school levels.

To fill current instructional vacancies, North Cascades relies heavily on non-certified individuals. North Cascades also relies on third parties to assist with the staffing of support positions or simply goes without a needed support position. The number of vacancies at North Cascades is dynamic and can change on any day (usually with vacancies increasing) as they experience many mid-year staff departures that are in part caused by their struggles with staffing and the burnout associated with the added demands placed on staff. Also noteworthy is that North Cascades' certified teaching force is skewed young, meaning they have many new and novice teachers.

In contrast with the rural case site and consistent with the challenges many urban districts experience, many of North Cascades' educators do not live in the community, but rather commute from nearby suburbs. This presents a number of challenges; namely commuting staff are outsiders to the community and may not feel the same sense of commitment as someone who lives within the community. This results in educators being more apt to seek employment in their own communities or in communities closer to their homes. North Cascades has experienced many staff leaving the district for job opportunities closer to their homes. Relatedly, North Cascades is located close to many suburban districts that can pay more, have more resources, and have the reputation of being "easier" to work at.

North Cascades attempted many initiatives to alleviate the staffing burden, including offering financial incentives for recruitment, retention, and absences, and adjusting steps in their salary schedule; however, these initiatives did not appear to be providing much relief. North Cascades simply

cannot attract and retain the volume of educators needed to staff the district or support the teachers and students.

To be clear, the staffing issues at North Cascades were present before the pandemic, but they have been amplified by the pandemic. Educator absences are a chronic problem throughout the district (see Section 3), which is coupled with the struggle to secure substitute teachers. Thus, even more stress is placed on the North Cascades staff when teachers are absent because they must scramble and produce ways to cover for absent teachers.

The staffing needs at North Cascades are severe. Uncertified individuals are instructing many students and teachers are being asked to perform duties beyond what is required of them. In turn, educators often experience burnout and students are not receiving the support they need. It was difficult to fully staff the district at the beginning of the school year (2022-23), but the staffing landscape at North Cascades was also complicated by mid-year exits, absences, and being unable to find substitute teachers.

District leadership is making concerted efforts to address staffing challenges and support educators, but their efforts are hamstrung by educator supply, especially within their community, resource allocation (e.g., money), and policy. Despite the staffing crisis at North Cascades, the educators remain deeply committed to their students, many of whom are facing personal adversity on a daily basis and often rely on their teachers to provide stability, guidance, and care.

Section 1. Declining Educator Supply

In this section, school and district leader interview and survey data are used to examine the current status of the K-12 workforce in Michigan. The principal focus is on the prevalence of vacancies, the degree to which there are not enough permanent employees available to adequately staff schools. Although teacher vacancies are of paramount concern for most administrators, the research team also investigated shortages of other staff, including principals, support staff, and temporary employees. Both the quantity of permanent staff (sheer numbers) and the quality of those staff (their qualifications) were focused on. The degree to which there is variation in supply by grade, subject, and district characteristics was also considered.

A CLIMATE OF SCARCITY: FROM COMPETITION FOR JOBS TO TEACHERS AS “FREE AGENTS”

Interviews with district leaders and principals across the state provided crucial context for understanding how these leaders were experiencing difficulties with staffing. Most of these leaders had been in leadership positions for many years (see Table 38 in Technical Appendix) and thus were able to compare the current situation to what they had experienced with staffing in the past.

Competition for filling teaching vacancies, especially in high-need areas, was becoming like “free agency” in professional sports; in which teams compete for star players who theoretically have their pick of where they want to work

Across these interviews, one overarching theme was the idea that competition for filling teaching vacancies, especially in high-need areas, was becoming like “free agency” in professional sports; in which teams compete for star players who theoretically have their pick of where they want to work. Many explained that there used to be stiff competition for teaching jobs in their district with applications in the triple digits and central offices playing a prominent role in screening the initially large number of applications to make a principal’s hiring responsibilities more manageable. This is no longer the case, with many districts reporting applicants in the single digits or none at all.

A second theme relates to the low supply of new teachers coming from teacher preparation programs in general. As a consequence, most district leaders said that they filled vacancies by “stealing” each other’s staff. As the district leader of Kobuk Valley explained, “The bigger issue is that you need a

greater supply overall. If one district has a teacher, and then I take a teacher or whatever... well, it's not really helping the overall system of the entire state of Michigan or the nation [and it's not] right for kids.”

As the district administrator of Indiana Dunes described:

I think the shortage, begets itself a little bit in that. There's not enough folks.... No one who loses a retiree mid-year, is just going to hire somebody graduating from a university. They're hiring from another district because they can pay him more. Then that person leaves. Then that person has an opening and they do it and it's just a domino effect.... I'm lucky because we sort of come out on the winning side of it in most cases, but still it causes all kinds of chaos. I go to these HR meetings, and we look at each other and we're friendly with each other, but we're all like stealing each other's staff... and there's nothing we can do about it, because we work for our district, right? We got to do what's right for our kids and our superintendent and everyone else. But it's not comfortable, it's not what's best for kids really.

While both these leaders, and many others, explained that although competing for teachers with one another might be necessary for their individual districts, it was both uncomfortable for them and was not a good situation for kids in the state generally.

Compounding the issue of declining educator supply and needing to “compete” for staff with other districts, the report later highlights how and why districts must then turn to those with more contingent positions, like substitute teachers and paraprofessionals, for teacher staffing. This, in turn, creates a vacuum in terms of the services and coverage that the districts would otherwise provide. These decisions create a vicious cycle in which teachers, administrators, and other support staff must either give up some of their responsibilities or add more responsibilities to an already considerable workload. Doing so may exacerbate burnout, low morale, and turnover.

In this section (and those that follow), the following is documented and presented:

- The extent to which aspects of the identified shortage categories occurred in the 2022-23 school year according to Michigan educators.
- How and why the shortages take place.
- How schools and districts are impacted by and respond to these shortage problems.

EXTENT OF SHORTAGES

The vast majority of educational leaders interviewed explained that demand for staff significantly outweighed supply. Staffing problems were most severe when district leaders and principals faced

many mid-year vacancies, very few to no applicants for open positions, and high turnover. They would then have to lean on teachers and other staff (including leadership) to provide coverage when substitute teachers were in short supply.

Most commonly, those who perceived having moderate or minor shortages were able to fill the vacancies but still had difficulty with turnover, competition for staff, and/or issues with instructional coverage (inadequate substitute coverage, teacher absences, etc.).

Those facing the most severe shortages (typically low-income districts) had difficulty across multiple aspects of the labor market supply and demand:

1. Low quantity and quality across the applicant pool for teaching and non-teaching staff
2. Difficult working conditions for staff exacerbated by issues of instructional coverage
3. Chronic turnover of staff
4. Inability to compete with surrounding districts for staff

Table 5 provides examples of how district administrators facing severe, moderate, or minor shortages explained or experienced staffing issues in interviews.

Table 5. Perceptions of severe, moderate, or minor shortages with interview examples

Categories	Shortage Sources	Interview Quote / Example
Severe	Low applicant pool (quantity and quality), often loses staff to surrounding districts, mid-year vacancies, high turnover, and difficult to cover teacher absences and vacancies	“We probably have, I believe, about 70 teacher vacancies.... We are probably pushing well over 100 instructional support vacancies. Those would all be positions that are needed for the support of our students.” – District Administrator, Kings Canyon
Moderate	Low applicant pool (quantity and quality) but few vacancies, high turnover/difficult to compete for teachers, and somewhat difficult to cover teacher absences and vacancies	“We’re staffed up, but the issue is... it’s like the Dutch boy at the dike, there’s holes everywhere, and you pull your thumb out of one, and another hole sprouts up. So, we’re full right now, but come spring, it’s going to be open season again, right? Where there’ll be jobs, there’ll be retirements. There’ll be job openings all over the place, and it’ll be a free-for-all. So, it’ll be holding onto, in smaller districts, rural districts, that sometimes can be viewed as less desirable than other districts. They’re the last ones to fill, and you’re trying to find the scraps to fill the holes.” – District Administrator, Denali

Categories	Shortage Sources	Interview Quote / Example
Minor	Few vacancies, applicant pool lower than pre-pandemic years but adequate, able to compete with other districts for staff, but somewhat difficult to cover teacher absences and vacancies	“We’re fortunate because we can still get people, but it[‘s] just more effort, more hustle, takes longer into the year to get there than I think in a normal traditional staffed year or year where there’s plenty of candidates.” - District Administrator, Indiana Dunes

QUANTITY AND QUALITY

In the survey results, district administrators reported a serious deterioration in the K-12 labor market in 2022-23, with an increase in teacher vacancies and a decline in the number and quality of applicants for all positions compared to the pre-pandemic period. Districts with more economically-disadvantaged students appeared to have a particularly challenging time in attracting staff.

SURVEY DATA

District leaders who compared vacancies in the 2022-23 school year with 2019-2020 (n = 67) reported more than double the number of teacher vacancies at the beginning of the 2022-23 school year (7 vacancies), as compared to the beginning of the 2019-2020 school year (3 vacancies). The results presented a statistically significant difference in the percentage of teaching positions that district leaders reported as vacant between the 2019-20 and 2022-23 school years. The survey results of principals yielded comparable results.

In addition to elevated teacher vacancies compared to 2019-2020, district leaders reported fewer applicants per position (Figure 2, below). The average number of applicants for teaching positions was less than half for the 2022-23 recent school year (5 applicants), as compared to the school year leading up to the pandemic (10 applicants). A paired samples *t*-test was conducted on the 54 respondents who answered both questions. The difference between the 2019-20 and 2022-23 school years in number of applicants per teaching position is statistically significant.

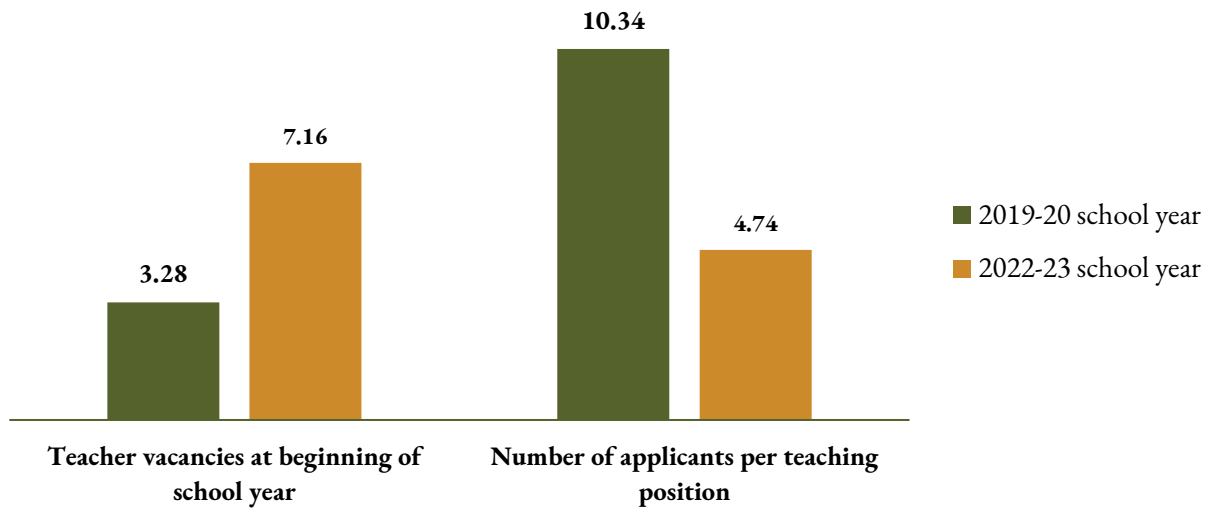


Figure 2. Mean number of teacher vacancies and applicants per teaching position

The number of applicants per teaching position also varied by district locale and economically-disadvantaged student enrollment. Rural or town districts reported receiving 3.65 applications per teaching position on average, as compared to districts in suburbs or cities which receive 6.36 applications on average, a statistically significant difference.

Additionally, the more economically-disadvantaged students that districts serve, the fewer applications per teaching position they received on average. Districts serving 0-24.99% economically-disadvantaged students received more than five times the number of applications per vacant teaching position (12.6 applications) compared to districts serving 75-100% economically-disadvantaged students (2.5 applications). Districts serving 25-49.99% (5.8 applications) and 50-74.99% (3.4 applications) economically-disadvantaged students lie in the middle. These differences also existed in the 2019-20 school year (see Figure 3, below).

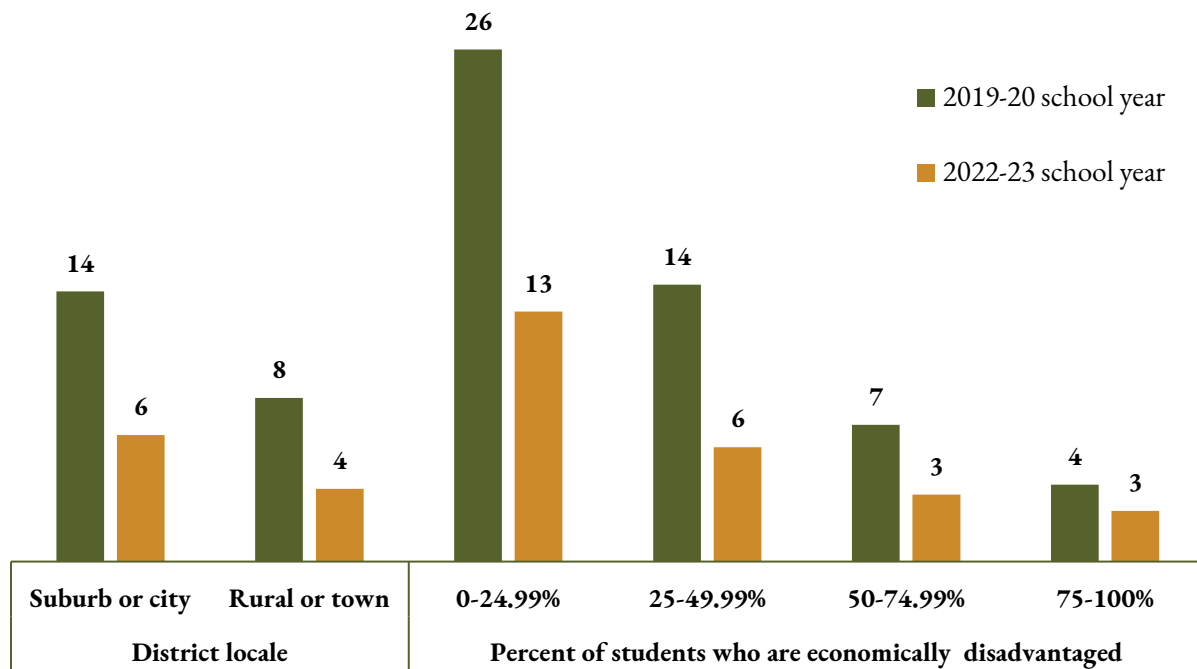


Figure 3. Mean number of applications per vacant teaching positions by district locale (left pane) and economically-disadvantaged student enrollment (right pane) for the 2019-20 school year and 2022-23 school year

The research team supplemented survey responses on number of teacher absences using 2021-22 teacher headcount information downloaded from MI School Data. Teacher vacancies were recalculated as the proportion of teaching positions that are vacant. At the beginning of the 2022-23 school year, districts on average reported that 7.7% of their teaching positions were vacant, which is significantly higher than the percentage of teaching positions that were vacant at the beginning of the 2019-20 school year (3.5%).

Additionally, districts serving a higher percentage of economically-disadvantaged students had more teacher vacancies at the beginning of the 2022-23 school year (see Figure 4, below). By contrast, there were no differences in rates of 2019-20 teacher vacancies by economically-disadvantaged student enrollment. This means that districts who served a higher percentage of economically-disadvantaged students have more teacher vacancies, which is a recent development.

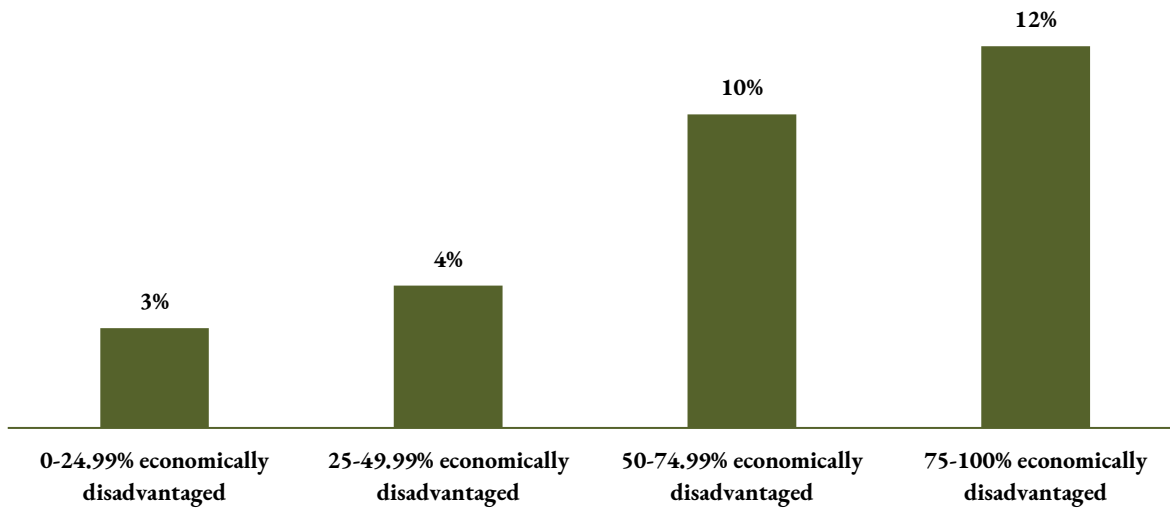


Figure 4. Mean percentage of teaching positions that are vacant by district at the beginning of the 2022-23 school year for districts serving different proportions of economically-disadvantaged students

District leaders were also queried for their insights on the overall quality of the applicants, as well as hires, for the different types of other roles (for example, building instructional, building non-instructional, and administrative positions). These results are presented in Figure 5 (applicant quality) and Figure 6 (quality of hires), below.

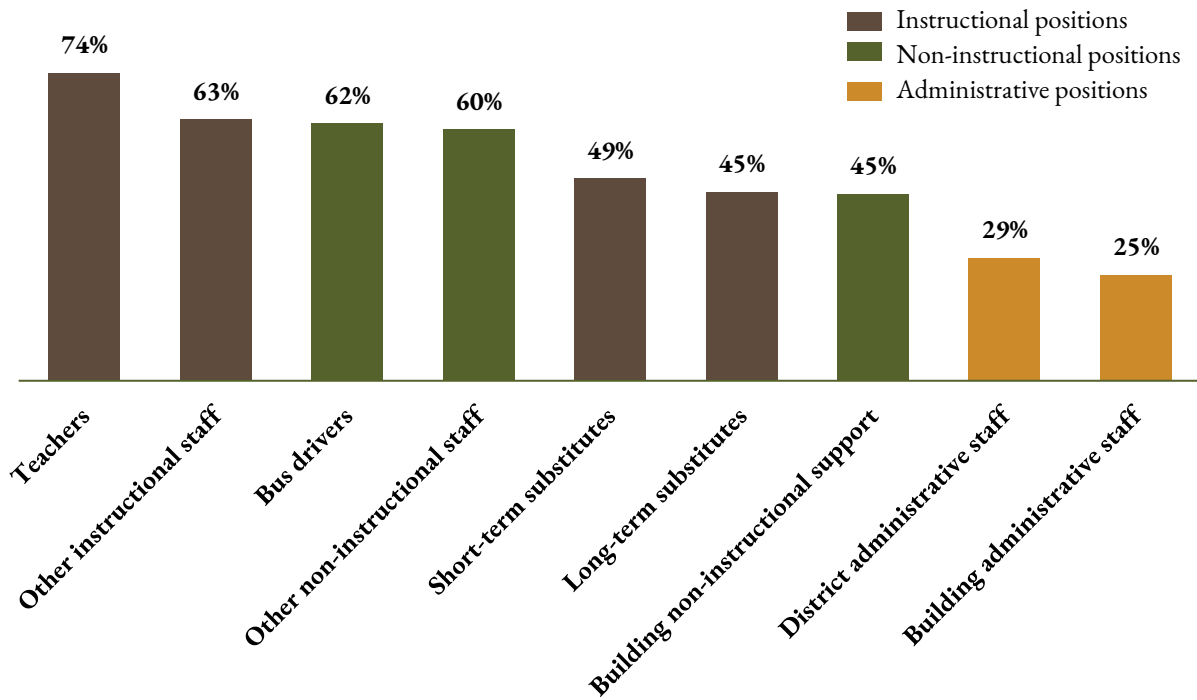


Figure 5. Percent of district leaders reporting that applicant quality is “much less” or “somewhat less” compared to 2019, by position

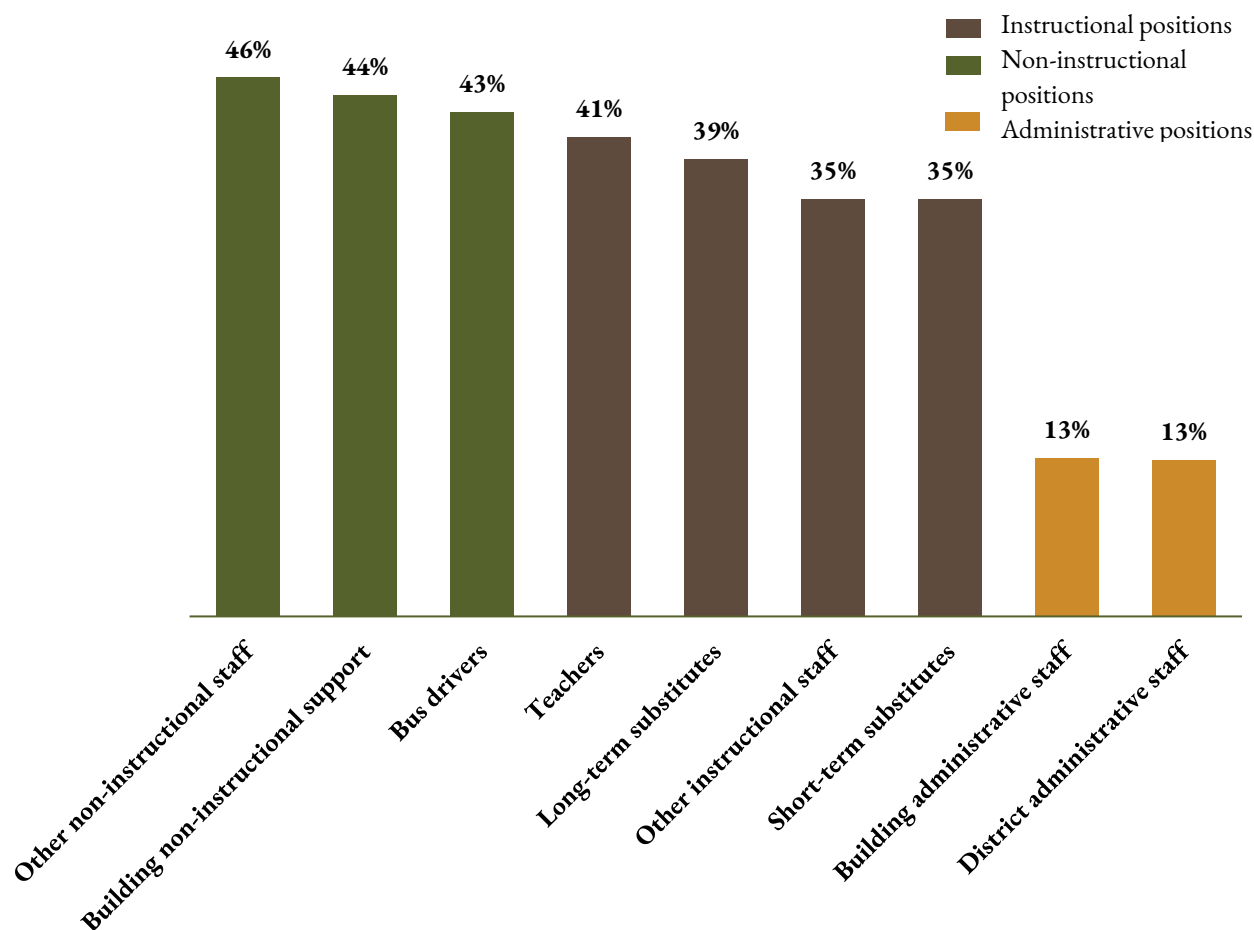


Figure 6. Percent of district leaders reporting that quality of hires is “much less” or “somewhat less” compared to 2019, by position

Many district leaders felt that the overall quality of applicants declined since 2019 for teachers in particular. About half of district administrators agreed that the applicant quality for substitute positions declined since 2019.

Despite the general consensus of respondents that the quality of applicants for some types of building positions declined since 2019, a minority of district leaders agreed that the quality of hires for these positions also declined. However, it is important to note that these results are based on a small sample size ($n=67$) and should be interpreted cautiously.

INTERVIEW DATA

Looking at the interview data collected, district leaders and principals told a similar story about the number and quality of applications and vacancies. Superintendents and principals consistently told the research team that job applications, which once numbered in the double and triple digits, have

now dwindled to the single digits and, in some cases, none at all. Glacier's leader gave an example of recruiting getting increasingly difficult over the years:

I can remember job fairs where people were lined up at booths, especially for larger districts where they would have 50-100 people waiting in line. And I knew it was bad probably three years ago. I remember going to a university, a large research university, and going to the job fair and there were more people there that were looking... than there were actual teaching candidates to interview. When it comes to that point, I knew we were really in trouble.

The district administrator of Kings Canyon echoed this refrain, explaining that they used to get 200 to 400 applicants for one position, adding, "now you're lucky to get one:"

In the last three years, [we have] not [been] very successful. Prior to Covid we actually were very successful at it... Well, since Covid, it's been in my 25 years of experience, some of the worst recruiting.... It's not that we're not recruiting, it's the job fairs are not well attended. Universities are not able to bring as many students to us through their education programs. There just isn't enrollment.... People just don't want to go into education anymore. We used to get 200 to 400 applicants for one position and now you're lucky to get one.

Table 6 (below) categorizes representative principal and district leader responses to questions about the quantity and quality of applications they receive to fill vacant positions, which ranged from those who were relatively well off (right hand of columns) to those who struggled to get a single application for positions that are historically easier to fill (general elementary education postings).

In terms of applicant quality, the vast majority said that it declined in recent years. In higher income districts, despite getting lower numbers of quality people, some said they ended up getting "lucky" and having at least one high-quality applicant for open vacancies.

The principal of Wind Cave said there was a lot of variability in the applicant pool. "Quality is interesting. I would say there are definitely some very, very good candidates out there, and then there's also some very, very, very bad candidates out there."

However, schools needed to be able to compete for these high-quality teachers, which meant that they cost more money, as the principal of Pinnacles explained:

I could hire a lot of people to work for less money. They're not going to be the kind of quality that I'm getting right now. So, at the end of the day, you're going to make a decision for high quality teachers with years of experience, unfortunately. They cost money, they come at a cost.

Principals and district administrators in low-income urban districts were especially hard-hit and often had to choose from the lowest quality candidates, which some explained as being the people that were “removed” from other places or “not successful” in their prior positions. As the district administrator at Kenai Fjords explained, “The high need roles, the people who are coming in, are people who typically were not successful wherever they were prior.”

The district administrator of Biscayne had a similar experience, saying, “We did get a couple, but I already had heard to avoid these people. Do you know what I mean? They were removed from other places if that makes sense.”

Taking the quantitative and qualitative data together, low-income districts serving higher proportions of students of color not only tended to have lower quantity and quality candidates. In some cases, their only applicants were those that were actually removed from similar positions in other districts, illustrating the challenge of the situation for those striving to fill vacant positions.

Table 6. Categories of responses to receiving applications and filling vacancies in terms of quantity and quality

Few or No Applications	Patchwork Staffing with Substitute Teachers	Applications There – But Compromising Quality	“Lucky”	Relatively Well Off
<p>“We have an Elementary posting out there, but we could not get applicants to save our lives and we needed three.” – Biscayne, District Admin</p>	<p>“Our two science positions are open, and that was a combination of things. One, we let go of an ineffective teacher that we had some issues with a few years ago and we hired a replacement that turned out to be just as much of a struggle, right? And so just as soon had to let that person go and then struggled to find anybody to replace. So, we ended up with... somebody who was not certified to be a teacher, anything like that, just really a permitted substitute. We couldn’t find anybody to fill, nobody even applying.” – Zion, Principal</p>	<p>“The high need roles, the people who are coming in, are people who typically were not successful wherever they were prior... For some, we’re not seeing any [applicants], and I run into a few situations not just that, but for any role you can think of where we’ve had applicants and yes, I can hire somebody to fulfill the requirement of that role, but some of the candidates have been so awful that I would rather not.” – Kenai Fjords, District Admin</p>	<p>“Post-COVID, the job pool... it was zero, like you couldn’t get anybody. So that was a way that we offset some of those needs and we’ve been really lucky.” – Pinnacles, Principal</p>	<p>“We have the highest pay scale in our area in terms of, well at the top end, not necessarily at the bottom end. So, we actually have others that are higher than us for beginning teachers. But again, we get a lot of support from our teachers, that’s well known throughout the area. We have a lot of different programs and I think that helps us with our teacher attraction. But obviously, we still see a reduction in the number of applicants and things [openings] we have. But I look at our applicants and I know districts around me would kill for half that number.” – Yellowstone District Admin</p>

SHORTAGE AREAS

Next, interview and survey data were used to show which perceived shortages varied by type of position and instructional content area. The data suggest that the need for instructional staff of all types was much greater during the 2022-23 school year than previously. Teachers saw the highest rates of turnover of any position. Special education, mathematics, and science teachers exhibited the most intense shortages.

DECLINE BY TYPES OF STAFF – EVIDENCE FROM DISTRICT LEADER SURVEYS

District leaders (who had insights into hiring patterns across schools in their district) also pointed to the growing problems with adequate staffing by content area.

When asked how the need for certain positions had changed since before the pandemic, the majority of district leaders agreed that there was an increased need for staff, especially for instructional positions. Teachers (91%), other instructional staff (89%), short-term substitute teachers (87%), and long-term substitute teachers (79%) topped the list. Furthermore, as Figure 7 shows, there was an increased need even for non-instructional staff such as bus drivers.

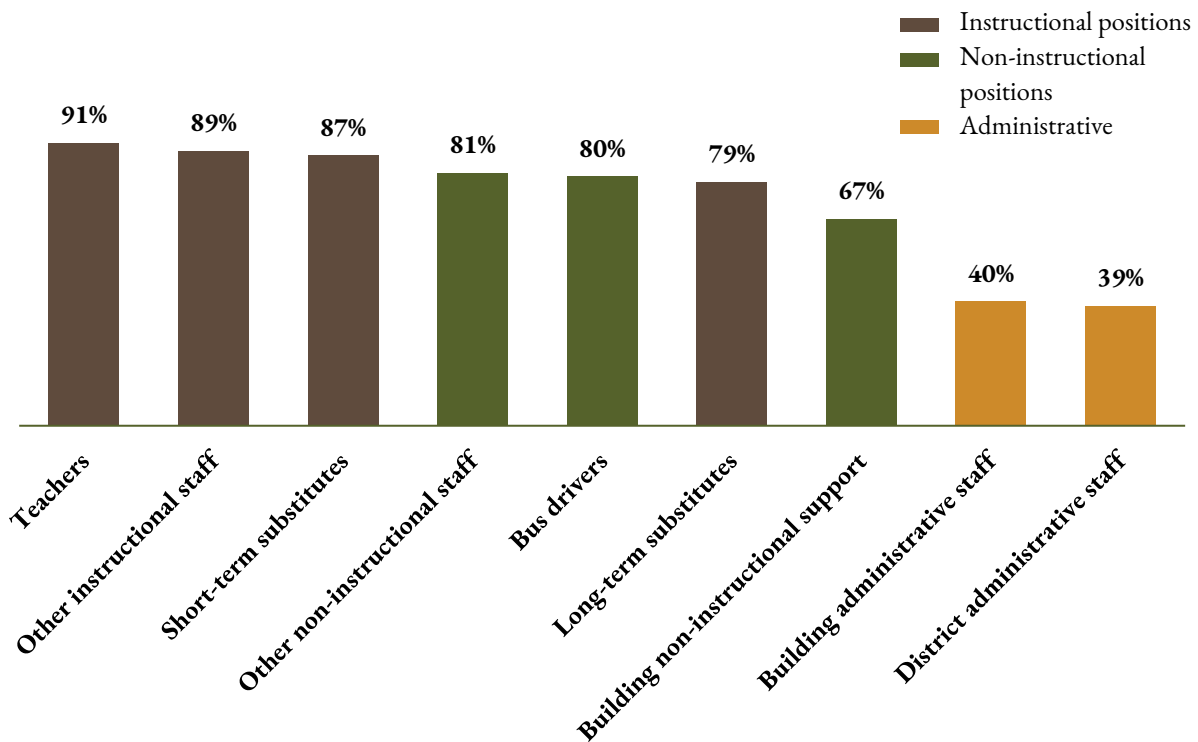


Figure 7. Percent of district leaders reporting there is “much greater” or “somewhat greater” need for the position since 2019

By contrast, fewer district leaders agreed there was an increased need for building or district administrative staff (such as school principals). In support of this conclusion, district leaders reported very few principal vacancies and changes in principal assignments, both for the 2022-23 school year as well as the 2019-20 school year (on average, less than 1 in all cases).

However, this did not mean that there were no problems with the administration pipeline. At least one fourth of district administrators reported that they were seeing issues with both the quantity and quality of applicants for open school leader positions (see Figure 8) and alluded to a potential administrator shortage because of concerns over burnout.

In addition to assessing need, district leaders were asked about the extent to which the supply for various positions had changed since 2019. As Figure 8 presents, most district leaders believe instructional positions are in shorter supply, as compared to 2019. Building non-instructional positions (including bus drivers) also have less supply available, but not to the extent that district leaders feel the supply for instructional positions has decreased since 2019.

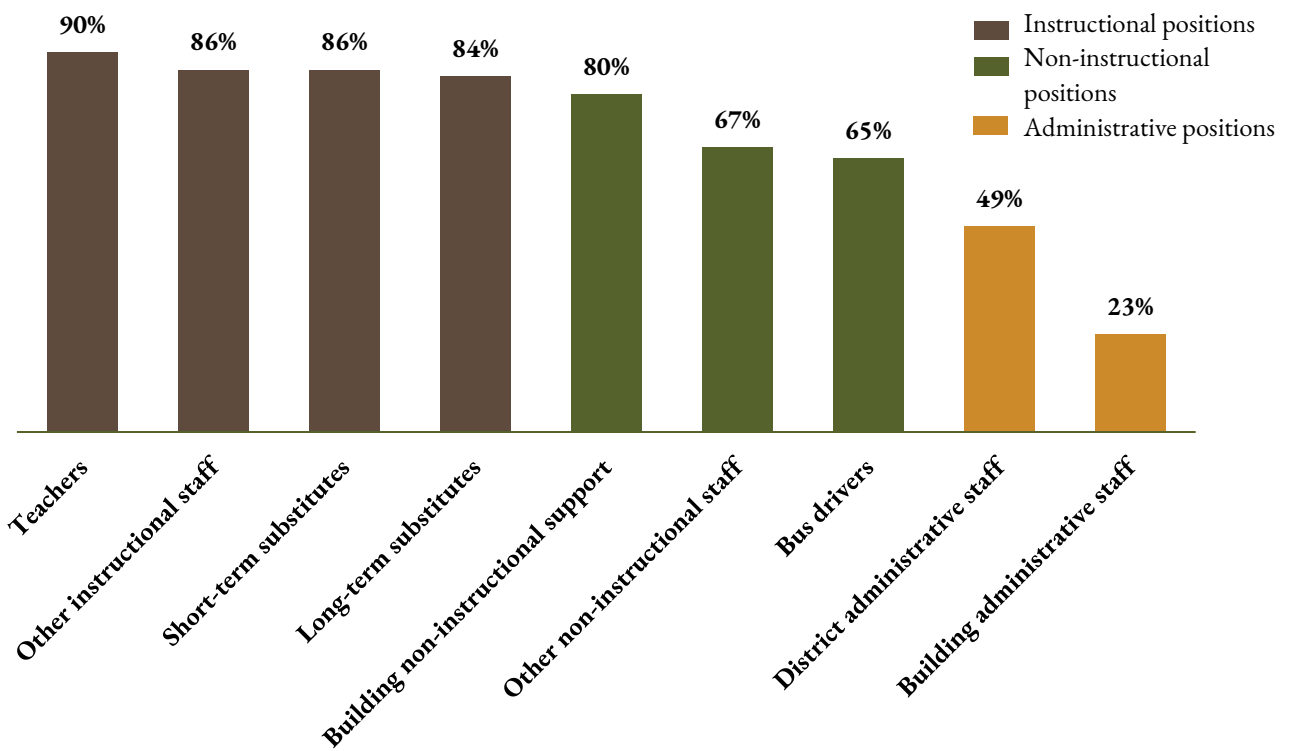


Figure 8. Percent of district leaders reporting there is “much less” or “somewhat less” supply for the position since 2019

The difficulty with finding qualified instructional staff is also felt by leaders at the school level. When asked which positions school leaders felt that they are experiencing the most difficulty finding enough

qualified staff, 45% rank teachers first. The second-most challenging positions to fill are also related to classroom instructional roles, including other instructional staff (24%) and short-term substitute teachers (23%).

Changes in rates of turnover for type of position from 2019 were also evaluated by district leaders. As Figure 9 demonstrates, seven in ten district leaders agreed there is greater turnover for teaching positions, with other instructional positions also experiencing greater turnover rates. More than six in ten district leaders agreed the turnover rates for long-term substitute teachers and short-term substitute teachers have also worsened since 2019.

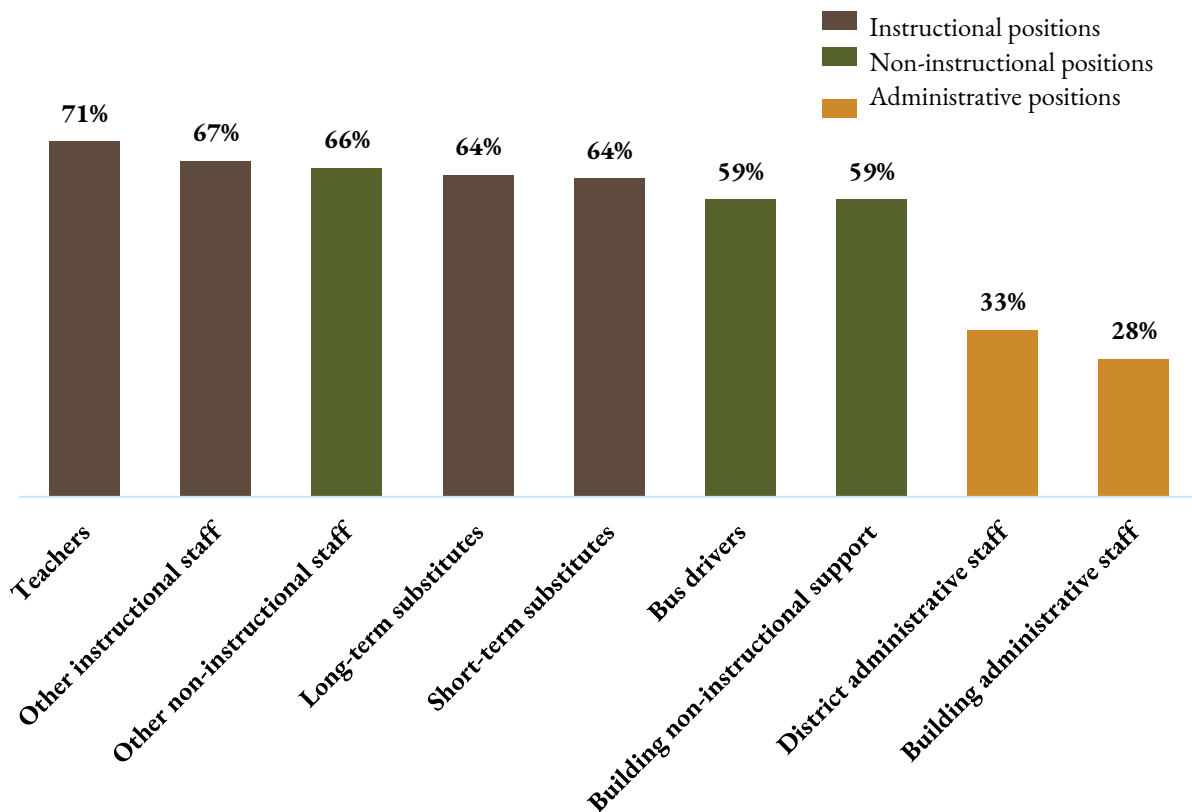


Figure 9. Percent of district leaders reporting there is “much greater” or “somewhat greater” turnover for the position since 2019

District and school leaders alike agreed that they are having difficulty filling classroom teaching positions. School leaders were asked, using an open-ended survey question, about which type of teaching position is the most difficult to find qualified staff (Table 7). More than 4 in 10 school leaders

(44%) reported that special education is the most difficult type of teaching position to find for qualified staff, followed by mathematics (17%) and science (14%).

Table 7. Interview responses to most difficult areas of staffing shortage¹⁴

Subject/Grade/Type	N	Percent of Those Who Responded (n = 183)
Special Ed	81	44%
Math	31	17%
Science	25	14%
Art	16	9%
Foreign Language	14	8%
“Specials”	12	7%
Social worker/counselor/psychologist	12	7%
Music	11	6%
Grade 5	10	6%
Grade 3	9	5%
Technology/Engineering	9	5%
“All” (subject or grade)	9	5%
N/A	9	5%
Kindergarten	8	4%
Grade 4	8	4%
Gym/PE	8	4%
English/Language Arts	7	4%
Pre-K	6	3%
Grade 1	6	3%
Grade 2	6	3%
Grade 6	6	3%
Subject Area/Gen Ed	6	3%
Support/Intervention/Title I Certified	5	3%
Grade 7	4	2%
Grade 8	4	2%
Paraprofessionals	4	2%
Health	3	2%
CTE/Business	3	2%
ELL	2	1%
Speech/Media	2	1%

¹⁴ Note: Percentages total to more than 100% because of multiple categories per respondent.

Subject/Grade/Type	N	Percent of Those Who Responded (n = 183)
History/social studies	2	1%
Unable to code	2	1%
Long-term sub	1	1%

EVIDENCE FROM INTERVIEWS

The research team also interviewed district administrators (either superintendents or human resource directors) who were closest to the hiring process for the 2022-23 school year. Each of them spoke about specific areas of staffing, noting when they had or did not have issues with a particular type of position.

Table 8, below, illustrates specific roles that the district administrators discussed and includes an example from an interview to show how these administrators were often thinking about and experiencing these struggles with a particular type of staffing.

The Prevalence (Percent) column indicates the percentage of administrators who discussed this type of personnel as an area of concern. Because of the limited amount of time in each interview, the research team was not able to ask about every area of staffing, however, these qualitative data help explain some of the nature of the problems highlighted in the surveys.

For example, one administrator discussed how they had to assign anyone with special education certification in their district to a particular role because they were not able to hire anyone for a vacancy. Another explained that low-paid hourly positions like paraprofessionals were hard to find and turn over quickly, and others equate finding Math and Science teachers with “finding a unicorn,” as described below in Table 8.

Table 8. District administrator interview responses to staffing shortage areas

Role	Prevalence (Percent)	Quote
Administrators	25%	“So, we hired a principal this year, and, oh, how can I even say this? We had people ghost us again, not wanting to come in for the interview when we called. We did have 19 applicants, most of them weren’t certified for the job, and, yeah, it wasn’t easy to fill. We did have an internal candidate we moved into, who is awesome, the superintendent role. So, the board just completed their superintendent search, and out of 16 applicants, one was a substitute teacher, one was a business teacher, and one was a

Role	Prevalence (Percent)	Quote
		superintendent for a construction company. So, three were [wrong] right off the bat. They don't even have a teaching degree, I mean, a certification to be an administrator.... Some they didn't bring in, they could have been decent, but they came from districts that have a lot of issues going on. So, the board didn't want to bring them in. It's really sad. People just aren't going into it." – Biscayne
Special Education Teachers	88%	"We are always looking for more special education teachers. We've had some special education teachers retire already this year or just simply resign and, especially when we get into areas like emotional impairment classes, which we run, there's high turnover rate there for emotionally-impaired students. And so, in trying to staff those, we can't hire somebody. We go through our staff that we currently have working across the district and find if there's anybody who has a special education certification who's not teaching in special ed. And we will move them into that position. Obviously, you know how popular that must be. But we also have some legal requirements and so doing that we're meeting all the standards that we should be as far as special education, but we need more special education teachers because what is required and what's best are two different things." – Kenai Fjords
STEM Teachers	41%	"I would say before that... the sciences... I think it's surpassed math. There was a time when math really seemed to be that target area, but finding somebody who is a high school or a middle school science teacher or chemistry teacher, seems to be like finding a unicorn right now. I would say math is the next one." – Lassen Volcanic
Substitute Teachers	72%	"I will tell you; we have a permanent building substitute program in the district where each elementary has up to two people that report every day and wait for their assignment. Middle schools have up to four and high schools have up to six, and those are not all filled currently but we try to start out with those. And yet, we still experience significant substitute coverage issues, particularly on Mondays and Fridays, as you might imagine. There were sometimes during the pandemic where we would have as many as 65 unfilled positions when we were getting really creative and trying to get kids covered and so forth. We had a lot of administrators teaching a lot of classes

Role	Prevalence (Percent)	Quote
		and we'll have support folks and building subs, and it was not fun. It's better now, but we still... I think I had 20 unfilled today or 15. It continues to be a struggle even with this backbone of building substitutes that I'm proud that we have. It is our day-to-day substitute coverage is not enough. I would say that is a very common answer for anybody you would talk to. Only ten unfilled today. So, pretty good for Friday." – Capitol Reef
Paraprofessionals	72%	"So, currently, we probably have about 20 to 25 openings. No teacher openings, we're completely full teacher-wise. Most of our biggest needs tend to be within our paraprofessional ranks, and within our playground, cafeteria, supervisor, and hall supervisor ranks. There tend to be higher turnover positions there among our lower-paid positions. That's not a surprise by any means, but that's also, those are the areas that we have the most struggle, whereas even 10 years ago when I first started, a lot of these would be filled by parents of students who wanted the same schedule that their students have, and things like that. We see much fewer of those now than we used to." – Yellowstone
Social Workers	41%	"We've had a school social work posting open for two years here. We're contracting out for school social work, but we can afford to bring it in-house. We don't need to contract it out anymore. We can't find anyone. So, we don't have a choice but to continue contracting for that even though we could employ them because there's no one to employ." – Redwood
Bus Drivers	53%	"So, bus drivers are a struggle. We are constantly training and replacing drivers. I'm sure you've heard this before but what happens to us, especially, we are at the crux of [two major highways] and our industrial parks are full. We'll train a driver, get them through their Class B license, and the trucking industries in town will scoop them up within a year. Because we have about 25 to 35 hours a week. We pay better than any other district around because we offer full benefits and a higher hourly wage, but we're a small district. I don't have 40 hours of work for them, and the trucking companies will pay mid to upper 20s. It could be worse, but it's very hard. I, in fact, got my own CDL (Commercial Driver's License) and I drive the bus on occasion. It's just the way it has to be. So, I've had my

Role	Prevalence (Percent)	Quote
		license for about four or five years. We've been struggling with drivers for about that long." – Rocky Mountain
Other Staff ¹⁵	56%	"We have been intentional about our support staff and our hourly staff, but I think that is the area where we still just feel like it's more of a struggle. Our cafeteria staff... we're fighting for the same people that all the restaurants and other McDonald's are. We thought we were doing great by moving to \$15, \$16 an hour. And then McDonald's is like, 'Sorry, you're getting \$19, and we'll pay you on the first Friday you're here.' So that's, I think, another area where we just have to invest in making sure that we can compete for those positions because it just puts pressure on everyone else that we can't fill all our support staff positions." - Arches
Teacher Vacancies ¹⁶	75%	"So, the vacancies that I'll talk about off the top of my head are the ones that keep me up at night, which is in the teaching space. Right. And so we have 43 certified teaching positions that are unfilled right now. And that's approximately 17% of our overall staff." - Crater Lake

Consistent with national studies, these data indicate that Michigan school district administrators perceive serious shortages of K-12 staff, particularly of instructional staff. The lack of special education teachers in particular is especially acute. However, there does not appear to be a significantly worse market for principals and district administrative staff, at least compared to the 2018-2019 school year.

¹⁵ The "Other Staff" category includes roles such as custodial, food service, clerical, library, physical education, and coaching staff.

¹⁶ The "Teacher Vacancies" category represents the prevalence of district administrator interviewees who noted having had at least one teacher vacancy in their district in the 2022-23 school year. "Vacancy" includes having an un-certified individual filling a certified teacher position.

Section 2. Increase in Educator Mobility and Competition

A key potential contributor to teacher staffing problems is teacher mobility (teachers moving from district to district). As discussed below, a considerable proportion of turnover is due to teachers changing districts rather than exiting the teaching profession altogether. Although not a new phenomenon, there is evidence that it has become more serious in recent years. Given a situation of generalized scarcity, greater competition for teachers can result in considerable cross-district mobility, which can disadvantage districts with a higher proportion of low-income and minority students.

Here, district and school leader perceptions of teacher “poaching,” are explored, including its prevalence, strategies, and impact, as well as the willingness of administrators to recruit teachers from other districts.

TEACHER POACHING: EVIDENCE FROM INTERVIEWS

As noted in the start of Section 1, Michigan leaders often reported “poaching” staff or being poached by surrounding districts or schools. For the sake of this study, “poaching” is defined as direct and intentional recruitment from other districts for specific staff or specific positions. This may involve pitching individuals on why they should work for another district and in some cases, highlighting or providing incentives that appeal to them. This is different than posting an open position and then letting teachers from surrounding districts simply apply on their own and then be selected to work there.

In interviews, researchers were careful to distinguish between poaching as recruitment versus simply ending up with teachers from a surrounding district and then pointing to this as evidence of poaching. This was accomplished by asking probing questions about how they knew it was poaching or asking questions about direct recruitment (whether they did it or it was being done to them and how they knew).

For example, Table 9, below, provides evidence from distinct districts of conversations, emails, or leaders engaging or thinking about engaging in poaching or direct recruitment of individuals. These examples are specific and distinct from simply making a casual (and unsupported) claim about poaching.

Table 9. Evidence of direct poaching being performed or experienced

District	Type of Poaching	Interview Quote
Biscayne	Direct Recruitment: Phone Calls	“I’m friends with the superintendent who’s in our neighboring district. One of their administrators called my teacher and basically offered her fifteen thousand dollars more to go work for them. Fifteen thousand. The teacher never had applied for their job. So, I called the superintendent and I said, “What’s going on? I would never do that to you.” So [the superintendent] then felt bad. [They] canceled the interview... [The superintendent] called my teacher and said, she had too much respect for me, and she wasn’t going to interview her. So, then my teacher is mad at me because I took away her \$15,000 pay raise.”
Saguaro	Direct Recruitment: Phone Calls	“So, since I’ve been in some other districts and we have some connections with other districts, I’m not going to lie, I’ve made some pretty ballsy phone calls to other principal friends. I mean like, you know, you have anybody that you interviewed that weren’t your first choice and I have cold called people, you know, then said, hey I heard you interviewed in [neighboring district]. Are you still looking for a job? And I have called those people, too. I mean, I’ve just made all kinds of incredibly gutsy phone calls over the last three years that I never thought I would do. ”
Petrified Forest	Direct Recruitment: Phone Calls	“It’s more done in a stealth fashion. So, it’s all about making phone calls to people. We’re a small community, so they’re all calling people directly. I had a principal who actually used to work with me at one time, who is now the elementary principal over in [district]. And he called seven of my teachers directly. And threw sales pitches at ‘em. I lost one teacher here that was actually one of my former students. Left me five days before school started when they had an opening. And that was done because all their board members called her up and said, “You got to come work for us and blah, blah, blah, blah, blah.” That’s what I don’t like and we’re trying to get all the schools together to create a website so we can post there, and we can pull people in from outside. But there’s some lazy superintendents who don’t want to be better.”
Great Basin	Direct Recruitment: Emails	“Recruiting is going out, and we’ve seen like places in [district name] send emails to every single one of our teachers, grab our teachers. ‘Hey, come to [us].’ We’ve seen a lot of that.”

District	Type of Poaching	Interview Quote
Big Bend	Admission of Need to Recruit Specific Individuals	“Well, it’s gotten pretty mercenary over the last few years, honestly. As I told you, my first year here, so five years ago, pre COVID, like the neighboring district hired entire grade levels of my staff. I lost all my 5th grade and 6th grade staff to a neighboring district... I’ve got to be honest. I’m going to be trying to get a special ed teacher that lives in my community but teaches in a different community about twenty-five minutes away. She’s special ed, and right now I’ve got that covered largely by permitted people, not special ed certified people, so if I can get her, I’m going to work really hard to do that. I’m not proud of myself, but I hate to take people away from other districts, but it’s gotten to that point though, where when you have zero applicants for a position, you have to go out looking... ”

The research team delineated some of the variation in perceptions about poaching, highlighting how it disproportionately impacts low-income rural and urban districts, and explaining how compensation is a key driver of teacher mobility in the phenomena of poaching. A deeper cross-case analysis of the interview data led to two important patterns and findings, which are as follows:

1. Teacher poaching disproportionately affects low-income districts (both rural and urban) and those serving higher proportions of students of color. In other words, low-income districts disproportionately “lose” in competition for staff, and this can be largely attributed to their inability to compete in terms of salaries and benefits, and not just because they typically have more difficult working conditions.
2. The research team tested the theory that employee compensation is a key driver of mobility, not just difficult working conditions, by purposively sampling in interviewing for districts that served higher proportions of low-income students and students of color but offered some of the higher salaries in their region. They reported few struggles with staffing as a result.

The next three sub-sections provide evidence for these various claims.

INCREASING BASE COMPENSATION AND USE OF “STEPS” AS A MEANS OF POACHING

In many education systems, teacher salary schedules often include a structure known as “salary steps.” This structure is designed to outline how a teacher’s salary increases over time based on factors such as

experience and education level. The goal is to provide a fair and predictable way to reward teachers for their dedication and expertise, while also incentivizing professional growth.

Salary steps acknowledge a teacher's years of experience in the profession. Teachers generally start at the initial step when they begin their careers and then progress to higher steps with each subsequent year of service. For example, a teacher might start at step 1 and move to step 2 after one year of teaching, step 3 after two years, and so on.

Importantly, the specific details of the salary step system, including the number of steps, and the salary increase between steps, are often determined in collective bargaining agreements (CBAs) negotiated between local teachers' unions and school districts. Thus, in Michigan's traditional public school districts, decisions about salary steps and thus teacher compensation are tied to CBAs but are also influenced by dynamics of the local labor market.

In interviews with district superintendents and an experienced union president, it was discovered that in the last two decades, some districts began to change their approach to honoring steps accrued in one district when they transferred to a different district. A union president familiar with dynamics across Michigan explained why steps were initially not being honored for teachers transferring from one district to another:

I think it probably is best to start when I really became engaged, back in the early 2010s. It was still a time when educator supply was still relatively high. So, there really was not a need [for] a local school district to have to provide any salary incentives for anyone to come and work for them. We're in an open county and we are higher than average in terms of [compensation]. So, we were a destination district for a lot of folks... it would not be uncommon for us to have several hundred to even thousands of applicants for different jobs that we would have... Enter the recession that we went through from 2008 to 2012... Because of salary schedules, many contract negotiations were frozen, and steps were not granted.

The respondent went on to explain that a confluence of different factors made it so that some districts serving wealthier, whiter communities either opted not to grant steps to teachers transferring into their district because of the 2008 recession and associated austerity measures by the Michigan government, and/or did not need to do so because these same measures hit districts in low-income communities harder, and because teacher supply remained adequate for higher income communities.

However, in recent years, this began to change as educator supply became a problem for many districts, who then responded by trying to honor steps for transferring teachers. The district leader of

Kenaj Fjords explained that districts began to match or exceed the number of steps offered which increased competition and teacher mobility, even creating incentives for teachers to move:

As far as why people move between districts in terms of poaching, the other aspect has to do with contracts. So for many districts, if you are within that district under the teaching contract and you go through the steps.... It used to be that if you came into a district from another district, either you're placed on the bottom or, if the contract allowed it (some district contracts do not) they would try to place you at a comparable level. Most of us will get it in the teacher contracts where we can bring anybody in basically anywhere we want to on that level. So you're teaching next door, you're a year four teacher, but you find out you can come to Kenai Fjords, and we'll move you to step 7, that's why you go. It's financially based. And then you figure out, 'Oh, well, now [the old district] has that same thing,' then you hop and go back over. So it really is about how much districts are willing to pay, but all of us are very aware that that also creates a lot of tension among employees within the same district because you could be coming in with less experience than your colleague. You're being paid more only because you came from another district.

A few other superintendents confirmed that some adjacent districts would use this tactic, offering more steps to teachers to fill a crucial vacancy. This helped them fill the vacancy but provided a perverse incentive for colleagues working in that same district to move to a different one, since the incoming teacher could be making more than incumbent teachers but have less experience.

This dynamic contributed to the increases in mobility and competition that district leaders and principals reported. The district leader of Petrified Forest corroborated this phenomenon, adding that it becomes a "bad thing" for teachers who "stay put" and creates an incentive for teachers to move:

As you know, it used to be, there was a reassignment agreement that when you brought a teacher in from another school in the step categories. So many of us are right around 20-25 steps, 26 steps. You would lose that seniority and drop down to seven and that was really common. Well, because the market's so tight now, you can slide horizontally and not lose a dime and maybe pick up some more money. I know with us, traditionally, it used to be you looked at how much time they had in the classroom. Well, when I bring people in, I look at their experience and I consider everything. If you've worked with kids before and it may be a summer program, coaching, that kind of thing. That's going to qualify as experience for me. That moves you up the steps, so you switch. Now, you're raising salaries. We're all doing that now and it's a good thing, as far as competition for those teachers because they're going to get more money. It's a bad thing for those teachers that stay put because now they're not going to take advantage of that extra experience they had coming in.

As noted earlier, district leaders and principals repeatedly stated that this dynamic disproportionately benefitted higher-income districts, putting low-income rural and urban districts at a significant disadvantage in the competition for teachers to fill vacancies. For instance, the leader of Redwood explained the sheer size of the discrepancy in some cases, “We will offer them a position, and they’re like, ‘I can’t take that position. That would be a \$20,000 pay cut.’”

The leader of Biscayne, a district that served a particularly high poverty group of students, added, “They’re going to the more affluent districts, right? So they come to these high-poverty areas, and a lot of them leave. They stay for a little bit. This is never going to change until we start validating the work of high-poverty schools.”

One urban district serving large proportions of low-income students of color (Yosemite) faced some of the deepest staffing challenges. Their superintendent gave one example of how deeply the staffing challenges were impacting them:

I don’t know, but [the staff are] not there. Same thing with substitutes, and it feels like with the teachers. And so, unfortunately, what has happened is there’s been a doubling up or combining or trying to do splits when you can, but that’s even difficult with the bargaining agreements that we have, because you can only have so many kids in class. And then, typically, they are leaning on paraprofessionals to sub, but because the vacancies are permanent, it’s not like trying to staff or someone being sick.

Another principal in a suburban district who said they had few staffing challenges explained that they would regularly acquire teachers with three or more years of experience from a nearby urban district. However, one area they struggled with was paraprofessionals. They noted that this nearby urban district recruited paraprofessionals away so that they could become full-time teachers because the need for teachers there was so great. As noted later, compared to paraprofessional jobs, teaching was more stable and had better pay and benefits. This raises an important equity issue considering that access to experienced, qualified teachers is considered especially important for raising a variety of outcomes for low-income students.

THE VARIATION AND ETHICS OF POACHING: FROM FORMAL AGREEMENTS NOT TO POACH TO ACTIVE RECRUITMENT

Given how poaching is defined, it is worth examining the variation in leaders’ experiences with this phenomena, as different leaders expressed varying degrees of willingness to engage in poaching or had different experiences with it.

Looking across interviews, five distinct categories of experiences or responses on a continuum were uncovered that varied from “informal agreements” not to poach to “direct appeals” to teachers, usually by a leader making direct contact with a teacher to recruit them for a vacancy. Table 10 and Figure 10 (below) provide examples of these categories, which are defined below.

1. **Informal Agreements.** Some leaders collaborated with superintendents in the area, informally agreeing not to actively recruit teachers from one another.
2. **“Ethical.”** Some explained that they could engage in poaching but expressed deep discomfort with the ethics of doing so and refused to engage in the behavior because of this.
3. **Social Networks.** A variety of leaders explained that they would turn to teachers and their social networks to recruit specific individuals for vacant positions. **Referral Incentives.** Some districts used referral incentives, offering bonuses to individuals if a teacher that they referred ended up being hired for a vacant position.
4. **Direct Appeals.** Many leaders discussed the growing use of direct appeals (e.g., principals or district leaders contacting individuals via phone or email directly to get them to apply to a position) and how they perceived this as problematic and potentially unethical.

Table 10. Categories and examples of (un)willingness to engage in poaching

Informal Agreements	“Ethical”	Social Networks	Referral Incentives	Direct Appeals
<p>“We’re trying to get all the schools together to create a website so we can post there, and we can pull people in from outside. But there’s some lazy superintendents who don’t want to be better.” – Petrified Forest</p>	<p>“What I don’t do for teachers is I don’t try to cherry-pick. I don’t call teachers for another district and say, ‘Hey, we have this position.’ We don’t do that. I find it unethical, and so I don’t... [but] if someone is inquiring, we definitely match them up with someone in our district... We try to network that way without being unethical.”</p>	<p>“I try to tell my teachers, ‘Hey, you guys are our best sellers. Please, start talking to these teachers.’ So, I had some of my teachers... start broaching the conversation.” – Isle Royale</p>	<p>“I know people that work here know other people in those districts that have been kind of doing that and I think they did put like a \$500, you know, referral bonus or something like that along the lines.” – Bryce</p>	<p>“I have superintendents in the county that will say those [North Cascades] teachers get an interview. Because they can work with tough kids, and they’ve been well trained. Like they actively poach my teachers. They recruit them... That’s absolutely what happens. They could call my teachers to get them to go to their</p>

Informal Agreements	“Ethical”	Social Networks	Referral Incentives	Direct Appeals
	- Channel Islands		Canyon	district.” - North Cascades

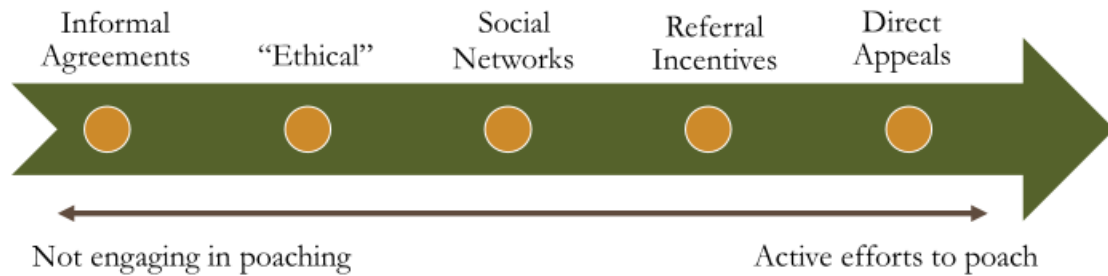


Figure 10. Continuum of practices and willingness to poach

DESTINED TO LOSE? EVIDENCE OF COMPETITIVE SALARY AS A BUFFER FOR URBAN, LOW-INCOME DISTRICTS

Most superintendents and principals in lower-income districts told the research team that wealthier surrounding districts were able to offer higher salaries, leading to situations like those faced by Theodore Roosevelt, an urban district which had double-digit mid-year vacancies. Despite being near universities with teacher preparation programs, Theodore Roosevelt struggled to recruit and retain experienced educators and typically “lost” in the competition for teachers.

Although a number of interviewees noted that working conditions were just as important as salaries in terms of attracting or deterring educators from working in districts, it was observed that there are two situations where low-income urban districts (that were discussed by some as places with difficult working conditions) were able to offer some of the most competitive salaries in their region. Specifically, in contrast with many of these narratives, the HR district leaders of Arches and Glacier Bay noted that they were having increasing levels of success with staffing despite the state’s teacher shortages and despite serving some of Michigan’s most disadvantaged communities.

Arches’ leader said, “[We’ve] kind of cut [the number of vacancies] in half every year to the point where we were actually very close to on track to being fully staffed at the teacher level this year for the first time in recent history.”

When asked how they were able to do this, the leader explained:

We’ve increased teacher salaries every year that this administration has been there, both on the top, but also on the bottom. So a couple of years ago, we increased our starting

teacher salary to be the highest in [the region]. [We were able to move it over \$10,000], which helped us attract new teachers or more junior teachers into the profession...

According to this leader and a principal at Arches, being able to attract teachers also helped “improve the culture.” The HR leader added that several other strategies (e.g., a GYO program) in combination with competitive compensation enabled them to have a steady supply of talent:

[We’ve had] a really multifaceted talent strategy for teachers specifically. So, we’ve done some targeted incentives around hard-to-staff positions. All of our exceptional student education teachers have a [five figures] a year bonus on top of their base salary. We recruit year-round and all the time from all over. So, we have a really aggressive proactive recruiting approach.

District administrators at Glacier Bay said that they were also recently able to increase compensation for new teachers and offer steps to transfer teachers. When asked about vacancies, one explained, “As far as where we are this year compared to last year before we had new contracts, we’re in a much better place with staffing.”

When asked what made the biggest difference, they said:

I’ll be honest with you, just the salary. Where they come in at, where they top out at, the fact that we’re giving steps. In years past, the position that [Glacier Bay] used to take is they might only give a couple of years of experience if they were trying to recruit someone from the outside in. Now, we’re at the point, not only are we giving someone the level where they are, regardless of where they are on our scale, we try to give them a step or two because we’re in a place where we can financially afford to do so.

Like Arches, Glacier Bay offered a salary that is “leading the area.”

One HR leader elaborated:

We [also] have a retention bonus built into most of the contracts that they get paid in the fall if they return. We have fantastic benefits, and not only the benefits but the cost. We’re finding a lot of people that switch that their costs were double, triple, quadruple rates so that’s a big thing for somebody. It doesn’t always get highlighted, especially if you’re somebody new, maybe have a comparison to your old district or whatever but I think that’s important.

While these cases were clearly outliers, they are illustrative of the potential for low-income districts to increase the supply of teachers available to fill vacancies when they can offer competitive compensation and benefits.

SURVEY EVIDENCE OF TEACHER POACHING

While interview data pointed to the nature and perceived impact of teacher poaching, survey data pointed to its perceived prevalence. Sixty percent of district leaders agreed or strongly agreed that neighboring districts poaching (actively recruiting) their teachers is a serious staffing problem.

The poaching of experienced teachers appears to be a greater problem for suburban/city districts (although not statistically significant), and more severe in districts serving a higher proportion of economically-disadvantaged students (see Figure 11, below).

This suggests that the pool of available teachers is not increasing and supports the qualitative findings that there is substantial inequality in which districts are impacted by poaching. Districts may be unable or unwilling to recruit individuals new to the teaching profession to fill their teaching roles, but instead are recruiting experienced individuals already in teaching roles. This strategy merely serves to displace the vacancy to another district.

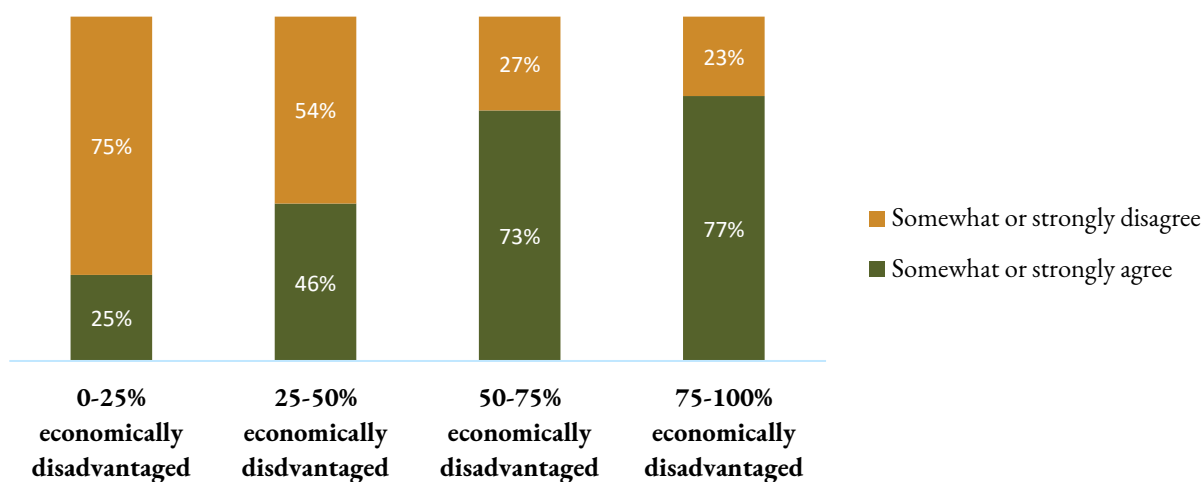


Figure 11. Percentage of districts serving different proportions of economically-disadvantaged students that agree or disagree that districts poaching their teachers is a serious staffing problem

Two-thirds of district leaders (67%) said that one of the biggest reasons for teacher vacancies in their district is that teachers were leaving to teach in another district.

In addition, school leaders were also asked about the biggest reasons for teacher vacancies in their schools. For schools serving fewer than 50% economically-disadvantaged students, most school leaders (65%) rated the most important causes for teacher vacancies to be retirement, while only 20% said the most important cause is that teachers left to teach in another district. For schools serving 50% or more economically-disadvantaged students, a greater proportion (38%) said the most important reason is

because teachers are leaving to teach in another district (Figure 12, below). This difference is statistically significant.

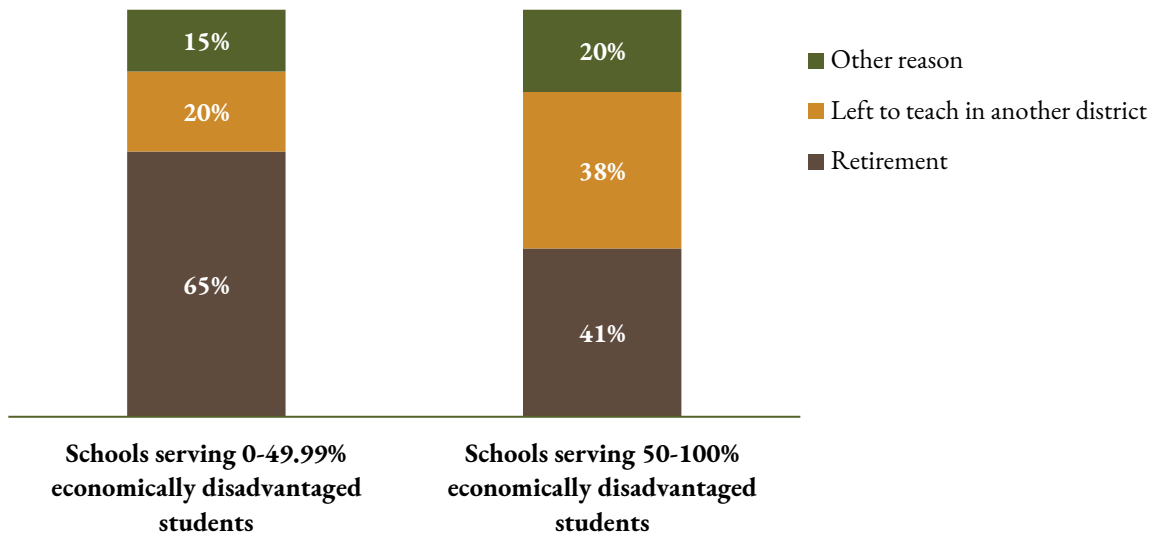


Figure 12. School leader’s perspective on the most important reason for teacher vacancies in their school, by different levels of economically-disadvantaged student enrollment

A similar story emerges when examining the differences in reasons for teacher vacancies at the school level by different levels of non-White student enrollment. For schools serving fewer than 50% non-White students, most school leaders (58%) rate the most important causes for teacher vacancies to be retirement, while only 25% say the most important cause is that teachers left to teach in another district. For schools serving 50% or more non-White students, more than half (53%) say the most important reason is because teachers are leaving to teach in another district (see Figure 13). This difference is statistically significant.

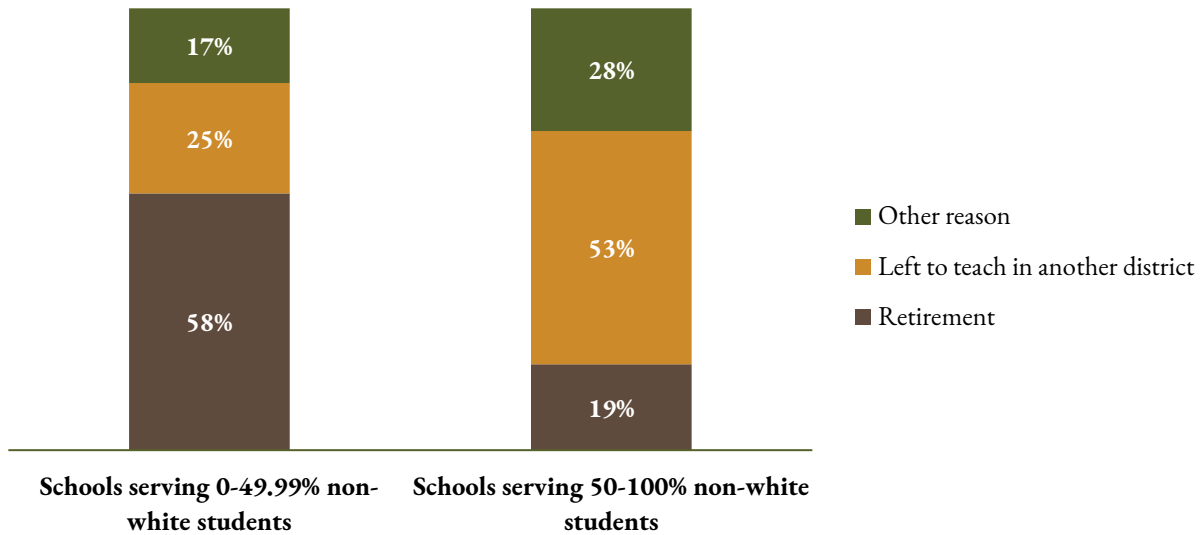


Figure 13. School leader’s perspective on the most important reason for teacher vacancies in their school, by levels of non-White student enrollment

Almost half of school leaders (49%) said retirement is the biggest reason for teacher vacancies in their building. Thirty percent of school leaders said that the biggest reason for teacher vacancies is because teachers are leaving to teach in another district.

These survey data from both district leaders and principals support the findings from the qualitative data about teacher mobility and poaching being a prominent problem, particularly for schools and districts serving higher proportions of students of color or children in poverty.

In short, there is evidence that widespread norms against recruiting teachers from neighboring districts may be breaking down in the face of acute shortages of instructional staff. School districts in more populous regions of the state may be more vulnerable to these phenomena, given the greater concentration of possible rivals for qualified teachers.

This phenomenon risks contributing to educational inequality, since disadvantaged students are more at risk of having their teachers leave and being replaced by a less-qualified, less-experienced instructor.

Section 3. Instructional Coverage: Absences and Substitute Teachers

Honestly, we just need to keep functioning as a district. And districts don't function well if they don't have substitute teachers available. – District Administrator, Cuyahoga

Although most of the attention regarding K-12 staffing is garnered by teacher vacancies, instructional coverage is arguably equally important. Even modest levels of teacher absences require a ready pool of short-term replacements (i.e., substitute teachers).

Substitute teachers play an important but understudied role in K-12 schools. Whether there are teacher vacancies or absences, substitute teachers are the principal method of filling the void. Specific shortages in the substitute labor market therefore may have a major impact on schools. Unfortunately, the research base on attracting and retaining substitute teachers, and the overall shape of the substitute labor market is surprisingly thin. There are serious limitations in the collection of data on substitute teachers, most of which is held at the local level. There is thus a dearth of readily accessible, timely data on the availability of substitute teachers.

Reports of substitute teacher shortages were widespread prior to the pandemic, with a majority of school district administrators saying they didn't have an adequate number of substitute teachers. (Burroughs et al., 2019). As referenced earlier, national surveys indicated that substitute teachers were in exceptionally short supply following the pandemic (Schwartz & Diliberti, 2022).

To strengthen understanding of Michigan's substitute labor market, and its potential impact on schools, a survey was conducted of a random sample of substitute teachers who worked in Michigan between 2018 and 2021, along with detailed interviews with a follow-up sample. In addition, state REP data on substitute assignments was used to explore trends in the supply of substitute teachers during the same period (2018-21). These historical data were supplemented by questions asked of principals and district leaders about the availability of substitute teachers during the 2022-23 school year. Finally, personnel data from two case study districts were examined to understand teacher absences and fill rate patterns.

TEACHER ABSENCES

The most important contributor to the need for substitute teachers is teacher absences. Substitute teachers have traditionally been responsible for filling in for teachers in the case of either teacher

vacancy or teacher absence. The use of temporary substitute teachers is far more common than long-term substitute teachers, although this varies by type of district.

There is some evidence that absences have increased in recent years. According to the survey respondents, weekly teacher absences increased by more than 50% since before the pandemic. During the 2019-20 school year, district leaders reported there were 18 teacher absences during a typical week (which represents 10.5% of teacher rosters, using 2019-20 teacher headcounts). By contrast, district leaders reported that during the 2022-23 school year, approximately 27 teachers were absent for the entire school day for any reason during a typical school week (which represents 14.6% of teacher rosters, using 2021-22 teacher headcounts).¹⁷

A paired samples t-test was conducted on the 65 district administrators who answered both questions. The difference between the 2019-20 and 2022-23 school years in percentage of teachers who are absent each week is statistically significant. Administrators' perspectives on how rates of teacher absences have changed over time are explored analytically using the case study sites' teacher absence data.

SCHOOL ADMINISTRATOR PERCEPTIONS ON THE SUPPLY OF SUBSTITUTE TEACHERS

Almost all district leaders (98%) and school leaders (96%) said that there currently are not enough substitute teachers in their area to meet their day-to-day (short-term) needs. More specifically, 72% of district leaders and 62% of school leaders said that once a week or more, there is a need for a day-to-day substitute teacher, but they are unable to find one.

This is despite 81% of school leaders who reported using an external agency/third party provider to obtain a list or “pool” of substitute teachers available for assignment, and 70% of district leaders who reported that they employ full-time or “building” substitute teachers. However, not every building in a particular district is likely to have a building substitute available.

Almost all district leaders (98%) and school leaders (96%) said that there currently are not enough substitute teachers in their area to meet their day-to-day (short-term) needs.

¹⁷ Similarly, school leaders report that 16.6% of their teachers are absent for the school day for any reason during the typical school week.

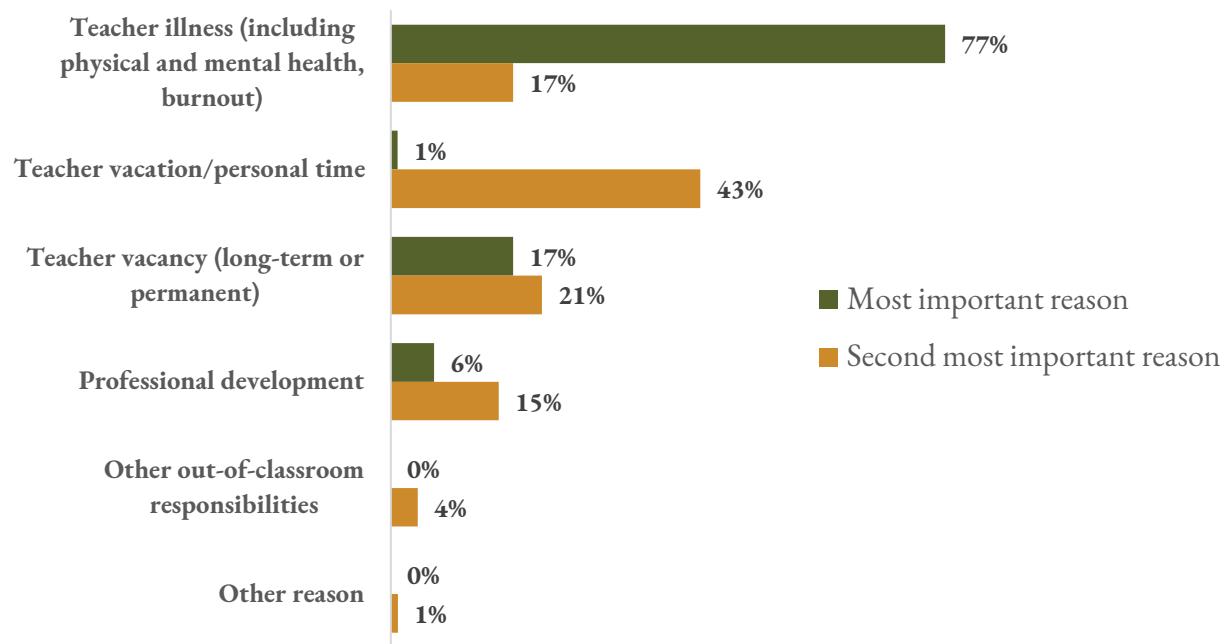


Figure 14. District leaders' perspective on the most important reasons for needing a substitute teacher

According to district leaders, the two most important contributors to the need for substitute teachers across districts are teacher illness (77% said this is the most important reason for needing a sub) and teacher vacation/personal time (43% said this was the second most important reason). Vacancies, professional development, and other responsibilities play only a small part in determining the need for substitute teachers. The research team is unable to determine whether this is due to increases in teacher absences, shortages of substitute teachers, or a combination of both. Whatever the cause, it is clearly a problem since nearly all surveyed district administrators and principals said that there were not enough substitute teachers to fill their day-to-day needs.

Additionally, reasons for teacher absences differ by locale with respect to long-term/permanent teacher vacancies. In rural or town districts, 83% of district leaders reported that the most important reason for needing a substitute teacher is teacher illness, while only 8% reported the most important reason is due to long-term/permanent teacher vacancies. In suburban or city districts, 69% of district leaders reported teacher illness as the most important reason, and 27% stated long-term-permanent teacher vacancies (although the difference is not statistically significant).

VARIATIONS IN SUBSTITUTE NEED BY SUBJECT AREA

Only 34% of school leaders reported that the need for day-to-day substitute teachers varies by subject area. Of these, school leaders agreed that mathematics (24%), special education (21%), and self-contained regular classrooms (28%) are the subject areas for which substitute teachers are needed the most. Special education and mathematics were also at the top of the school leaders' list of subjects for which it is the most challenging to find qualified staff. Subject area need did not substantially vary across types of districts. There were no statistically significant differences by locale, economic disadvantage, or racial and ethnic composition.

WHAT STATE ADMINISTRATIVE DATA TELLS US ABOUT THE SUBSTITUTE LABOR MARKET

Other than school and district survey data, the other source of data on substitute teachers is state-level administrative data. The State's REP data include assignments to a particular school district during a particular school year (though as demonstrated below, some substitute assignments were reported at the ISD and not district level). These data were used to examine the overall state trend in the supply of substitute teachers, individual retention in the substitute labor market, the number of districts substitute teachers worked, and differences in the use of substitute teachers across districts.

State MOECS (Michigan Online Educator Certification System) data were also used to estimate the demographic characteristics of substitute teachers. Unfortunately, REP information does not allow the ability to identify the number of days that a substitute works at a given school. Assignments of substitute teachers therefore represent only a rough proxy of the supply of substitute teachers.

However, these data did point to a decline in the number of substitute teachers and teacher assignments in recent years, and considerable state- and district-level turnover of substitute teachers.

The research team first examined the number of substitute/temporary teaching assignments over time (Table 11). The data is divided among the three types of districts recording substitute assignments: traditional public school districts, or Local Education Agencies (LEAs), charter schools, Public School Academies (PSAs), and Intermediate School Districts (ISDs). Most substitute assignments (75%) were made in LEA districts, and the number of assignments declined over the study period. Using the 2018-19 school year as the reference point for a "typical" school year, substitute assignments declined by 4.5% in 2019-20 and 15% in 2020-21.

Table 11. Number of substitute assignments during the study period by district type

School Year	LEA Districts	PSA ¹⁸ Districts	ISD Districts	Total
2018-19	60,486	7,074	13,779	81,339
2019-20	58,575	6,854	12,262	77,691
2020-21	52,911	5,076	11,306	69,293
Total	171,972	19,004	37,347	228,323

INDIVIDUALS FILLING SUBSTITUTE/TEMPORARY TEACHING ASSIGNMENTS

Along with the decline in the number of assignments, there was a concomitant decline in the number of unique substitute teachers. In total, there were 58,945 unique individuals who filled these substitute/temporary teaching assignments during the study period. Not every individual worked every year, and the number of unique individuals working as substitute teachers declined during the study period, as Table 12 illustrates.

Using the 2018-19 school year as a baseline school year, the pool of substitute teachers declined 6% in the 2019-20 school year and 10% in the 2020-21 school year.

Table 12. Number of individuals employed as substitute teachers during the study period

School Year	Number of Individuals ¹⁹
2018-19	41,659
2019-20	39,272
2020-21	37,300

DEMOGRAPHIC CHARACTERISTICS OF SUBSTITUTE POOL

Because they are from the surrounding community, substitute teachers might be viewed as a way of improving the diversity of K-12 instructions. To examine whether substitute teachers “look more like their community,” substitute teacher demographics were analyzed by the data available for the 61% of assigned substitute teachers for whom this information was available (i.e., these individuals had a substitute permit on file in MOECS).

This analysis indicates that substitute teachers, like full-time classroom teachers, are overwhelmingly female (75%) and White (79%). These data are quite similar to that for the general teacher population

This suggests that the current pool of substitute teachers is not more diverse than existing teachers.

¹⁸ Public School Academy.

¹⁹ The research team compared district-level count of substitutes/temporary teachers to the count of day-to-day substitutes reported in [Staffing Counts](#) of MI School Data, finding a correlation of 0.98. The counts are systematically higher because the team also included those assigned as teachers in temporary funded positions.

(75% female, 85% White, according to 2021-2022 MI School Data figures). This suggests that the current pool of substitute teachers is not more diverse than existing teachers. (Table 13).

Table 13. Demographic characteristics of substitute teachers reported in REP

		N	%
Race	White	28,234	79%
	Black	5,085	14%
	Multiracial/Biracial	582	2%
	Asian American/Hawaiian/Pacific Islander	825	2%
	Hispanic/Latino	694	2%
	American Indian/Native American/Alaska Native	266	1%
	Total	35,646	100%
Gender	Female	26,644	75%
	Male	9,046	25%
	Total	35,690	100%
Age	18-24 years	6,726	19%
	25-34 years	7,855	22%
	35-44 years	6,898	19%
	45-54 years	6,194	17%
	55-64 years	4,732	14%
	65+ years	3,285	9%
	Total	35,690	100%

STABILITY OF THE SUBSTITUTE LABOR POOL

Because school leaders need access to a reliable supply of substitute teachers, it is obviously in their interest to have a list of specific substitute teachers that they can repeatedly reach out to in order to fill vacancies. This raises the question of the stability of the substitute labor pool, in other words, to what extent the same individuals work as substitute teachers from one year to the next.

The research team analyzed the engagement of the individuals employed as substitute teachers and/or temporary teachers in the substitute teaching pool during the study period. As indicated by Table 14 (below), of the 58,945 unique individuals, 36% ($n = 20,992$) worked as substitute teachers during all three study years. This might reflect their choice to work as a substitute on a more permanent basis (i.e., as a preferred career path). Twenty-nine percent of individuals ($n = 17,303$) worked as substitute teachers during two of the three study years. The remaining 20,650 individuals (35%) worked as substitute teachers during only one year, with more than half of these (57%, $n = 11,821$) only working as a substitute during the 2018-19 school year. Thus, a sizeable number of individuals who worked as a

substitute in the 2018-19 school year did not to work as substitute teachers during the 2019-20 and 2020-21 school years.

Table 14. Years individuals worked as a substitute

2018-19	2019-20	2020-21	Type (Fine-Grained)	Count	Percent	Type (Categories Collapsed)	Count	Percent
X	X	X	All 3 years	20,991	36%	All 3 years	20,991	36%
X	X		First 2 years	8,359	14%	2 years	17,304	29%
	X	X	Last 2 years	8,457	14%			
X		X	2 non-sequential years	488	1%			
X			First year only	11,821	20%	1 year	20,650	35%
	X		Middle year only	1,465	2%			
		X	Last year only	7,364	12%			
Total				58,945	100%	Total	58,945	100%

The year-over-year retention rate of substitute teachers was also analyzed from the 2018-19 to 2019-20 school year and from the 2019-20 to 2020-21 school year. Of those who worked as a substitute in 2018-19, 70% ($n = 29,350$) were retained as a substitute/temporary teacher the following year. Of those who worked as a substitute in 2019-20, 75% ($n = 29,449$) were retained as a substitute/temporary teacher the following year.

DISTRICT-LEVEL RETENTION IN THE LABOR POOL

Another important index of the relative health of the substitute labor market is the retention of substitute teachers, not just within the substitute pool as a whole, but within specific districts year-over-year. Across all districts, on average 63% of the substitute teachers who worked at a particular district in the 2018-19 school year returned for the 2019-20 school year. The mean district-level substitute retention between the 2019-20 and 2020-21 school years was 65%.

These values are similar to the year-over-year labor-pool retention because, as reported below, most substitute teachers only work in one district per year. Table 15 reports the district-level substitute retention rates for ISD, LEA, and PSA districts. While the retention rates across the study years were fairly similar, a smaller percentage of substitute teachers at PSA districts return the following school year on average.

Table 15. Year-over-year district-level retention by district type

District Type	Retention Years	Mean	SD	N	Range	
					Min	Max
ISD Districts	2018-19 and 2019-20	70%	16%	54	15%	94%
	2019-20 and 2020-21	69%	16%	55	0%	100%
LEA Districts	2018-19 and 2019-20	65%	20%	525	0%	100%
	2019-20 and 2020-21	69%	18%	528	0%	100%
PSA Districts	2018-19 and 2019-20	57%	29%	263	0%	100%
	2019-20 and 2020-21	57%	29%	260	0%	100%

District-level retention rates for LEA and PSA districts were also analyzed with varying locales and student enrollment. The results (not shown) suggest that across all types of districts, year-over-year retention of substitute teachers actually increased between 2018-19/2019-20 and 2019-20/2020-21 and did not systematically vary as a function of the district's demographic and geographic characteristics. However, the increase in substitute retention year-over-year does not necessarily indicate a preference for their respective districts among substitute teachers. Rather, it might primarily reflect the fact that the overall pool of individuals available to work as substitute teachers declined across the study years.

WHAT ACCOUNTS FOR THE DECLINE IN THE NUMBER OF SUBSTITUTE TEACHING ASSIGNMENTS?

There are a number of potential explanations for the short-term decline in substitute/temporary teaching assignments. First, there may have been less need for substitute teachers due to fewer teacher absences during the period of the pandemic when many teachers were online. The World Health Organization (WHO) declared COVID-19 a pandemic on March 11, 2020, and states began to implement shutdowns to prevent the spread of COVID on March 15, 2020 (David J. Sencer CDC Museum, 2023) M Many schools transitioned to remote instruction during the week of March 16, 2020. Remote instruction allowed teachers more flexibility in where and whether to work. This flexibility possibly led to fewer teacher absences than needed to be filled by a substitute. Another possibility for the decline in substitute/temporary teaching assignments over the period of the research was that teacher absences increased or stayed the same, but schools/districts were unable to find

substitute teachers to fill these absences. Absences may have increased as teachers tended to their own illnesses or the illnesses of family members, or as they waited out mandated quarantine periods.

Consequently, the decline in substitute/temporary teaching assignments could indicate greater challenges faced by schools and districts finding individuals to fill in for absent teachers. Longer-term data, as well as detailed data on the length of the substitute assignment, would be required to understand whether the decline in 2020-21 was a temporary change or related to long-term secular trends. While detailed information on teacher absences is not available across the state of Michigan, the research team examined these two competing hypotheses on a smaller scale using detailed teacher absence information from two case study sites (as discussed previously).

REACH OF SUBSTITUTE TEACHERS ACROSS DISTRICTS

As demonstrated in the previous sections, the number of teaching assignments exceeds the number of individuals. This means some individuals were working in multiple districts each year. To explore the reach of substitute teachers across districts and whether this changed in the wake of the pandemic, the research team analyzed the number of districts in which substitute teachers worked per year. As Table 16 showcases, in the majority of cases, substitute teachers only worked in one district per year (60% of substitutes in 2018-19 and 2020-21; 57% of substitutes in 2019-20).

Table 16. Number of distinct districts that substitute teachers worked in

	2018-2019		2019-2020		2020-2021	
	<i>N</i>	%	<i>N</i>	%	<i>N</i>	%
1 district	25,182	60%	22,297	57%	22,488	60%
2 districts	7,589	18%	7,656	20%	7,093	19%
3 districts	3,628	9%	3,925	10%	3,380	9%
4 districts	2,210	5%	2,324	6%	1,937	5%
5 districts	1,234	3%	1,385	4%	1,100	3%
6 districts	771	2%	807	2%	629	2%
7 districts	402	1%	431	1%	352	1%
8 districts	216	1%	190	1%	163	0%
9 districts	136	0%	113	0%	65	0%
10 or more districts	291	1%	144	0%	93	0%
Total	41,659	100%	39,272	100%	37,300	100%

An additional 18-19% of substitute teachers each year worked in two districts. A minority of individuals (less than 5%) worked in six or more districts per year. Almost 8 in 10 substitute teachers tend to confine their substitute assignments to one or two districts each year, and this pattern did not appear to be impacted by the pandemic. Future research can examine the mobility of substitute

teachers across buildings in the same district, as well as substitute teachers who do work in many districts each year. Substitute teachers who work in multiple districts may elect to work in districts close together in geography or that share other characteristics.

DISTRICTS' USE OF SUBSTITUTE TEACHERS

The utilization of substitute teachers from the perspective of districts was also analyzed. On average, districts operating at the ISD level employ more substitute teachers than LEA districts, while PSA districts employ the smallest number of substitute teachers on average (Table 17). These data suggest that the number of substitute teachers employed by districts declined in the 2020-21 school year for all three types of districts, which is in line with the declining pool of available substitute teachers across the entire market.

Table 17. Number of substitutes/temporary teachers employed by different types of districts

District Type	School Year	Mean	SD	N	Range	
					<i>Min</i>	<i>Max</i>
LEA Districts	2018-2019	115	145	525	1	1321
	2019-2020	111	146	528	1	1300
	2020-2021	101	126	524	1	1022
PSA Districts	2018-2019	27	32	263	1	290
	2019-2020	26	29	264	1	197
	2020-2021	19	20	265	1	172
ISD Districts	2018-2019	255	550	54	7	3369
	2019-2020	223	468	55	1	2789
	2020-2021	209	447	54	2	2650

Unsurprisingly, the number of substitute teachers employed by districts is statistically significantly associated with the district's teacher headcount. To account for the dependence between school size and use of substitute teachers, for the remaining analyses in this section, the research team utilized a ratio of substitutes to teachers. Across all districts and study years, there is an average of .81 substitute teachers for every teacher. To aid interpretation, this ratio was multiplied by 100 to represent the number of substitute teachers per 100 teachers.

The higher the number, the more substitute teachers theoretically available to fill in for absent teachers. A larger substitute pool from which to draw on also theoretically increases the likelihood that the school or district can find a substitute with appropriate grade-level or subject-matter expertise, potentially limiting any negative impacts on student instruction. This number should be interpreted with caution, because it refers to the number of annual substitute teacher assignments as compared

with the total headcount of teachers (for the respective study year). It does not account for either the absence rate or the number of days worked by a specific substitute.

Table 18 reports the mean number of substitute teachers per 100 teachers by district type and school year. For LEA and PSA districts, there are about 60-80 substitutes for every 100 teachers, while at the ISD level, there are more substitutes than teachers. In general, the number of substitutes per 100 teachers declined over the study period and is lower for PSA than LEA and ISD districts, particularly during the 2020-21 school year.

Table 18. Number of substitutes/temporary teachers per 100 teachers by district type and school year

District Type	School Year	Mean	SD	N	Range	
					Min	Max
LEA Districts	2018-19	84	51	525	0	450
	2019-20	78	48	528	1	306
	2020-21	70	41	524	0	300
PSA District	2018-19	80	88	263	1	700
	2019-20	84	101	264	1	1037
	2020-21	59	53	265	2	333
ISD Districts	2018-19	168	215	54	16	945
	2019-20	155	203	55	3	870
	2020-21	140	187	54	7	816

DIFFERENCES IN SUBSTITUTE: TEACHER RATIO BY DEMOGRAPHIC AND GEOGRAPHIC CHARACTERISTICS OF DISTRICTS

Several other factors besides type of district were examined that have the potential to impact the substitute: teacher ratio, including locale, total student enrollment, non-White student enrollment, and economically-disadvantaged student enrollment. For these analyses, the research team focused on LEA and PSA districts to facilitate a comparison to districts that operate at similar levels.

Descriptive statistics for the number of substitute teachers per 100 teachers by district locale are reported in Table 19 (below). LEA districts located in rural or town settings are the most common district profile in these analyses, and these types of districts have seen a steady decline in the number of substitutes per 100 teachers across the study period. In fact, their ratio of substitutes to teachers in the 2020-21 school year (71 substitutes per 100 teachers) is now close to the ratio of substitutes to LEA districts in suburban/city settings, which was 77 in the 2018-19 school year and declined to 67 in the 2020-21 school year.

For PSA districts, those located in rural/town settings have some of the lowest substitute teacher ratios on average, which did not change over the study period. Finally, PSA districts in suburban/city settings experienced a significant decrease in substitute teachers per 100 teachers in the 2020-21 school year (59 substitutes per 100 teachers) compared to the 2018-19 school year (83 substitutes per 100 teachers).

Taken together, these trends suggest that even districts with a relatively large number of substitute teachers per teacher in the 2018-19 school year have fewer individuals to fill substitute assignments in the 2020-21 school year.

Table 19. Number of substitutes/temporary teachers per 100 teachers by district type, school year, and locale

District Type	District Locale	School year	Mean	SD	N	Range	
						Min	Max
LEA Districts	Rural or town	2018-19	87	52	347	0	450
		2019-20	79	50	349	1	306
		2020-21	71	41	345	0	300
	Suburb or city	2018-19	77	49	178	1	337
		2019-20	76	44	179	1	183
		2020-21	67	38	179	1	182
PSA Districts	Rural or town	2018-19	66	42	50	1	257
		2019-20	67	53	51	1	300
		2020-21	61	48	50	3	275
	Suburb or city	2018-19	83	96	213	2	700
		2019-20	88	109	213	2	1037
		2020-21	59	54	215	2	333

Differences in the substitute teacher ratio were next examined over time for LEA and PSA districts serving different proportions of non-White students (Table 20, below) and economically-disadvantaged students (Table 21, below). Across all types of district demographic profiles, two general trends emerged.

The first trend is that the number of substitute teachers for every 100 teachers generally declined from 2018-19 to 2019-20, and again from 2019-20 to 2020-21. For example, LEA districts serving 0-24.99% non-White students (the most common district profile for these analyses) reported 85 substitutes per 100 teachers in the 2018-19 school year, which declined to 70 substitutes per 100 teachers in 2020-21. The exception to the trend of declines over time is LEA districts serving 75-100% non-White students,

which increased their number of substitutes relative to their number of teachers in the 2019-20 and 2020-21 school years.

The second trend is that even districts with a relatively robust number of substitute teachers in earlier years (e.g., PSA districts serving 75-100% minority students, which had about 1 substitute for every teacher in 2018-19 and 2019-20) saw declines during the 2020-21 school year.

Table 20. Number of substitutes/temporary teachers per 100 teachers by district type, school year, and non-White student enrollment

District Type	District Demographics	School Year	Mean	SD	N	Range	
						<i>Min</i>	<i>Max</i>
LEA Districts	0-24.99% non-White students	2018-19	85	50	392	0	450
		2019-20	78	49	386	1	306
		2020-21	70	41	382	0	300
	25-49.99% non-White students	2018-19	80	53	77	2	337
		2019-20	76	47	84	1	250
		2020-21	66	38	82	2	200
	50-74.99% non-White students	2018-19	82	55	29	1	255
		2019-20	80	42	30	2	169
		2020-21	63	28	32	3	113
	75-100% non-White students	2018-19	71	52	27	1	214
		2019-20	83	51	28	5	191
		2020-21	84	43	28	5	152
PSA Districts	0-24.99% non-White students	2018-19	56	34	52	4	140
		2019-20	62	38	56	4	178
		2020-21	63	45	54	2	275
	25-49.99% non-White students	2018-19	68	57	50	1	257
		2019-20	68	64	44	1	300
		2020-21	49	39	52	3	155
	50-74.99% non-White students	2018-19	63	49	32	6	242
		2019-20	65	52	35	2	233
		2020-21	58	49	32	5	227
	75-100% non-White students	2018-19	98	114	129	2	700
		2019-20	104	132	129	3	1037
		2020-21	62	62	127	2	333

Table 21. Number of substitutes/temporary teachers per 100 teachers by district type, school year, and economically-disadvantaged (ED) student enrollment

District Type	District Demographics	School Year	Mean	SD	N	Range	
						<i>Min</i>	<i>Max</i>
LEA Districts	0-24.99% ED students	2018-19	75	44	46	1	165
		2019-20	63	41	42	1	137
		2020-21	56	33	44	1	121
	25-49.99% ED students	2018-19	80	52	158	0	337
		2019-20	74	46	163	1	204
		2020-21	67	41	183	1	240
	50-74.99% ED students	2018-19	85	45	255	1	255
		2019-20	78	45	253	2	306
		2020-21	69	37	221	0	233
	75-100% ED students	2018-19	93	72	58	1	450
		2019-20	90	45	61	5	191
		2020-21	81	37	68	3	182
PSA Districts	0-24.99% ED students	2018-19	64	40	16	4	128
		2019-20	71	29	17	4	111
		2020-21	69	26	17	3	102
	25-49.99% ED students	2018-19	57	37	32	5	136
		2019-20	63	47	28	6	200
		2020-21	57	45	29	2	183
	50-74.99% ED students	2018-19	68	54	61	3	257
		2019-20	61	59	57	2	300
		2020-21	52	47	59	3	275
	75-100% ED students	2018-19	91	107	154	1	700
		2019-20	97	121	162	1	1037
		2020-21	61	59	160	2	333

TEACHER INSTRUCTIONAL COVERAGE IN CASE STUDY DISTRICTS

The case studies, North Cascades and Big Bend, provided the research team with teacher absence records, allowing for an examination of whether and how teacher absences changed during the course of the pandemic.

As described in the Methods section, North Cascades (which uses Aesop) provided aggregated teacher absence data for each school year across the district, and did so for the 2019-20, 2020-21, 2021-22, and 2022-23 school years. Big Bend (which uses Red Rover) provided detailed absence data by date and employee for the 2020-21, 2021-22, and 2022-23 school years. For both districts, absences were also reported as requiring a substitute or not.

While reasons for teacher absences (e.g., sick leave, administrative leave) were also provided, for this report the team did not consider the reason for the teacher's absence. These analyses focused on only two districts and were very much exploratory, but do suggest that teacher absence rates were substantial, and that fill rates were lower after the pandemic. Taken together, these indicate that (at least for these two districts) there is both a greater need and a lower supply of substitute teachers.

TOTAL NUMBER OF TEACHER ABSENCES

A greater number of teacher absences, particularly when those absences require a substitute, puts greater administrative burden on districts and buildings to provide adequate coverage. In recognition of this fact, the research team first presents data on the total number of teacher absences in each district, as well as the number of absences requiring a substitute.

As shown in Table 22, for North Cascades, the number of teacher absences was lowest in the 2019-20 school year, and highest in the 2022-23 school year. Using the 2019-20 school year as the reference point for a “typical” school year, number of teacher absences increased 10% in 2022-23. For Big Bend, 2021-22 saw the highest number of teacher absences, which represents a 21% increase from the 2020-21 school year.

If the percentage of teacher absences requiring a substitute is greater, this might reflect teachers choosing to be absent on instructional (i.e., student-facing) days, possibly due to burnout. Most teacher absences in both North Cascades (all years: 63%) and Big Bend (all years: 70%) required a substitute, and the percentage of teacher absences requiring a substitute was highest for both districts in 2021-22.

Table 22. Teacher absences in case study districts

Category	Districts	2019-20	2020-21	2021-22	2022-23
Total absences	North Cascades	2369	2554	2445	2621
	Big Bend	--	588	712	600
Total absences requiring a substitute	North Cascades	1490	1361	1732	1751
	Big Bend	--	357	537	432
Percentage of Teacher Absences Requiring a Substitute	North Cascades	63%	53%	71%	67%
	Big Bend	--	61%	75%	72%

Total Absences by Teacher FTE

To facilitate comparison between these districts, which differ in size (in 2022-23, North Cascades enrolled more than twice as many students as Big Bend), the research team also investigated teacher absences controlling for teacher FTE, which are presented in Table 23 below. These values can be interpreted as the average number of absences per teacher.

For North Cascades, teachers were absent on average 11 days in 2019-20 and 2021-22, and 14-15 days in 2020-21 and 2022-23. Rates are slightly lower in Big Bend, where teachers are absent on average 9-10 days each year. It is unclear why average teacher absences declined in the 2021-22 school year for North Cascades, but this warrants additional research into other changes in the district that may have been implemented at that time (for example, extended online instruction).

Across both case study districts, a substitute is required to cover teacher absences on average 6-8 days per teacher per school year. In North Cascades in 2022-23, however, there were almost 10 absences per teacher that required a substitute, commensurate with the increase in overall teacher absences at this district that year.

Table 23. Teacher absences by FTE across the case study districts

Category	Districts	2019-20	2020-21	2021-22	2022-23
Total absences by FTE	North Cascades	11	15	11	14
	Big Bend	--	10	10	9
Total absences requiring a substitute by FTE	North Cascades	7	8	8	10
	Big Bend	--	6	8	7

Daily Teacher Absence Rate

The research team estimated the daily teacher absence rate for each district by year using the number of teacher absences and the teacher FTE, under the assumption that each district operates 180 days per school year with students and staff. Results are reported in Figure 15, and show that for Big Bend, on average 5-6% of teachers are absent on any given day.

In North Cascades, the daily teacher absence rate was higher in 2020-21 and 2022-23, with 8-9% of teachers being absent on any given day during these years. The reduction in daily teacher absence rate in North Cascades in 2021-22 is in line with the lower number of teacher absences associated with that year.

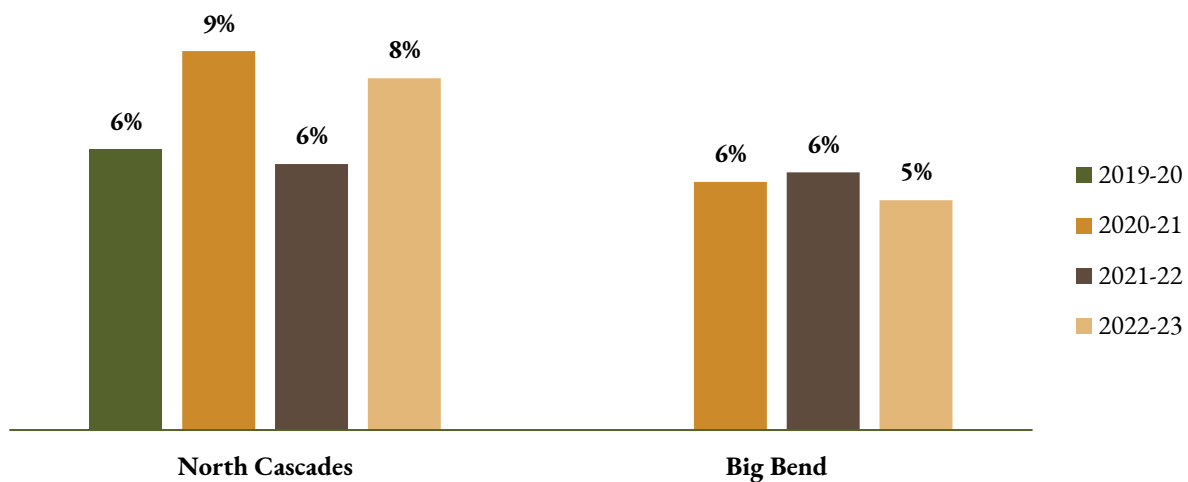


Figure 15. Estimate of daily teacher absence rate by year and district²⁰

Fill Rate of Teacher Absences Requiring a Substitute

Big Bend also provided data on whether teacher absences that required a substitute were filled. Results are presented in Figure 16 and show a precipitous decline in the fill rate between the 2020-21 school year and the 2021-22 and 2022-23 school years. At Big Bend, almost 1 in 4 teacher absences that required a substitute went unfilled in the 2022-23 school year. Across these three school years at the district, a total of 272 daily teacher absences were not filled by a substitute.

²⁰ Note: Big Bend did not provide teacher absence data for 2019-20.

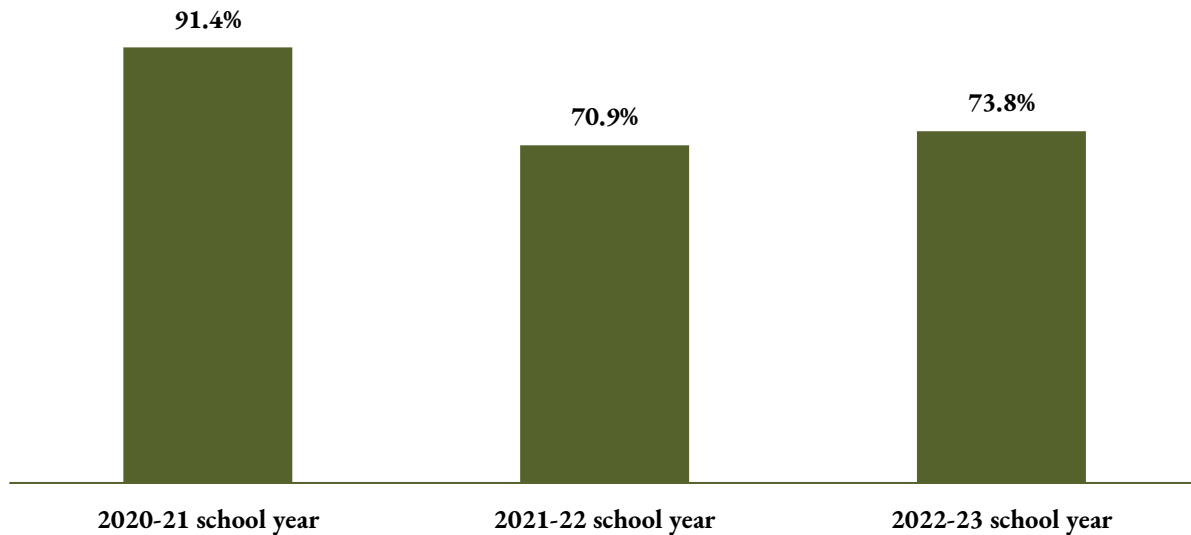


Figure 16. The percentage of teacher absences requiring a substitute that were filled in Big Bend

Teacher Turnover in Big Bend

Finally, Big Bend provided teacher rosters from the 2020-21, 2021-22, and 2022-23 school years. During those school years, Big Bend employed a total of 73 teachers. Teachers generally did not change building assignments. Of the 48 teachers that worked during the 2020-21 school year, 40 returned for the 2021-22 school year, such that the retention rate was 83%. Of the 55 teachers that worked during the 2021-22 school year, 48 returned the following school year, such that the retention rate was 87%.

SURVEY DATA ON WORKING CONDITIONS OF SUBSTITUTE TEACHERS

Despite the interest of state policymakers and school administrators in improving the supply of substitute teachers, there is little information at this time on what motivates people to work as a sub, either as a general matter or when choosing a specific school. This kind of information would be a critical first step in developing policies to recruit and retain substitute teachers. To address this gap, the research team used survey and interview data of Michigan substitute teachers to examine why they became a substitute and what they did not like about being a substitute.

When asked for reasons individuals decided to become a sub, flexible hours were selected by almost 7 in 10 participants, as indicated by Table 24 (below). Likewise, a separate question asked respondents what they liked about being a substitute, and 7 in 10 participants (71%) liked the flexibility associated

with substitute teaching. Other reasons many individuals shared related to involvement in the school, community, or children. Only 27% reported working as a substitute to get experience as a teacher.

Table 24. Reasons individuals became a substitute²¹

Reasons	Number	Percent
Flexible hours, able to choose when I worked	361	69%
Able to choose how many hours I worked	209	40%
Wanted to contribute to the community	188	36%
Needed the money	186	36%
Wanted to be involved in the school	185	35%
To get experience as a teacher	144	27%
Had children in the school	140	27%
Wanted to get back into/back to the workforce	105	20%
I was recruited because the school needed help	91	17%
Wanted something to do	75	14%
I wanted to work with teachers	73	14%
In between jobs—need something temporary	72	14%
Sense of responsibility	62	12%
Seasonal employment	35	7%
Needed a 2 nd job	33	6%

When asked about the aspects that individuals do not like about being a substitute, pay topped the list of concerns, as indicated by Table 25. Additionally, almost 6 in 10 individuals (57%) reported students' level of discipline as a feature of substitute teaching that they do not like. Finally, more than 1 in 4 individuals (26%) felt that substitute teaching suffers from a lack of professional support. These results are consistent with smaller-scale studies on this topic (Reupert et al. 2023, Liu et al 2023).

Table 25. Qualities individuals do not like about being a substitute²²

Responses	Number	Percent
Pay	313	63%
Students' level of discipline	281	57%
Lack of professional support	130	26%
Lack of resources	88	18%
Treatment by administration	84	17%
School climate and culture	84	17%
Didn't feel prepared	82	17%
Unreliable/unpredictable schedule	76	15%

²¹ Note: Values do not sum to 100% because individuals could select more than one reason.

²² Note: Values do not sum to 100% because individuals could select more than one reason.

Responses	Number	Percent
Working conditions	64	13%
Parents	49	10%
Didn't feel I could help my students	45	9%
Lack of independence and professionalism	33	7%

SUBSTITUTE INTERVIEW DATA AND ANALYSES OF WORKING CONDITIONS

The research team sampled a variety of twenty substitute teachers to interview as a follow-up to the survey sample with the hope of understanding how and why particular working conditions were important to their professional success and career decisions. Based on this separate analysis, their experiences largely mirrored the survey results. The key themes that emerged from their experiences included pay, student discipline, and a lack of support or treatment by adults within schools. These responses also shaped their perceptions about the job and often their decisions about where to work.

SUBSTITUTE TEACHER PAY OR COMPENSATION

One crucial component of the interview findings that is not illuminated by the survey data is that the importance of pay depended upon their personal situations. Those who were not pay dependent (e.g., they already have money because of their family situation) engaged in substitute teaching for flexibility/convenience or to give back differed from those who were extremely pay dependent. Stated differently, if certain substitute teachers could bear lower pay, they preferred qualities like location/convenience and working conditions to a district that could pay them more. For example, substitute teachers who fell into this category noted pay was less important than their perception of the students, as one retiree who did the job for supplemental income explained:

The student behavior takes precedent over the pay for me. Because I do have an income. I'm not relying on this.... I would rather go to work and work in a classroom where the students listen to you. - Substitute Interview 13

Still, there were a variety of substitute teachers in the interview sample who had high pay dependency. In other words, they needed as much income as possible to support themselves and/or their families. As one substitute working in a low-income district that paid a high rate because of their struggles to find substitute teachers put it, the choice of where to work could be the difference between being “able to pick up a pizza” or not:

The other reason why I pick [this urban district] is it's totally the opposite reason [of] your heart. They were paying \$200 a day. That changed my life. Because I went from when I started being a substitute teacher, they're paying \$70 a day. Somebody told me they've been paying \$70 a day for 10 or 15 years and they never raise it. I just got so disgusted after about five years. I said to my husband, 'I can make so much more money if I go to fast food.' I love being a substitute, but it makes me sick that I have to be fingerprinted. I have to do background checks. I have to pay for my fingerprints. I have to pay for my license every year. I get no benefits whatsoever. I don't make any money at all.... I mean, it's a time where you finally can, if you're tired and you're coming home, you can pick up a pizza. But at \$70 a day, you can't pick up a pizza. You've got to cook every meal yourself because that money is just horrible. - Substitute Interview 16

Another who worked at a township and private school as a substitute agreed that \$70 a day was prohibitive and directly influenced their decision to leave those jobs:

Well, I think that's why I left the township and the parochial because I wasn't even making minimum wage when I was at those two locations. So, that deterred me from wanting to stick around because I just didn't feel like it was worth my while. The places that I chose to continue with have made it more worth my while than the others. We're still underpaid, we don't make nearly what we probably should.... The parochial schools and the township were literally paying about \$70 a day. - Substitute Interview 12

The first substitute interviewed also had high pay dependency, explaining that "It definitely puts a very big, thick, heavy boot on the neck of life when I am not working. Because if I don't work, I do not get paid." When asked how this affected which substitute jobs he would accept, he explained:

The only thing was the pay... if [the] Airport were to offer me a job that compared in the pay. Gosh. Right now, my son is in Virtual School. So with that in consideration, I actually reached out to [District Name] and said, "You know, I wish I never left [District Name]. And if there is anything that I can do with these credentials, please consider me for it." And they were like, "Absolutely." So that's there. I don't like White Sands. If my son goes back to White Sands, I might stay in the district just to be sure that things are going okay for him, as I am earning income for my family. But quite frankly, if it was not for the money, if it was not for my son attending White Sands, I would not work in White Sands. - Substitute Interview 1

To the extent that larger proportions of substitute teachers are highly dependent on pay, these findings have implications for recruitment and retention of the substitute workforce. Comparing this with the

survey results of a random, representative sample of substitute teachers across the state, pay was the number one thing they disliked about the job, and over a third said they subbed because they needed the money. This suggests that a sizable portion of the substitute teacher workforce has moderate or high levels of pay dependency and districts and policymakers can respond accordingly by attempting to raise wages, particularly for districts with substitute teacher shortages.


WORKING CONDITIONS: STUDENT BEHAVIOR

Mirroring the quantitative results, substitute teachers that were interviewed consistently reported about the importance of student behavior in terms of both where they would work and whether they would return to a given district or building. In some cases, this came across as preferring particular grade levels over another, as one shared that they preferred high school because they viewed it as easier than middle school:

I find this mostly a lot in elementary school and middle school, where the students just do not settle down to get their work done. It's very challenging. You got to constantly keep telling them to, "Okay, let's settle down and get your work done." You got to threaten them. Elementary students, you have to threaten to take their recess from them. For me, it's just really difficult for me to sit back and see students who are so young that are that rebellious. That's hard for me. - Substitute Interview 13

A variety of substitute teachers explained that student behavior was crucial (and had grade level preferences accordingly) in terms of whether they would go back to particular school buildings. This was related not just to misbehavior, but also to student engagement for some. For instance, while some explained that they preferred following substitute plans and having generally quiet high school classrooms where students would go about their own business, others sought out elementary classrooms where they felt like they could actively instruct students and thereby make a difference.

One important and clear pattern is related to racial and economic equity. Substitute teachers told the research team that they generally avoided low-



Comparing this with the survey results of a random, representative sample of substitutes across the state, pay was the number one thing they disliked about the job, and over a third said they subbed because they needed the money. This suggests that a sizable portion of the substitute teacher workforce has moderate or high levels of pay dependency and districts and policymakers can respond accordingly by attempting to raise wages, particularly for districts with substitute teacher shortages.

income districts, especially those serving students of color because they perceived the conditions to be more difficult and student behavior more difficult to manage. One explained:

I do look at school district. There are some school districts that are not in good areas, meaning that my day is going to be rough.... We're talking about two or three fights in the classroom at the same time. Unruly kids and security guards had to be brought in because of unruly kids. Just really rough. Just no sense of control. And then there are other school districts where there is a lot of discipline and my day's easy, right? So, you take [three wealthier, Whiter districts]. There's an infrastructure within the school that can deal with discipline properly. A lot of times it's when a teacher is accommodated with an assistant, like a TA or something in the classroom. That makes it a lot easier when there's more than one adult in the classroom.... [This one low-income district serving students of color] is a very bad school district. I generally try to do preschool when I'm there. Because the preschoolers are very well-behaved, you just have to take care of them. - Substitute Interview 14

Others echoed the sentiment of the previous quote:

Some of the public schools are very rough in [this urban district], and they probably don't take safety and security as strongly as they should. There are a few of the schools that now have... you have to walk through a metal detector to get into the building. And a lot of them just let these kids buzz on through as they're buzzing through. It kind of concerns me because we had issues in some of the buildings with weapons and violence. So, that's some of the safety concerns that bother me a bit. These kids since coming back from COVID are a completely different breed of children. I mean, they are just... something happened. I don't know if it was being home and unstructured and undisciplined, but they all came back a bit crazy. So, some of the classrooms are a lot harder to manage than others are. - Substitute Interview 12

Another substitute explicitly mentioned inner-city schools as a place they would not work in:

And just hearing different situations, but they are more inner city schools, you just have a lot more to deal with, with discipline and stuff. And once again, it's just an environment that myself, I don't think I would do very well in. And it's just an environment that myself, I wouldn't maybe feel comfortable in. We've had our kids; we've lived in suburbia, and in farming communities and stuff. So, I'm just used to a non-city life, and I don't know that I would be the right candidate to be working with just different disciplinary and problems or issues. - Substitute Interview 20

Together, as noted, this raises questions about racial equity, especially to the extent that these concerns impact the quantity and quality of substitute teachers that are available to districts serving the most

economically-disadvantaged communities that are already disproportionately struggling with school staffing shortages. Substitute teachers' demographics characteristics are a poor match for economically-distressed and/or high-minority student populations, which suggests the need for recruiting a more diverse cohort of instructors.

WORKING CONDITIONS: TREATMENT BY SCHOOL BUILDING STAFF AND ADMINISTRATION

A last theme that clearly impacted substitute teachers' decisions about where to work was related to treatment by school building staff and administration, which included whether they felt supported and welcomed by staff. Some felt so strongly about this that they said things like, "I won't go back," or "if they're mean to me, I will probably stay away from the building."

Their experiences ranged from relatively modest (e.g., simply being acknowledged) to more extreme (e.g., not being allowed to handle an emergency, or having an assignment switched on to them). Table 26 captures some of these experiences.

Table 26. Description of treatment and connection to satisfaction or job mobility

Treatment Description	Evidence / Quote from Interview
<p>"Rude" treatment and feeling like an "outsider"</p>	<p>"I'm pretty easy, but I'll be honest, you are not treated as an equal at all. It does sometimes bother me. They always call me an employee at the one school because I'm there all the time. It is funny because if they'll have staff luncheons or something, sometimes they'll mention it to me, but I feel like most times they don't... Even if I'll be there for an entire week, and then I'm there three more days the next week, I definitely feel like an outsider. Today, the school I was at was [a middle school] and the secretaries, honestly, they were rude. They were not friendly at all to me. Then I walked back in there because I always walk back through the front. I had never been in that building. I said, 'Hey, do I need to sign out or anything?' I had already signed in, and she's... like, 'No.' I was like, 'Okay, have a good day.' It was noticeably... I actually called my sister as soon as I got in the car. I was like, 'Wow, they are so unfriendly there...' those schools, I won't go back." - Substitute Interview 4</p>
<p>Not going back because an assignment was switched on them</p>	<p>"I just happened to be helping a substitute the other day, who said, 'Yeah, I signed up to teach in a second-grade classroom, but then when I got here, they were like, no, we're going to put you in the 8th grade classroom.... I would not have signed up if I had known they were trying to put me in the 8th grade classroom.' And so, I just said, 'Well, sometimes, you just have to look at them and say: No, that's not what I</p>

Treatment Description	Evidence / Quote from Interview
	<p>agreed. That's not what I agreed to, and that's not what I signed up for. I signed up for a second. And so, if the second is not available, then I'll work to another building, but I'm not going to take the eighth.' I don't know, I'm just the type of person that I'm like don't ever allow people to make you feel like you don't have a choice. You do, especially if you agreed.... The decent and respectful thing would be to call, and say, 'Hey, would you mind?' But no, our office staff, and our principal has not done that. She'll just switch people, and unfortunately, people have left. They like, 'Oh, then I'm canceling. I'll go to a different building.'"</p> <p>- Substitute Interview 15</p>
<p>Like “you don't even exist”</p>	<p>“I don't know, to me, it's like, you don't even exist, you just fill in an empty space here, and that's it. Other principals, like, they say, 'Hey, how you doing?' And they ask, 'Well, who are you here for today?' You know, just some stuff. At some schools, they don't even speak to you.”</p> <p>- Substitute Interview 13</p>
<p>Being ignored and made to feel not part of a team or community</p>	<p>“The main thing that I don't like is not feeling a part of a community. There was nothing worse than elementary schools. They were the worst of all. Because when you went to the elementary school and they'd have these union luncheon meetings, so that the teachers would all gather in the office room.... They sit around with their meeting. You weren't allowed in there because you're not part of their union, that you're not part of their group... You never felt a part of the community. They'd have all this laid out and you're sitting there eating a little peanut butter sandwich and nobody offers you a drink, anything. Nothing. They're just that tight of a community. A lot of times, they barely even speak to you... I did not like it... They say, 'We're so glad you're here because we really need subs.' They complain about not having subs. But then when you substitute for them, they don't make you feel like a part of the team. You're the hired help. Or they'll say you're a warm body that's holding the chair down.” - Substitute Interview 3</p>
<p>“If they're mean to me, I will probably stay away”</p>	<p>“I would say that, sadly, if they're [not] nice to me, I may or may not come back. But if they're mean to me, I probably will stay away from the building. Not for sure, but I'm less likely to want to go there.... But if they're nice to me, I probably would go back.” - Substitute Interview 16</p>
<p>“I did not have a warm feeling there.”</p>	<p>“There was only one school back, this wasn't in 2022 though, that I felt they weren't as welcoming and even a little bit annoyed by my asking questions. And I did not return to that school. Thinking back, I didn't have a warm feeling there.” - Substitute Interview 6</p>

Looking across some of the various experiences and perceptions the interviewed substitute teachers shared illustrates how something as simple as being made to feel welcomed and like part of a team could make a difference in substitutes' decisions about where to work. Some felt treated poorly and invisible. Some actions—like switching an assignment they had specifically picked—got especially strong reactions from those who had strong preferences to teach particular grade levels or content areas. In summation, all of these actions and working conditions are well within the control of building staff or leadership. Seemingly, small efforts could make an enormous difference in school- and district-level efforts to recruit and retain substitute teachers.

Section 4. Impact of Staffing Challenges

“So, we have the four district subs and sometimes we’re able to cover and sometimes we’re not. And so, I pull paras so that then impacts what we can do with our intervention time because then if I’m pulling a para from what they’re doing, then they’re not having their small groups and then they’re in a classroom. So then there goes our intervention times.” - Principal, Saguaro

“My principals substitute on a weekly basis in classrooms, the people who are supposed to be providing Title 1, we had to journal, hundreds of days out of Title 1 into the general funds because I can’t even keep Title 1 coaches and interventionists who are supposed to be providing tier 3 intervention to kids who can’t read, I can’t even say that they’re going to do their job in any given day. Because if a classroom teacher is out, then that person is subbing in a classroom.” - District Administrator, North Cascades

The analysis so far has suggested distinct but widespread shortages of educational staff, and particularly classroom instructors. In this section the impact of staffing on schools and students is explored.

The survey of school and district leaders points to a widespread perception of negative impacts, while state-level interview data indicate that shortages have a number of negative impacts, not just on students, but on school operations and staff morale as well. These findings are supported by the perspectives of instructional staff that were interviewed as part of the two case studies.

IMPACT OF VACANCIES AND ABSENCES

EVIDENCE FROM SURVEY DATA

District and school leaders agreed these teacher vacancies and absences—and the challenges they have filling these positions, even with substitutes—are having a negative impact on students. Specifically, 81% of district leaders agreed or strongly agreed that the lack of substitute teachers is having a negative effect on student learning in their district.

These challenges impact not only students, but also staff and school climate. For the most part, school leaders rated the impacts of teacher absences and teacher vacancies as having similarly negative impacts on student learning as school climate and culture, and the morale of school staff (see Figure 17, below). In all cases, between 57-68% of school leaders reported teacher absences and vacancies having moderate or major negative effects.

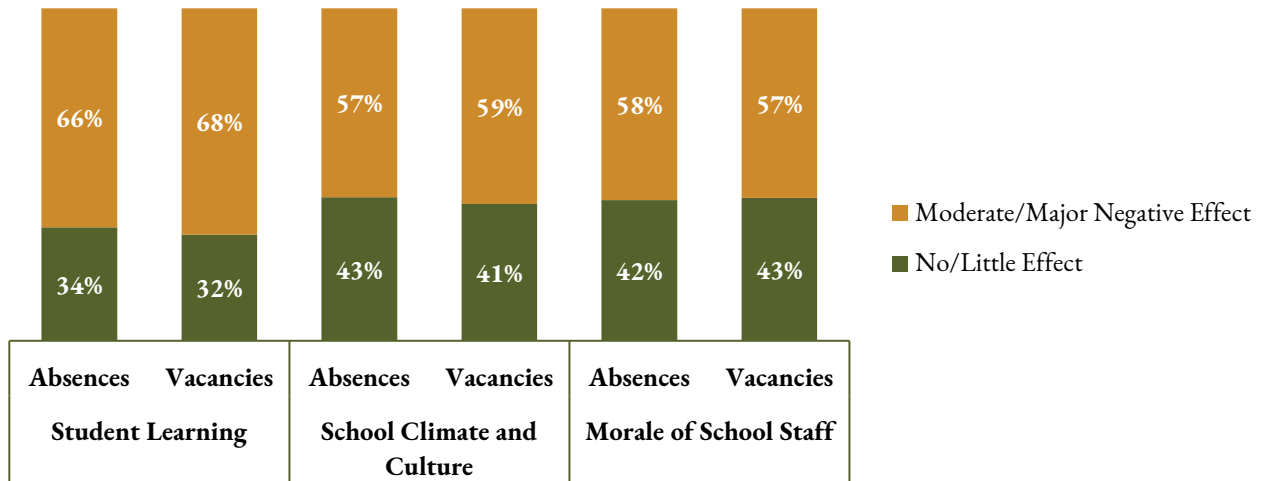


Figure 17. School leader’s beliefs regarding impacts of teacher absences and vacancies on learning, climate, and morale

Respondents believed that the impacts of teacher absences and vacancies on efforts to help disadvantaged students were more severe than the impacts on student learning, school climate and culture, and morale of school staff. Additionally, school leaders viewed the impacts in different ways for absences and vacancies (Figure 18).

Namely, more school leaders agreed that teacher absences have a moderate/major negative effect on students, compared to teacher vacancies. This may be because schools find alternative strategies to help support disadvantaged students in the case of teacher vacancies (for example, by employing long-term substitutes). It may be more challenging to implement these efforts in the case of day-to-day teacher absences.

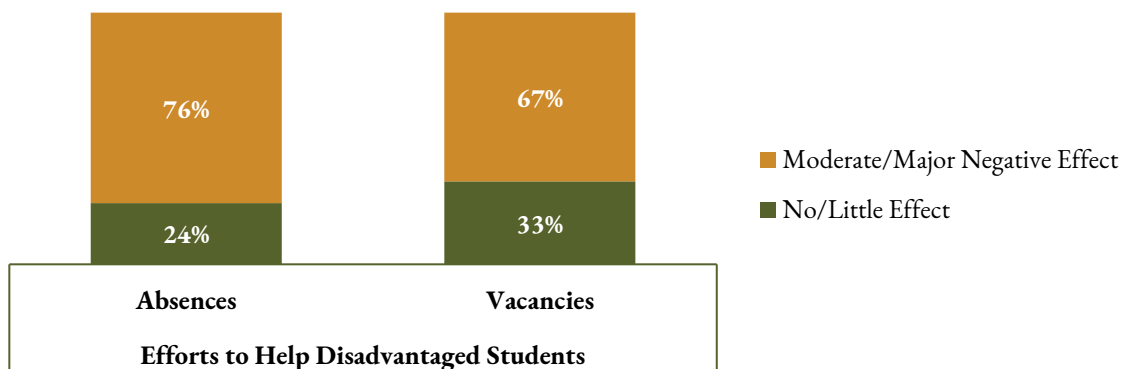


Figure 18. School leaders’ beliefs regarding impacts of teacher absences and vacancies on helping disadvantaged students

IMPACTS OF STAFFING CHALLENGES ON EDUCATOR AFFECT AND PERSONAL HEALTH AND WELLNESS

Staffing Challenges Have Profound Effect on Educators' Personal Health and Wellness

Vignette Highlights:

- This vignette highlights how the challenges associated with vacancies and absences fuel exhaustion, frustration, and stress in educators at both Big Bend and North Cascades.
- Educators from both Big Bend and North Cascades are considering leaving either their current position or education entirely because of the stress they are experiencing that stems from the staffing challenges.
- The impact of staffing challenges on the personal health and wellness of North Cascades' educators was especially pronounced.

Educators from both case study sites highlighted how vacancies and the inability to find substitute teachers impacted their affect and personal health and wellness. This is important to understand since having to respond to shortages can cause a downward spiral in which the response to shortages causes higher degrees of mobility in turnover. One rural teacher explained how having to constantly assume added duties and responsibilities linked to vacancies and absences led them to look for another job for the 2023-24 school year:

I plan to apply at a different district that's nearby that has indicated that they have a position open and reached out. So my plan is to apply there, and since they reached out to me, I'm kind of thinking that that's probably a for sure thing, but I'm actually scared. I'm scared that I might have to come back and stay here another year to be honest.

When the research team asked them to explain more about why they were “scared” about returning to their current district, the teacher explained:

Culture and climate.... I have a really good rapport with my staff. So if I don't have a super supportive admin, who's giving me gold stickers every day, I mean that sucks to not get them and not have that appreciation, but I can find that. It's just this constant, 'We need you to teach this, and we need you to

teach this, and we need you to cover this and now we need you to stay after school and have this training.’ It’s just the constant hours. And I understand we get summers off and so there’s a lot of give and take, but it’s like especially you understand with babies at home it’s like every hour that I’m here, I’m not there.

Although this teacher did not explicitly say they are feeling drained, the above quote’s contextual cues clearly demonstrated that the teacher’s affect is negatively impacted by the staffing situation.

Furthermore, this teacher brings up how the staffing landscape negatively impacted their personal life and family, a common theme among the accounts of teachers in the case studies.

Another educator from Big Bend reflected on how regularly being asked to cover for absent teachers impacted them and their school by saying, “Morale is just down. We don’t care. We want the year to be over and just maybe start fresh new. I know three paras right now who are actively looking for different employment.”

As noted in that quote, the heavy impact of the staffing challenges—both vacancies and absences—impacted staff morale and led multiple educators to consider different employment. Similarly, other teachers from the rural district mentioned how losing their prep periods meant they could not “decompress,” and their mental health was negatively affected.

The accounts of the impacts of staffing challenges on urban teachers’ affect and personal health and wellness are perhaps even more poignant. The majority of urban teachers interviewed agreed that the staffing challenges meant that they do not have the support they need, which is both exhausting and depressing. For example, one urban teacher reported:

We don’t have... preps half the time. We don’t have enough support in the lunchroom half the time. So, I’m missing part of my lunch, I’m missing part of my prep.... It’s just tiring to constantly [be] battling everything. It’s a constant uphill battle with everything. And the kids are losing out a lot because we don’t have... like everybody’s too tired to plan the fun things anymore. Everybody’s too tired to try to... do those extra things in the classroom because now we’ve got extra kids and less support.

Nearly everyone spoken to across both case study sites felt tired, exhausted, and their mental health had suffered because of the staffing situation. Multiple educators from the urban site even reported that their physical health was impacted by the current environment at their buildings, presumably stemming from staffing challenges.

For example, when teachers were asked what the impact was of losing their prep period and not having enough support, one urban teacher commented: “You know, I started taking anti-anxiety medication

this year and that's helped me get to sleep a little bit better the last month or so. But before that a lot of insomnia..."

Further, educators from both case sites noted that the challenging staffing circumstances led them to consider leaving their jobs or the profession entirely. For example, one urban educator said, "I wish I didn't love it so much so I can go do something else. I wish I didn't love the kids so much... because it's getting to the point where it's hard to drive to work every morning."

When asked how the current staffing landscape impacts their feelings about teaching as a career, one teacher answered, "It makes me not want to do it." Another urban teacher responded alike to the same question, "It makes me question how long I want to continue to do this."

Similar responses were recorded in almost all the case study interviews conducted. Despite a deep love for the profession and the children, educators have limits. These impacts on affect and on personal health and wellness are not limited to only teachers. Several principals were interviewed at both case sites who detailed how the staffing challenges have similarly impacted them. One rural principal noted:

The shortage is a cause for stress since it is every day that we have a shortage. We work with staff together each morning to brainstorm how to make each day the most successful it can be. Lots of brainstorming happens each day to make sure the day goes successful.

Principals uniquely carry the heavy burden of trying to staff their schools every day and produce strategies to cover educator vacancies and absences. Many of the principals interviewed mentioned that responding to staffing problems was something they responded to daily. One urban principal explained how this burden made her feel:

...it's just sometimes I think, 'Is this ever going to end? Is this struggle to find people ever going to end?' It's hard. It's very hard. And it's just on those days when I look around and think, 'I'm so tired. I'm so tired.'

IMPACT ON SCHOOL AND DISTRICT FUNCTIONS

Evidence from interviews with principals and district administrators also focused on the impact that shortages were having on student learning, school climate and culture, staff morale, and workload.

On a broad level, these leaders explained that they were concerned with filling vacancies. Leaders recognized that positions "all impact one another." As one Glacier Bay leader put it:

I think there are a lot of conversations that we're having when it comes to how we want to support our personnel we have and what we do when we are missing a position because there are a lot of moving parts and they all impact one another.

Similarly, the principal of Katmai explained the impact as a “strain on the system”:

And then you've got people who are out and then those vacancies aren't filled, it just creates a strain on the system. So now, to help with students and transitions, or students who need support, or a student who needs a break, or a student who is having a discipline issue, we have less people available to respond to that because they're plugging in those holes.

The impact of absences has a kind of “domino effect.” When there is a shortage of substitute teachers, support staff must fill in and the students may not get the support they need from the person covering the class. These leaders discussed the impacts more holistically, because whether a position had a gap because of vacancies or absences, there are repercussions across the school and the community (elaborated on below in Figure 19).

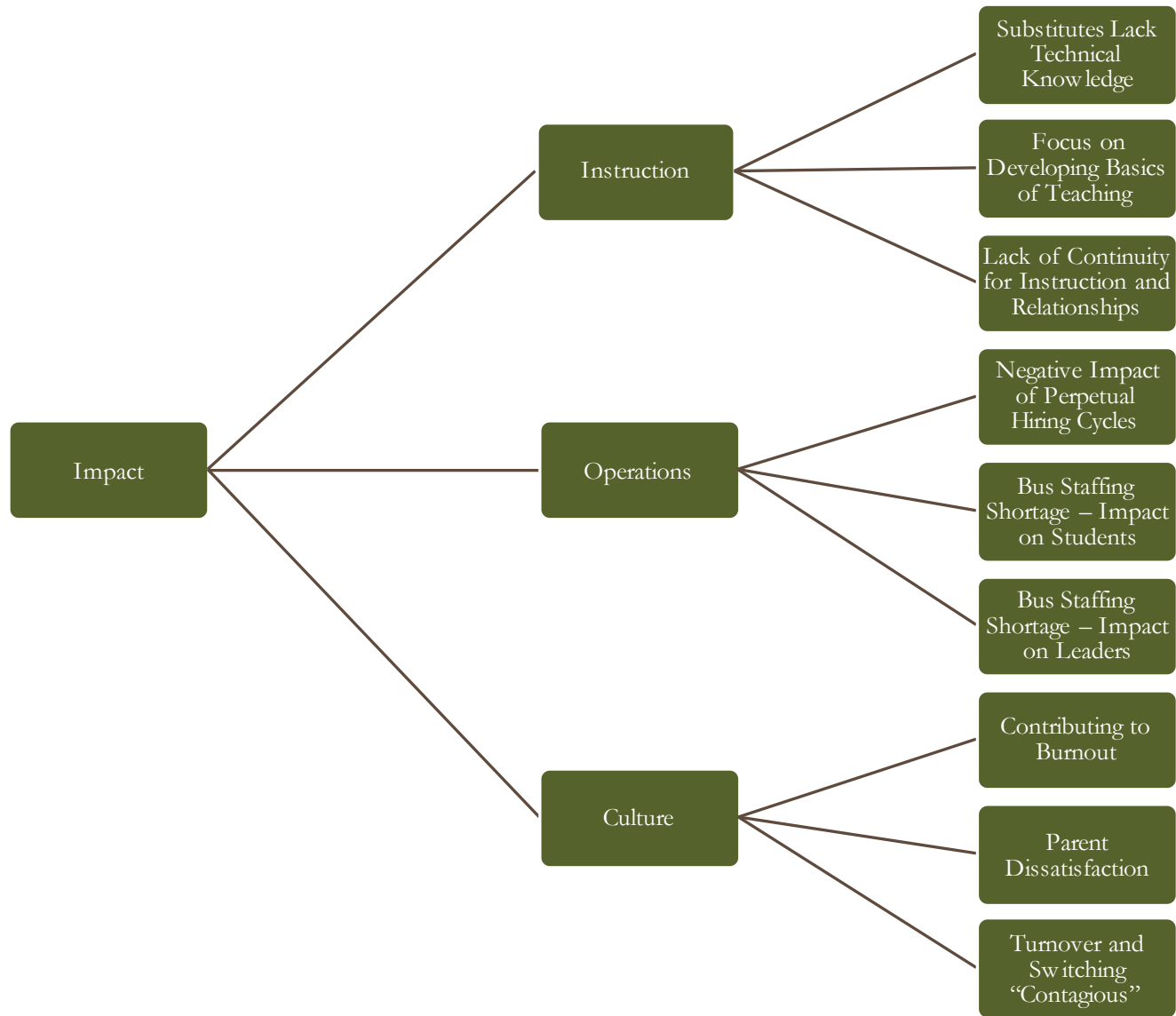


Figure 19. Categories of evidence from qualitative data of impact of shortages on instruction, operations, and culture

This section of the report discusses mutually reinforcing mixed-method evidence from survey data, state level interviews, and the urban and rural case study sites, generally focusing on these nine categories of impact (Figure 19, above). Before providing evidence for each of these categories, here is an overview of each one:

1. **Substitute Teachers Lack Technical Knowledge.** Many of the educational areas, like special education or STEM, demand specialized expertise. Leaders who need to fill these gaps with substitutes believe the latter generally lack the specialized knowledge required to adequately meet student needs.
2. **A Focus on Developing the Basics of Teaching.** Needing to fill staffing gaps with inexperienced or uncertified new teachers means that leaders must focus a lot of time and attention teaching these staff the foundation or basics of teaching (e.g., classroom management) which ends up impacting the quality of instruction.
3. **Lack of Continuity of Instruction, Intervention and Student Support Services, Professional Development, and Relationships.** Having inexperienced and/or out of area staff coupled with high turnover diminishes the continuity and quality of instruction and the relationships necessary to provide high quality instruction or services. When interventionists, teachers, or leaders have to fill in they are either unable to provide certain services and meet their job responsibilities or they have to compensate by adding coverage responsibilities on top of their main ones (see “contributing to burnout” category, below). In addition, the demands of instructional coverage could lead to suspended professional learning.
4. **Negative Impacts of Perpetual Hiring Cycles.** The effort devoted to hiring is exacerbated by shortages and became an ongoing process that leaders felt forced to engage in throughout the year, which adversely impacts their ability to focus on teaching and learning.
5. **Bus Staffing Shortage – Impact on Students.** A particular struggle for rural districts, some leaders noted that students and families were impacted by longer wait times at the front and/or back end of the school day and in some cases, struggles may impact student absenteeism.
6. **Bus Staffing Shortage – Impact on Leaders.** Leaders need to spend significant additional time finding drivers or—in some rare cases—even driving the bus themselves.
7. **Contributing to Burnout.** Leaders explained that needing to fill gaps in coverage had an impact on their workload (adding time while taking away time from other crucial leadership responsibilities) and feeling that students were not being adequately served impacted them emotionally as well.
8. **Parent Dissatisfaction.** Some noted that parents were upset because positions requiring specialized knowledge were staffed with substitute teachers or people who lacked knowledge in that area.

9. **Turnover and Job-Switching as “Contagious.”** Some shared that constant turnover and job-switching creates a negative culture. Specifically, the perception that an organization is not worth staying at, a phenomenon scholars call “turnover contagion.” The departure of colleagues can both implicit encouragement for teachers to do likewise, as well as increasing the stressors that make teachers more likely to leave.

Evidence across the data sources on these various impacts is provided in the subsequent sections.

IMPACT ON STUDENT LEARNING

Table 27 (below) provides examples of quotes from various leaders speaking to each of the categories of impact on student learning. In the first category, the leaders of Great Basin and Olympic describe the problem of using substitutes to fill specialized roles such as Science and Special Education as “huge” and as putting children “at a disadvantage.” In the second category of evidence the leader of Lassen Volcanic notes the significant gap in teaching knowledge between some of the more veteran teachers and the need to go “back to basics” for more and more of their staff as they struggle to fill vacant roles with novice teachers. Finally, in the third category, three separate leaders talk about having to deal with chronic turnover and how it disrupts learning because they are unable to maintain relational and instructional continuity.

Table 27. Examples from state interview data of impact on instruction by category (1-3)

Category	Example or Quote
Substitute Teachers/ Uncertified Teachers Lack Technical Knowledge	<p>“It’s huge. I mean, it can’t not be huge, right? We have some really good ones, dedicated subs.... They don’t have experience with classroom management, they don’t have experience with grading. They don’t have experience with Power School. It’s huge for their coworkers, it’s huge for our students.” - Great Basin</p> <p>“I mean, I’m a former special ed teacher, so you worry, right? Some of [the staff] doesn’t necessarily have the background in learning disabilities or things of that nature. Can they support the student the way the student needs to be supported? Obviously, we have other people stepping up to help mentor them and be there for them, and help them. But it still puts the child at somewhat of a disadvantage because they’re not working with a teacher that’s highly skilled in their area. So, that’s your concern is, how can you best support these kids? If I’m a parent, I’d feel the same way. Okay, you got a teacher teaching science for my students that maybe didn’t have a teaching certificate in science. And I know that we’re not the only district that struggles to do that right now.” - Olympic</p>
A Focus on Developing the Basics of Teaching	<p>“We’ve had to go right back to basics on this is what good teaching looks like, and so I think that we’ve had to really individualize where we’re at because keep in mind we’ve got quite a bit of a veteran staff who they were working on implementation checklists and working on fidelities to</p>

Category	Example or Quote
	make sure that these strategies are layering ... are my students engaged and how can I prove it and what does my instruction look like and my higher order, and then you have the other side of [it, like], ‘What’s the curriculum?...’ It’s completely new, and the languages that we speak in with all of our acronyms, and everything... the gap is so huge. The gap’s big between our learners, the gap is big with our teachers and with what they’re bringing to the table as well too.” - Lassen Volcanic
Lack of Continuity of Instruction, Intervention and Student Support Services, Professional Development, and Relationships	“I would say what it does is it puts a burden on the social-emotional aspect. If you don’t have that foundation, you can’t even begin to teach. When the kids don’t have that constant teacher, that constant connection, it’s very difficult.” - Sequoia
	“It’s never enough to cover all of the needs. One of the things we’ve had to do is back off on some of our sub-coverage for things like professional learning, job-embedded learning, and things like that. Stuff that’s not a day-to-day necessity, we’ve had to pull back on some of those just to make sure that our classrooms were covered.” - Capitol Reef
	“All the other... people came out from external districts. And so obviously that creates some uncertainty about what are they going to be like, what are we going to have, are we still going to have this program or are they going to be in support of this, or are they going to change that?” - Gateway Arch

Evidence from Surveys

Survey data also suggests that staffing shortages negatively effect students. Nearly two-thirds (73%) of district leaders say learning interventions targeting high-need students had to be suspended for at least one day due to a lack of staff, in some cases for the remainder of the school year (see Figure 20). Of the districts that suspended learning interventions, most (46%) only had to suspend them for the short-term (1-4 days). Eighty percent of rural/town districts had to suspend learning interventions targeting high-need students for at least one day, compared to 65% of suburban/urban districts (this difference was not statistically significant).

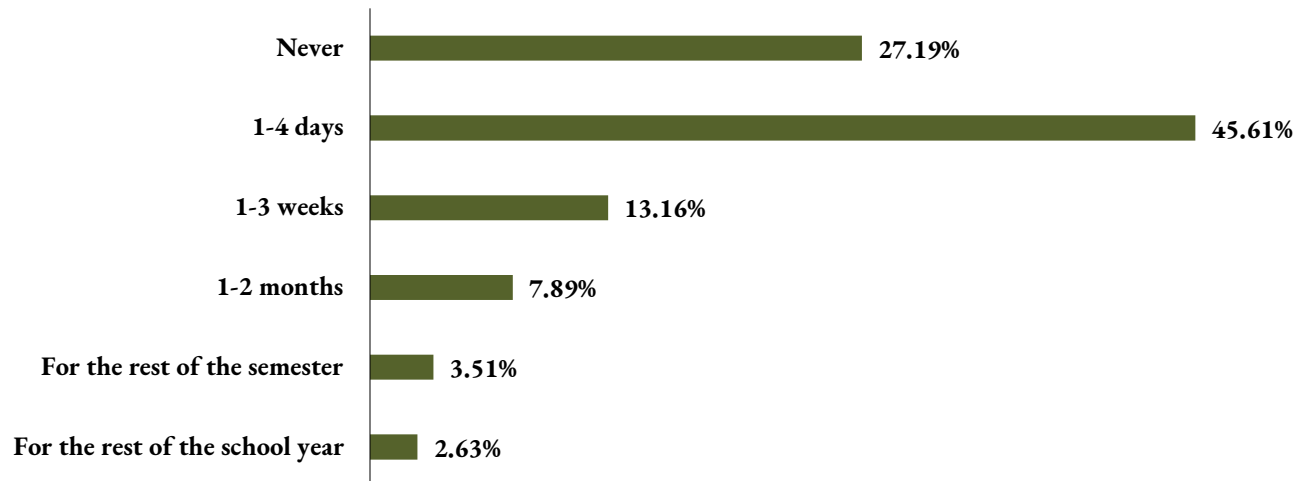


Figure 20. "During the current school year, for how long have you had to suspend learning interventions targeting high-need students because of lack of staff?"

Staffing Challenges Have Adverse Impact on Students

Vignette Highlights:

- The impact of staffing challenges on students was similar across rural and urban districts.
- Case study interviewees described how vacancies, mid-year turnover, problems with instructional coverage, and teacher absences contributed to students feeling “abandoned,” needing to constantly “reset,” and constant interruptions in student instruction and services. Also, it led to less time to produce high-quality lessons and a reduction in course offerings to students.

The two case studies of urban and rural school districts reinforced what the research team learned from the statewide interviews: that students experience significant and varied adverse impacts related to staffing challenges.

While experiences differ in some areas between the rural and urban district, there are notable similarities. Case study evidence from both the urban and rural school districts suggested personnel turnover, vacancies, disruption in staff duties, and absences are sources of negative impacts on students. Personnel from the urban case study district especially emphasized the impact of staff churn on student affect and trust. One teacher from this district explained the impact of mid-year leavers on students’ sense of trust, saying that they felt “abandoned” and constantly needing to reset:

The thing in our building where the teachers are leaving in the middle of the year, some of the kindergarten classes last year had 3 or 4 teachers that year and now they lost their teacher again this year and they're upset. They feel abandoned, and they go into a new classroom and now they have to learn a whole new set of rules and there becomes more behavior problems and then the learning stops again, and everybody has to start from scratch. It doesn't matter when it starts, we had one leaving in January, and we had another one just leaving in the beginning of March so they just- it's reset, every time. Reset, reset, reset, and I'm just trying to reassure them that we're not leaving you. We love you, but no, people keep leaving you.

An administrator from the urban school district explained that they had observed the same impacts of staff churn on students:

They just couldn't understand that [their teacher] left, but this is the same group that the year before, four teachers left out of their grade level. So, many of them had already been through this. Here we are again the next year, they think they have a solid teacher. It's a teacher that had been in the building for several years, and then all of a sudden [they] left.

These quotes highlight how a lack of continuity impacted instruction and relationships, but they more powerfully underline how educators are experiencing and seeing these impacts on students at the school level. When asked to speak more about students' trust and need for a stable teacher, the administrator elaborated:

And so, once that person leaves whom they thought that they had built up this bond with, they just have no trust left. So, anything we can say to them, they're just not going to believe us.

One teacher from the urban case study district illustrated the impact on students when teachers repeatedly turnover by explaining how distressed students became about a routine retirement:

Well, I can tell you that when [teacher], who's a 3rd Grade teacher, told [their] students that [they were] retiring - this is what [the teacher] told us, that a bunch of the kids started to cry because they thought they were going to be left by [them]. [They're] retiring at the end of the year. So, in the summer [they're] done, and [they] had to console them that, no, I'm not leaving you, you know? Because in their prior year, 2nd Grade, 1st Grade, and kindergarten they had had so much teacher changeover. So, these 3rd Graders were crying because they thought their teacher was leaving them.

Personnel from the rural district shared similar examples of students' affect and relationships with teachers being negatively impacted by frequent turnover. One teacher explained:

The amount of turnover we had in this building, we're to the point now where students are just like 'Whatever. When are you leaving?' They just are expectant that teachers are going to be going.

The negative impacts of personnel churn on students are not limited to affect and trust. Personnel from the urban case study district also commonly observed how staff churn negatively impacted students' academic progress and achievement. One administrator explained this dual impact:

As adults, we can recover, right? Like another one left, here we go. It's the students. They just don't know how to come back from it.... Especially when you're talking about five- to eight-year-olds, they don't understand. It's 'Why did [they] leave me?' And so, they take it personally. And so, as I said, I know everybody always says, 'Oh, the academics.' Yeah, no, they don't make progress and I have the data to prove it.... We were just looking at data this morning and you can see how affected they are by what happened to them last year. I mean, one class of 25 kids had a teacher all year long, and the other four had two or three come through so it was tough. And so, you just see emotionally and academically how it affects them.

Further, personnel from both case study districts noted that disruption in staff responsibilities due to vacancies and/or absences was adversely impacting students' academic progress. When asked about the impact of paraprofessional vacancies and needing to cover for absences of special education teachers, one staff member from the rural site explained:

It's taking a toll on the ability of those teachers to really use best practices and effectively work on the IEP goals with the students. If you're constantly being pulled, then you are not prepping appropriately to work on students' individual goals when you have those service times with them. If they're not prepping appropriately and really can't dive into what this kid needs and create those appropriate lessons for them, then one, you're not really working on the goals if you really want to make good, adequate progress on those goals. Maybe the students aren't making as much as fast of progress as they could because the teacher couldn't prep as much.... They don't have time to write effective IEPs and to truly have time to do teacher observations in other classrooms, or to talk to the other teachers about, "Hey, what's working best for Johnny?" They're not writing effective plans, individual plans for the kids because they're just kind of... doing them to get them done... It makes them always be working behind the ball. It's more reactive than proactive. When you're reactive in any situation all the time, you're never really making progress. You're just cleaning up messes and you're not able to move forward. I think that's probably the biggest thing, we're not able to move these kids forward appropriately so they can really make some good academic progress.

While this staff member was responding to a question regarding the impact on teachers, their anecdote clearly illustrates how challenges with vacancies and absences indirectly impact student progress. In this scenario, needing to take on additional responsibilities due to vacancies or absences also prevented teachers from producing high-quality lessons.

An interventionist from the urban site responded to a question about the impact of staffing shortages with a similar explanation:

I wanted to mention that it's a cycle that needs to be broken. For example, it starts with tier one instruction. If we don't have a strong tier one instruction, our students fall behind. As an interventionist, I work with those students who are struggling the most. However, if I'm not able to service my students because I'm substituting in a classroom, those students are falling further behind. Like I said, one thing leads to another. The tier one instruction isn't strong due to all the different reasons that we just discussed. Our list of intervention students grow. As an interventionist, I'm not able to effectively work with those students who are the neediest because I'm put in the room to substitute. It is a cycle, and nothing is able to break that cycle to promote and help our struggling [students]. It's almost, unfortunately, our students are just falling behind more and more, and they don't have that support that they deserve to catch up to where they need to be.

The two previous accounts also highlight another important impact of personnel vacancies: absences, and the resulting disruption in staff responsibilities on students. Personnel from both the urban and rural case study districts repeatedly explained how these staffing challenges resulted in lost student support opportunities, especially for special education students. For example, one rural teacher explained how educator shortages impacted their school's ability to provide classes for students needing extra support:

We are limited by what we can do there along with having two middle school English classes that they used to have. One of those would be an intervention class for kids who are really struggling with reading and writing. They would get placed in that one. And that would be an opportunity to really address those reading and writing issues at a time in middle school before they start high school and really find themselves struggling. So, we aren't able to do that anymore.

Another adverse impact of personnel shortages and vacancies on students discussed by the rural case study district was the reduction in course offerings/variation. A teacher explained:

Having more content teachers, I think, in every area for multiple grades would be super helpful. Because of the limited staff, we can't offer a lot of different classes, and that hurts the student scheduling, and it hurts our district as a whole because the kids don't have as many options.

These case studies illustrate how prevalent staffing challenges, both directly and indirectly, negatively impact students' affect, trust, academic achievement, receipt of support, and course offerings. These perceived severe adverse impacts on students suggest compounding and long-term consequences for students' socio-emotional as well as academic well-being that are likely to be exacerbated by continued staffing challenges.

IMPACT ON OPERATIONS

Next, the researchers turn to examples and evidence of how staffing impacted operations.

First, some leaders at the district and school level discussed how hiring cycles are extended or in some cases, feel never-ending. One example comes from the case study of North Cascades, a low-income district primarily serving students of color which historically has struggled to find and keep teachers.

Second, there were numerous examples of bus driver shortages impacting families and students, as well as the time that district leaders had to spend solving these issues and/or reallocating responsibilities in order to deal with these problems. In one case (not included in the table below), a rural superintendent who had a license to drive a bus explained that he sometimes had to drive the bus himself.

Table 28. Examples from state interview data of impact on operations by category (4-6)

Category	Example or Quote
Negative Impacts of Perpetual Hiring Cycles	<p>“So, in the spring we’ll usually do some recruiting. We also do a lot of posting for anticipated vacancies. Like we know that so and so is going to be having a baby. We’re going to go ahead and post an extra fourth grade job because we’re going to try to prime our pump. Like we always try to have vacancies posted on the website because we are just trying to find the right fit for our organization. But we do our allocations in the spring, we’ll start fishing. I call ‘em fishing, we’ll post fishing posts. If you look at us right now, we’ve got a ton of postings up because we’re just constantly looking for people.” - District Administrator, North Cascades</p>
	<p>“Well, I think we’re all trying to get out there as early as possible. As soon as in the spring, rather than waiting till July and August. The problem is a district like ours is super transient. We just never know what our population is going to be. We never know what our numbers are going to be until August. So, you never quite know how many kids, how many teachers you’re going to need from year to year. The numbers change dramatically, or can change dramatically, from your year.” - Principal, Voyageurs</p>
Bus Staffing Shortage – Impact on Students	<p>“We collapse and combine bus runs where we could, but I don’t like students having to stand on a bus run for too long and, unfortunately, we had some routes that were pushing an hour.” - District Administrator, Kenai Fjords</p>
	<p>“I’ve been extremely fortunate - we had to go from our normal curbside traditional pickups that everybody’s used to for busing. We went into community stops in January when we returned from break because we lost half of our driving fleet. Four of the eight drivers we lost due to retirement, relocation, just normal life circumstances, but we lost them and that pretty much made it inoperable to have our system. But our rural district comprises more than eighty square</p>

Category	Example or Quote
	<p>miles... our kids can't get to school without us. We had some significant challenges in terms of how do you completely reconfigure your transportation system so that you can give everybody the best shot to get to school possible? So, what we opted to do is go to a community stop model where essentially parents would have to drive no more than five miles to get to a community stop, but the kids would get dropped at the community stop, there would be two community stops on the way to the schools, and then we would drop all the kids off when they got here.” - District Administrator, Big Bend</p> <p>“All of our districts that are serviced by [company] have run weeks without bus routes. It's been to the point where, if one of their drivers gets sick and calls in, we can get the call at 6 o'clock in the morning, or even 7 o'clock in the morning, 'The bus is not running.' The parents have been getting very upset across the board, but they do understand the shortage.” - District Administrator, Petrified Forest</p>
<p>Bus Staffing Shortage – Impact on Leaders</p>	<p>“Sometimes like our transportation director, she'll have to drive. So that means somebody's not there answering phones and directing you know, I guess being the call center back at transportation. So if she has to do that, then I have it transferred where all the phones come to my office where my administration assistant and I are taking those calls because somehow I decided I'm going to be over transportation this year too. If it's a matter of 'Hey, we're short another bus driver,' even in addition to that, sometimes it's combining runs or doing a second run, which might mean some kids are late. And a couple times we've had to cancel bus runs and send out notifications to parents to say this bus isn't operating today, you'll have to find your own way to school. And that's tough to do. We hate doing that to families. Because that's our responsibility to get them here. But that's the reality we face.”</p> <p>- District Administrator, Mount Rainier</p>

Surveys of district leaders reported that there is a general shift to year-round hiring cycles in Michigan. The research team found that in the lead up to the 2022-23 school year, 64% of district leaders reported starting teacher recruitment in winter/early spring (between January–April 2022). By contrast, in the lead up to the 2019-2020 school year, 79% of district leaders reported starting teacher recruitment entirely in the spring (between March–June 2019) (See Figure 21, below). There is some evidence to suggest teacher recruitment is now a year-round process, adding additional strain to the duties of HR staff and administrators.



Figure 21. Month teacher recruitment began according to district leaders

IMPACT ON SCHOOL CULTURE, STAFF MORALE, AND STAFF WORKLOAD

The areas of culture, staff morale, and workload are crucial because negative impacts in these areas have the potential to exacerbate problems with staffing shortages and the profession writ large. Negative impacts can reinforce turnover, low morale, and negative perceptions of schools and teaching.

State-level interview data illustrated how an inability to find coverage for vacant positions or absent staff led to feelings of burnout for teachers and school leaders. For example, the leaders of Acadia, Mammoth Cave, and Crater Lake all described needing teachers or other school-level leaders to cover and how this challenge disrupts their core responsibilities. In turn, some of these responsibilities need to be completed later at night (if they could be) which reduces a teacher’s ability to “be their best selves in the classroom” (Crater Lake leader).

In the case of the Principal of Everglades, all these issues had an emotional impact as they noted “it was hard personally.” In other words, burnout can be fueled by staffing problems, which creates more staffing problems, and that creates more burnout. It can become a mutually reinforcing negative cycle.

IMPACTS OF VACANCIES ON INSTRUCTIONAL PERSONNEL

Vacancies Force Educators to Take on Substantial Additional Duties at the Sacrifice of Their Main Job Responsibilities

Vignette Highlights:

- This vignette highlights the difficulty teachers and principals experienced in case sites when they were not able to focus on their main jobs because they covered vacant positions.
- One urban principal had to spend up to four months in a classroom by themselves because of a vacancy.
- Teachers and principals regularly found themselves covering vacancies for classroom teachers, special education teachers, interventionists, social workers, counselors, and many other roles.

The case studies presented for the urban and rural school districts provided school level insights as to how principals and teachers experienced challenges related to educator staffing. From survey data and statewide interview data, it was seen that all district types (rural, suburban, and urban) were experiencing some degree of educator shortages. As noted previously, to highlight districts on opposite ends of the spectrum, the research team focused the case studies on one rural district and one urban district, both of which indicated they were experiencing educator shortages.

While there were some expectations on the experiences of these two districts to be nuanced, given they are quite different districts serving a unique population of students and drawing from unique labor pools, there was a surprise that many of their accounts and experiences related to educator shortages were strikingly similar. Findings from both districts suggested a negative impact stemming from instructional personnel vacancies and absences.

The impact of educator vacancies and absences was felt throughout the entire school ecosystem, from administrators to students. From what could be discerned, the impact was profound on all levels at both case sites, but the impact appeared especially severe at the urban case site. When asked how vacancies within their building impacted them as a teacher, one urban teacher explained that his/her school had a vacancy in a content area course and was asked to take it on, even though they are certified in a different content area:

I would say I'm having to take on this [new content area] course, I'm [a certified content area] teacher, and having to take this on, that's been like, that was the worst decision I ever made. Every day I'm like, "Why did I do this?" It's so much harder. It's so much more work because I haven't done it before... and I don't plan on doing it again. So, it's just so stressful at times. I've done with my planning for [my certified content area], and I still have this class and... it's been so stressful and I'm... waiting for this countdown... have a countdown already for the end of the school year, I'm just ready for this day and it's tough."

When asked to provide more detail about how that impacts him/her, they explained:

I am not certified in [new content area]. I don't really know. I'm just going through the book using a book and the kids are like, 'Oh, this is so boring.' As it's [new content area], I don't know... I'm spending so much time on that class. I feel like I'm... taking away from my other classes but I'm trying to spend more time because I don't know it. I'm learning, technically. I'm learning as they're learning. I'm kind of staying ahead of them but I'm learning as they're learning, reading at the same time, but I don't know how to make this class more interesting.

In short, this teacher was impacted by the vacancy because they not only had to prep and teach a new class they were not certified to teach, but having that new responsibility took away time and energy from his/her regular classes. The research team heard similar examples from teachers in the rural district, where vacancies for paraprofessionals and interventionists were acutely felt. One rural, non-grade level teacher explained:

[As a non-grade level teacher], I've been teaching interventions for writing and reading because students are so behind in that, like quality instruction. And I think part of that is due to our intervention instructors not being qualified necessarily to be intervention instructors. Not that they're not lovely people, they are. But I think we take a lot of our [non-grade level teachers] and make them intervention teachers, just like working with students one-on-one, reading and writing. And a lot of that hasn't been effective.... It's affected my [non-grade level] classes when I ask my sixth graders, for instance, to write a complete sentence, and they can't do that. So I've taught how to write a sentence, how to use email. I've taught, I'm trying to think of what else, oh, how to write address a letter, some stuff like that that I've taught that they're supposed to be going over that I've have come into the [non-grade level] room and have affected writing and reading skills.

In other words, this non-grade level teacher was serving as an interventionist to students in addition to their regular teaching responsibilities. Interviews and focus groups from the rural and urban districts

suggest that vacancies greatly disrupt teaching and learning because teachers have to perform double duties: their regular teaching responsibilities and the responsibilities of vacancies they are filling in for.

These added duties are both related to instruction and to student support roles. For students, this is disruptive because they are not receiving the instructional quality they deserve, nor the support services they need to be successful in the classroom.

The impacts are not limited to teacher experiences. One principal in the urban district discussed the impact of a prolonged teacher vacancy in their building, saying, “I spent probably four months last year in a classroom myself. So, I couldn’t do my job because I was doing a different job.”

In addition to shortages of instructional staff, both districts are dealing with shortages of non-instructional staff, such as counselors and social workers. One of the urban principals interviewed said:

I've had a social worker position that has been open all year. We cannot find a social worker. And so, that is a position that really is like my right hand, helps me out all day long, and it frees me up because the social worker usually deals with the behaviors. And when parents call, that's their first stop before they come to me. And so, this year, I haven't had one. So, I've had more parent conversations than I probably had in three years. It's really important at [North Cascades] that the principal's main job is to observe teaching and learning and then provide that feedback. We're supposed to be in every classroom every day, and so, obviously, when I was subbing for four months, that didn't happen and now, without a social worker, it's not happening. Now, I'm not able to provide the feedback that my classroom teachers need to improve their instruction as well. So, it all just trickles down through everybody.

When this principal does not have a social worker to support the students in this building, he/she must take on this role which has a compounding effect on the whole building.

A teacher from the rural district described a similar scenario in which they felt like they were serving as the school counselor because there was an unfilled need for student counseling services in the building:

If I see a kid is having a bad day I'll ask him, "Hey, do you talk to the counselors, do you want to go talk right now?" I love playing counselor, I guess, but it is very taxing, and it does take away from time where I can be improving my instruction and things like that. I see the emotional and social problems that these kids are having is a huge barrier to success in the classroom and I've only been teaching for a couple of years, but it feels like the bulk of the behavior problems that we're having that are exhausting is because these kids just don't have the social skills or the emotional skills to figure out how to function. Having counselors there to help them, and especially here because these kids have some really crappy situations, having somebody there to help them process that and I don't want us to just pluck them out of the

classroom that they're disrupting because they're not learning anyway. If that's what's going on in their head, they're not learning. If they can be plucked out of the classroom, solve that problem. Remove that barrier. Then put them back, then that's going to be beneficial for everybody and I think it would put a lot less stress on teachers.

The two case studies revealed abundant examples of how school vacancies impact instructional staff, teaching, and learning.

As evidenced, vacancies at the school level had two profound impacts.

First, vacancies resulted in instructional staff having to take on additional job duties and responsibilities, such as teaching a new class they are not certified to teach, having to provide intervention support to students, or offering additional social and emotional support to students.

Second, vacancies hindered the instructional staff from being able to carry out their traditional job duties, such as the principal who was not able to observe teachers and provide feedback for professional growth.

The last three categories, included in Table 29, point to parent dissatisfaction and the idea of “turnover contagion” described earlier. In this last category, the North Cascades’ leader proposed a theory in which turnover begets itself because it can disrupt positive relationships between staff, and they begin to look for situations in which the grass might also be greener for them.

Table 29. Examples from state interview data of impact on culture by category (7-9)

Category	Example or Quote
<p>Contributing to Burnout</p>	<p>“So if a [sub] is not available, we may pull one of our.... We have behavior intervention specialists at the elementary level, so we may pull one of those. We may pull, you know, some other position that is not in a classroom just to get it filled for that day, which of course creates a problem because then they're getting behind on their work and not meeting with the students they need to.” - District Administrator, Acadia</p>
	<p>“Well, I would like to say the impact on the students wasn't that big because it was me in there, but it definitely impacted my position and being able to get anything done that I needed to which then, of course, impacted my family because then I was having to do things later. But I mean, of course, we know if it's not the same teacher in there that the flow is not the best and if the consistency, you know, it's not the ideal.” - District Administrator, Mammoth Cave</p>

Category	Example or Quote
	<p>“And [teachers] said, what is actually adding to the stress is all of the time that they spend filling in for unfilled positions. And that has taken their ability to have time to exhale, to plan. And so now their planning is happening at night. They’ve been running all day. And so that is taking a toll on their ability to be their best selves in the classroom.” – District Administrator, Crater Lake</p> <p>“I couldn’t even count the amount of subs that were in that classroom, and it was because we couldn’t find one fill, do you know what I mean? There wasn’t like another teacher that we could put in there. It was hard personally. I mean, that’s tough because [it’s not] what’s best for kids.” - Principal, Everglades</p>
Parent Dissatisfaction	<p>“Families like stability. They like teachers that are there all the time. You know that have been there for years because I know what they’re getting. We have a situation where we couldn’t fill a math slot last year. So, we had two long-term subs. One of them was a retired Chemical Engineer. One of them had a background in the Sciences and Natural Sciences, more on the Biology side working for a nonprofit. The parents weren’t necessarily happy with it.” - Principal, Petrified Forest</p>
Turnover Contagion	<p>“When you work in a building where the person who’s your next door neighbor in second grade leaves, like, it leaves you wondering, well, they left. Why do I want to stay here? There’s actually some research in Tennessee that was like, it’s like buildings that have high teacher turnover continue to have high teacher turnover.... It just becomes this like never ending cycle, right?... And when people don’t have connection and relationships or when their friend leaves the organization, it leaves them feeling unanchored and untethered to the group too. And so, then they’re like, well, so and so left and they got \$5,000 more, so I guess I’m gonna look, right. And then they start to just feed that story, you know, oh, I hate working here cause you know, these kids or those kids or those parents.... And then it becomes like, I only have people in a hallway or a building that can find problems.” - District Administrator, North Cascades</p>

Although there isn’t statistical data with which to estimate the effect of teacher vacancies and absences on Michigan students, the survey and interview data suggest a prevalent belief that a lack of adequate staffing has a negative impact on student learning, school climate and culture, and school operations.

Further, the fact that shortages appear to depress staff morale means that schools struggling with adequate staffing may suffer negative feedback loops, as the greater stress on teachers leads to higher absence and turnover rates, and hence greater pressure on the remaining staff.

Impacts of Absences on Educators

Absences Place a Heavy Burden on Educators Who Show Up

Vignette Highlights:

- This vignette highlights the challenges educators face when they are asked to cover a classroom for an absent educator.
- Teachers and support educators alike regularly find themselves making sacrifices to their own responsibilities to cover the workload of an absent educator when a substitute teacher could not be secured.

Throughout the course of this project, the research team quickly learned that vacancies were not the only staffing issues to disrupt teaching and learning. In addition to vacancies, absences and, in turn, finding day-to-day substitute teachers is a huge hurdle for schools and districts to overcome on a very regular basis. The cases presented provide evidence that responding to teacher absences is an almost daily, if not daily, challenge.

The interviews and case studies with both the urban and rural school districts suggest that—for districts facing severe substitute shortages, which this larger report findings suggest are many—finding an external substitute is seems impossible, which means the districts and schools have to produce creative solutions in response to teacher absences. More often than not, present teachers are asked to give up their prep hours to fill in for an absent teacher. One teacher from the urban district explained the snowball effect of having to fill in for an absent teacher in a different grade level because the school was unable to find a substitute teacher:

But one of the things that I noticed is when you go in due to the loss of planning time, you see a lot of low-level, low-rigor type work produced by our kids. It's really sad because a lot of times when you go into the classrooms, you're just putting bodies in there to fill the space. It's sad because when I go into a classroom, you can tell if I'm a fifth-grade teacher and I'm going into a third-grade classroom, and I'm already not familiar with standards. Then I'm whipping out worksheets, I am teaching whatever I can... That happens a lot.... Then if you are teaching, let's say I'm teaching math and I have no math concept with third, fifth, or whatever, then I'm teaching misconceptions. I mean, you just see a gambit of just damage to our kids. I just wanted to throw that out there. Because if I am covering, let's say, and I'm losing my

prep, then that affects my classroom as well because now I can't give the attention I need to my kids because I'm helping over here. I just wanted to add that in there. It impacts everyone.

Similar to the impact the research team saw with vacancies, this teacher explained that when they must give up their prep to fill in for an absent teacher, it means he/she cannot prepare content and curriculum for his/her own students and the absent teacher's students also do not receive high-quality instruction.

A rural teacher painted a similar picture. After mentioning that teachers in his/her building “cover a lot for other teachers...like on our prep hours,” the interviewer asked how that impacts him/her.

He/she responded:

So, I have four classes that I prep for... I teach four separate classes, which means that every day I have to prepare lessons and materials for those four separate classes which also means I have grades to put in and things to assign and build and evaluate in those four classes. So my prep hour, if I was to summarize what I do, it's making sure I have all my copies made for each of the classes that I have that day. It's making sure that I have the time to reach out to parents of failing students or students that I just want to uplift. It's having the time to be able to really provide.... One of my big goals for myself is to provide really thoughtful feedback. I don't want to just write comments on the side of their paper. I do a lot of video feedback because I find that that's more valuable. Kids actually listen to it. They watch it, they care. They see my face, they see their piece and we talked about it. And that takes a lot of time with 127 kids per year. So, when I have to give up that it means that something's not getting graded that day. Something's not getting pre-planned. And then what it really means is that I'm going to be here after school at 3:30, doing it then, which is time away from my family.

Again, this teacher's response exemplified the deep impact that he/she experiences when he/she has to substitute teach on a prep hour because the school was unable to find a substitute teacher for an absent teacher. The teacher above already had four classes they prep for daily, so their prep hour is extremely important. When they gave up their prep hour to cover for an absent teacher, not only did they miss planning time for their four regular classes, but now the teacher must plan for an added fifth class.

Another strategy used to respond to absences that emerged, albeit not as often as having to give up a prep hour, was either combining classes or dividing the class of the absent teacher and dispersing the students into another class for the day. While the strategy is different from having to teach on a prep hour, the impact is similar, as evidenced by an urban teacher:

As far as far as elementary schools, when we're doing the split classes and a 3rd Grade teacher's not here, that impacts all of us. You know, the teachers that are doing the splits because whichever class we get, they may not be on the same page, or the same lesson that what we're doing in the classroom. So, it's like, I can't do my regular classroom lesson because they're not with my group. And then you have different behavior management and things like that than the other classroom. So, it impacts your class greatly because now

you've got behavior students coming in from that classroom, that are... going with your co-existing behavior issues and it's like a big clash. Like you just have a storm that day.

In this scenario, teaching and learning was disrupted because of the different student behaviors from the teacher's own class plus the student behaviors from the added students due to another teacher's absences.

Furthermore, there was evidence in both cases that paraprofessionals had their schedules and prep time regularly disrupted by the need to cover classrooms both within their home buildings and at other buildings in the district. This was not only stressful but also prevented some from doing their work, such as providing literacy interventions. An urban paraprofessional explained how absences and the inability for the school/district to find a substitute directly impacted them:

It's hard. It's frustrating because in preschool they're young. This is their first experience in this classroom, and you're trying to build personal relationships with them and trust. GSRP requires you to do three checkpoints of notes and enter them into the computer and have data. As a [paraprofessional] we have 16 kids in the classroom, so I take six children, or I take eight children, and the lead teacher takes eight children. So we're responsible. We have the same children as a small group, the same children throughout the day, we try to work with and engage with. And when we're short-staffed, we're pulled from our classroom to go to other classrooms.... You miss out on a lot of those opportunities for small groups and large groups and different times to get your notes and to establish relationships when you're constantly being pulled to different classrooms. So it makes it difficult and it's frustrating.

This paraprofessional's account demonstrates how much they have to miss and give up when they are pulled to cover for an absent teacher. The above quote also emphasizes the frustration felt by the paraprofessional when they are pulled to cover for an absent teacher.

A rural paraprofessional shared similar frustration in their response to the question of how the staffing challenges related to absences had an effect on them personally or how they performed their job. The Big Bend paraprofessional responded:

I get pulled often to substitute in a classroom. Our schedules get all messed up. Because we have to cover this person who called in, we have to cover lunches for other people. So, we don't have, our schedule can change every day. And the joke is when we go to work are you [being a paraprofessional] today? Because a lot of times one of us isn't. We're doing something else.

Constantly having to pivot from one's regular duties to those of an absent teacher seems to be disruptive to the support paraprofessionals provide, not to mention a stressor for those who are directly impacted.

The urban and rural case sites both reported major challenges with absences and finding substitute teachers. In both cases, different strategies and approaches were used to respond to covering for an absent teacher, such as asking other teachers to sacrifice their prep hour and combining classrooms.

While both districts experienced these challenges, the urban district reported using relatively more aggressive approaches because it was their last and only option. In many instances, the urban district could not pull another teacher on their prep to cover an absence because there weren't any teachers available. Meaning all available teachers were being utilized in needed classrooms already (either to cover a vacancy or absence). In scenarios such as this, to cover for an absent teacher, the urban district often combined classes or had a non-certified staff member cover the class. As such, the overall impact of absences and the inability to find a substitute teacher on the urban district is incredibly deep and expansive.

The above vignette demonstrates that the staffing challenges experienced by the two case study sites are not limited to teacher vacancies alone, but rather the staffing issues are pervasive in many education job categories including substitute teachers. The impacts experienced by educators when colleagues are absent are severe and have a mounting effect on instructional staff, non-instructional staff, and students alike.

Section 5. Responses to Staffing Shortages

As evidenced by the findings in this report thus far, staffing problems are doubly hitting school districts. Many districts have been operating with multiple staff vacancies and most districts are unable to find substitute teachers for absent teachers when needed on a very regular basis. The Great Basin district administrator explained the dire state of staffing during the 2022-23 school year by saying:”

Yeah, we've had a couple, what we call century days, and keep in mind that's five hundred employees, right? So, we've seen a couple of days that have reached a hundred people out. I would say on an average we're sixty to seventy absences a day. Those include vacancies as well.

These two challenges—educator vacancies and substitute shortages—force schools and districts to strategize and produce creative approaches around how to respond to these circumstances so students have an adult in the classroom. Keep in mind that this adult may or may not be a certified teacher, but rather schools and districts are in the precarious situation in which they simply need some adult, any adult, to be with students during the school day when a vacancy or teacher absence occurs.

In order to meet this need, Michigan schools and districts have employed many different responses.

DESCRIPTION OF RESPONSES TO SHORTAGES

As part of the interview protocol, interviewees were asked to describe the strategies they use to respond to both vacancies and absences. Interviewees responded with both proactive and reactive approaches, but the majority of interviewee responses indicated more reactive responses to address vacancies and shortages.

Proactive strategies are those in which a district or school anticipated a need and sought to find a permanent or semi-permanent solution. For example, a proactive strategy would be using funding to recruit new employees and retain current employees through financial incentives. A number of interviewees mentioned using Elementary and Secondary School Emergency Relief (ESSER) funds, other COVID relief funds, or other funding to strategically address educator vacancies. The Grand Teton district administrator illustrated how they used money for the attraction and/or retention of employees:

We took full advantage of all COVID funds, all three or four cycles of ESSER money. We maxed those dollars out. We were able to hire some new essential positions that we strategically lined up with succession in mind because we had attrition coming in some

other categories and we knew that if we put this person here, we could move them there.

This administrator proactively used ESSER monies to hire staff in anticipation of forthcoming vacancies. Other administrators reported using ESSER funds for financial hiring incentives, longevity bonuses, and retention bonuses.

Alternatively, a reactive approach to address vacancies and shortages is producing short term, “band-aid” fixes, such as combining classrooms or asking teachers to teach during their planning period. For example, the Grand Canyon district administrator described the strategies they use to respond to both vacancies and absences. They responded with several reactive approaches to the problem:

We've had days where we've had 20 or more unfilled positions at our district....You cancel specials.... You pull people that you're not supposed to pull... special ed, your specials, your instructional coaches, your principals. I've seen my principals in the classrooms numerous times this year. We've had our central office going sub. We've combined classrooms, where you have two or three classrooms of kids all in one theater, gymnasium. And so, one teacher [is] overseeing them.

This administrator's response highlights many reactive approaches used to respond to vacancies and absences, such as canceling classes like gym and music so those teachers can fill in, pulling support educators to teach instead of providing important student supports, asking school and district administrators to lead classes, and combining classes so one teacher is responsible for more than one class of students.

Multiple approaches employed to cover vacancies and absences were common among many of the statewide interviews. It should be noted that there is little evidence in the existing research base to which of these strategies is the “least bad” for school operations, teachers, or students. Moreover, administrators' time is being consumed by short-term staffing crises, and thus have less time to focus on critical roles, such as providing instructional leadership.

The strategies used by schools and districts to respond to vacancies both overlapped and differed from the strategies used in response to the inability to find a substitute teacher for teacher absences, which is why they are discussed separately below.

RESPONSES TO VACANCIES

As briefly mentioned above, in recognition of the impact of the pandemic on schools, much federal and state funding was made available to school districts to help with efforts such as teacher recruitment, retention, compensation/benefits, and new teaching and support positions. Nearly 8 in 10 district leaders surveyed (79%) reported using COVID relief (such as ESSER) to support efforts such as these, and almost 6 in 10 school leaders (58%) reported using COVID funds to hire additional instructional staff.

In efforts to increase teacher recruitment and retention, 58% of district leaders reported offering higher salaries (see Section 2). However, 32% of districts report they are unable to offer any type of new financial incentive (including bonuses, higher salaries, or more generous leave policies). Additionally, 61% of district leaders are not confident they will be able to continue these policies once COVID relief funds are exhausted.

The ESSER monies have an expiration date and must be obligated by September 30, 2024 (Office of Elementary and Secondary Education 2023), which presents a huge challenge for districts in their ability to sustain the positions and incentives that they funded through ESSER. In reference to using ESSER funds for attraction and retention while being aware they are time-bound, the district administrator from Petrified Forest stated:

Well, we had a whole lot of money flowing here from ESSER One, Two, and Three. Now we're spending through Three and we've got another year and a half left on that. So, we'll be okay, then. But then, we're going to fall off a cliff.

The impact of this funding cliff will not be felt for another year, but it is anticipated it will exacerbate the strain schools and districts already feel around educator staffing.

Despite these recent federal and state investments, many Michigan districts and schools still feel the burden of not having enough qualified staff to fill their vacancies, as evidenced by state level interviews. The Voyageurs principal explained, "It was the biggest stressor of the school year for sure, staffing every day."

61% of district leaders are not confident they will be able to continue these [recruitment & retention] policies once COVID relief funds are exhausted.

The district administrator at Kenai Fjords explained how their district functions while having multiple vacancies:

I've lost several interventionists, that were something new for us. They're now in a classroom teaching. One of my curriculum specialists that I had over here, she was fantastic. I had to place her into a classroom as well. So we're able to move people, but it's at the expense of something else.

While this leader figured out a way to staff vacant positions, it meant another function went unfilled. For example, an interventionist might be pulled to fill a third-grade teacher vacancy. Now, the interventionist cannot provide much needed intervention support to students, which ultimately has an impact on student learning. And the example from the leader at Kanai Fjords was not simply referring to an interventionist filling in for one day. It was in reference to an entire school year. So, students miss intervention support for an entire year, at minimum, when this strategy is used.

Many other proactive strategies and reactive approaches to respond to vacancies emerged in state-level interviews, and they fell into 7 categories. After a brief overview of each category, Table 30 (below) provides examples of quotes from various leaders speaking to each of the strategies.

Overview of Responses

1. **Use State and Federal Funding for Recruitment and Retention (Proactive).** Allocate state and federal monies, such as ESSER funds, to finance support positions, hiring incentives, retention bonuses, etc. In more cases than not, this strategy was not enough to respond to the vast number of vacancies.
2. **Utilize Building or Permanent Substitute (Proactive and Reactive).** Many schools and districts employ full-time substitute teachers whose purpose is to fill-in for absent teachers (proactive strategy). However, when schools experience widespread vacancies, the full-time substitute is often used to staff the vacancy until the vacancy is filled (or not). Often, full-time substitute teachers were switched to a long-term substitute role for a full school year (reactive approach). This was usually the first approach schools and districts tried to employ to fill a vacancy. Unfortunately, the vacancies are so widespread that schools and districts were forced to use additional strategies to respond to vacancies.
3. **Combine Classes or Redistribute Students (Reactive).** Combine the students from two smaller classes to form one large class with one teacher or divide one class and redistribute the students to multiple different classes.

4. **Seek Community Support or Reach Out to Retirees (Reactive).** Community members such as public service workers, parents, personal contacts, and family members fill a vacant position. This may or may not require an alternative certification, depending on the credentials of the individual. Similarly, they may reach out to retired teachers who still live in the community and ask them to fill a vacant position. This approach was unique to rural schools but came up multiple times in different rural interviews.
5. **Use a Third Party (Reactive).** Rely on third-party vendors to provide services and support, such as special education services, paraprofessional services, foreign language teaching services, etc.
6. **Grow Your Own (Proactive).** Support uncertified staff in earning their teaching certificate or alternative certification so they can fill a vacancy. Many GYO programs are in their infancy, and it is yet to be seen how effective this strategy is.
7. **Pivot to Online Learning (Reactive).** Have students take an online course in lieu of being taught by a teacher in the building or district.

Table 30. Responses for addressing vacancies

Strategy	Approach	Interview Quote
Use State and Federal Funding for Recruitment and Retention	Proactive	“I believe that [ESSER is] funding a lot of our retention stipends our union has. I think each union has a retention stipend worked into their agreement now, and we have used COVID relief funds for that.” - District Administrator, Theodore Roosevelt
Utilize Building or Permanent Substitute teachers	Both Proactive and Reactive	“We have 41 long-term substitutes. 41 long-term subs... that’s 41 non-certified academically-ready individuals, but they’re taking care of children.” - District Administrator, Crater Lake
Combine Classes or Redistribute Students	Reactive	“I had a 2nd grade teacher leave or 1st grade teacher leave at [an elementary school]. And we had the posting up, but we didn’t get any good quality candidates. So instead of filling that classroom, we collapsed the classroom, and we just increased the student numbers in other classrooms.” - District Administrator, North Cascades
Seek Community Support or Reach Out to Retirees	Reactive	“I have now secured a retired Spanish teacher for next year that’s committed to do at least next year. And this individual had kids in the district, in my classes. I mean, he’s a community person doing this because he saw. For 30 years, retired, but he’s still very energetic and wants to be helping us finding solutions. So, he’s going to commit the next year, unless we find somebody younger,

Strategy	Approach	Interview Quote
		newer, or whatever, that's able to take over full time then, graciously, he'll step away and let that person take over. So that's really a good security for next year." - Principal, Zion
Use Third Party	Reactive	"Yeah, we're contracting out...we're contracting out a lot of those OT [occupational therapist] and speech services things like that." - District Administrator, Acadia
Grow Your Own	Proactive	"We started a program a couple of years ago that we call our Teacher Apprentice Program. What we did with that was we were targeting mid-year graduates and offering them essentially a guaranteed job, report to a building every day for the second semester, 200 bucks a day, and it's kind of like a building sub-position. But with the idea of, 'This is really almost like a six-month interview for you. You're newly graduated, you're a certified teacher, we like you, you've been vetted through our process and now we want to have you here on the ground with us to help cover classes, but also to get to know you better for the next hiring season.' That's something that we started two years ago." - District Administrator, Capitol Reef
Pivot to Online Learning	Reactive	"High school had a French teacher leave and they didn't have a French teacher and now they're doing some online thing where the kids are being monitored by an adult, but they have to do their French curriculum online because we could not find a French teacher." - Principal, Wind Cave

As demonstrated in the quotes above, when a district or school was unable to fill a vacancy with a certified educator, they turned to creative approaches so students could have the best chance at receiving instructional content and support. These strategies and approaches were by no means ideal, but districts and schools tapped as many resources as they could think of to support students.

Often, interviewees indicated they would start with a more proactive strategy before having to be more reactive, but in most cases the reactive approaches were ultimately used. Even among the reactive approaches, most interviewees said they first tried to fill a vacancy with a permanent substitute before resorting to the other approaches.

Grow Your Own (GYO) Teacher Staffing Strategy

North Cascades and Big Bend Look to Differing “Grow Your Own” Alternative Certification Routes to Fill Vacancies in the Shorter Run and to Promote Retention in the Longer Run

Vignette Highlights:

- With regulatory and funding support, districts may be able to employ GYO strategies to help meet special education staffing needs with alternatively certified paraprofessionals and substitutes who possess community experience while being less prone to turnover.
- GYO strategies promise strong incentives for paraprofessional and substitute participation that may assist recruitment and retention efforts, despite shorter-run concerns for teacher quality.

Educators in both case study districts reported a range of adverse impacts resulting from teacher turnover and hard-to-fill vacancies. Educators in both realized that strategies available to respond were few and came with steep costs. Neither district could compete for teachers based on compensation. Further, each faced teacher labor market disadvantages, Big Bend as a relatively small, isolated rural district and North Cascades as operating in a more densely populated area of mostly higher-resourced districts.

Yet, interestingly, North Cascades and Big Bend determined to employ a form of GYO strategy that district leaders hoped would keep certain positions filled in the short run, while fostering teacher retention in the longer run. The GYO approach common to both was to place non-teacher certified staff such as substitutes and paraprofessionals, or even newly hired community members, into instructional positions under an emergency or special certificate or permit while they earned their bachelor’s degree and regular teacher certification/endorsement. The case study districts differed in how each adopted and implemented its version of a GYO strategy.

North Cascades’ approach involved the establishment of a formal GYO program as a successor to a past partnership involving a teacher residency program. The district found that model unsatisfactory; and therefore, as a district leader said:

... We went out to find a new partner and last year launched a new partnership with [a state university].... And now we have a new model that allows paras to move to teacher certification. And then [the district] put aside half a million dollars in ESSER funds to be sure we had the money to be able to pay tuition for these folks. So, they’re in classroom positions teaching kids while they’re going to school at night. And then we have wrap-around services for them with job-embedded coaching. And then [the partner university] actually hired somebody to come and work with them in the classrooms as well.

The new GYO program focused on paraprofessionals because typically they possess a two-year degree, and it can be easier for them to obtain the necessary teaching permit, particularly in high-need areas such as special education. The district leader, for example, indicated that the program included four or five paraprofessionals who had started with 60 credits toward their four-year degrees.

Instructional personnel reported that in one school three paraprofessionals switched to classroom teaching positions for the 2022-23 school year, and that in two schools, parents were program participants as well, though not all had their own classroom assignment. Paraprofessional interviewees and teacher focus group members each reported that paraprofessionals or new hires without teaching certificates were working in their respective buildings as part of the program.

As the quotation above suggests, the district paid the cost of the degree program. The district also gave a small incentive payment to participants as they complete each year of the program. While in the program, participants are paid as paraprofessionals (not teachers), and when they graduate from the program, they must continue to teach in the district for an additional three years. Nonetheless, given relatively low paraprofessional compensation and job status, the program may appeal to existing or newly hired paraprofessionals as a viable path to significant improvements in pay, benefits, and working conditions, thereby bolstering the district's recruitment and tacking efforts.

As the district leader emphasized, the current GYO program, is “an attempt to try to solve a problem in our organization with continuity of teachers.” Indeed, the leader pointed out that the district had “just added ten allocations to paras because we're trying to use it to feed the teacher pipeline.”

Big Bend took a more individualized, ad hoc version of GYO. It focused on special education positions, with most participants or prospective participants already possessing paraprofessional licenses and experience in the district. A district leader explained the potential advantages of a GYO approach:

For me, and this is definitely I think systemic for rural programming, these are all people that live in our community already. So, the likelihood of them going through and then staying with us is higher. So that makes it more attractive for me to do that effort to get them onboarded, because I'm not importing them from somewhere else. They don't need to move, they're already here, so that's a huge advantage in terms of the Grow Your Own option, which is going to be beneficial for us...

By the beginning of the 2022-23 school year, the district leader indicated that one paraprofessional turned certified teacher had already been placed in a special education position, and two others were in process. Another district leader summarized how the one of these two paraprofessionals was placed in a vacant special education teaching position, where they have remained after they too completed their teacher training program:

This year [2022-23], we were able to fill the one [of two vacant positions] because the person finally got certified ... She was a [paraprofessional] who was going back and getting her degree. And then this year,

because she was in her last year of schooling, they were able to give her a full substitute license so that she could be a teacher in Michigan, but get paid substitute pay, and get that emergency year-long substitute license for the special education. But she was already in a program, and this year, she did her student teaching. We worked it out, and we got her student teaching done, and she became fully certified [early in 2023].

The third of the initial set of GYO paraprofessionals was nearing the completion of their program. District administration had begun to focus on another paraprofessional and two long-term substitutes to help them take advantage of the relatively new state financial assistance programs for GYO participants (among other kinds of teacher candidates).

Big Bend anticipated some success with substitute teachers on its GYO pathway. For example, under the state's Proud Michigan Educator Program, a retired teacher returned two years ago to fill a general education vacancy as a long-term substitute. That teacher described what occurred in the next (2022-23) school year:

I am one of those teachers that was asked to do something different. So, I'm a gen ed teacher, and they asked me if I would do special ed, which means I'm back in school getting my master's for special ed certification. But I'm doing the work while I'm learning. So, I'm one of those people that, because there was a need of staff, they were able to offer me a position that I would've never thought I would've done...

The promising launch of GYO strategies in the case study districts depended on several factors. In both, district leadership was crucial. In North Cascades to establish the partnership to provide the program, and in Big Bend to personally participate in process recruitment and implementation. Both districts, too, relied on the relaxation of state certification/permit rules and regulations.

The availability of federal funding was another key to the GYO program in North Cascades. While in a vastly different context, Big Bend could draw on local connections due to the close-knit relationship between the schools and community.

Some case study educators expressed concern about teacher candidate quality linked to the time it takes to earn a degree and certificate. Several teachers in the North Cascades focus groups expressed this perception, for example:

That's not a knock on anyone who's in that program... but it does make a difference being qualified going into a classroom versus being qualified while you are in process of being in the classroom.

In Big Bend, a district leader acknowledged the same concern, but went on to observe that:

...At the same time, alt cert programs are flourishing. Well, now we have this corresponding teacher shortage.... If you had told me 20 years ago I would have classrooms stocked with substitutes and people without any teacher preparation at all other than what they got through substitute teacher trainings, I would be shocked. But that is our current reality, right?

An administrator in North Cascades similarly expressed a broader perspective on staffing issues and district responses. After saying they would like to see the GYO program expanded, the administrator continued:

I honestly don't know what else you can do. We've been dealing with it for years and now everybody else is dealing with it. When you're competing, you're all competing for the same people. And so, I don't know what more there is you can do with the programs we have in place [including the GYO program], I really don't.

The case study districts have instituted GYO strategies in significant efforts to leverage local human capital resources—mainly community experienced paraprofessionals and substitutes—to meet one of the most serious staffing needs, special education teachers. In isolation, such strategies are unlikely to solve the problem, but they hold some potential. However, it should be noted that GYO programs have a fairly narrow research base (Zuschlag et al. 2021), and so a great deal of work needs to be done to substantiate the efficacy of this strategy.

RESPONSES TO ABSENCES

Schools and districts also used many strategies in the event that a substitute teacher could not be secured to fill in for an absent teacher. The interviews revealed this was a regular occurrence with substantial impacts, which required schools and districts to produce creative solutions. The Crater Lake district administrator detailed their experience with the substitute teacher shortage:

Crater Lake District Administrator: Our daily subs are not as plentiful as we need them to be.

Interviewer: And when you can't find a daily sub, how do you fill in those vacancies when there's a teacher absence?

Crater Lake District Administrator: So, a variety of ways. Either a teacher takes a class on their plan time at the secondary level, so they agree to teach on their plan. We send students to other areas, like the library will have two groups of kids with a guest teacher or with a certified, not a certified, but a support staff member. We've even split classrooms to go into other teachers. So if a 4th grade teacher doesn't come [in], we take half and give them to one teacher and half to another teacher. So those are some of the strategies. The majority of the time we've either a teacher is teaching on their plan time, or we've placed support staff into the classroom.

Interviewer: And then how often do you find yourself having to come up with a creative solution like that when you can't find a substitute teacher?

Crater Lake District Administrator: Every day.

Interviewer: Every day?

Crater Lake District Administrator: Twenty-three unfilled vacancies a day. Every day.

The Crater Lake district administrator’s account indicates that substitute teacher shortages are severe and leaves them scrambling to fill staffing holes regularly. As evidenced by the survey data, when a substitute is not available, school leaders reported that the two most common approaches used to cover that classroom are asking a teacher to give up their planning period (39%) and having other instructional staff (such as interventionists or teaching assistants) fill in (35%) (Figure 22, below).

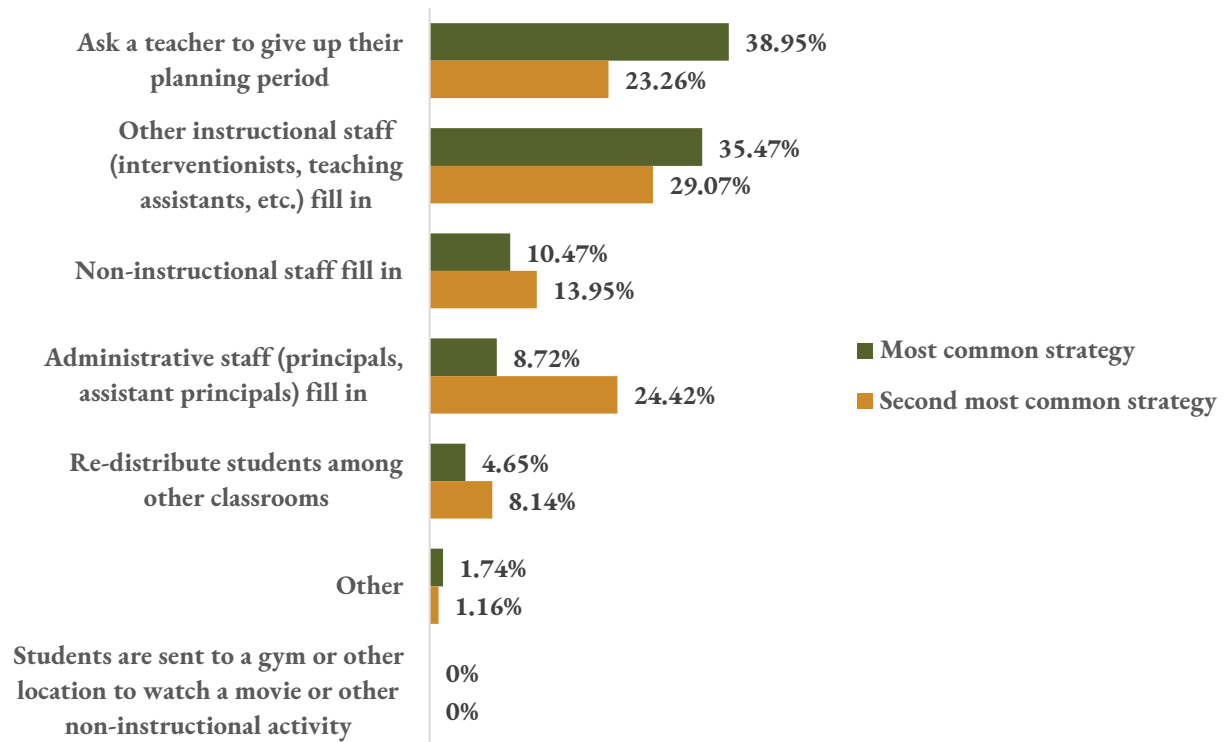


Figure 22. School leaders’ perspectives on how frequently different strategies are used to cover classrooms when substitute teachers are not available

These two approaches also align with school leaders’ beliefs in the approaches that have some of the least detrimental impact on students (Figure 23, below).

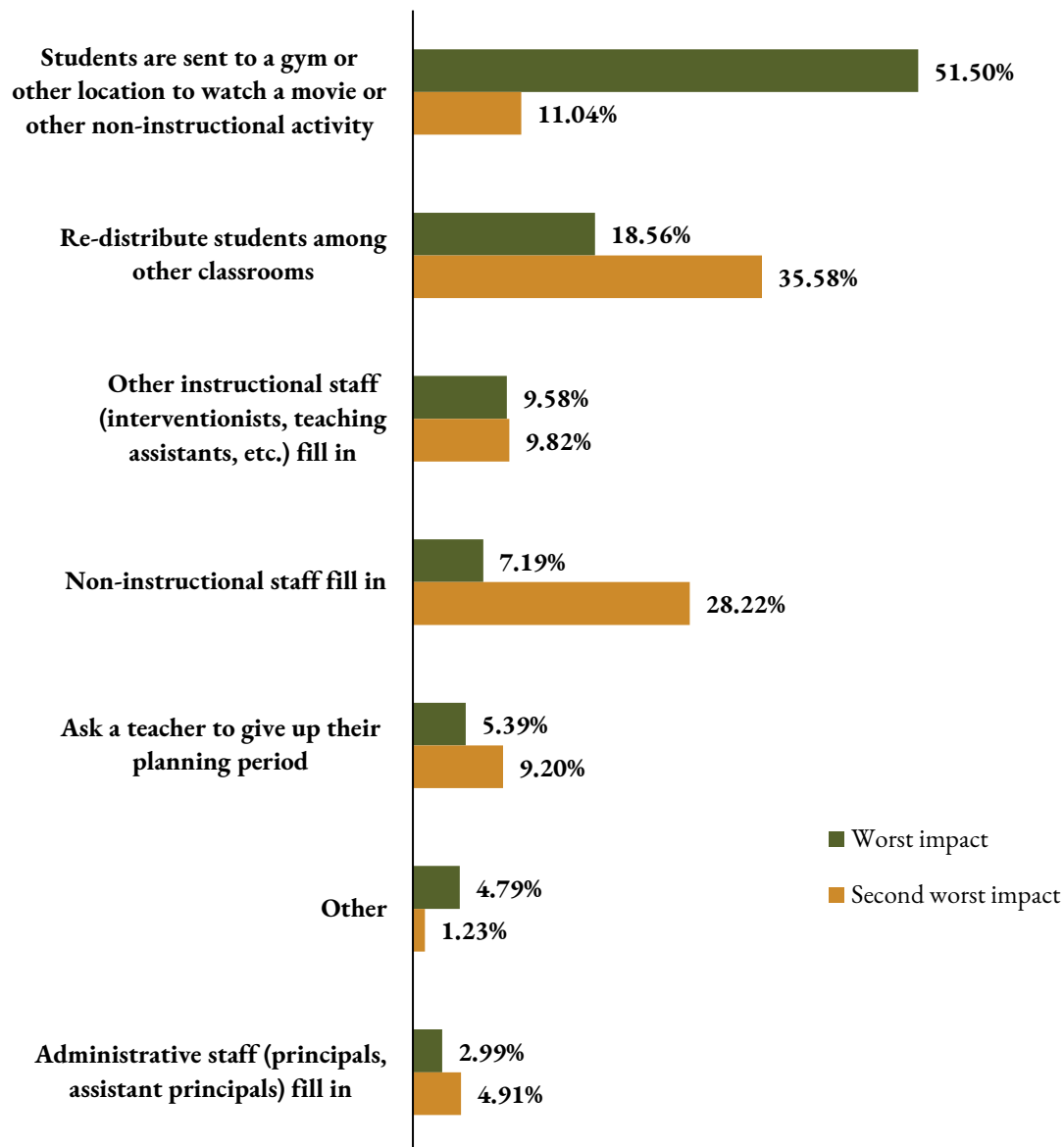


Figure 23. School leaders' perspectives on which strategies used to cover classrooms when substitute teachers are not available have the most detrimental impacts on students

Having students engage in a non-instructional activity (such as going to the gym to watch a movie) was the least-common approach used, which school leaders employed only after alternatives were exhausted. More than half of school leaders (52%) reported that having students engage in a non-instructional activity had the worst impact on students when a substitute is not available.

The state-level interviews supported the survey findings, as interviewees explained their most common approach for covering a teacher's daily absence was to ask teachers to teach during their planning

period. There were a number of additional common strategies and approaches (both proactive and reactive) used to cover a teacher's daily absence in the event that a substitute could not be found.

These common strategies and approaches are:

1. **Utilize Building or Permanent Substitute (Proactive and Reactive).** As mentioned earlier, many schools and districts employ full-time substitute teachers whose purpose is to fill in for absent teachers (proactive strategy). More recently, these full-time substitute teachers are asked to fill a vacancy for extended periods of time (reactive approach), making them unavailable to assist with daily teacher absences. In the event of a teacher absence and a day-to-day substitute cannot be found, schools will first utilize any available full-time substitute teachers employed by the district. In many cases, these full-time substitute teachers are unavailable, so schools and districts are forced to use additional approaches (below) to respond to vacancies.
2. **Pulling Building Teachers or Other Certified Instructional Staff on Prep Periods (Reactive).** Make requests to teachers and other certified staff to teach the class of an absent teacher during a planning period. This approach might also look like having a specials²³ teacher not teaching specials and instead teaching for the absent teacher. In this case, students will not attend specials classes while the specials teacher is subbing. Other certified staff who do not have regular classroom assignments (e.g., instructional coaches, interventionists, counselors) can be similarly affected.
3. **Administrators Substitute (Reactive).** Building-level and central office administrators will cover the absent teacher's class(es).
4. **Non-Certified Staff Substitute (Reactive).** Staff in the building or district who are not certified teachers will teach when a traditional substitute cannot be found for an absent teacher. Examples of uncertified staff include paraprofessionals, instructional aides, teaching assistants, etc.
5. **Combine Classes or Redistribute Students (Reactive).** Combine the students from two smaller classes to form one large class with one teacher OR divide one class and redistribute the students to multiple different classes.
6. **Reduce Professional Development (Reactive).** In order for buildings to engage in teacher professional development, they must rely on substitute teachers to cover classes while the teachers are in the professional development session. Some schools and districts have reduced the frequency

²³ For example: music, gym, etc.

or canceled professional development days because they cannot find substitutes. By doing this, the teachers are able to be in their classroom instead.

Table 31 provides examples of quotes from various leaders speaking to each of the strategies and approaches.

Table 31. Strategies and approaches for addressing teacher absences and substitute teacher shortages

Strategy	Approach	Interview Quote
Utilize Building or Permanent Substitute teachers	Both Proactive and Reactive	“So a great example is Sunday night, I checked the system where the teachers put in, when they’re going to be out, and we had, I think, maybe one unfilled classroom. Right. Woke up Monday morning, a couple of teachers had kids get sick overnight, right. So, then they pulled last minute. So, I came into school on Monday knowing I had two classrooms that didn’t have a substitute in them. I didn’t have any coverage, so I was able to take my two building substitutes and then place them in those two classrooms without having to pull from my paras, any of my support staff, my social worker, myself. I didn’t have to pull those supports. I was able to plug those positions with my building sub.” – Principal, Katmai
Pulling Building Teachers or Other Certified Instructional Staff on Prep Periods	Reactive	“At the secondary level, we pay teachers to teach on their prep periods. At the elementary level, we sometimes cancel special classes like music and PE and art, and those certified teachers go in to cover.” – District Administrator, Capitol Reef
Administrators Sub	Reactive	“Earlier this week, I was subbing for two hours in a classroom. My Assistant Principal does the same if I need him to. Got a couple counselors who are certified teachers as well that I’ll toss in there if I need to.... Our superintendent, in a pinch, our superintendent, he’ll come up and he’ll substitute in our buildings too.” – Principal, Joshua Tree
Non-certified Staff Sub	Reactive	“So, what it looked like was, we have paraprofessionals that provide intervention to our students, they were in classrooms teaching. It looked like everybody, many people in the building not doing the job that they were hired to do and just covering with a building of 415 five, six, and seven-year-olds. We have a lot of coverage needs, so recess, lunch, before school, after school, dismissal, and arrival. Some

Strategy	Approach	Interview Quote
		people have that built into their day as part of their duties. But then when other people are absent, like, there's just everyone having to cover everything all the time.” – Principal, Voyageurs
Combine Classes or Redistribute Students	Reactive	“Then there were days that, as the Administrator, I would bring multiple classrooms together. We’d go in the cafeteria. It was just literally, ‘Get on Schoology. This is a management thing. Your substitute lessons are on there. You guys know what to do. If you have any questions, ask me.’ I’d have sixty, ninety kids in one room.” – Principal, Sequoia
Reduce Professional Development	Reactive	“It’s never enough to cover all of the needs. One of the things we’ve had to do is back off on some of our sub-coverage for things like professional learning, job-embedded learning, and things like that. Stuff that’s not a day-to-day necessity, we’ve had to pull back on some of those just to make sure that our classrooms were covered.” – District Administrator, Capitol Reef

Many approaches described above have serious impacts on the whole school ecosystem. For example, when a teacher is pulled to teach during their prep period, not only are they unable to plan for their own students, but they may be asked to teach a subject they are not certified in or of which they have little knowledge. This means students in the absent teacher’s class also are not getting the instruction they need. Moreover, the teacher who is asked to give up their prep period cannot personally recharge and feel prepared for their next group of students.

Similarly, if an administrator has to cover for an absent teacher, then the administrator will be unable to perform leadership tasks, such as communicating with parents and providing leadership and feedback to teachers. Then, teachers don’t receive the support they need, which, in turn, can impact their instructional delivery, which ultimately impacts students. Further, if an uncertified staff member, such as an instructional aide, is asked to cover a class for an absent teacher, it means students in the absent teacher’s class are taught by an uncertified individual, and the teachers and students in the aide’s regular class will not have the much needed support from the instructional aide.

The responses we’ve listed above are not exhaustive, but rather represent the most common approaches mentioned in state-level interviews. The majority of individuals the research team spoke with indicated they use at least one, and more often more than one of these strategies. In deciding which approach to use first, they were most likely to ask teachers or other certified instructional staff to teach during their prep periods if they did not have an available permanent substitute to lean on.

However, it was not uncommon for interviewees to say that they had to turn to some of the other approaches, such as combining classes or having an uncertified individual cover a class, in the event a teacher was absent, and they could not find a substitute. Schools and districts have certainly been creative in responding to the vacancies and inability to find a substitute, but each one of the strategies listed above comes at a cost.

PERMANENT BUILDING SUBSTITUTES STAFFING STRATEGY

Both Big Bend and North Cascades Use Permanent Building Substitutes to Address Teacher Absences with Varying Success

Vignette Highlights

- Districts may mitigate the adverse effects of unfilled substitute assignments by directly improving substitute availability, reliability, and staff relationships through the provision of permanent substitutes.
- The benefits of using building substitutes may be diminished or lost in larger substitute staffing challenges, such as the need for long-term substitutes or a high or persistent level of teacher absences.

Particularly during the pandemic and its aftermath, educators in the two case study districts suffered deleterious disruptions in their own work and in school operations stemming from the lack of substitute teachers to fill day-to-day teacher absences. In efforts to improve substitute availability and reliability, both Big Bend and North Cascades decided to implement a permanent (or “building”) substitute plan that was fully in effect for the 2022-23 school year.

Each accordingly hired directly or contracted for full-time substitute teachers, each assigned to a specific school in the district for the duration of the school year. Each school day, the building substitute would be assigned to fill the assignment for absent teacher(s). If more than one substitute was required, then additional substitutes were obtained through the regular system from the district’s third-party provider (e.g., EduStaff). If a building substitute were not needed in a classroom, they could help school staff in other ways or they might go to other schools in the district to fill an absent teacher’s assignment.

North Cascades administrators' thinking included the belief that, in effect, full-time district employees would be more reliable than drawing from the pool of available day-to-day substitutes who could accept, reject, or change assignments more or less at will (if they were available at all). For Big Bend, this strategy was attractive because building substitutes would have prior experience in the schools and were living in the community. In general, a building substitute strategy suggested that the building substitute through experience and consistency can learn the school culture and build beneficial relationships with staff and students.

School leaders and educators in Big Bend saw the strategy as largely a success. An administrator in the district, for example, gave the district “kudos” for providing building substitutes who could become familiar with the particular school and system and who could support students, as well as classroom and building operation. The administrator further suggested that, despite the daily work to ensure that all assignments are filled, the availability of a building substitute helps reduce the resulting stress. A teacher agreed:

We have one building substitute and he's really good. If there's somebody who calls in and he's not already booked in another classroom, he will cover them. If he's available, he covers us too so we can go observe somebody else. He's very flexible with that... [He and family members have experience in the district.]... and the kids adore him, he's great with the kids and they treat him very, very well. Some of the other subs, not so much, but the building substitute they really like.

When asked whether the use of familiar long term or building substitutes had a positive effect on students, staff, or building climate and culture, the teacher replied:

Sure. Yes. The students recognize their faces. They've talked with them at lunches. They've seen them in multiple classrooms [on a] regular basis. That's definitely easier to work with the building substitute or a long-term substitute who's been there for a while because they know the way the district works, whereas a regular substitute could be in five different districts in a week, and they all run differently. So, it's always a difficult transition.

Another teacher said that having a building substitute who works every day and could even cover a teacher for an hour if necessary “alleviates a lot of the stress right off the bat.”

One staff member attributed increased staff stability to the presence of building substitutes, and another indicated that unfilled substitute assignments seemed rare in their school. Teachers in another school saw them as more frequent, even with a building sub, who nevertheless positively contributed to staffing.

Educators in North Cascades thought that building substitutes were a help, but many days they still felt the adverse effects of so many unfilled substitute assignments. One teacher described the scale of the problem like this:

...It's like each building has a building sub, but usually in that building somebody has a job every day [so] that when they're [unavailable], it goes – specials teachers first get called, then the title one coach and the reading interventionist, and those people. And then sometimes it's... the parents and administrators are in the room. It's all hands on deck to cover whoever is out.

A further issue according to some teachers is that, because the building substitutes were some of the better day-to-day substitutes, the quality of the available pool for calling in on any given day declined. As the teacher quoted above continues:

And they have to figure something out because the substitutes they're getting through EduStaff are literally just warm bodies. They sit in the corner most of the time.... The good substitutes that we have gotten have become our building substitutes now, but the ones we're getting in are... they just sit and like watch the kids and call when there's a problem. And then we have to go put the fires out.

Building substitutes may have seemed to some as too little, too late. In both case study districts, the availability of building substitutes has mitigated but has not precluded disruptions resulting from unfilled teacher absences. This result is hardly surprising since other factors apart from the strategy itself (for example, the nature and degree of teacher absences and the local pool of substitutes) determine unfilled assignments on any given day. Furthermore, even the beneficial effect of building substitutes was lost in some buildings when the building substitute became a long-term substitute filling a single teaching position every day.

When a Big Bend teacher left in the spring of the school year, the building substitute was assigned to take the position as her entire assignment for the balance of the year. As the substitute explained,

It's a bit of a challenge right now because I am not the building [substitute], I am in my own class. So, I have to be in this class every day. So now it's almost like my [building substitute] position is open to where if one of the teachers called in sick in the morning, well, it wasn't a scheduled [absence].... So that teacher didn't reach out to a sub, they called in in the morning. That would be something that I would normally pick up. Susie called in so [building substitute] you're going to go be Susie today. Well, I can't now that I'm in my own classroom. That is where the challenge comes in, because now they no longer have the building substitute. So, when there's last-minute call-ins, we have some of our paras [fill in].

A similar move occurred in North Cascades, where a building substitute became a de facto long-term special education substitute in a school already subject to understaffing that resulted in the frequent loss of preparation time. An instructional staff member explained the effect:

Well, we were really excited at the beginning of the school year, knowing that we had a long-term prep [period], and we had a building substitute. We were thinking, "Oh, this is going to alleviate a lot of the stress." But then it ended up having to add another classroom and then she's down there because we're short-staffed. So, we love having the building staff. We love having that. We just haven't been able to take advantage of it as the way it should be.

The case study districts' provision of building substitutes was an improvement from the building educators' point of view. The strategy went a meaningful way toward addressing the issue of substitute availability and reliability.

However, the mitigating effect seemed to vary by school, depending on the nature and degree of other staffing issues such as vacancies, leaves, and absences. Moreover, any beneficial effect would be blunted, if not negated, when a building substitute was reassigned to be a long-term substitute. These expediency-driven shifts are another illustration of how a response to a school staffing issue can shift burden without resolving the larger problem.

Section 6. Considerations for Policy and Practice

This study suggests that there are likely significant staffing shortages in Michigan's schools, and that these shortages appear to have worsened since the advent of the COVID-19 pandemic. These findings are consistent with national research, in that school administrators perceive a worsening of the K-12 labor market, particularly for instructional staff (teachershortages.com). This study represents an advance on previous work in that it addresses challenges in the entirety of the education labor force, rather than focusing specifically on teachers (the RAND surveys²⁴ are the closest comparison).

The decline in the number of applicants for teaching positions has transformed the hiring process, as districts are now increasingly required to conduct year-round job recruitment. Where the bulk of the attention has been on teacher vacancies, similar difficulties with teacher absences were identified. Shortages of substitute teachers and paraprofessionals, who serve as the key resource in addressing day-to-day gaps in instructional coverage, presented district and school leaders with serious dilemmas in ensuring that classrooms have a qualified adult, especially considering that the supply is compounded by their high rates of mobility. Those often serve as a pipeline for GYO Programs and to temporarily fill vacancies.

The mix of surveys, interviews, analysis of administrative data, and case studies presented in this study suggest that there is substantial cross-district teacher mobility (poaching, for example), as well as serious limitations in state and district data systems. The latter complicates the efforts to both accurately gauge the scope of any shortfalls and rigorously evaluate potential solutions. The results point to inequalities in the nature of staffing challenges across geographic (urban/rural), economic, and racial lines. Finally, these problems with educational staffing appear to be having a negative impact on school operations, student learning, staff morale, and school climate and culture.

The section shares research literature on strategies for improving K-12 staffing, as well as some of the most prominent approaches pursued by states and districts. This is only a very compressed summary – for more information, please consult the *First Interim Report* of this study, which is included in the attachments to this report. Considerations that policymakers should keep in mind in developing or elaborating on specific strategies in Michigan are also discussed.

²⁴ For example: Zuo et al., 2023.

THE EVIDENCE BASE ON REDUCING STAFFING SHORTAGES

Most of the focus of policymakers and researchers on K-12 staffing concentrates on teachers. This literature was reviewed more thoroughly in the *First Interim Report* of this study. A shorter summary is presented here. State and district strategies to address school staffing challenges attempt to widen the pre-service teacher supply pipeline or to enhance in-service teacher recruitment and retention. Across all strategy types, the empirical evidence suggests that: (1) money matters, especially in the short run; but so does (2) teacher preparation and school working conditions.

Effective strategies have been targeted to high-need positions by content or subject area, community locale, school characteristic, and/or teacher candidate. These policies tend to be better implemented with funding sufficiency and stability. However, it should also be noted that there is a limited rigorous evidence base on the efficacy of these approaches.

Strategies to expand the teacher pipeline incentivize teacher candidate access, program persistence, and completion, while reducing barriers to entry into the profession. In other words, states look to affect teacher pathways and related certification requirements to increase the overall pool of teachers. Direct financial strategies for pipeline expansion seek to decrease the costs of teacher preparation and certification, and they seem effective when targeted incentives are large enough relative to educational cost. Program and regulatory strategies emphasize the reduction in the time and expense required to become a teacher; for example, by reducing licensing requirements or expanding licensing eligibility. Longer-term alternative routes to certification, such as teacher residency/apprenticeship and some GYO models, typically work through school employer/preparation program partnerships to provide contextualized, structured teacher pathways. Many variations of these strategies require rigorous research to determine effectiveness and sustainability.

Strategies to improve teacher recruitment and retention rely on three determinants identified in the research:

- Compensation
- Professional preparation, induction, and early support
- Working conditions

Direct financial strategies include various forms of direct or indirect monetary benefits, whether to induce job acceptance or as increases to regular compensation once on the job. Targeted financial incentives have the potential to reduce teacher turnover if designed and implemented consistently. The impact of payments may vary with amount and duration, with direct payments preferred to

indirect. Monetary incentives appear to work only as long as they continue, and incentives seem most effective in getting teachers into hard-to-staff schools, but they are much less effective at keeping them there. (Zuschlag et al., 2023)

Program and regulatory strategies include:

- Induction and early career support strategies, such as mentoring
- Reduced teaching loads
- A focus on professional development

Some evidence suggests that quality induction and mentoring programs can enhance novice teacher retention. However, since the quality of implementation is problematic, induction program effectiveness is currently an open question, most notably with respect to high-need areas.

Strategies aimed at improving working conditions that are conducive to teacher professionalism and efficacy range widely from sufficient material resources to hiring additional support staff and reducing class sizes to expanding time for teacher collaboration and high-quality professional development to the promotion of a collegial environment with administrative support. Relatedly, some districts provide career advancement opportunities, such as structured career ladders, to increase job satisfaction.

There is much less research on addressing shortages in other staffing areas (superintendents, principals, substitute teachers, and other support staff). The most substantial research relates to principal recruitment and retention, in part because there is evidence that principal turnover may have an independent effect on both student outcomes and teacher turnover (Henry & Harbatkin 2019).

Levin and Bradley (2019) advised that strategies to improve professional development and preparation (and reduce principal turnover) include:

- Improvements in working conditions
- Higher salaries
- More decision-making authority
- Less accountability-driven systems

A robust evaluation of the Wallace Foundation's Principal Pipeline Initiative (PPI) by Gates et al. (2019) provided a promising model for improving retention of principals that is strongly focused on instructional leadership. The PPI model calls for a standards-based system that informs the other elements:

- Preservice professional development
- Multi-stage selective hiring that emphasizes matching principal capacities with school needs
- On-the-job induction
- Training
- Support

The most rigorous recent research on improving the supply of substitute teachers focused strictly on compensation. In a pilot study in Chicago Public Schools, higher payments to substitute teachers improved fill rates, with a disproportionately positive impact in high-minority schools (Kraft et al. 2022). The study also found that improved fill rates were associated with higher student achievement.

It is notable that these components of successful strategies for recruiting and retaining principals and substitutes (pay, professional development, working conditions) have a great deal in common with many of the recommendations for reducing teacher turnover. Although further investigation remains to be done, these studies suggest that the same strategies that strengthen the teacher labor market are also applicable to other elements of the K-12 labor market.

SUGGESTIONS FOR POLICYMAKERS

One of the key takeaways from this study is that, despite the widespread perception of staffing shortages, there is a remarkable amount about K-12 staffing that is still unknown. For example, what are the most effective and feasible strategies at the state and district levels to achieve and maintain workforce sufficiency and stability? It will be difficult to fill this gap until the requisite data exists.

The research literature does suggest some significant considerations to inform an understanding of the findings presented here and to support the application of certain policy considerations when responding to staffing challenges. Based on the study's findings in light of the research, the following considerations for policy were developed, with additional details provided below:

1. Stabilize and enhance resources post-COVID (mitigating any cliff effect)
2. Expand efforts to provide resources for hard-to-staff subject areas, school districts, and strengthening the teacher pipeline
3. Account for poaching, absences in addition to vacancies, and other problem areas in the formulation of policy
4. Promote intrinsic and solidary benefits to teaching (workplace conditions, professionalism)
5. Consider permanent district/building subs, and improving substitute expertise
6. Strengthen data and evaluation systems

7. Streamline data collection and research

RESOURCES

It is not surprising to state that greater resources would help ameliorate staffing problems. As with any labor market, an infusion of resources would likely increase the attractiveness of a career in Michigan's education sector. There is a growing body of evidence that "money matters" in schools (e.g., Jackson & Mackevicius 2021). Since personnel costs make up the vast preponderance of education spending, greater financial resources would almost certainly increase the compensation of instructional staff, as well as non-instructional staff such as social workers, counselors, etc.

There is strong evidence that increased compensation has an impact, so long as it is adequate and maintained over time (Garcia and Weiss, 2020; Hanover Research, 2014; Kolbe and Strunk, 2012; Pennington McVey and Trinidad, 2019; see also, Feng and Sass, 2018; See et al., 2020; See et al., 2020; Nguyen and Springer, 2021; Podolsky et al., 2019). It is one of the three principal determinants of retention along with working conditions and prep/induction/early career support (Carver-Thomas and Darling-Hammond, 2017; Darling-Hammond & Podolsky, 2019; Podolsky et al., 2016; Podolsky et al., 2019). For example, many Michigan districts reported a much easier time in finding substitute teachers when using pandemic-related funding to increase substitute pay rates. There is also the fact that district leaders have expressed concern about their ability to continue policies dedicated to strengthening their staffing once COVID funds have been exhausted.

Although greater baseline funding of schools would almost certainly increase the competitiveness of Michigan schools in bidding for labor, by itself it would do little to address inequalities among distinct kinds of districts. As witnessed in these findings, increasing the supply of new teachers is important because it would help with the problem of teacher poaching, but it would also lead to low-income districts disproportionately ending up with the least experienced, least effective teachers who are most at risk of turnover.

Coupled with the difficulty in making additional large-scale investments in education beyond the recent increases, policymakers should strengthen direct financial support to districts and individuals for hard-to-staff subjects and types of schools. Michigan has already begun this process with its move towards weighted funding for economically-disadvantaged school districts but is still well below the level recommended by the School Finance Research Collaborative (2018, 2021). The level and equity of school funding remains an issue of critical importance.

Similarly, district administrators should carefully evaluate the distribution of staffing support across its schools to ensure greater equity. The research team recognized that these strategies would need to take place in cooperation with professional associations, especially if they conflict with the traditional salary schedule.

More resources should also be dedicated to strengthening the teacher pipeline, for example with policies such as scholarship, loan forgiveness, affordable housing, and stipends for those in preparation programs. These strategies should also be pursued in a fashion that specifically focuses on diversifying the teacher workforce, which will require careful study.

ORGANIZATIONAL STRATEGIES

At the margins, there are a number of potentially promising strategies for improving the supply and reducing the turnover of instructional staff. One of the most prominent are GYO programs and registered apprenticeship approaches, which have been promoted by MDE. However, it should be noted that there is a limited research base for programs like GYO²⁵ (Zuschlag et al. 2021), and so rigorous evaluation of these programs should be prioritized (see below). However, care should be taken in increasing the supply of teachers within a district (in order to account for vacancies) so that districts do not magnify the impact of teacher absences. These programs might also take a long time before having a significant impact on shortages.

One of the dominant GYO models is to recruit paraprofessionals and substitute teachers to become regular full-time teachers. Yet, this strategy risks fostering larger shortages in these instructional support staff, making it even more difficult to maintain instructional coverage. In addition, GYO programs can run afoul of the problem of poaching, as disadvantaged districts can see their laboriously trained new teachers recruited by neighboring school leaders after the period of required employment expires. This is a noteworthy example of how strategies to ameliorate shortages should consider the structure of the entire K-12 labor force, not just increasing the number of full-time teachers one district at a time.


Districts should also consider expanding the use of permanent substitute teachers (i.e., district or building subs). Several districts have enjoyed success in hiring substitute teachers who are on-call every day and can be deployed at need to cover absences. Higher compensation and benefits would make it more than likely that substitutes would remain in the district (and continue working as subs)—

²⁵ The W.T. Grant Foundation has recently funded a research study on this question, the results of which could inform policymaking in this area. <https://education.brown.edu/news/2023-04-17/kraft-grant-foundation-award-0>

particularly for substitutes choosing to work in low-income districts—and would ease organizational tasks for administrators. Permanent substitutes could also receive more robust training, whether subject-specific (e.g., special education) or in general pedagogy and classroom management.

Continuing efforts to make it easier for retired teachers to work as substitute teachers would also serve this purpose. Building-level permanent substitutes would also facilitate greater cohesion with other staff. In short, substitute teaching should likely be partially professionalized, rather than being treated only as short-term contingent labor. Although many substitute teachers would prefer to remain ad hoc workers (as evidenced by their concern with flexibility), long-term contracts with greater benefits could strengthen the ties between substitute teachers and districts, introducing greater predictability.

Finally, the state should make a concerted effort to help districts to improve staff working conditions. Working conditions broadly understood (e.g., collegiality, mutual respect, school climate and culture, professional autonomy, and support, etc.) can have a strong effect on reducing staff turnover and make it easier to recruit instructional staff (Podolsky et al., 2019). For example, although Michigan legally requires long-term substitute teachers to receive mentoring, the results of this study suggests that professional training and support remain key areas of concern for substitute teachers.



In short, substitute teaching should likely be partially professionalized, rather than being treated only as short-term contingent labor.

Although improved compensation and benefits are desirable, improving the intrinsic and solidary benefits of working as a teacher would likely yield real benefits. Districts can provide support structures and professional learning for school leaders on how to effectively retain teachers and improve working conditions within schools, since school leaders arguably have the strongest influence on working conditions and teacher retention writ large (Torres, 2023). However, district leaders face considerable challenges in improving working conditions on their own, as low morale and high absence and vacancy rates can create a negative feedback cycle that is exceptionally difficult to break.

Districts should also consider other adaptations; for example, re-orienting their human resources departments to their hiring practices and related timelines and accounting for year-round staffing (Podolsky et al. 2019). Mid-year teacher turnover (via retirements or switching to another district) and the decline in the number of applicants means that districts will have to embrace a year-round

recruitment strategy and/or look to the types of year around in-service certification program so recruitment and commitment is "built in," such as GYO, teacher apprenticeship, and residency programs.

DATA AND EVALUATION

One of the most important findings of this report is the extremely fragmented, limited data available for analyzing shortages. To some extent these criticisms are not new. The two EPIC teacher labor market reports (Kilbride et al. 2021, 2023) presented a list of recommendations related to improving teacher staffing data in order to make it easier to accurately measure teacher vacancy rates. Many districts are filling long-term vacancies with contractors/underqualified personnel, and it's unclear whether districts are both reporting the position as vacant and reporting the nature of the temporary fill. Districts may only be doing the second, which means vacancies would be systematically undercounted.

The analysis of state REP data for this study also identified a number of serious problems with the information on substitute teachers. At present, the state's data system does not make it possible to determine the number of days an individual substitute teacher actually worked in the district.

There is also the issue that the state has no reliable estimate of teacher absences at the school level. Yet, the problem is actually even more serious. The research team found hints of errors in data reporting, which may be due to issues of school district capacity and/or interest. Some districts lacked sufficient data infrastructure to collect and analyze staffing data. Even more up-to-date electronic systems may not be exploited to their full potential. School districts therefore lack the capacity to meaningfully evaluate the impact of instructional coverage strategies (especially when a substitute is not available) or assess the instructional effectiveness of their substitute teachers.

The State of Michigan is currently in the process of overhauling its collection of administrative data. This is an excellent opportunity to revisit how the state gathers teacher absence data and substitute teacher data, including what steps are adopted to cover classrooms. In addition, the state should explore creating a common human resources program that interfaces directly with state data systems. This would reduce the administrative burden on school districts and make it more accessible and uniform for researchers, policymakers, district administrators, and MDE.

A key component in strengthening the State's personnel data system is providing appropriate technical assistance to school districts to gather and analyze their own data. Further, that data would need to be organized in such a way that makes it feasible to develop accurate estimates and to rigorously evaluate

state-level and district-level initiatives. But this data collection should acknowledge the administrative burden placed on districts (particularly when it comes to their capacity with regards to data).

This problem extends beyond administrative data to the use of surveys. In conducting this study, the research team found considerable evidence of “research fatigue” in Michigan school districts. State agencies, school districts, independent researchers, professional associations, and advocacy groups have been energetically engaged in studying schools’ recovery from the pandemic, but the result has been a flurry of overlapping studies. This has led to declining response rates to surveys and reduced willingness of administrators and staff to participate in research. The state should consider ways to streamline this process, reduce the number of data collection activities, and improve the quality of survey instruments.

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Technical Appendix

DISTRICT LEADER, SCHOOL LEADER, AND SUBSTITUTE SURVEYS

SAMPLING STRATEGIES

As noted in the report narrative, there were two different sampling strategies used to recruit participants for the surveys: convenience sampling (used for the district and school leader surveys) and randomized sampling (used for the substitute survey).

The key difference between the two strategies lies in how participants are selected. Convenience sampling relies on the availability and accessibility of the participants. This method is often used for practicability and convenience, as it allows researchers to quickly gather data without incurring significant costs in time or effort. A limitation of convenience sampling is the potential introduction of bias, which limits the generalizability of the findings.

In the case of district and school leaders, it may be the case that only leaders in districts and schools with more institutional bandwidth were able to complete the survey. This might introduce selection bias, where districts and schools who struggle the least with staffing were the ones able to contribute to the survey. Alternatively, perhaps districts and schools with greater staffing challenges were compelled to complete the survey to expose the extent of their challenges. Convenience sampling may suffer not only from selection bias, but representativeness. Because respondents opted-in to the survey, this may result in a sample that does not accurately represent the broader population that the sample is meant to represent, and thus certain types of schools, districts, or regions may be overrepresented, while others may be underrepresented.

Randomized sampling, on the other hand, minimizes bias and enhances generalizability by providing each member of the population with an equal chance of being included in the sample. This method is generally considered more robust and reliable for making valid inferences about the target population, which were substitutes in Michigan schools during the pre- and post-pandemic era, from 2018-2021. Results from convenience sampling, by contrast, must be interpreted with more caution due to the problems inherent in sample representativeness.

DISTRICT LEADER SURVEY

All school district administrators from the October 2022 Educational Entity Master (EEM) database were invited to complete the district leader survey. In the cases where an email survey invitation was not delivered and “bounced,” researchers attempted to find updated contact information for the

current administrator or another senior personnel of the district (such as superintendent). Individualized survey invitations were sent to 835 individuals in November and December 2022. The email invitation, while addressed to the district administrator (or other senior district personnel), invited them to forward the survey invitation to another key senior staff member with in-depth knowledge of staffing, such as an assistant superintendent or Director of Human Resources. If respondents did not complete the survey within two weeks, an automatic reminder email was sent. The individualized survey invitations yielded 77 responses (such that the response rate was 9.2%).

Given the desire to capture additional responses, the research team employed several ad-hoc outreach strategies to enhance survey response rates. A survey URL was created for broader distribution. Throughout January 2023, the survey was disseminated among key school personnel advocacy groups, including the Michigan Association of School Personnel Administrators and the Michigan Alliance for Student Opportunity. The survey URL was also distributed among HR representatives for Michigan's Intermediate School Districts. These outreach efforts yielded an additional 37 survey responses.

In total, 114 district leaders completed the district leader survey between November 16, 2022, and February 27, 2023. Of these, 77% of respondents identified their role as District Superintendent, and an additional 7% identified their role as Assistant Superintendent, Assistant Superintendent of Human Resources, or Human Resources Manager. The remaining 16% of respondents identified their role as Superintendent/Principal, Principal, or Other Staff (e.g., Chief Financial Officer, Executive Director of Student and Staff Services, etc.).

As noted in the report, district leaders were asked if they felt able to compare staffing in the 2022-23 school year with staffing before the pandemic, in the lead up to the 2019-2020 school year. A total of 70 respondents (61.4% of the total sample) answered these comparative questions. District leaders who did not feel able to compare staffing to before the pandemic were asked to provide contact information for someone who could. These individuals were emailed separately and invited to complete a separate survey, which only contained comparative questions. While 22 individuals were emailed this request, only one individual responded, and their response was included along with the relevant district's data.

Demographic and School Characteristics of Responding Districts

Those who were sent individualized email invitations had district information already connected with their response. Survey respondents were also prompted to enter their school district name into the

survey, allowing researchers to identify the responding district of those who completed the survey via the URL.

Michigan School Data Student Count Files were downloaded from MISchoolData.org for the 2021-22 school year on March 6, 2023. From the student count files, two district characteristic variables were computed: percentage of students that are economically-disadvantaged, and percentage of students that are non-White. These variables and other relevant demographic and geographic characteristics (e.g., district locale) were merged with the district leader survey data.

Table 32. Characteristics of district population, full sample, and COVID comparison sample²⁶

		Population (n = 888 districts)		Regular Sample (n = 114 districts)		COVID Comparison Sample (n = 70 districts)	
		N	%	N	%	N	%
District Type	LEA	537	60%	93	82%	57	81%
	PSA	293	33%	21	18%	13	19%
	ISD	56	6%	--	--	--	--
	State	2	<1%	--	--	--	--
Locale	Rural/Town	460	52%	64	56%	41	59%
	Suburb/City	427	48%	50	44%	29	41%
Prosperity Region	1	77	9%	11	10%	5	7%
	2	52	6%	6	5%	4	6%
	3	31	3%	5	4%	3	4%
	4	139	16%	12	11%	9	13%
	5	54	6%	10	9%	7	10%
	6	98	11%	12	11%	10	14%
	8	45	5%	5	4%	1	1%
	9	86	10%	15	13%	10	14%
	10	85	10%	11	10%	5	7%
Economically Disadvantaged Student Enrollment	0-24.99% economically disadvantaged	59	7%	8	7%	5	7%
	25-49.99% economically disadvantaged	223	25%	38	34%	23	33%

²⁶ Note: Some variables may not sum to 100% due to rounding.

		Population (n = 888 districts)		Regular Sample (n = 114 districts)		COVID Comparison Sample (n = 70 districts)	
		<i>N</i>	%	<i>N</i>	%	<i>N</i>	%
	50-74.99% economically disadvantaged	312	35%	38	34%	25	36%
	75-100% economically disadvantaged	285	32%	28	25%	16	23%
Non-White Student Enrollment	0-24.99% non-White	481	54%	73	64%	44	63%
	25-49.99% non-White	157	18%	16	14%	10	14%
	50-74.99% non-White	78	9%	11	10%	8	11%
	75-100% non- White	172	19%	14	12%	8	11%

Although a convenience sample was utilized, the districts represented by the survey responses are roughly in-line with the population of Michigan districts in terms of their locale, student race, and student economic disadvantage. However, districts who responded to both the regular survey and the COVID comparison survey were less likely to represent PSAs and more likely to represent LEAs. As such, the districts who responded to the survey also tended to be larger by about 1,000 students than the average Michigan school district. Thus, PSAs and smaller districts are underrepresented in the district survey; these types of districts might face distinct challenges in staffing, and the ability to represent their experiences using the data available is limited.

SCHOOL LEADER SURVEY

The process for recruitment of the school leaders was nearly identical to the process of recruitment for the district leaders. Individualized invitations to complete the survey were sent to 2,664 individuals in January and February 2023. Most of these were recorded as school principals in the October 2022 EEM, but a smaller number of contacts were found via individual school websites in case the principal assignment had changed. The email was addressed to the school principal (or other senior school personnel), but recipients were invited to forward the survey invitation to another key senior staff

member with in-depth knowledge of staffing, such as an assistant principal. If respondents did not complete the survey within two weeks, an automatic reminder email was sent.

The individualized survey invitations yielded 161 responses (with a response rate of 6.1%). As with the district leader survey, the research team engaged in several ad-hoc outreach efforts to increase the response rate for principals, including by advertising a survey URL in newsletters for the Michigan Association of Secondary School Principals and the Michigan Elementary & Middle School Principals Association. These ad-hoc outreach efforts yielded an additional 44 survey responses.

Total, 205 school leaders completed the school leader survey between January 10, 2023, and April 17, 2023. Of these, the vast majority (95%) identified their role as principal or assistant principal, with the remaining 5% serving in other school leadership roles (e.g., Human Resources).

Demographic and School Characteristics of Responding Schools

As with the district survey, school leaders provided their building and district name, enabling the researchers to link survey responses with demographic information pertaining to those schools. The schools represented by the school leader survey responses are roughly in-line with the population of Michigan schools in terms of their type, locale, and student characteristics.

Table 33. Characteristics of school population and sample²⁷

		Population (n = 3,358 schools)		Sample (n = 205 schools)	
		N	%	N	%
School Type	LEA School	2,870	85%	177	89%
	PSA School	375	11%	23	11%
	ISD School	113	3%	0	0%
	Unknown	--	--	5	--
Locale	Rural/Town	1,364	41%	101	51%
	Suburb/City	1,978	59%	99	49%
	Missing	16	--	5	--
Prosperity Region	1	137	4%	15	7%
	2	129	4%	6	3%
	3	72	2%	4	2%
	4	596	18%	41	20%
	5	197	6%	9	4%
	6	321	10%	24	12%
	7	168	5%	8	4%

²⁷ Note: Some variables may not sum to 100% due to rounding.

		Population (n = 3,358 schools)		Sample (n = 205 schools)	
		N	%	N	%
	8	329	10%	22	11%
	9	318	9%	17	8%
	10	1,091	32%	54	26%
	Missing	--	--	5	2.4%
Economic Disadvantage Enrollment	0-24.99%	420	13%	20	10%
	25-49.99%	909	27%	57	29%
	50-74.99%	1,068	32%	74	37%
	75-100%	910	28%	47	23%
	Missing	51	--	7	--
Non-White Enrollment	0-24.99%	1,763	53%	136	68%
	25-49.99%	700	21%	21	11%
	50-74.99%	344	10%	17	9%
	75-100%	551	16%	26	13%
	Missing	--	--	5	--

SUBSTITUTE TEACHER SURVEY

Unlike the district and school leader surveys, the substitute survey was fielded to a random sample of all individuals employed as a substitute in Michigan's schools in the 2018-19, 2019-20, and 2020-21 school years. Contact information for individuals who received a substitute permit in this period (drawn from the MOECS) was cross-referenced with the list of individuals assigned as a substitute during this period, drawn from the REP.

In Spring 2023, personalized email invitations were sent to 4,223 individuals who were randomly selected from the entire pool of eligible individuals. To be retained in analyses, individuals must report they were still based in Michigan at the time of survey completion. In total, 525 Michigan-based individuals who responded to the survey between March 13, 2023, and April 17, 2023, were included in the analyses, representing a response rate of 12.4%.

Demographic Characteristics of Substitute Respondents

Those who completed the substitute survey were asked demographic questions. These results are summarized in Table 34, below. Most respondents (82%) are White, followed by Black (10%) and multiracial/biracial (4%), with the remaining 4% identifying as Hispanic/Latino, Asian American/Pacific Islander, and American Indian/Native American/Alaska Native. With respect to gender, most respondents are female (72%).

The modal age category was 45-54 years (28%), followed by 55-64 years (24%), with 16% of respondents indicating their age as over 65 and 33% indicating their age as 44 or younger (note, values do not sum to 100% due to rounding). The vast majority of respondents (88%) reported holding a Bachelor's degree or higher. For additional context, the demographic characteristics (drawn from MOECS) are included in the left columns from individuals holding substitute permits from the analyses of REP data.

Table 34. Demographic characteristics (race, gender, age, education) of individuals assigned as substitutes in Michigan in the 2018-19, 2019-20, and 2020-21 school years (left columns) and substitute survey respondents (right columns)

		Substitutes Represented in REP Data		Substitute Survey Respondents	
		<i>N</i>	%	<i>N</i>	%
		Race	White	28,234	79%
	Black	5,085	14%	47	10%
	Multiracial/Biracial	582	2%	20	4%
	Asian American/Hawaiian/Pacific Islander	825	2%	9	2%
	Hispanic/Latino	694	2%	5	1%
	American Indian/Native American/Alaska Native	266	1%	2	0%
	Total	35,646	100%	483	100%
Gender	Female	26,644	75%	369	72%
	Male	9,046	25%	134	26%
	Prefer not to answer	0	0%	9	2%
	Non-binary	0	0%	1	0%
	Total	35,690	100%	513	100%
Age	18-24 years	6,726	19%	6	1%
	25-34 years	7,855	22%	74	14%
	35-44 years	6,898	19%	90	17%
	45-54 years	6,194	17%	143	28%
	55-64 years	4,732	14%	124	24%
	65+ years	3,285	9%	82	16%
	Total	35,690	100%	519	100%
Education	Prefer not to answer	<i>(Not available)</i>		2	0%
	Some college			10	2%
	Associate's degree			47	9%
	Other professional credential			2	0%

		Substitutes Represented in REP Data		Substitute Survey Respondents	
		<i>N</i>	%	<i>N</i>	%
	Bachelor's degree			293	56%
	Master's degree			157	30%
	PhD			3	1%
	Other advanced degree (e.g., JD, MD)			11	2%
	Total			525	100%

DISTRICT ADMINISTRATOR, PRINCIPAL, AND SUBSTITUTE INTERVIEWS

SAMPLING STRATEGIES

Sampling for district administrator interviews was purposive and conducted by direct outreach to district administrators leading in different regions of the state in districts that varied in terms of size, geography, and student population served. Research team members employed a combination of direct outreach to administrators and used their professional networks in efforts to recruit additional district administrators.

Thirty-two district-level administrator interviews were conducted, transcribed, and cleaned for analysis between November 2022 and March 2023. Three interviews involved multiple participants, resulting in 36 total participants. As described in the report, sampling was conducted for variation until “saturation” was achieved. This resulted in a robust sample of school districts across the state, including rural, urban, and suburban school districts.

Recruiting principals for interviews was more difficult than for the district administrators. A total of 20 principal interviews were conducted between January and April 2023. Given the number of principals in Michigan, the goal was to conduct a stratified random sample of principals, with the region of the state (rural, urban, city/suburban) and elementary versus middle or high school as elements of the strata to reach a variety of principals that varied in terms of the sampling criteria: school size, type, region, geography, and student demographic served. The October 2022 EEM contact list was used to create these randomized strata, then went down the randomized list and sent 20-40 emails per strata (about 3-4 times) before conducting more individualized outreach.

Although hundreds of recruitment emails were sent out in the randomized phase, only a handful of responses were received, and these initial participants tended to be clustered in districts serving students in the higher socioeconomic quartile. Some of these principals indicated few challenges with

staffing. To ensure wider variation in the participant pool, purposive sampling was used, aiming to send individualized emails to recruit principals in various kinds of schools/districts and geographic locations so participants varied sufficiently according to the sampling criteria (Table 37) and achieved sufficient saturation in the data collection process. Because initially the researchers were hearing primarily from principals with few staffing challenges, the team sought interviews with principals in districts known to be experiencing staffing issues. This allowed the research team to capture more of the variation in whether, how, and why principals in differing contexts are or are not experiencing staffing or coverage challenges.

Substitute teachers were recruited for interviews by contacting volunteers who had also completed the substitute survey and gave the research team permission to contact them about a possible follow-up interview. When the substitute survey was distributed, participants were offered the opportunity to complete a separate survey that independently asked if they would be willing to participate in a follow-up interview. About 148 Michigan-based respondents from the survey sample provided their preferred contact information along with the name of the district(s) they worked in. Participants were substitute teachers who had worked in Michigan in the 2022-23 school year. They were offered a \$50 gift card for participation in a semi-structured interview about their experiences with substitute teaching, including details about their job preferences, satisfaction, and career decisions.

From this initial list, interviews were conducted with twenty substitute teachers (see Table 39 for demographic details). The goal was purposeful and maximum variation sampling. This was done by contacting individuals who varied in terms of their race, gender, personal background (e.g., retiree, prospective teacher, stay at home parent, etc.) and type of district they worked in.

As the researchers invited and interviewed the first several substitute teachers, they paid attention to whether and how there was variation in the sample. There was initially less variation along lines of the race of substitutes and where they worked (e.g., most worked in high-income districts and were White). The researchers then engaged in theoretical sampling, which “begins with an initial sample chosen for its obvious relevance to the research problem... [and] the data lead the investigator to the next [stage of data collection]” (Merriam & Tisdell, 2016, p. 99). In this case, it was necessary to recruit individuals who varied in terms of race and who worked in lower-income urban districts so individuals who fit this were contacted using the list of interested substitutes.

This allowed the research team to see and test, for example, what substitute teachers liked and disliked about their jobs, why they would or would not work in districts with more difficult working conditions, and the extent to which working conditions and pay mattered depending on the context.

It also helped answer questions about racial equity and inequality depending on race and class in various communities where substitute teachers taught. The researchers continued theoretical sampling until saturation was achieved. Finally, data analysis followed a similar process described in the prior section on state-level leader interviews.

INTERVIEW CONTENT

In all cases, the goal was to craft research questions that would help focus each of the interviews. The research questions for the district, administrator, and substitute protocols were as follows:

1. How do district/school administrators explain, perceive, and address staffing issues within their district/schools?
2. How do these administrators explain the impact of staffing issues or shortages of teachers, substitute teachers, and other staff on instruction, operations, and climate of their district/schools?
3. How do substitute teachers explain their career decisions – including their job history, recent efforts at substitute recruitment, decisions to enter substitute teaching, their job satisfaction, and future career intentions?
4. How do they explain the experience of substitute teaching in the last 2-3 years?
 - a. How do these experiences impact their job satisfaction and commitment?
 - b. How do they explain staffing issues and the impact of these issues on schools?

From these research questions, semi-structured interview protocols were created that would help answer the research questions, focusing in particular on questions that fell into the categories of “shortage” as defined for this study: contextual questions about the district/school, hiring and vacancy questions, questions about staffing supply and demand, questions about instructional coverage, and questions about strategies/responses to shortages and the impacts of shortages.

INTERVIEW CODING

District administrator and principal interview transcripts were cleaned to de-identify participants and improve accuracy between November 2022 and February 2023. Transcripts were then uploaded into Dedoose (a qualitative and mixed methods analysis software).

To analyze qualitative district administrator and principal interview data, the research team developed an initial set of codes and subcodes (i.e., a codebook) designed to capture themes, experiences, and ideas that were frequently discussed during interviews and important to answering the study’s research questions.

This initial codebook was subjected to norming. Norming involves multiple researchers utilizing a preliminary codebook to independently code the same interview transcript, convening to analyze consistency in code application, and repeating this process until all researchers consistently assign the same codes to the same excerpts. The norming process for the district administrator and principal interview codebook took place during January and February 2023 and included three rounds of independent coding, comparison, and adjustment before being finalized and programmed into Dedoose for implementation. Coding was conducted utilizing Dedoose software between February and May 2023. Codes and subcodes were assigned per the finalized codebook to excerpts from each district administrator and principal interview transcript.

DEMOGRAPHIC CHARACTERISTICS OF RESPONDENTS

As described in the prior section, the goal was to capture the perspectives of participants that varied widely according to individual characteristics like race, experience, gender, and geography or school/district type – such as locale, socioeconomic status, and type of community served (urban, rural, etc.). Below, tables are provided with information about the characteristics of individuals, districts, schools, and the communities participants worked in.

District Administrator Participant Demographics

Those who participated in district administrator interviews were asked questions about their demographics and professional roles in their districts. These results are summarized in Table 35 (below). Most participants (66%) are white, followed by Black (13%), with the remaining 8% identifying as Middle Eastern American, Hispanic/Latino, American Indian/Native American/Alaska Native. Eleven percent of participants did not share how they identified with respect to race. With respect to gender, there is a nearly equal distribution of female (50%) and male (47%) participants. The modal years in current role category was 1-2 years (36%), followed by 5-6 years (19%); less than one year (11%) and 7-8 years (11%); 3-4 years (5%) and more than 10 years (5%); and 9-10 years (2%), with 8% of participants not indicating the number of years they had worked in their current role (note, values do not sum to 100% due to rounding). There is also a nearly equal distribution of participants currently in superintendent (50%) and human resources administrator (44%) roles.

With respect to district locale, 62% of participants are administrators in non-rural districts, followed by 37% in rural districts (note, values do not sum to 100% due to rounding). Because three of the 32 district administrator interviews had multiple participants, district locale percentages are based on a total of 32 to avoid misleading percentages.

Table 35. Demographic characteristics (race, gender, district locale, years in current role) of district administrator interview participants²⁸

		Number	Percent
Race	White	24	67%
	Black	5	14%
	Multiracial/Biracial	0	0%
	Asian American/Pacific Islander	0	0%
	Middle Eastern American	1	3%
	Hispanic/Latino	1	3%
	American Indian/Native American/Alaska Native	1	3%
	Prefer not to answer/Unknown	4	11%
	Total	36	100%
Gender	Female	18	50%
	Male	17	47%
	Prefer not to answer/Unknown	1	3%
	Total	36	100%
District Locale	Rural	12	38%
	Non-Rural	20	63%
	Total	32	100%
Years in Current Role	Less than 1 year	4	11%
	1-2 years	13	36%
	3-4 years	2	6%
	5-6 years	7	19%
	7-8 years	4	11%
	9-10 years	1	3%
	More than 10 years	2	6%
	Unknown	3	8%
	Total	36	100%
Role Type	Superintendent	18	50%
	Human Resources Administrator ²⁹	16	44%
	Other District Administrator ³⁰	2	6%
	Total	36	100%

District Administrator District Characteristics

²⁸ Note: Some variables may not sum to 100% due to rounding.

²⁹ The “Human Resources Administrator” category included responses such as Director, Assistant Director, Superintendent, etc. of Human Resources.

³⁰ The “Other District Administrator” category included responses such as “Director of Curriculum, Instruction, and Assessment” and “Executive Director of Staff and Student Services.”

Table 36. Demographic and geographic characteristics of districts represented by district administrator interview participants³¹

District Pseudonym	Locale	Prosperity Region	Total Student Enrollment Range	%Economically Disadvantaged	%Non-White
Acadia	Non-rural	1	5000+	22%	35%
Arches	Non-rural	10	5000+	82%	98%
Biscayne	Non-rural	8	<1000	87%	28%
Capitol Reef	Non-rural	2	5000+	16%	53%
Channel Islands	Non-rural	10	5000+	30%	27%
Crater Lake	Non-rural	10	2500-4999	73%	69%
Cuyahoga	Non-rural	1	1000-2499	19%	10%
Gateway Arch	Non-rural	8	5000+	12%	64%
Glacier Bay	Non-rural	4	5000+	61%	50%
Great Basin	Non-rural	5	2500-4999	80%	56%
Indiana Dunes	Non-rural	7	5000+	15%	30%
Kenai Fjords	Non-rural	1	5000+	55%	23%
Kings Canyon	Non-rural	1	5000+	83%	79%
Kobuk Valley	Non-rural	10	5000+	77%	6%
Mesa Verde	Non-rural	7	5000+	24%	50%
Mount Rainier	Non-rural	6	2500-4999	66%	65%
North Cascades	Non-rural	9	1000-2499	84%	88%
Theodore Roosevelt	Non-rural	10	5000+	79%	77%
Yellowstone	Non-rural	10	5000+	26%	29%
Yosemite	Non-rural	10	2500-4999	96%	86%
Badlands	Rural	4	<1000	83%	11%

³¹ Note: Some variables may not sum to 100% due to rounding. The two case study districts are highlighted in light blue.

District Pseudonym	Locale	Prosperity Region	Total Student Enrollment Range	%Economically Disadvantaged	%Non-White
Big Bend	Rural	6	<1000	56%	9%
Denali	Rural	7	<1000	47%	18%
Glacier	Rural	6	5000+	34%	12%
Grand Canyon	Rural	8	2500-4999	30%	13%
Grand Teton	Rural	1	<1000	51%	7%
Lassen Volcanic	Rural	9	<1000	61%	58%
Mammoth Cave	Rural	1	<1000	68%	11%
Olympic	Rural	5	<1000	50%	14%
Petrified Forest	Rural	10	<1000	48%	5%
Redwood	Rural	10	<1000	75%	42%
Rocky Mountain	Rural	5	1000-2499	46%	8%

Principal Participant Demographics

As with the district administrator interviews, participating principals were asked questions about their demographics and professional roles in their schools. These results are summarized in Table 37, below. The majority of participants are White (75%), followed by Black (10%) and Hispanic/Latino (5%), with 10% of participants not identifying their race. Gender distribution is more unequal for principal participants than for district administrator interviewees, with 55% being male and 35% being female. Ten percent of participants did not disclose their gender.

The modal years in the current role category were 3-4 years (50%), followed by 1-2 years (20%), 5-6 years (15%), and more than 10 years (5%), with 10% of participants not indicating the number of years they had worked in their current principal role. With respect to school locale, 60% of participants are principals in non-rural schools and 40% are principals in rural schools.

Table 37. Demographic characteristics (race, gender, school locale, years in current role) of principal interview participants³²

		Number	Percent
Race	White	15	75%
	Black	2	10%
	Multiracial/Biracial	0	0%
	Asian American/Pacific Islander	0	0%
	Middle Eastern American	0	0%
	Hispanic/Latino	1	5%
	American Indian/Native American/Alaska Native	0	0%
	Prefer not to answer/Unknown	2	10%
	Total	20	100%
Gender	Female	7	35%
	Male	11	55%
	Prefer not to answer/Unknown	2	10%
	Total	20	100%
School Locale	Rural	8	40%
	Non-Rural	12	60%
	Total	20	100%
Years in Current Role	Less than 1 year	0	0%
	1-2 years	4	20%
	3-4 years	10	50%
	5-6 years	3	15%
	7-8 years	0	0%
	9-10 years	0	0%
	More than 10 years	1	5%
	Unknown	2	10%
	Total	20	100%

³² Note: Some variables may not sum to 100% due to rounding.

Principal Participant School Characteristics

Table 38. Demographic and Geographic Characteristics of Buildings and Districts Represented by Principal Interview Participants³³

Building Pseudonym	Locale	Prosperity Region	Total District Student Enrollment Range	Grades Served	%Economically Disadvantaged	%Non-White
Bryce Canyon	Non-rural	10	2500-4999	9–12	55%	66%
Canyonlands	Non-rural	8	2500-4999	K–6	96%	86%
Carlsbad Caverns	Non-rural	9	2500-4999	9–12	23%	11%
Everglades	Non-rural	4	5000+	PK–4	12%	15%
Hawaii Volcanoes	Non-rural	4	5000+	9–12	87%	100%
Isle Royale	Non-rural	7	5000+	K–3	90%	70%
Lake Clark	Non-rural	6	2500-4999	K–6	100%	80%
Pinnacles	Non-rural	10	2500-4999	9–12	81%	86%
Sequoia	Non-rural	4	1000-2499	6–8	14%	10%
Shenandoah	Non-rural	8	<1000	9–12	23%	26%
Voyageurs	Non-rural	6	1000-2499	K–2	93%	87%
Wind Cave	Non-rural	4	2500-4999	6–8	24%	10%
American Samoa	Rural	8	1000-2499	K–4	52%	12%
Great Sand Dunes	Rural	2	<1000	K–6	42%	27%
Haleakala	Rural	7	<1000	K–8	66%	55%
Hot Springs	Rural	1	<1000	K–5	61%	5%
Joshua Tree	Rural	7	1000-2499	6–8	50%	30%
Katmai	Rural	8	1000-2499	PK–2	26%	11%
Saguaro	Rural	10	1000-2499	3–5	77%	19%
Zion	Rural	4	<1000	7–12	41%	8%

Michigan-Based Substitute Participant Demographics

Those who participated in substitute interviews were asked questions about their racial and gender demographics. These results are summarized in Table 39 (below). Most participants are White (65%), followed by Black (20%), and Multiracial/Biracial (5%). Ten percent of participants did not identify

³³ *Note:* Please note, some variables may not sum to 100% due to rounding.

their race. Unlike with the district administrator and principal interviews, most substitute participants were female (80%).

Table 39. Demographic Characteristics (race, gender) of substitute interview participants³⁴

		Number	Percent
Race	White	13	65
	Black	4	20
	Multiracial/Biracial	1	5
	Asian American/Pacific Islander	0	0
	Middle Eastern American	0	0
	Hispanic/Latino	0	0
	American Indian/Native American/Alaska Native	0	0
	Prefer not to answer/Unknown	2	10
	Total	20	100.00
Gender	Female	16	80
	Male	3	15
	Prefer not to answer/Unknown	1	5
	Total	20	100.00

SUBSTITUTE ADMINISTRATIVE DATA

The research team entered into a data sharing agreement with the Michigan Department of Education Office of Educator Excellence to gain access to data on substitute teachers. The research team acquired educator contact, demographic, credential, and employment data from the Registry of Educational Personnel (REP) as well as the Michigan Online Educator Certification System (MOECS). REP is maintained by MDE and Michigan's Center for Educational Performance and Information (CEPI). MOECS is maintained by MDE.

REP DATA

REP data were used to build a comprehensive model of the substitute labor market in Michigan, addressing such questions as the mobility of substitute teachers between districts, churn in the supply of substitutes, and short-term trends in supply and demand.

From REP, a list of all assignments that met one of two criteria was created: (1) the assignment is for a day-to-day substitute teacher (i.e., assignment code 00SUB), or (2) the assignment was reported as a

³⁴ Note: Some variables may not sum to 100% due to rounding.

temporary assignment, as designated by the Funded Position Status code.³⁵ Assignments were provided for school years 2018-2019 through 2020-2021. Each assignment included a Personal Identification Code (PIC); funded position status code; codes for building, district, and ISD; assignment code; grade level; classroom setting; and FTE. A total of 333,661 assignments were provided.

The list of assignment codes was cross referenced with those reported in the Assignment Code Table Spreadsheet (created by CEPI) in order to exclude those not holding teacher assignments. After removing assignment codes related to administrative positions, paraprofessional subs, and other non-instructional assignments, the list of assignments was narrowed down to 236,024. Some individuals held multiple assignments in the same district in the same school year. The research team collapsed the assignment list by PIC, district code, and school year, resulting in a total of 228,323 substitute/temporary teaching assignments for analysis.

MOECS DATA

MOECS data were used to construct a representative random sample of substitute permit holders in Michigan with which to recruit participants for primary data collection (surveys and interviews), and to describe the demographic characteristics of substitutes in the labor market.

From MOECS, information on permit history was obtained, including credential history, and demographics. Information was included for individuals who met at least one of the following criteria: (1) the individual (PIC) was issued a substitute teaching permit from 2018-2019 through 2020-2021; (2) the individual (PIC) was a credentialed teacher who was reported in a substitute/temporary teaching position from 2018-2019 through 2020-2021; (3) the individual (PIC) was a credentialed teacher who was issued a substitute permit from 2018-2019 through 2020-2021.

Specific data elements in the MOECS data include PIC; contact information (name and email address); credential name(s) and license number(s) (permit, authorization, certificate); endorsement(s) (long-term permits, authorizations, certificates); grade level; and issue and expiration date. For those holding substitute permits, the school year, issuing district, and demographic information (age, race/ethnicity, gender) was obtained.

³⁵ The relevant funded position status codes include: 2 - Vacant, funded, open position, outside contractor assigned; 4 - Funded, employee on loan or leave, filled by temporary employee; 5 - Vacant, funded, open position, filled by temporary employee; 6 - Funded, employee on loan or leave, outside contractor assigned; and 7 - Contracted services provider, non-instructional staff. A small number of individuals with funded position status code 9 (Filled position, regular) were included, but only if their assignment code was 00SUB.

LINKING OF REP AND MOECS DATA

The two data sources contained a common individual identifier (PIC). The substitute permit data was joined to the list of assignments by PIC, district code, and school year. After obtaining a relatively low match rate, the substitute permit data was joined to the assignments data by PIC, ISD code, and school year. (As reported in the report, a number of substitute assignments were reported at the ISD level; an individual who obtains a permit from an ISD is then permitted to serve as a substitute at all districts to which that ISD is a “parent.”) The credential information was also joined to the assignments list using PIC.

The research team was able to successfully “match” the credential and/or permit information for 76% of the substitute assignments reported in REP (Table 40). The remaining 24% of assignments are puzzling, particularly the 38,344 substitute assignments (17% of all assignments) for which the team was unable to match a credential (either valid or expired) or permit.

Table 40. Match rate of assignments (from REP) to permits and credentials (from MOECS)

	School Year				Status		
	2018- 2019	2019- 2020	2020- 2021	Total		N	%
Permit (with or without credential)	45,616	47,421	34,927	127,964	Valid	173,036	76%
Credential (valid)	17,653	13,594	13,825	45,072			
Credential (expired)	6,122	5,234	5,587	16,943	Not	55,287	24%
No permit or credential	11,948	11,442	14,954	38,344	Valid		
Total	81,339	77,691	69,293	228,323	Total	228,323	100%

Regarding these assignments, it is possible that some districts reported individuals as substitute teachers based on their prior (i.e., before the 2018-19 school year) employment in the district. A Data Analyst at MDE shared that when districts submit their employment data to REP, they have a bulk upload function available which allows them to submit all their records in one file. Some districts may be uploading employment data for people that no longer worked in the district. This was first observed around the 2018-19 school year and began to be corrected, although the unmatched assignments are equally distributed across the three study years.

Despite the relatively low match rate between credentials/permits and assignments, the research team decided to analyze the complete list of 228,323 substitute/temporary teaching assignments. It was ultimately unclear whether the lack of match between the assignments sourced to REP or MOECS. If

they are invalid assignments that can be sourced to REP, it is thus possible that the estimates of substitute assignments and teachers may be overrepresented.

On an individual level, the match rate between substitute permits and PICs was 61% (i.e., of the 58,945 unique individuals in the assignments file, 35,690 held a substitute permit). Because only the substitute permit data obtained from MOECS contained demographic data, the researchers were only able to report demographic data on substitutes for the subset of individuals with a substitute permit (Table 34, left columns).

DISTRICT, STUDENT, AND TEACHER INFORMATION

Data on (1) district demographic and geographic characteristics (i.e., locale, county, total student enrollment, total student enrollment by racial/ethnic category, total economically-disadvantaged student enrollment) as well as (2) teacher and substitute headcount were downloaded from MISchoolData for the 2018-19, 2019-20, and 2020-21 school years. Data was merged by district code and school year to the list of assignments.

Using the county name/code, each prosperity region of each district was identified, using the county: prosperity crosswalk published by the Michigan Department of Technology, Management, and Budget.³⁶ Using the locale, the researchers combined “rural” and “town” to form the “rural” locale, and “suburb” and “city” to form the “non-rural” locale.

Using the student enrollment data, the researchers first calculated the number of students that are non-White by subtracting the White student enrollment from the total student enrollment. The researchers next calculated the percentage of students at each district that are non-White and the percentage of students at each district that are economically-disadvantaged. Finally, each district was characterized as falling into one of four categories of non-White student enrollment (0-24.99%; 25-49.99%; 50-74.99%; and 75-100%) and one of four categories of economically-disadvantaged student enrollment (0-24.99%; 25-49.99%; 50-74.99%; and 75-100%).

Using the teacher headcount data, the number of substitute teachers at each district per teacher was calculated. Because this value was less than 1 in many cases, the research team multiplied this variable by 100 to represent the number of substitutes per 100 teachers. Substitute headcount data were also used to determine the extent to which the calculation of the number of substitutes/temporary teachers correspond to those reported in MISchoolData. As discussed in the report, the correlation was .98,

³⁶ Michigan Department of Technology, Management and Budget. (2023). *Michigan Labor Market Information*.mi.gov. <https://milmi.mt.gov/DataSearch/Geography>

showing a high degree of validity. The estimates are systematically higher because while MISchoolData only reports on those holding 00SUB assignments, the analyses also include those in temporary funded teaching positions.

ANALYSES

Using the list of 228,323 substitute assignments, the data were reconfigured in a variety of ways to answer the research questions.

All analyses were conducted using Stata/MP 18.0. For some market analyses (e.g., number of assignments made at each district type), the complete list of assignments was analyzed. To analyze an individual's engagement with the substitute market (e.g., number of years an individual worked; number of districts in which an individual worked; year-over-year retention), the research team collapsed the list of assignments by pic and school year. To analyze a district's use of substitute teachers (e.g., number of substitutes per 100 teachers), the list of assignments was collapsed by district code and school year. The Stata code used for the analyses is available upon request.



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INTERIM REPORT: STRATEGIES TO ADDRESS EDUCATION WORKFORCE CHALLENGES

A Research Literature and Policy Review Brief

November 2022 (Updated January 2023)

Public Policy Associates is a public policy research, development, and evaluation firm headquartered in Lansing, Michigan. We serve clients in the public, private, and nonprofit sectors at the national, state, and local levels by conducting research, analysis, and evaluation that supports informed strategic decision-making.



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Executive Summary

With teacher staffing issues topping education policy agendas, states and local districts have responded with an array of strategies designed to both widen the pre-service teacher supply pipeline and to mitigate in-service teacher turnover. A review of the evidence suggests that: (1) money matters, especially in the short run; but so does (2) teacher preparation and school working conditions.

DIMENSIONS AND COMMONALITIES AMONG TEACHER-FOCUSED STRATEGIES

Policy strategies tend to fall along four key dimensions (Report Appendix A):

- Expanding the pre-service teacher supply pipeline vs. increasing in-service teacher recruitment and retention
- Direct financial incentives vs. non-financial regulatory action or programming
- Short-term vs. long-term implementation toward the intended impact
- More centralized state-run strategies vs. more decentralized district-led strategies

Effective strategies have been targeted to high-need positions by content or subject area, community locale, school characteristic, and/or teacher candidate. These policies tend to be better implemented with funding sufficiency, stability, and sustainability; program promotion with minimal administrative burden; alignment and coordination of state and local roles and supports; and multi-level labor market and program data (Report Appendix B).

STRATEGIES TO EXPAND THE PRE-SERVICE PIPELINE

This type of strategy targets potential and pre-service teacher candidates by incentivizing pipeline access, persistence, and completion, while reducing barriers to entry into the profession. Most often the state looks to affect teacher-preparation pathways and related teaching-certification requirements to increase the overall pool of teachers.

DIRECT FINANCIAL STRATEGIES

Direct financial strategies for pipeline expansion seek to decrease the costs of teacher preparation and certification:

- Defraying preparation program costs through student-loan forgiveness, grant, or repayment as a scholarship or grant, subsidy, or stipend
- Reducing incidental preparation/certification expenses (e.g., testing, licensing, and other administrative fees)
- Mitigating the financial-opportunity costs associated with traditional preparation programs by, for example, giving stipends or grants for student teaching or other otherwise uncompensated, required education work
- Waiving or revising state laws that risk pension benefits if a retired teacher re-enters teaching
- Paying teacher candidates in Grow Your Own (GYO), residency, and similar programs for work performed during the clinical-training component and/or to cover program tuition and expenses

Specific program results have varied, but targeted payments seem effective when large enough relative to educational cost.

PROGRAM AND REGULATORY STRATEGIES

Program and regulatory strategies emphasize the reduction in the time and expense required to become a teacher. One common expedient is to loosen or eliminate licensing requirements, often by issuing emergency or similar certificates. A lesser used approach is to establish a multi-tier certification system with a range of entry points. Another strategy reduces conditions on inter-state reciprocity for eligible teachers.

A large group of program strategies consists of teaching career pathways developed apart from traditional four-year university preparation programs. An array of providers has implemented preparation models to help teacher candidates attain credentials in less time and at lower cost. Alternatively certified teachers make up a relatively small percentage of the teacher workforce in most states, and they experience high turnover rates overall. Research does not show how successfully such alternative programs recruit for hard-to-staff schools.

Longer-term program strategies typically work through partnerships between districts and teacher training programs, often with state (and sometimes local) support, that provide contextualized, structured teacher pathways. Program models include:

- Teacher residencies, an apprenticeship model where teacher candidates complete an alternative teacher-preparation program while engaging in supervised clinical training in a school-based placement.
- Adult GYO programs seeking to address school-level educator staffing challenges while diversifying staff and providing a pathway for local-community teacher candidates.
- Other GYO programs that expose secondary-level students to teaching as an attractive career and sometimes help them onto a teacher pathway, usually through a traditional preparation program.

Despite anecdotal support, there is a dearth of rigorous research on GYO and residency programs. Limited research on certain sub-sets of GYO programs indicates potential improvements in recruitment and retention. However, the evidence suggests several recurring issues around scalability, sustainability, and cost-effectiveness.

STRATEGIES TO IMPROVE IN-SERVICE RECRUITMENT AND RETENTION

Teacher turnover, especially among early career teachers, contributes to staffing challenges. Three factors that influence recruitment and retention are compensation; professional preparation, induction, and early support; and working conditions.

DIRECT FINANCIAL STRATEGIES

Direct financial strategies to improve district- or school-level recruitment and retention include:

- Directly paying prospective teacher-employees in the form of student teacher stipends; employment signing bonuses; loan forgiveness, grant, or repayment; or relocation expense reimbursements.
- Granting years-of-experience credit on district salary schedules or assisting with housing or other living expenses.
- Increasing regular compensation for teachers through across-the-board salary increases or retention bonuses, or targeted salary increases, stipends, or retention bonuses.
- Awarding compensation to teachers who upgrade their certificates/endorsements and who teach in targeted schools or content areas.
- Paying teachers more for increased instructional time or duties including those on a career ladder or taking on additional roles.

Targeted financial incentives have the potential to reduce teacher turnover if designed and implemented consistently. The impact of payments varies with amount and duration; further, direct payments may be more effective than indirect payments. However, monetary incentives appear to work only as long as they continue, and incentives seem most effective in getting teachers into hard-to-staff schools but are much less effective at keeping them there.

PROGRAM AND REGULATORY STRATEGIES

Program and regulatory strategies include:

- Induction programs support strategies such as mentoring, reduced teaching loads, and focused professional development. Some evidence suggests that quality induction and mentoring programs can enhance novice teacher retention. However, since quality in implementation is problematic, induction program effectiveness is currently an open question, most notably with respect to high-need areas.

- Fostering a positive school culture and climate that is conducive to teacher professionalism and efficacy. Working conditions tending to aid retention range widely from sufficient material resources and professional development to a collegial environment with administrative support. More specific strategies include hiring additional support staff, reducing class sizes, and expanding time for teacher collaboration and for high-quality professional development. Relatedly, districts have developed career-advancement opportunities, some in the form of structured career ladders, which may increase job satisfaction and reduce turnover.

POLICY AND PRACTICE CONSIDERATIONS

- Proactively develop a coherent system of teacher workforce development policies and practices.
- Establish and coordinate institutional roles and responsibilities for addressing teacher staffing challenges.
- Align the structure and implementation of alternative policy tools to maximize overall impact while minimizing costly trade-offs.
- Increase and improve the data collected on the teacher labor market and for policy evaluation.

Introduction

The labor market supporting K-12 schools has been a principal focus of policymaking and research for decades. Beginning with the effort to build up a public school system in the 19th century, through increased professionalism and unionization in the 20th century, and more recent attention on teacher effectiveness, an adequate supply of capable educators has been viewed as an essential precondition to high-quality schools. Periodic concerns about a crisis in education staffing have led to bouts of experimentation and reform in how teachers are prepared, recruited, and retained.

We are living through another of those periods. The labor market disruptions accompanying the COVID-19 pandemic and its aftermath are still reverberating through the United States economy, and in response, school districts, state administrators, and legislators are trying to find the best ways to ensure that every student has access to capable teachers. In service of this goal, this report summarizes some of the principal strategies that have been attempted to increase the supply and retention of educators, as well as identifying some of the evidence (or lack thereof) on the impact of those strategies. We present a typology of different strategies, which is just a way to organize the most important approaches by their most salient characteristics. We hope that the findings of this review will help inform public discussions as we consider how best to strengthen K-12 education staffing in Michigan.

There are several caveats that should be kept in mind while reading this report. First, our review is by no means exhaustive. One could draft entire books explaining and evaluating each of the major strategies for improving the supply of teachers, and detailing variations in how these policies have been implemented across states and districts. The report should therefore be viewed as an introduction, one that helps frame the debate and that leads to more detailed elaboration and analysis. Second, we do not take sides in the ongoing debate about the severity of teaching staffing challenges—our aim here is to describe the strategies used to ameliorate perceived shortages. Third, we concentrate our attention on questions of teacher quantity (whether there are enough teachers) without delving into the vital question of teacher quality (how effective teachers are). Fourth, the report does not directly focus on efforts to address teacher diversity or how diversification of the teacher workforce is related to teacher quantity.

Finally, this report focuses only on the supply of *teachers*, rather than the entire K-12 education labor market. It does not consider policies related to other education staff that play a critical role in school functioning: district administrators, principals, substitutes, and other instructional and non-instructional support staff. This is partly in the interests of space, and because teacher supply has received far more attention than other education staff. However, this report is one part of a larger effort to study the K-12 labor market as a whole. In the near future we will release additional reports that present evidence on how teachers, substitutes, principals, superintendents, and other stakeholders view the state of Michigan education staffing, its effects on students, efforts to diversify the profession, and where we should go from here.

THE TEACHING WORKFORCE

The lingering effects of the COVID-19 pandemic have been associated with a widespread perception of a crisis in education workforce staffing, especially concerning teachers (e.g., Lieberman, 2021). Yet even before the pandemic, reported staffing challenges had persisted for years, particularly in hard-to-staff content areas such as special education, math, science, and among English language learners (e.g., Dee and Goldhaber, 2017; Jacobs, 2021; see U.S. Department of Education, 2017).

Other long-standing challenges involve dedicated efforts to diversify the education workforce and to staff certain kinds of schools, such as those that perform poorly on standardized tests, those located in rural and urban areas, and those schools that serve communities of color or economically disadvantaged families (e.g., Garcia and Weiss, 2019; Sutchter et al., 2016).

The pandemic seems to have heightened the salience of these long-term trends by affecting the functioning of school personnel labor markets in the short-term, exacerbating pre-existing concerns about staffing, and creating uncertainties for

districts and schools in Michigan and across the United States (e.g., Carver-Thomas, 2022; Carver-Thomas et al., 2022). The extent to which perceptions around particular staffing issues are accurate and proportionate in scope and scale to conditions across districts remains an open question.

Teacher labor markets are localized, varying widely within and across states, but tending to concentrate staffing problems in particular communities and around subject matter or content areas (McDole and Francies, 2022; Aragon, 2018). Nevertheless, with teacher staffing problems topping education policy agendas, states and local districts have responded with an array of strategies, both to widen the pre-service teacher supply pipeline and to mitigate in-service teacher turnover and churn.¹ Some strategies have been built on pre-pandemic policies; while others largely recapitulate past attempts to address perceived shortages with some relatively innovative, or at least novel, strategies being promoted in certain jurisdictions.²

Predictably, identifying and addressing the multiple causes of school staffing challenges has always been complex, and policy responses often run ahead of research to gauge successes (e.g., Garcia and Weiss, 2020; Kini, 2022; Kolbe and Strunk, 2012). Strategies to address staffing challenges vary widely in extent of their research or evidence base. Despite this, some strategies are too recent in design, adoption, or implementation to have a compelling evidence base. Studies of other strategies have resulted in unclear or mixed results depending on methodology and context, and still others are understudied.

But even where researchers have seen evidence of successful strategies, the empirical results often depend on specific policy terms and robust long-term funding, as well as unique local contexts and implementation fidelity (see Hume, 2022; Papay et al., 2017). There is much, in short, that we simply do not know.

This literature review brief, therefore, is not an exhaustive scan of state policies or research literature. Rather, as an interim report as part of a statewide school staffing research study authorized and funded by Section 27f of the most recent School Aid Act, 2022 Public Act No. 144 (July 14, 2022), it is a review of the general approaches that states have taken and an introduction to the relevant evidentiary base or lack thereof. To this end, below we propose a new typology to organize strategies that may be considered to address teacher staffing challenges in Michigan (see Appendices A and B).

The larger, overarching study (as fully described in 27f) will tackle challenges around the broader education workforce. While this brief focuses on teacher staffing issues consistent with the bulk of the literature, other data to be collected and analyzed will be needed to inform the wider issues, which will be the subject of future reporting. Where there is truly little literature, as with other school personnel, professional or otherwise, it is somewhat unclear at this point (before this study progresses) the extent to which lessons from the literature on teachers can or should be extended to other classifications.

The predominant conclusion of this analysis of the extant body of research is that: (1) money matters, especially in the short run, but also (2) so does teacher preparation and school working conditions (Hanover Research, 2014; Hulme, 2022; McDole and Francies, 2022; Podolsky et al., 2019; See, Morris et al., 2020; See, Gorard et al., 2020).

¹ As recently reported in *Crain's Detroit Business*, the Detroit Public Schools Community District is successfully addressing its teacher staffing challenges through an intentional combination of strategies (Gallagher, 2022).

² The current political salience of school staffing issues has even prompted a presidential response (Executive Office of the President, 2022), and successive rounds of federal pandemic relief dollars can and have been used to support state and district initiatives in this policy area (see, e.g., Jordan and DiMarco, 2022; Kini, 2022).

A Typology of Teacher-Focused Strategies

Based on our review of existing state and district strategies to strengthen the teacher labor market, the main approaches tend to fall along the following key dimensions:

- Expanding the pre-service teacher supply pipeline vs. increasing in-service teacher recruitment and retention
- Direct financial incentives vs. non-financial regulatory action or programming
- Short vs. long term implementation toward the intended impact
- More centralized state-run vs. more decentralized district-led designs, funding, adoption, and implementation

Our typology is presented in Appendix A of this report. Appendix A provides a more specific categorization of strategies within and across dimensions. Along each dimension, strategies are organized by their primary purpose and policy lever, although a strategy may in practice span categories, depending on the specifics of design and implementation.³

STRATEGIES TO EXPAND THE PRE-SERVICE PIPELINE

These strategies typically treat teacher workforce challenges as a problem of inadequate supply. Their adoption is often prompted by such teacher pipeline characteristics as declining enrollment in teacher preparation programs, the low economic returns to a teaching career, and the costs in time, resources, and foregone income (Aldeman, 2022; Sutchter, et al., 2016; TNTP, 2022).

Strategies tend to target potential and pre-service teacher candidates, aiming to directly incentivize pipeline entry as barriers are reduced. They focus especially on teacher preparation pathways and programs, together with related teaching certification or licensure requirements (Carver-Thomas, 2018; Pennington McVey and Trinidad, 2019). A large majority are enacted at the state level since the goal lies in increasing the overall pool of available teachers, and because the state has the necessary resources and regulatory authority.

DIRECT FINANCIAL STRATEGIES

This approach seeks to enlarge the pool of teacher candidates by reducing the monetary cost of becoming a teacher. These strategies fall into sub-groups, the first of which lowers teacher preparation costs by direct payment to the student or on their behalf. State law varies in the precise amount, timing, and mechanism of payment, which may be characterized as educational/training loan forgiveness, grant or repayment, or as a scholarship, grant, subsidy, or stipend (Evans et al., 2019; Podolsky, et al., 2016).⁴ These strategies also aim to address one of the barriers to a diverse teacher workforce, for example, because the disproportionate burden of student loans falls on Black students (McDole and Francies, 2022).

Each state likewise determines how to target or condition payments. Payments may be directed toward students who belong to underrepresented groups in the teacher workforce or toward students in designated preparation programs for high-demand fields like special education, ELL, or STEM (Pennington McVey and Trinidad, 2019). Payments may also be conditioned on recipient performance in their preparatory program or on teaching in a certain type of school or locale (Evans et al., 2019). The flexibility in these strategies means that they may also be directed to recruitment and retention challenges on a statewide basis (e.g., Feng and Sass, 2018).

³ A recent article appearing in *Crain's Detroit Business*, for example, suggested five categories of teacher retention strategies, each including examples for district (and state) consideration (Crain's Detroit Business, 2022).

⁴ Apart from any applicable student loan forgiveness program, the federal government sponsors two targeted financial assistance programs for teachers: the Teacher Loan Forgiveness Program and the Teacher Education Assistance for College and Higher Education (Garcia and Weiss, 2020; Pennington McVey and Trinidad, 2019).

As of 2019, forty-four states have a statute or regulation providing for “at least one statewide scholarship/grant, loan forgiveness and/or additional pay program” to incentivize teachers to work “in underserved schools and/or shortage subject areas” (Evans et al., 2019). There are statewide financial incentive programs for teachers of color in eleven states (Evans et al., 2019; see also Aragon, 2018; Carver-Thomas, 2018). States that have had their programs separately reviewed and held up as an example by researchers include Maryland (McDole and Francies, 2022), Arkansas (Pennington McVey and Trinidad, 2019; TNTP, 2021), Oklahoma (Pennington McVey and Trinidad, 2019), and North Carolina (Darling-Hammond et al., 2019).⁵

Although individual program results vary, the research indicates that such payments may be effective if a) they target on high-need positions, and b) the amount covers a significant portion of a candidate’s educational expenses (Garcia and Weiss, 2020; Pennington McVey and Trinidad, 2019; Podolsky et al., 2019; TNTP, 2021). More successful programs tend to be well-publicized and “pitched” to strong, academically well-prepared students. Other connections with success include reasonable financial consequences for a failure of commitment, and a low administrative burden for participants (Pennington McVey and Trinidad, 2019; Podolsky et al., 2019; TNTP, 2021).

Other financial strategies are also intended to reduce preparation costs using lower cost mechanisms. For example, recently a range of states like Connecticut, Florida, Indiana, Massachusetts, New Jersey, and Oregon have cut, waived, or reimbursed teacher candidates for the expenses associated with mandated competency or licensing tests or other administrative fees (Putnam, 2022). At least a dozen other states have provided alternatives to or eliminated the educator testing requirement altogether (Francies, 2021; Snyder, 2022; Swisher, 2022).

A final set of strategies attempts to mitigate the financial opportunity costs associated with teacher preparation or training. Many teacher preparation programs require a period of student teaching that amounts to uncompensated pre-service work. In response, an increasing number of states have begun paying stipends or grants to student teachers (Erwin, 2022). The payments may be used to incentivize student teachers generally (e.g., Oklahoma, Will, 2022a), in high-needs fields (e.g., Indiana, Erwin 2022), or in rural schools (e.g., Colorado, Toch, 2022) and teacher candidates usually must agree to teach in the state for a period of time after program completion (Erwin, 2022; Will, 2022a).⁶

A longer-term approach lies in Grow Your Own (GYO), residency, and other alternative teacher pathway programs (discussed in the next section) that either compensate student-teacher candidates for working in schools during their preparation program and/or cover program tuition and expenses (see Garcia, 2020; Muñiz, 2020). As discussed below, these programs typically constitute partnerships with teacher training programs and operate with state authorization and support (Garcia, 2020; Muñiz, 2020; see also TNTP 2020; Zuschlag et al., 2021a). For example, this strategy has been executed in Michigan by the Muskegon Heights Public School Academy System (Middle Cities Education Association, 2020).⁷

Similar GYO and residency partnerships have been formed and implemented with state support, including competitive grants. Tennessee’s approach has been promoted as an effective model (Kini, 2022; Will, 2022a), and states like California, Minnesota, New York, Texas, and Washington have all implemented models of their own (see Muñiz, 2020).

⁵ It was recently announced that Michigan will begin taking applications for \$10,000 higher education scholarships for future educators (Governor’s Office, State of Michigan, 2022).

⁶ Michigan recently joined such states with the announcement of a student teacher stipend program (Office of Governor, State of Michigan, 2022). Michigan Department of Education (2022). “Michigan To Start Apprenticeships to Develop Highly Skilled Educators.” Press Release (November 14, 2022), accessed November 16, 2022, <https://www.michigan.gov/mde/news-and-information/press-releases/2022/11/14/michigan-to-start-apprenticeships-to-develop-highly-skilled-educators>

⁷ Recently, the Michigan Department of Education with agency and IHE partners announced the establishment of a registered apprenticeship program for teacher preparation using a funded residency model (Michigan Department of Education, 2022).

A final opportunity cost approach concerns the laws in many states that make it difficult for retired teachers to re-enter teaching (often even as a substitute teacher) without jeopardizing their pension benefits. In the current post-pandemic environment, however, more than six states in addition to Michigan have temporarily suspended or waived such penalties (Will, 2022b).⁸

PROGRAM AND REGULATORY STRATEGIES

States and districts have also focused on reducing the time and expense for teacher candidates to achieve eligibility for recruitment and hire. One group of strategies depends on shorter-term state action—namely, the lowering of preparation and certification standards—that may increase the supply of teachers in a given area but also diminish in-service teacher quality and retention (Carver-Thomas, 2022; Peske, 2022; Putnam and Peske, 2022). Longer-term strategies, in contrast, depend in large measure on partners developing contextualized, accelerated pathway programs. These strategies are designed to enhance teacher preparation for recruited populations while also expanding and diversifying the teacher workforce (e.g., Carver-Thomas, 2018; Podolsky, et al., 2016).

States have long modified teacher qualification standards so that candidates lacking traditional teacher training and credentials could get into the classroom. In 2021 alone, twenty-seven states passed sixty-two bills concerning teacher certification and licensing (Francies, 2021). One common approach is lowering or eliminating licensing requirements, often by issuing modified, temporary, or emergency certificates or permits (Pennington McVey and Trinidad, 2019; see, e.g., Will, 2022b, reporting the issuance of about 3,600 emergency certificates in Oklahoma between June and mid-October 2022).

Revised standards may, for example, dispense with the usual BA degree requirement for teachers: four states authorize non-certified teachers, and twelve other states have modified or eliminated teacher candidate performance examination (Will, 2022b; Peske, 2022).

Extant research suggests that whatever the short-run effects, reduced standards may result in lower teacher quality, higher teacher turnover, and higher costs (Pennington McVey and Trinidad, 2019; Putnam and Peske, 2022; Will, 2022b). Though mixed, there is evidence that teaching without a regular certificate may adversely affect some students' performance; worse, emergency or similar certification may contribute to the inequitable assignment of teachers (Pennington McVey and Trinidad, 2019).

Not all changes in licensure requirements necessarily lower teacher qualifications. For example, Minnesota has reformed its multi-tier certification system so that teacher candidates may enter at different levels with different requirements, with limitations depending on credentials and experience (Pennington McVey and Trinidad, 2019). While only eight states currently offer complete inter-state reciprocity to all eligible, fully licensed teachers (Evans et al., 2020), over thirty-five others (Evans et al., 2020) could consider reforming their requirements (Pennington McVey and Trinidad, 2019). Pennsylvania has done so through legislation just passed this last summer (Graham, 2022).

A larger, second set of program strategies consists of teaching career pathways developed apart from traditional four-year university preparation programs (Redding and Smith, 2016). While these alternative certification programs require state authorization, they comprise an array of models at the local, state, and national levels, with programs delivered, and teaching certificates recommended by institutions of higher education (IHEs) and other, non-IHE providers (Redding and

⁸ There is a suggestion in the literature that full educator pension funding and benefit access and/or inter-state pension portability would help fill the pipeline by making a teaching career more financially attractive (Garcia and Weiss, 2020; Podolsky et al., 2019). There is scant evidence that states, districts, or prospective teacher candidates view such measures as strategies to address current staffing challenges. If anything, a discernible effect on teacher supply would be exceptionally long, much like general calls for increasing teacher salaries or status that beg the question of policy means to achieve such desirable ends.

Smith, 2016). They attempt to provide adequate preparation for cohorts of more diverse teacher candidates through innovative training models resulting in credential attainment in less time and at lower cost.

Although alternative certification programs have operated for decades, it appears that, while still growing in use, and with a few high-profile exceptions (e.g., Texas, Louisiana), alternatively certificated teachers make up a relatively small percentage of the teacher workforce in most states (Evans et al., 2019).⁹ Further, it is not clear the extent to which alternative certification programs effectively recruit teachers for hard-to-staff schools (See, Morris et al., 2020).

To be sure, teacher candidates of color are more likely to join the profession through alternative certification programs (Carver-Thomas, 2018). On the other hand, teachers from those programs are disproportionately represented in hard-to-staff schools, and teachers with alternative certifications overall experience high turnover rates (Carver-Thomas and Darling-Hammond, 2017; McDole and Francies, 2022; Pennington McVey and Trinidad, 2019). One study that compared the year-to-year turnover rates of early career alternatively certified to traditionally certified teachers found that, even controlling for other predictors of higher turnover, alternatively certified teachers were significantly more likely to leave teaching (Redding and Smith, 2016).

Two more structured alternative pathway models involve partnerships between local districts and teacher preparation programs, and they may include community-based or other service groups and/or funders. Both are frequently targeted to candidate populations and school or locale types.

The first is teacher residencies, an apprenticeship model, where teacher candidates complete an alternative teacher preparation program as they gain supervised clinical training in teaching in a school placement. (Pennington McVey and Trinidad, 2019; Podolsky et al., 2016).

Teacher residency programs are authorized by statute or regulation in thirteen states, with variation in funding, preparation program partners, and relationship to other programs (Evans et al., 2019). Studies of more established residency programs, such as those in Boston and San Francisco (Podolsky et al., 2016), have shown positive effects on the diversity and retention of teacher graduates (Pennington McVey and Trinidad, 2019; Podolsky et al., 2019). It appears that in the current context more states are considering the expansion of the residency model (Kini, 2022).

A second, closely related alternative pathway based on local partnerships are “Grow Your Own” (GYO) programs.¹⁰ Like residency programs, GYO models seek to address school-level educator staffing challenges while diversifying staffs and providing a pathway for teacher candidates to achieve the preparation, certification, and experience necessary for a successful teaching career. One study found that 47 states have at least one GYO program, though they differed widely in design and implementation (Garcia, 2020). Nonetheless, variations on the GYO model share a focus on “preparing teachers from the community for the community” (Garcia, 2020, p. 6), and they often include community-based program and participant supports (Garcia, 2020; see Zuschlag et al., 2021a, 2021b).

One type of GYO program recruits participants from the ranks of education support professionals (e.g., paraprofessionals or classroom assistants, and sometimes bus drivers or custodians), as well as other adult school employees or community members (Garcia, 2020; Gist et al., 2019; Valenzuela, 2017). Successful GYO programs often concentrate on paraprofessionals, such as those in Washington State, California, Minnesota, and Arkansas (Garcia, 2020; Pennington McVey and Trinidad, 2019; see also Sindelar, 2012). Michigan has been promoting GYO programs for three years. As a

⁹ Using data reported to the federal government in 2016-2017, 2% of graduates from teacher preparation programs in Michigan came from alternative preparation programs, of which only 0.4% came from non-IHE based programs (Evans et al., 2019).

¹⁰ The principal features that distinguish residency from GYO programs in practice appear to be on whom recruitment focuses and where in the teacher career pathway participants may enter. The program in Muskegon Heights, Michigan, which was referred to in the prior section, illustrates the potential for overlap (see Middle Cities Education Association, 2020).

result, Michigan has created curricula associated with GYO programs for grades 6-12. To sustain these efforts, the Michigan Department of Education has distributed competitive grants for GYO programs and has secured \$175 million in funding associated with support staff to teacher GYO programs.

Although the local pool of candidates may be smaller, paraprofessionals are often “passionate and eager candidates who are committed to working with children, have already spent significant amounts of time in classrooms, [and] have often developed considerable amounts of expertise in teaching and learning” (Delgado et al., 2021). Nearly half the states (23) have passed laws or regulations that offer paraprofessionals a pathway, program, or incentive to enter the teaching profession (Evans et al., 2019).

Another GYO model exposes secondary-level students to teaching as an attractive career, sometimes helping them onto a teacher pathway or into the pipeline, so that they will then pursue teaching after high school, usually through a traditional preparation program. Statutes and regulations in 22 states provide a pathway, program, or incentive to move high school students into a teaching career (Evans et al., 2019).

The student-based GYO programs may include CTE in local districts, college dual enrollment opportunities, and/or secondary school-sponsored field experiences and activities in the field (Garcia, 2020). Washington State has a robust set of these programs, which it supports with grants and other assistance (Adams and Manuel, 2016; Professional Educators Standards Board, n.d.). There are also national networks that provide structured content and support (Garcia, 2020; Podolsky et al., 2016; see, e.g., McNeil, 2016).

Despite anecdotal support (e.g., Skinner et al., 2011), there is a dearth of rigorous research on program operations, outcomes, and longer-term impacts (Garcia, 2020, Gist et al., 2019; Valenzuela, 2017). Empirical evidence does suggest several recurring challenges, chiefly that GYO programs seem difficult to sustain or scale up (e.g., Kaufman et al., 2020).

STRATEGIES TO IMPROVE IN-SERVICE RECRUITMENT AND RETENTION

Teacher turnover may contribute at least as much to staffing challenges as preparation pipeline flow (Carver-Thomas, 2017; Hulme, 2022; Ingersoll, 2001). The attrition of in-service teachers, and the resulting need to recruit, hire, and retain replacements, is a demand side challenge at the local level (e.g., Darling-Hammond et al., 2018). It is a fact especially evident with new and early career teachers (Aldeman, 2022; Ingersoll et al., 2014; Nguyen and Springer, 2021; Podolsky et al., 2016).

Despite a similarity in the overarching problem, policy tools, and theories of action, the goal of in-service recruitment and retention strategies differs significantly from pre-service pipeline expansion strategies. Because the latter strategies seek the expansion of the available teacher supply pool, the state usually takes a predominant role in strategy design, adoption, and implementation. In contrast, local demand-oriented strategies lie within the direct concern and policy domain of individual district-employers, although the state can play an important supporting or facilitating role.

In what follows, we focus on strategies designed to achieve effective recruitment and lasting retention at the district level. It should be noted that elements of pre-service preparation are associated with in-service teacher retention (Ingersoll et al., 2014; see Carver-Thomas and Darling-Hammond, 2017), but only weakly at best with in-service performance (James and Wyckoff, 2020, Burroughs et al. 2019).

In any event, research has converged upon three primary, proximate determinants of the sustained ability to recruit and retain teachers: (1) compensation; (2) professional preparation, induction, and early support; and (3) working conditions, including district/school organizational and management/leadership characteristics (Carver-Thomas and Darling-Hammond, 2017; Darling-Hammond et al., 2019; Podolsky et al., 2016; Podolsky et al., 2019).

DIRECT FINANCIAL STRATEGIES

The strategies in this category offer various forms of compensation, both to induce candidates to accept an offered position in the first place and to increase the financial value of staying in the district, thereby reducing teacher attrition.

Directly paying prospective teacher-employees is one way to get them in the door. These may take the form of student teacher stipends; employment signing bonuses; loan forgiveness, grant, or repayment; or relocation expense reimbursements (Podolsky et al., 2016). Such payments are usually non-recurring, although the total may be paid over time. They also are often targeted to high-demand subjects or school characteristics, with the teacher obligated to work in the agreed assignment for a minimum period (Aldeman and Silberstein, 2021).

Massachusetts and Minnesota have offered signing bonuses for certain teachers (McDole and Francies, 2022). Wake County Public Schools in North Carolina started signing bonuses in 2021 for special education teachers (Toch, 2022). A district may also entice teacher-recruits by granting years of experience credit on the salary schedule or by giving in-kind or subsidized assistance with housing,¹¹ transportation, meals, or access to local amenities such as health club memberships (Podulsky et al., 2019).¹²

More common are monetary incentives to increase regular compensation for novice and veteran teachers. These can include across-the-board salary increases on-schedule, whether in percentage or “flat dollar” terms,¹³ and across-the-board retention bonuses (Aldeman, 2022; Garcia and Weiss, 2020; Kolbe and Strunk, 2012; AFT Teacher and School Staff Shortage Task Force, 2022; Podolsky et al., 2019).¹⁴ States with districts recently using these strategies include Colorado, Georgia, Indiana, Mississippi, Tennessee, Texas, and Virginia. (Aldeman and Silberstein, 2021; Will, 2022a).

It is more common that enhanced compensation is targeted – for example, by using an alternative salary schedule, where pay level depends in part on subject area or by targeted pay increases, stipends, or retention bonuses for working in hard-to-staff schools (Garcia and Weiss, 2020; Kolbe and Strunk, 2012; Podolsky et al., 2019; Saenz-Armstrong, 2022). Statutes or regulations in twenty-nine states mandate or directly promote enhanced pay for teaching in underserved schools or designated subject areas (Evans et al., 2019).¹⁵

But in the contemporary staffing challenge context, “what has changed is the size of the amounts and the speed in which districts have rolled out their new targeted pay plans” (Aldeman and Silberte in, 2021, p. 5). In 2020 for instance, Hawaii began paying \$10,000 more to its special education teachers (Toch, 2022).¹⁶ The literature contains evidence that targeted

¹¹ As California’s statewide teacher housing assistance policy shows, housing costs may be a significant factor in recruitment (Erwin, 2022; see also Toch, 2022 concerning recent developments in the teacher housing efforts of the Austin Independent School District in Texas).

¹² These latter ancillary benefits, if widely available, may become accepted as “perks” of employment, which may contribute to staff retention.

¹³ Sixteen states maintain a statewide salary schedule, and eight more states set a minimum teacher salary (Evans et al., 2019). Thus, in about half the states an across-the-board salary increase strategy requires at least in part state action.

¹⁴ Unlike percentage pay increases, “flat dollar” payments, especially of bonuses and stipends, typically do not increase districts’ obligations on the salary schedule or scale (Aldeman and Silberstein, 2021). Research has found that districts tend to pay incentives in addition to salary schedule compensation, rather than altering the schedule itself (Kolbe and Strunk, 2012).

¹⁵ In addition to helping districts fund pay increases, stipends, and bonuses, states can indirectly contribute to enhanced compensation for some teachers through tax waivers, deductions, and credits (Kolbe and Strunk, 2012; see, e.g., Erwin, 2022 on Georgia’s recent legislation that grants tax credits to teachers agreeing to work in rural or underperforming schools and on the Iowa tax deduction for educational materials and professional development expenses).

¹⁶ In Michigan, the previously noted residency program in Muskegon Heights also included a retention bonus tied to a new instructional framework and evaluation system (Middle Cities Education Association, 2021).

pay increases can reduce teacher turnover (Pennington McVey and Trinidad, 2019); however, positive effects are contingent on payment amounts and duration (Podolsky et al., 2019; See, Morris et al., 2020).

Other strategies award teachers additional compensation for improving their credentials. Ten states provide teachers the incentive to upgrade their certificates or endorsements to teach in underserved schools or high-demand content areas (Evans et al., 2019; Podolsky et al., 2019).¹⁷ Thirty-two states provide teachers who earn National Board Certification (NBC) with the opportunity for additional pay (Evans et al., 2019). The increased compensation may be paid as a one-time or recurring bonus, salary supplement, or stipend, and the initial or further payment is sometimes tied to teaching assignment in an under-performing or hard-to-staff school (Evans, et al., 2019).¹⁸

Evidence suggests that NBC teachers may show improved performance, and they are less prone to attrition (McDole and Francies, 2022). California was an early leader in experimentation with conditional NBC bonuses (Podolsky et al., 2019), and Arkansas currently provides a rising scale of annual bonuses for NBC teachers, depending on their school assignment (McDole and Francies, 2022).

Finally, some districts pay teachers more for additional work duties and responsibilities as a teacher (as opposed to as a coach, student group advisor, etc.). Sometimes using pandemic relief monies, districts may pay teachers for providing additional learning time through tutoring, summer school, or an extended school schedule (Aldeman and Siberstein, 2021). Teachers who ascend a career ladder or otherwise assume additional professional or leadership roles (discussed below) may in some systems see a substantial increase in pay (e.g., Toch, 2022).

The research indicates that direct financial strategies, which are most often targeted for high-demand subjects and hard-to-staff schools, may be effective for recruitment and retention if properly designed and implemented (Garcia and Weiss, 2020; Hanover Research, 2014; Kolbe and Strunk, 2012; Pennington McVey and Trinidad, 2019; see, Morris et al., 2020). One recent study examined the Florida Critical Teacher Shortage Program, which provided targeted loan forgiveness and bonuses, over its more than two-decade existence (Feng and Sass, 2018). The researchers found that although both types of payments decreased teacher attrition in the targeted areas, direct cash payment was the more effective strategy. They further determined that the impact of the loan forgiveness intervention varied directly with payment amounts (Feng and Sass, 2018; see also Pennington McVey and Trinidad, 2019).

An extensive review and ranking of research by strength of causal inference found that financial incentives with certain conditions were a promising approach to staffing challenges in hard-to-staff schools (See, Morris et al., 2020; see also Nguyen and Springer, 2021). Its authors stressed, however, two significant limitations of such strategies: (1) incentives work as long as they continue; and (2) incentives seem most effective in getting teachers into hard-to-staff schools, but are much less effective at keeping them there (See, Morris et al., 2020; see also Hanover Research, 2014; Nguyen and Springer, 2021; Podolsky et al., 2019; See, Gorard et al., 2020). “Offering remission of student loans, higher salaries or premiums for teaching in hard-to-staff areas and schools is effective in attracting teachers. However, it is not clear that such external motivation is desirable, or attracts the best teachers, and it is quite clear that the attraction is not lasting” (See, Gorard et al., 2020, p. 159).

Direct financial strategies pose a larger risk of inter-district competition for teachers, including the phenomenon of one district “poaching” another’s staff. These strategies at the district level can also give wealthier districts, which are generally perceived as better places to work, a distinct advantage in recruitment and retention. In addition, the plethora of incentive

¹⁷ Although the teacher licensing system in thirty states permits teachers to earn advanced certificates, only five of those states require or encourage additional pay for teachers with a higher-level credential (Evans et al., 2019).

¹⁸ It appears that states sometimes with districts contributing reimburse teachers for the expense of obtaining NBC (Thomsen, 2016).

programs may result in the unintended and inefficient “packages” of multiple incentives that interact in complex ways to affect teacher decision-making (see Kolbe and Strunk, 2012).

PROGRAM AND REGULATORY STRATEGIES

Strategies in this section focus on non-financial means of promoting teacher retention: providing novice teachers early career supports and improving working conditions for all teachers.¹⁹ Designed to improve the effectiveness and reduce the attrition of novice teachers, induction programs may include support strategies such as mentoring, reduced teaching loads through release time, and focused professional development (Carver-Thomas et al., 2022; Garcia and Weiss, 2020; Kini, 2022). More than 60% of states (31) mandate that new teachers receive induction and mentoring support, although the duration of the required programming, when specified, ranges from one to three years in most cases (Evans et al., 2019).

Twenty-two states provide for or promote decreased teaching loads for new teachers, or for the teachers assigned to mentor them; and eleven require designated teacher planning time during the work day or week (Evans et al., 2019). As a recent example, Illinois is investing over \$12 million of federal pandemic recovery funds over two years to support district mentoring programs (Kini, 2022).

Research indicates that quality induction and mentoring programs are characterized by appropriate timing and duration, high standards, and the provision of strong criteria, training, and tools for mentors (Rowland Woods, 2016; see also Barth et al., 2016). There is evidence that such programs can improve novice teacher retention (Ronfeldt and McQueen, 2017; see also Carver-Thomas et al., 2022; Garcia and Weiss, 2020; Peske, 2022). Yet, implementation is known to be problematic, and so overall, “[t]he effectiveness of such programs ... cannot be determined,” at least with respect to recruitment and retention in high-need areas (See, Morris et al., 2020; see also literature cited in Ronfeldt and McQueen, 2017).

Researchers have understood “working conditions” that support retention in a variety of ways. One list includes “opportunities for teachers to professionally collaborate and contribute to decisions, school leadership that supports teachers individually and collectively, providing a collegial environment, and providing sufficient resources for teaching and learning” (Darling-Hammond and Podolsky, 2019, p. 8; see also Darling-Hammond et al., 2019; Garcia, Han, and Weiss, 2022; Podolsky et al., 2019).

A meta-analysis of teacher turnover correlates lists “school organizational characteristics” as including “reducing student disciplinary infractions, administrative support, teacher collaboration, targeted professional development, and classroom autonomy” (Nguyen and Springer, 2021, pp. 22-23; see also Hanover Research, 2014; Hughes, 2012). A common approach in the research lies in first identifying those factors that predict turnover—that is, why teachers leave—and then developing interventions designed to counteract those factors (Nguyen and Springer, 2021; Podolsky et al., 2016; Podolsky et al., 2019).

The overall idea is to foster a positive school culture and climate conducive to individual and collective teacher professionalism and efficacy (Garcia, Han, and Weiss, 2022; Hughes, 2012; Nguyen and Springer, 2021; see also Carver-Thomas and Darling-Hammond, 2017).

When resources allow (e.g., from federal relief funding) several more specific strategies to address staffing challenges through improving teacher working conditions may include: hiring additional support staff, reducing class sizes, and expanding time for teacher collaboration and for high-quality professional development (AFT Teacher and School Staff Shortage Task Force, 2022; Carver-Thomas et al., 2022; Jordan and DiMarco, 2022; Podolsky et al., 2019; Will, 2022a).

¹⁹ Certain management measures districts can implement to mitigate staffing challenges at the margin when they arise include increasing recruitment, hiring capacity/activities, and improving administrative processes around hiring, training, transfer, and resignation (Podolsky et al., 2019).

As a recent example, New Mexico is using federal dollars so districts can hire educational assistants and financially support them as they pursue full teaching or related credentials (Will, 2022a; see also, regarding California districts, Carver-Thomas et al., 2022). Similarly, districts have acted to cut class sizes (Jordan and DiMarco, 2022), and funds are also being devoted to professional development around learning recovery strategies as well as the social-emotional impact of the pandemic on students and school staff (Jordan and DiMarco, 2022; see also Chu and Shen, 2022; Kini, 2022).

Even before the pandemic, many districts had begun to develop career advancement opportunities for teachers (Pennington McVey and Trinidad, 2019; Podolsky et al., 2019). These may involve teachers assuming leadership responsibilities and/or roles that involve the sharing of experience and expertise. These opportunities may come with a substantial increase in compensation, and often teachers can move into these roles while remaining by choice in the classroom part-time.

Structured sets of roles, a.k.a. teacher career ladders, may improve job satisfaction and reduce turnover (Podolsky et al., 2019). The District of Columbia Public Schools (DCPS) has at least three programs that promote career advancement through increased pay and leadership or peer support responsibilities (Erwin, 2022). Effective teachers can reach the top of the DCPS career ladder “after eight years in the classroom and take on new roles and responsibilities, ranging from mentoring new teachers to leading school-based improvement work, the sorts of professional opportunities that teachers say keeps them in the profession” (Toch, 2022).

GYO programs (discussed previously) originated as small, self-contained teacher pathways developed and implemented from end-to-end – that is, program recruitment through teacher employment – in a single school community (Skinner et al., 2011). Strongly rooted in concerns for equity, these programs depended on localized partnerships that fit community and adult participant needs, including wraparound financial and other supports (Garcia, 2020; Gist et al., 2019; Valenzuela, 2017). They were thus intended in substantial part as high recruitment and retention programs for individual schools or districts.

This type of GYO, as well as its residency program cousins, have continued or even expanded in states, particularly with state funding, technical assistance, and regulatory support (see Garcia, 2020; Gist, 2022; Muñoz, 2020). Limited empirical evidence suggests that GYO programs may improve recruitment and retention (Kaufman et al., 2020; Podolsky, 2019). Still, all types of GYO, residency, and similar programs face similar challenges, and further research is required to provide compelling evidence of scalability, sustainability, and cost-effectiveness (Garcia, 2020; Kaufman et al., 2020).

Policy and Practice Considerations

Proactively develop a coherent system of teacher workforce development policies and practices.

Teacher workforce and staffing challenges involving well-known subject area, school, and candidate characteristics are a remarkably persistent feature of the balkanized teacher labor markets in the U.S. These challenges vary in scope and intensity across states and localities. There is also a recurring pattern of short-term anxieties related to teacher staffing issues leading to reactive adoption and shotgun implementation of short-term, ad hoc, disparate interventions.

The shock of the pandemic has created an urgency around teacher staffing challenges. But by exposing a long-standing need, it also presents an opportunity to systematize teacher workforce development efforts throughout the talent pipeline. A coherent, proactive, targeted approach is not only more likely to be effective, but also scalable and sustainable going forward.

Establish and coordinate institutional roles and responsibilities for addressing teacher staffing challenges. Despite decades of reform efforts, governance of the educational policy system remains decentralized, with many competing institutional actors, interests, and perspectives. This systemic feature is especially pertinent to addressing teacher workforce and staffing challenges, particularly given the nature of teacher labor markets, and the multiple levels of policy making and influence.

Yet, certain actors are better fit to play certain roles and undertake certain responsibilities. The state's fiscal resources and regulatory authority, for example, suggest a role supervising, incentivizing, and supporting more generally applicable teacher supply strategies to encourage cooperative uptake statewide – in other words, to focus on the strengthening of the overall labor market. With knowledge of local context, districts could focus on how to flexibly meet their particularized needs and conditions (albeit with state help). IHEs and other teacher preparation providers and partners could appropriately employ their expertise and other resources. There is in effect an institutional division of labor based on comparative advantage that if properly recognized and applied could leverage effective responses. What is required is a collective response, buttressed by a common vision and collaborative institutions. There is precedent for this approach in Michigan, where over the last several years the state has encouraged and developed ongoing partnerships among education preparation providers, LEAs, ISDs, and MDE, which certifies preparation providers and their programs.²⁰

Align the structure and implementation of alternative policy tools to maximize overall impact while minimizing costly trade-offs among them. Although there is hardly a shortage of potentially promising strategies, the rub lies in strategy selection, specification, and application. Strategies differ significantly according to the broad dimensions of the typology including the intended effect on teacher workforce quantity, quality, composition, and distribution. This in turn requires the recognition of the trade-offs each strategy, or set of strategies, may entail.

Thus, commonly chosen financial strategies may be (relatively) quick and easy to adopt but more difficult and expensive to sustain. Changes in licensure requirements may be expedient in the short run but counter-productive in the longer term. The creation of local programs or attempted improvements in working conditions may bring longer-term, sustained benefits, but they also may be time-consuming, costly, and of uncertain impact. The teacher workforce and staffing challenges in each context, then, might best be addressed through an intentionally composed portfolio of policy tools, with strengths aligned to reinforce each and to balance out weaknesses. Whatever the strategies adopted, they will require sustained implementation—which means resources, institutional commitment, and thorough planning.

²⁰ There is a considerable amount of matchmaking that has taken place with education preparation providers, LEAs, and ISDs to address staffing needs at the district, regional, and state levels and more is in the process, aided by the \$575 million FY23 appropriation for GYO (\$175 million), scholarships (\$305 million), and student teacher stipends (\$50 million), among other efforts funded through the Michigan Department of Education.

Increase and improve the data collected on the teacher labor market and for policy evaluation.

Research has shown inadequacies in the timeliness, content, and quality of the teacher workforce and staffing data. Data is indispensable for at least two purposes: (1) to develop the understanding of the structures and processes in teacher labor markets so that evolving challenges may be anticipated, and effective responses planned, and (2) to better evaluate teacher workforce and staffing policies and practices in context so that timely and responsive improvements may be devised and implemented.

The conduct of more rigorous, and so useful, research also depends on better, more “clean” and complete, accurate and accessible data at all levels and all along the teacher workforce pipeline.

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Appendix A: Model Typology

Commonly adopted and implemented at S = state level, D = district (or school) level, or S&D = both levels

Strategies often include conditions precedent or subsequent; they may be applicable or targeted by characteristics of place, school, teacher candidate, subject/content

Responses/ Strategies	Financial		Non-Financial	
	Shorter-Term	Longer-Term	Shorter-Term	Longer-Term
Expand Pre-Service Pipeline	<ul style="list-style-type: none"> • Student tuition tax credits (S) • Student teachers pay or stipend (S) • Decrease or reimburse teacher candidate fees (licensure, testing, etc.) (S) • Student educational/training scholarships, grants, subsidies, and stipends (S&D) • Retirement benefit loss waivers (S) 	<ul style="list-style-type: none"> • Student loan forgiveness, grant or repayment (S&D) • Student educational/training scholarships, grants, subsidies, and stipends (S&D) • State GYO, residency, alternative certificate pathway program partnership grants; student grants, scholarships, stipends (S&D) 	<ul style="list-style-type: none"> • Lower or waive certificate requirements, incl low-tier certification, emergency certifications (S) • Decrease, waive, or eliminate teacher testing requirements (S) • Lower or waive re-licensing and other re-entry requirements (S) • Decrease inter-state certificate reciprocity conditions (S) 	<ul style="list-style-type: none"> • Tiered certification systems (S) • Decrease certificate inter-state reciprocity conditions (S) • GYO programs – high school students (S&D) • GYO programs – adults (S&D) • Residency programs (S&D) • Alternative certificate programs, pathways – IHE or non-IHE (S&D)
Improve In-Service Recruitment and Retention	<ul style="list-style-type: none"> • Student teachers pay or stipend to enter and stay in district (S&D) • Signing bonus (S&D) • Student loan forgiveness, grant or repayment to enter and stay in district (S&D) • Retention bonuses (S&D) • Targeted pay increase or stipends (D) • Salary sched credits (D) • Relocation incentives (D) • Subsidized housing, transportation, meals, access to local amenities (D) 	<ul style="list-style-type: none"> • Across-board, on-sched salary increase, % or “flat dollar” (D) • Increase state-mandated min salary (S) • Targeted pay increase or stipends (D) • Alternative salary sched (D) • Retention bonuses (S&D) • Tax waivers, deductions, credits (S) • Additional credential or certification/endorsement (incl NBCT) bonus or salary increase (S&D) • Payment or reimbursement of expenses for additional credential or certification/endorsement (incl NBCT) • Increase pay for increased duties (D) • Career ladders or advancement opportunities with increase compensation (D) • Subsidized housing, transportation, meals, access to local amenities (D) 	<ul style="list-style-type: none"> • Increase support staff hiring (D) • Reduce class sizes (D) • Reduce novice teacher class loads; allow teacher release time (D) • Tangible working conditions, such as physical plant, equipment, materials (D) • Increase recruitment and hiring capacity/activities (D) 	<ul style="list-style-type: none"> • Career ladders or advancement opportunities with increased responsibilities and status (D) • Induction and mentor programs; other early career supports (S&D) • Working conditions, incl school factors; teacher professionalism and efficacy factors; school climate, management, and leadership factors (D) • Intra-district/school GYO and residency programs (S&D) • Improved hiring, training, transfer, and resignation practices (S&D)

Appendix B: Research-Based Considerations for Strategy Design and Implementation

Type of Strategy	Strategy Elements Contributing to Increased Likelihood of Efficacy and Impact
Strategies in General	<ul style="list-style-type: none"> • Funding sufficiency, stability, and sustainability <ul style="list-style-type: none"> ▪ State funding or fiscal support • High-need positions targeted by: <ul style="list-style-type: none"> ▪ Educational content/subject area (e.g., special education, ELL, STEM) ▪ Community locale (e.g., rural, urban) ▪ School (e.g., hard-to-staff, under-performing or underserved/economically disadvantaged or low-income student populations) ▪ Teacher candidate (e.g., underrepresented in teacher workforce, paraprofessionals, adult learners, high school, two- or four-year degree students) • Program promoted and administrative burden minimized • State and local roles and supports aligned and coordinated <ul style="list-style-type: none"> ▪ State technical assistance ▪ State regulatory support (e.g., certificate/licensing structure and process) • Informed by multi-level labor market and program data
Financial Strategies	<ul style="list-style-type: none"> • Sufficient incentive amount relative to baseline teacher candidate costs or teacher compensation <ul style="list-style-type: none"> ▪ Targeted conditions on payment • Recurring or continuing incentive payments • Payment when incentive conditions met; otherwise, incentive loss or penalty • Direct payments to teacher candidate or teacher
Non-Financial, Programmatic Strategies	<ul style="list-style-type: none"> • Formalized, sustainable, and coordinated partnerships • Pre-service wraparound supports; in-service teacher practice supports • Include compensation for teacher candidate work; additional compensation for professional advancement • Integration of teacher education and professional practice • Attainment of educational degree and regular teaching certificate/license



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INTERIM REPORT: STRATEGIES TO ADDRESS EDUCATION WORKFORCE CHALLENGES

Phase II Updated Research Activities

February 2023

Public Policy Associates is a public policy research, development, and evaluation firm headquartered in Lansing, Michigan. We serve clients in the public, private, and nonprofit sectors at the national, state, and local levels by conducting research, analysis, and evaluation that supports informed strategic decision-making.



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Education Workforce Report: Phase II

INTRODUCTION AND SUMMARY

This project was officially launched in October 2022 when funding arrangements were finalized. In November, the research team delivered its first interim report. The Phase I interim report, based on a research literature and policy review scan, summarized, and provided a taxonomy of strategies addressing teacher workforce issues in Michigan and across the country. That report served as the basis for design and recruitment efforts in Phase II (completed) and Phase III (ongoing) of this work.

During Phase I, substantial progress took place in research design, instrument development, and secondary data access and preparation. This progress expanded during Phase II. This Phase II interim report concisely summarizes by type of research activity and work product (1) project progress to date and (2) challenges met, adaptive strategies implemented in response, and the resulting work plan for the remainder of the project.

The work being conducted for the Education Workforce Report comprises a wide array of methods, including: the research literature and policy review scan completed during Phase I (previously released interim report); statewide surveys of district administrators, principals, and substitute teachers; interviews with district administrators, principals, and substitute teachers; a secondary data analysis of state administrative data for substitute teachers; and case studies of districts. Whereas other studies, including those mandated by the Legislature, focus on single measures or existing secondary data-, data collection for this study relies on a mixed-methods approach, which uses primary data collected from interviews or focus groups and is then supported by surveys and secondary data.

Except for the case study district recruitment, which is ongoing, all instruments have been drafted, piloted, completed, and fielded. While the district administrator survey closed at the end of February 2023, the principal and substitute teacher surveys are still open with ongoing efforts to increase response rates. Both the district administrator and school principal interviews are ongoing (as of this Phase II interim report).

In preparation for the analysis stage, an initial, normed codebook for qualitative analysis has been developed and is being implemented for Phase III. Substitute teacher interviews are scheduled to begin in Phase III.

In terms of quantitative analysis and having secured a necessary amendment to the data-sharing agreement with the Michigan Department of Education (MDE), the research team has begun designing the review and analysis plan for state secondary administrative data, including the Registry of Educational Personnel (REP) data as well as other educator and substitute teacher certification and permitting data.

Several data-collection barriers have appeared but should still allow for a robust final report. The challenges to date include: (1) lower-than-anticipated response rates to the surveys; (2) sub-optimal variation in the nature and extent of staffing issues and response data; and (3) delayed recruitment for participants for the case studies.

The research team is currently working with two school districts for case studies. Until the research team secures access to case study districts, applicable research design cannot be adopted and implemented, including obtaining the requisite district-level personnel data for secondary analysis, and revising, completing, and fielding instruments for interviews or focus groups. So, work has shifted to Phases III and IV and moves forward the period for data collection and analysis from Phase II.

Research Activities and Work Product Status

SUMMARY OF WORK COMPLETED

The research plan includes both quantitative and qualitative data sources, activities, and work products in two contexts:

- Statewide secondary data and samples of school and district personnel
- A purposeful sample of at least two case-study districts (using qualitative methods combined with secondary administrative data and personnel records using quantitative methods)

This robust mixed-methods approach requires substantial research team capacity, especially when implemented along an aggressive timeline. During Phase II, the research team met at least bi-weekly to collaboratively share project updates, coordinate activities, assign tasks, and problem-solve. The team's activities and progress are summarized by type of research work product in the following sections.

INTERVIEWS

The first part of this work has included interviewing school district administrators and principals. Like the surveys described below, the interview instruments were developed, piloted using cognitive interviews, and revised through a feedback process. Similarly, by design, the interviews parallel the survey methods in types of respondents—district administrators, principals, and eventually substitute teachers.

As interviews were conducted and transcribed, the research team on a rolling basis cleaned and prepared interview data for analysis (e.g., this includes assigning pseudonyms and standardizing file naming and formats). The research team has developed and iteratively refined an initial codebook through code-norming sessions using cleaned superintendent interview transcripts. The resulting code structure is ready for analysis in Phase III.

DISTRICT ADMINISTRATOR INTERVIEWS

Sampling for superintendent interviews has been drawn from the responses to the district administrator survey and supplemented by direct outreach to district administrators. Research team members have employed their professional networks in efforts to recruit additional district administrators. At the end of February, nearly 30 district-level administrator interviews have been conducted, transcribed, and cleaned for analysis. This has resulted in a robust sample of school districts across the state, including rural, urban, and suburban school districts.

Notwithstanding early concerns, ongoing recruitment efforts appear to have paid off. The research team is now on track to interview a wide variety of superintendents or district human resource leaders representing a wide variety of state regions and locales and experiencing variation in staffing issues. The degree of severity of staffing issues in these districts ranges from few or no problems through mild or moderate to substantial issues. The research team is currently working to operationalize what that looks like in the sample of interviews that have been conducted.

PRINCIPAL INTERVIEWS

Recruiting principals for interviews was more difficult than for the district administrators, even though there are more of the former than the latter. At the end of Phase II, 20 principal interviews have been conducted, work is ongoing in terms of transcription and cleaning for analysis.

Efforts like those used to augment the pool of prospective superintendent interviewees have started to boost principal recruitment. The most important change, however, is from a random to a purposeful sampling approach that seeks interviews with principals in districts known to be experiencing staffing

issues. This way the researcher team will be able to capture more of the variation in whether, how, and why principals in differing contexts are or are not experiencing staffing or coverage challenges.

SUBSTITUTE TEACHER INTERVIEWS

Preparations for substitute teacher interviews have been completed. Recruitment of respondents and the scheduling of interviews is pending, principally in anticipation of the responses to the survey (described below).

SURVEYS

The research work plan provides for separate statewide surveys of district administrators,¹ school principals, and substitute teachers. This data collection is occurring along with the interviews (described above). Like the interview instruments, the survey instruments were developed and piloted through a cognitive interview process. Beyond the direct collection of data from three perspectives important to the project's remit, survey responses have been intended as significant channels for interview recruitment.

DISTRICT ADMINISTRATOR SURVEY

Originally fielded in November 2022, this survey was sent to a census sample of all Michigan school superintendents listed publicly; it aimed for responses from between 150 and 200 local education agencies (LEAs), in addition to responses from public school academy (PSA) respondents. The response rate was lower than expected, despite extensions in the response window, additional outreach and reminders, and targeted telephone calls seeking responses.

Nevertheless, the research team has received between 6 and 22 responses from each of Michigan's nine prosperity regions. At least one response has been received from 51 of Michigan's 83 counties, with the most responses from Wayne County. Responses by locale seem to reflect the state's geographic diversity. For example, the top three locale types are rural: distant (25% of responses; 18% of districts), suburb: large (18% of responses; 21% of districts), and rural: fringe (11% of responses; 12% of districts). The average student enrollment of those responding (2,700) is larger than the average overall enrollment size (1,600), possibly due to the responses from larger Wayne County LEAs.

PRINCIPAL SURVEY

This second survey that has been fielded is a statewide survey of principals, stratified by whether they headed an LEA school or a PSA. As of this writing, the response percentages are fairly distributed by locale type—city, suburban, town, rural—compared to each locale type's proportion of all Michigan schools.

Again, as with the district administrator survey, the research team has sent multiple email messages and has made telephone calls with principals to encourage participation. More recently, additional outreach has been made to place short notices in the newsletters of professional organizations that encourage principals to take the survey by following the link provided in the notice.

SUBSTITUTE TEACHER SURVEY

This final survey, a statewide survey of substitute teachers, was delayed because of a data-access issue and is currently being fielded. The information being obtained from this survey will help provide a clearer picture of the labor market facing substitute teachers and their unique challenges, something missing in many discussions of staffing problems.

¹ Both the district administrator surveys and interviews sought data from superintendents; however, depending on the district size, superintendent knowledge or preference, or other reasons, some survey and interview data were provided by human resource directors or other central administrators.

The three surveys (outlined above) combined with the three types of interviews being conducted should provide us with the information needed to make recommendations for multiple sectors of the education workforce.

SECONDARY DATA

During Phase I, PPA entered a study-specific data-sharing agreement with the MDE to authorize the use of certain state-agency data, such as the REP files and the data from Michigan Online Educator Certification System (MOECS). The research team also obtained relevant, publicly available data, such as Educational Entity Master (EEM) database. Access to this data served three main purposes; once cleaned, it would be used:

- In the sampling processes for district administrator and principal surveys and interviews.
- To conduct the analysis of aspects of the substitute teacher labor market.
- For comparison with the results of the secondary analysis of district-level personnel data from the case-study districts.

In Phase II, the research team established monthly meetings of its quantitative researchers with MDE staff. Research use of MDE's secondary data involves the formation of a statewide representative sample of substitute teachers for the substitute survey and interviews. The data for the 2018-2021 period will be analyzed to descriptively determine substitute teacher characteristics and employment trends, and to understand substitute geographical movement among districts and schools.

DISTRICT CASE STUDIES

Recruitment materials (e.g., an invitation to participate and a project summary sheet) have been prepared and disseminated indicating that the research team is working to recruit at least two case-study districts. This work broadened and accelerated in Phase II. Draft case-study instruments and potential research-design protocols have been developed; their finalization, piloting, and implementation depend on the characteristics and context of the case-study districts.

Evidence suggests a variety of factors contributing to recruitment challenges, including the uncertainty, stress, and exhaustion stemming from the pandemic and its aftermath; perceptions of negative political and economic conditions (notwithstanding temporarily high federal funding); and excessive demands for research access and pressure for participation. (Similar contextual considerations may likewise help account for the participation reflected in survey and interview response and recruitment rates.) Such conditions magnify the district/school leaders' usual concerns around the disruption in operations and the consumption of staff time, attention, and energy that research participation can bring with it.

Updated Timeline

PHASE III (MARCH 1, 2023 – JUNE 30, 2023)

- Complete analysis of district administrator survey data.
- Complete survey of principals; conduct data analysis.
- Complete survey of permitted substitutes; conduct data analysis.
- Complete district administrator, principal, and substitute interviews; conduct analyses.
- Complete recruitment and memoranda of understanding, including data-sharing and research-plan agreements, with two case-study districts.
- Obtain case-study district-level personnel data and conduct secondary data analysis.
- Finalize sampling plan and the development and piloting of case-study interview and/or focus group instruments and related documents.
- Conduct case-study district interviews and/or focus groups of teachers, administrators, substitutes, other instructional and non-instructional support personnel, per research plan.
- Conduct analysis of REP data comparing substitute teacher staffing problems (using existing data) and substitute teacher staffing problems identified through surveys and interviews.
- Deliver a third interim report.

PHASE IV (JULY 1, 2023 – SEPTEMBER 30, 2023)

- Finalize and integrate district administrator, principal, and substitute survey analyses (to be completed by mid-August 2023).
- Finalize and integrate district administrator, principal, and substitute interview analyses (to be completed by mid-August 2023).
- Finalize and integrate case-study districts analyses (to be completed by mid-August 2023).
- Integrate REP data for case-study districts with other sources (i.e., school district personnel or other human resource records) for analysis (to be completed by mid-August 2023).
- Deliver a fourth interim report (to be submitted to MDE before September 1, 2023).
- Draft final report with executive summary (no later than September 30, 2023).
- Publicly disseminate final report following approval by the Michigan Alliance for Student Opportunity and MDE.

Final Update

Apart from activities related to the case studies, which depend upon securing an appropriate sample, Phase II saw a broad and rapid increase in data-collection activities, while preparations for analysis commenced for certain data sets. Preliminary findings should be available to share with the Michigan Alliance for Student Opportunity in the coming months.

- In the prevailing educational context, the distribution of source districts, numbers of respondents, and variation in the data collected from district administrators seems robust and various; an initial code-book has been developed, and the code structure set up for analysis.
- Data provided by principals has lagged in quantity and variation, although interviews and further out-reach efforts will continue in Phase III.
- Data collection from substitute teachers will continue, first by survey followed by interviews throughout Phase III.
- The research team is on track to have two case-study districts thereby enabling data collection for that branch of the research work plan.
- After some delays, the analysis plan for REP and related data is under rapid development.

The research team has adapted its methods and recruitment efforts to meet the challenges of data collection under the conditions prevailing in K-12 education today. Nevertheless, key project activities have gathered momentum moving into the next phases.



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INTERIM REPORT: THE STATUS OF MICHIGAN'S K-12 WORKFORCE

Phase III Preliminary Insights from District Leaders, School Leaders, and Substitutes

June 2023 (Updated August 2023)

Public Policy Associates is a public policy research, development, and evaluation firm headquartered in Lansing, Michigan. We serve clients in the public, private, and nonprofit sectors at the national, state, and local levels by conducting research, analysis, and evaluation that supports informed strategic decision-making.



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Executive Summary

INTRODUCTION

The COVID-19 pandemic significantly altered working conditions in Michigan, leading many to shift careers or modality of work, or to exit the workforce entirely. The K-12 labor market has keenly felt these effects, with many educators expressing alarm about workforce shortages in Michigan's schools. To develop solutions to these workforce shortages, updated information is required to understand the extent of the workforce crisis and its impact on educators and schools.

This report presents preliminary findings from surveys conducted among three key groups of the K-12 labor market: district leaders (superintendents and human resources directors), school leaders (primarily building-level principals), and substitute teachers. This document also represents an interim report of a statewide school staffing research study authorized and funded by Section 27f of the School Aid Act of 2022 Public Act No. 144 (July 14, 2022).¹ A larger, overarching study (as fully described in 27f) will present the full findings related to the challenges around the broader education workforce. A previous interim report reviewed the evidence base on U.S. teacher shortages and approaches taken by other states to strengthen the teacher labor markets.

This report summarizes three surveys which were designed to allow the researchers to hear directly from individuals on the front lines about staffing problems related not only to teachers, but also to other building instructional and non-instructional positions. The findings from this report are intended to help decision makers devise strategies to address these problems.²

METHODS

As noted previously, this report presents descriptive and summary statistics drawn from the three online surveys of district leaders, school leaders, and substitutes. All results should be taken as preliminary and subject to revisions based on additional data (including interviews and case studies) that are still being analyzed. These data were collected between November 2022 and April 2023. Specific survey questions varied depending on the sample.

A convenience sample of district leaders ($n = 114$) and school leaders ($n = 205$) completed surveys that assessed the extent of staffing challenges and gathered insights on the impact of any shortages on students and staff. A smaller number of district leaders ($n = 70$) and school leaders ($n = 127$) also reflected on differences in staffing and hiring in their districts and schools for the current school year (2022-2023), as compared to the 2019-2020 school year.

Additionally, long- and short-term substitute teachers were recruited to complete an online survey on their experiences substitute teaching. These individuals ($n = 525$) were randomly selected from the pool of all individuals employed as substitutes in Michigan's K-12 schools between 2018-2021. Substitute teachers were asked about their professional background, working conditions, and career trajectories.

¹ School Aid Act of 2022, Public Act No. 144, Michigan Legislature (2022), <http://www.legislature.mi.gov/documents/2021-2022/publicact/pdf/2022-PA-0144.pdf>

² This report presents findings from three surveys but does not offer recommendations. A comprehensive final report will be issued in fall 2023 that will attempt to address recommendations, existing efforts to solve the problems identified, and identify policy responses and/or potential barriers. The final report will also include comparisons across districts by location and/or type (e.g., urbanicity or socioeconomic status).

KEY FINDINGS**EXTENT OF STAFFING CRISIS**

- 82% of school leaders felt that they are experiencing either a minor (65%) or severe (17%) staffing shortage.
- More than 50% of district leaders reported that there is more demand, less supply, and greater turnover for all types of building instructional and non-instructional positions than before the pandemic.
- 44% of school leaders reported that special education is the most difficult type of teaching position to find qualified staff, followed by mathematics (17%) and science (14%). Mathematics and special education also top school leader's list of subject areas for which substitute teachers are needed the most.

HIRING PROCESSES

- District leaders reported that the process for hiring teachers now takes longer; many districts now start the recruitment process for teachers in winter (2022-2023 school year), as opposed to spring (2019-2020 school year).
- The average number of teacher vacancies by district at the beginning of the 2022-2023 school year (7 vacancies) is double the number of vacancies by district at the beginning of the 2019-2020 school year (3 vacancies).
- The average number of applicants per teaching role for the current school year (5 applicants) is half the number of applicants for the 2019-2020 school year (10 applicants).

TEACHER VACANCIES AND ABSENCES

- Two in three district leaders (67%) said that one of the biggest reasons for teacher vacancies in their district is that teachers were leaving to teach in another district.
- 60% of district leaders agreed or strongly agreed that neighboring districts poaching (actively recruiting) their teachers is a serious staffing problem.
- When asked why substitute teachers are most often needed, more than 3 in 4 district leaders (77%) identified teacher illness (including physical and mental health, burnout) as the most important reason.
- Rates of weekly teacher absences have increased 50% since before the pandemic (on average, 18 weekly teacher absences per district prior to 2019, versus 27 weekly teacher absences per district in the 2022-2023 school year).

SUBSTITUTE TEACHERS

- Almost all district leaders (98%) and school leaders (96%) said that there are not enough substitute teachers in their area to meet their day-to-day (short-term) needs.
- 72% of district leaders and 62% of school leaders said that once a week or more, a day-to-day substitute teacher is needed, but they are unable to find one.
- Of the individuals employed as substitutes in the 2018-2021 period, almost 7 in 10 reported they are presently working in a K-12 school in some capacity.
- 69% of substitute teachers valued the flexibility associated with subbing (in terms of when and how many hours they work), but 63% reported that low pay is the top reason they do not like working as a substitute.

IMPACTS ON STUDENTS

- 81% of district leaders agreed or strongly agreed that the shortage of substitute teachers is having a negative effect on student learning in their district.
- The impact of teacher absences and vacancies on efforts to help disadvantaged students is thought to be more severe than impacts on student learning, school climate and culture, and morale of school staff.

USE OF COVID-RELATED FUNDING

- Despite the above challenges, nearly 8 in 10 district leaders (79%) reported using COVID relief (such as Elementary and Secondary School Emergency Relief or ESSER funds) to support efforts such as recruitment, retention, compensation/benefits, and new teaching and support positions.
- 61% of district leaders said that they are not confident that they will be able to continue these policies once COVID relief funds are exhausted.

POLICY IMPLICATIONS

This interim report provides a preliminary look at the critical workforce challenges present within Michigan's K-12 system. Policy- and decision makers can use this information to better understand and allocate resources to effectively address these challenges and guide targeted policy interventions that support comprehensive recruitment and retention strategies for the education workforce as a whole.

Based on these survey results, concerted efforts to increase educator recruitment and retention across all categories are necessary to build a sustainable future for Michigan's education system.

Introduction

The COVID-19 pandemic significantly disrupted the labor market across the United States, and its impact on K-12 schools in Michigan was particularly challenging. Prior to the pandemic, there were already concerns among decision makers regarding challenges related to recruiting and retaining qualified educators in Michigan's schools across rural, suburban, and urban areas. In Michigan, it is largely unknown the extent to which staffing problems in the education workforce have worsened since 2020 or have been ameliorated due to the influx of federal and state funding. Even so, developing strategies to recruit, support, and retain the K-12 workforce in Michigan has far-reaching implications not just for members of the workforce, but also for Michigan's school-aged children, their families, and the future of the State's economy.

The lack of comprehensive and up-to-date information on the experiences of K-12 educators has hindered policy and decision makers in effectively addressing the crisis and developing sustainable solutions. Despite the multitude of media coverage, personal accounts, and anecdotal stories highlighting the adverse impacts of the staffing crisis on educators and students, policymakers currently lack the fundamental information required to understand the scope of the problem in Michigan or devise effective policies to address it. For example, it is unknown to what extent any staffing problems might extend beyond teachers and substitutes to other positions in the education system. Additionally, it is unclear how schools respond when a qualified teacher and/or substitute cannot be found. One possibility is that school administrators, paraprofessionals, and other instructional and non-instructional personnel are being reassigned from their original roles to monitor students.

Emergency federal assistance allocated to school districts during the pandemic may have offered temporary relief. Initiatives like the Grow Your Own (GYO) program, supported by the Michigan Department of Education, granted funds to schools which enable them to support non-certified school personnel in obtaining teacher certification. Additionally, many districts have taken advantage of federal or state funding from sources such as the CARES Act or ESSER to enhance recruitment and retention through salary increases or bonuses. However, it is possible these efforts have resulted in a mere relocation of the staffing issues to different districts, school buildings, or sectors in the K-12 staffing landscape. With the looming expiration of COVID-related funding, many districts now also face financial uncertainties while confronting ongoing workforce challenges without clear long-term solutions.

This study and report, funded by Section 27f of Public Act No. 144 and conducted by the Michigan Alliance for Student Opportunity, in consultation with researchers from Public Policy Associates, Michigan State University, and the University of Michigan, aims to strengthen the collected evidence base about K-12 staffing in Michigan. In this interim report, preliminary insights garnered from district leaders, school leaders, and substitute teachers are presented with respect to their on-the-ground experiences in Michigan's school, with emphases on teacher staffing/absences and substitute staffing. It also examines hiring efforts and the perceived impacts of teacher vacancies and absences on students.

TARGETED FEEDBACK FROM DIFFERENT SECTORS OF THE WORKFORCE

Three surveys were conducted among separate groups that play a key role in the education workforce: (1) district leaders, (2) school leaders, and (3) substitute teachers. These surveys were designed to assess the extent of any staffing problems, help identify underlying causes, and gather insights on the impact of K-12 staffing challenges from these different vantage

points. This report presents the preliminary findings from these surveys. **Please note, any results presented here should not be considered definitive and are subject to change.**

By including these diverse viewpoints, the study aims to capture a holistic view of the challenges faced by educators in Michigan. District leaders provide a broad overview of the staffing situation across their respective districts, offering valuable insights into the overall magnitude of the problem and allowing an examination of regional differences. School leaders, on the other hand, provide a more localized perspective, highlighting specific challenges faced at individual schools, which may vary from building-to-building even within the same district. Finally, substitute teachers provide the perspective of those directly involved in filling staffing gaps on a short- or long-term basis. Substitutes are critically understudied members of the K-12 workforce, and often face unique challenges, such as being assigned to positions last-minute and adapting to differing needs of students by grade level and content area. The input of substitutes is crucial for identifying areas of improvement and developing targeted strategies to address the adequate staffing of qualified educators.

Utilizing online surveys to collect the first-hand experiences of district leaders, school leaders, and substitutes makes it possible to examine the extent to which there is a consensus between and among these groups. For example, if all three groups reported similar challenges, it lends greater confidence that their collective viewpoints accurately reflect the situation as a whole. Differences are also important and reflect how members of the K-12 workforce are impacted by workforce challenges in varied extents. Moreover, the experiences of individual people can also vary according to their identity, geography, and job responsibilities.

By identifying both commonalities and disparities in the perspectives of these constituents, decision makers can target their policies and interventions to address the needs specific to particular areas of the labor market. This triangulation of experiences among district leaders, school leaders, and substitutes can hopefully empower policymakers in developing tailored strategies to address the specific needs and challenges faced by district leaders, school leaders, substitute teachers, and other relevant parties.

RESEARCH QUESTIONS

This interim report is one component of a much broader project to understand the state of the K-12 labor market in Michigan. While the final report will integrate these data from different data sources (such as analyses of administrative data and interviews/focus groups with key members of the K-12 workforce), this report only summarizes the preliminary findings from data gathered from the district leader, school leader, and substitute surveys. This report focuses on the following research questions:

1. For which types of roles or content areas is it more challenging to find qualified staff?
2. How does the current process of hiring teachers and other staff compare to pre-pandemic processes?
3. What are the primary reasons that teaching positions are vacant and that teachers are absent?
4. Are there enough substitute teachers to meet the needs of districts and schools, and what strategies are employed when a qualified substitute cannot be found?
5. What are the typical professional backgrounds, working conditions, career trajectories of Michigan's substitute teachers?
6. What are the impacts of workforce shortages on students and staff, and what strategies are districts and schools implementing to address these challenges?

Methods

Three separate surveys were created, one for each target population (district leaders, school leaders, and substitute teachers). Participants were recruited via email, and surveys were administered online via SurveyMonkey. Survey responses were collected between November 2022 and April 2023.

SURVEY OVERALL RESPONSE RATES

The district leader and school leader surveys relied on a convenience sample of individuals who elected to respond to the survey invitation, which was sent via email to the entire population of school district administrators and principals.

Contact information for all district administrators and school principals was pulled from Michigan's Educational Entity Master (EEM) as of October 2022. A total of 114 district leaders, including district administrators, superintendents, and key senior staff (primarily directors of human resources) completed the district leader survey. A smaller number of these respondents ($n = 70$) also reported on staffing for the 2019-2020 school year (i.e., pre- vs. post-pandemic). A total of 205 school leaders (primarily principals and assistant principals) completed the school leader survey, with 127 of these respondents also comparing staffing needs in the 2022-2023 school year to the 2019-2020 school year.

The sample for the substitute survey was recruited from a scientific random sample drawn from Registry of Educational Personnel (REP) contact information.³ A random sample of 525 Michigan-based individuals who worked as substitutes during the 2018-2021 period responded to the email survey invitation and are included in the substitute survey analyses. To the knowledge of the researchers, this is the first rigorous survey of a representative sample of substitutes in an entire state.

Additional details on survey recruitment methodologies, as well as specific characteristics of the responding districts, schools, and participants, can be found in the Technical Appendix.

SURVEY TOPICS

The surveys administered to district leaders, school leaders, and principals were designed to capture their unique perspectives and roles within the education system, resulting in varying scopes and content of the questions posed to each group.

DISTRICT LEADER SURVEY

District leaders were asked broader questions about the administrative and operational aspects of managing schools during the post-pandemic era. Survey questions gathered insights into the overall functioning of schools, resource allocation, decision-making processes, and strategies implemented to address teacher and/or substitute staffing problems. Specifically, topics included questions about short-term substitute staffing, teacher and principal staffing, teacher absences, and district-wide strategies implemented to increase teacher recruitment and retention. A smaller number of district leaders also provided some of this same information on vacancies and hiring processes prior to the pandemic (for the 2019-2020 school year).

³ Contact information for individuals who received a substitute permit in this period (drawn from the Michigan Online Educator Certification System) was cross-referenced with the list of individuals assigned as a substitute during this period, drawn from the Registry of Educational Personnel.

SCHOOL LEADER SURVEY

School leaders were also asked about substitute/teacher staffing and teacher absences, in addition to questions about their day-to-day operational experiences. Survey questions for school leaders explored specific challenges faced by individual schools in maintaining adequate staffing levels, the impact of staffing on instructional delivery, and strategies employed at the school level to mitigate workforce problems. As with district leaders, a smaller number of school leaders reflected on differences in staffing and hiring between the current school year and the 2019-2020 school year.

SUBSTITUTE TEACHER SURVEY

The substitute survey featured a distinct set of questions tailored to the unique experiences and roles that substitutes play within the education workforce. Since the substitute sample is drawn from the entire population of individuals who served as substitutes during the 2018-19, 2019-20, and 2020-21 school years, respondents were first asked about their current position (e.g., whether they were still working as a substitute, or if they were working in a K-12 school other than as a substitute), and questions branched depending on their response. For example, individuals who indicated they were no longer working as a substitute were asked why not. The survey also asked substitutes about their professional background, their reasons for working as a substitute, and their working conditions, including what they like and do not like about working as a substitute.

ANALYSES

Most of the analyses presented in this report are descriptive statistics, used to summarize and present key characteristics, trends, and patterns observed in the data. These include basic summaries of key variables such as means and frequencies. All descriptive analyses were conducted in Stata. **All findings should be considered preliminary and subject to change.**

The present report presents results from all respondents, without reporting subgroup differences to explore variation in demographic characteristics, such as district/school locale, size, percentage of economically disadvantaged students, and percentage of students who are non-white. The full report to be prepared later this summer will explore whether teacher staffing challenges are particularly severe, or impacts of teacher absences have particularly negative impacts, for certain types of schools or districts.

Results

The results are presented by research question. The specific sample being utilized in the particular analysis is noted.

EXTENT OF THE PROBLEM

First, an examination of preliminary data to answer the question: *For which types of roles or content areas is it more challenging to find qualified staff?*

School leaders were asked an overarching question gauging the extent to which they felt their school was experiencing staffing challenges. The results, presented in Figure 14, demonstrate that 82% of school leaders—those with a more localized perspective on staffing—felt that they are experiencing either a minor or severe shortage.

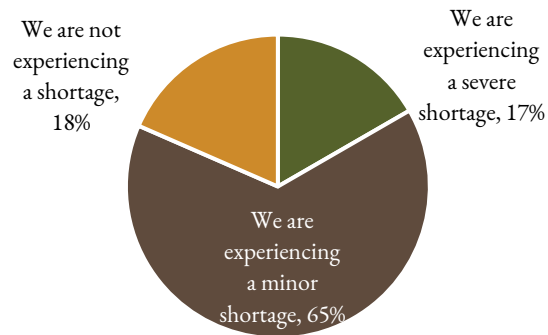


Figure 1. Severity of staffing crisis in Michigan's schools.

NEED, SUPPLY, AND TURNOVER BY POSITION

Like school leaders, district leaders also pointed to problems with staffing. When asked how the need for certain positions had changed since before the pandemic (2019), district leaders agreed that there was an increased need in particular for instructional positions, teachers (91%), other instructional staff (89%), short-term substitutes (87%), and long-term substitutes (79%), topping district leaders' list of the positions for which an increased need was apparent. Furthermore, as Figure 2 shows (below), there was an increased need even for non-instructional staff such as bus drivers.

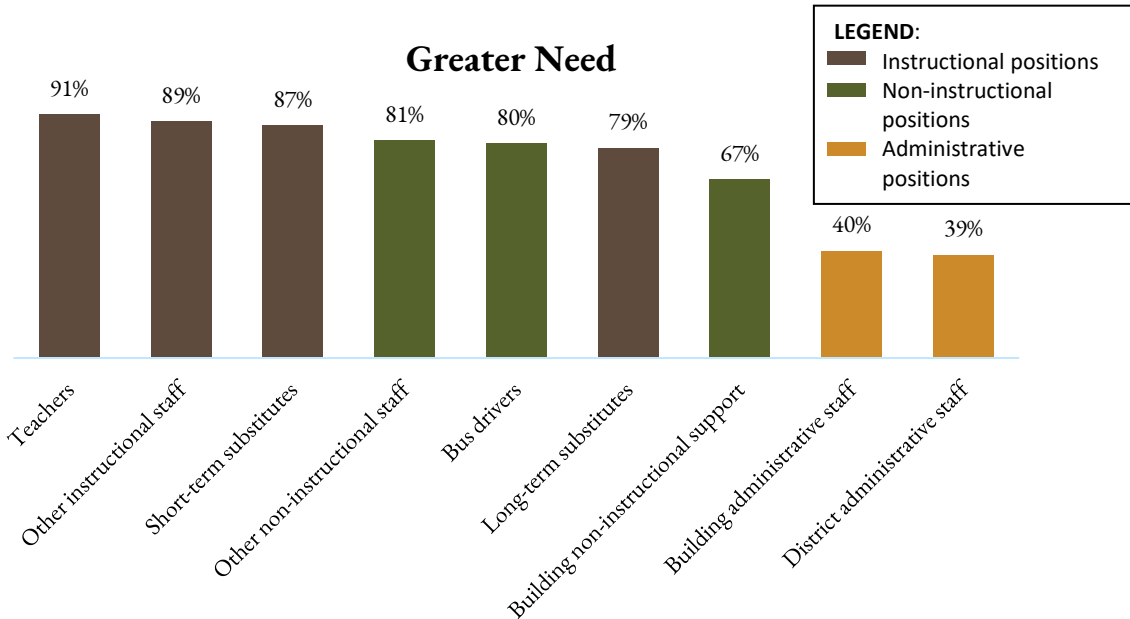


Figure 2. Percent reporting there is "much greater" or "somewhat greater" need for the position since 2019.⁵

⁴ Source: School Leaders Survey

⁵ Source: District Leader Survey

By contrast, fewer district leaders agreed there was an increased need for building or district administrative staff (such as school principals). In support of this conclusion that administrative positions are not understaffed, district leaders reported very few principal vacancies and changes in principal assignments, both for the present school year as well as the 2019-2020 school year (on average, less than 1 in all cases).

In addition to assessing need, district leaders were asked about the extent to which the supply for various positions had changed since 2019. As Figure 3 (below) presents, most district leaders believed that instructional positions are in shorter supply as compared to 2019.

Building non-instructional positions including bus drivers also have less supply available, but not to the extent that district leaders felt the supply for instructional positions has increased since 2019.

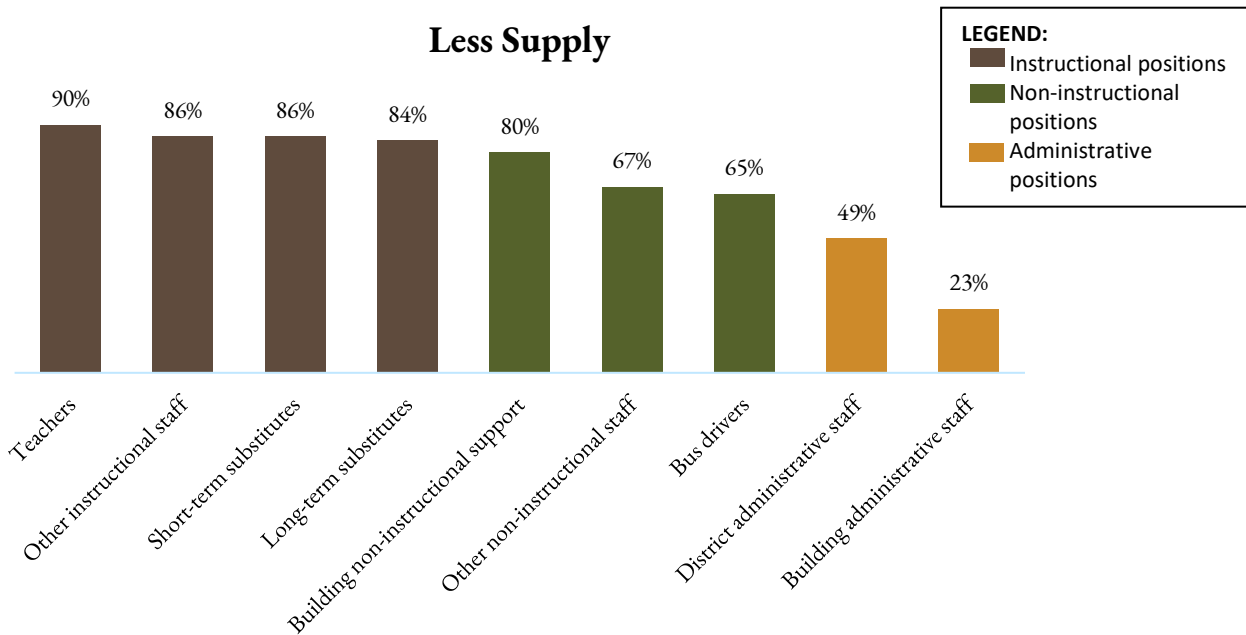


Figure 3. Percent reporting there is “much less” or “somewhat less” supply for the position since 2019.⁶

Finally, changes in rates of turnover for the position from 2019 were also evaluated by district leaders. As Figure 4 (below) demonstrates, seven in ten district leaders agreed there is a greater turnover for teaching positions, with other instructional positions also experiencing greater turnover rates. More than six in ten district leaders agreed that the turnover rates for long-term substitutes and short-term substitutes have also worsened since 2019.

⁶ Ibid.

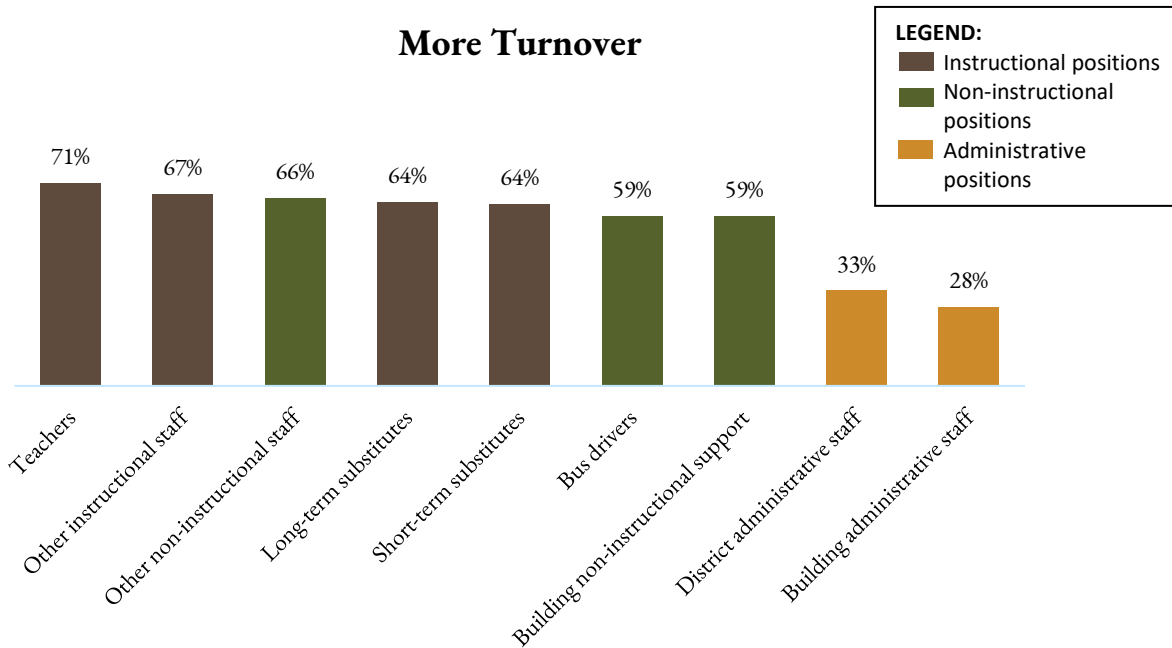


Figure 4. Percent reporting there is “much greater” or “somewhat greater” turnover for the position since 2019.⁷

Taken together, these data paint a troubling picture of the state of the K-12 workforce in Michigan. Apart from administrative staff, more than 50% of district leaders reported more demand, less supply, and greater turnover for all types of building instructional and non-instructional positions as compared to before the pandemic.

The difficulty with finding qualified instructional staff is also felt by school leaders. When asked which positions school leaders felt that they are experiencing the most difficulty finding enough qualified staff, 45% of school leaders rank teachers first. The second-most challenging positions to fill are also related to front-of-classroom instructional roles, including other instructional staff (24%) and short-term substitutes (23%).

CHALLENGES BY TEACHER’S CONTENT AREA

District and school leaders alike agreed that they are having difficulty filling front-of-classroom teaching positions. School leaders were asked about which type of teaching position it is the most difficult to find qualified staff. More than 4 in 10 school leaders (44%) reported that special education⁸ is the most difficult type of teaching position to find qualified staff, followed by mathematics (17%) and science (14%).

PROCESS FOR HIRING TEACHERS

Second, a review of preliminary findings that address the question: *How does the current process of hiring teachers and other staff compare to pre-pandemic processes?*

District leaders were asked about when they began the recruitment process for their vacant teaching positions. In the lead up to the 2022-2023 school year, 64% of district leaders reported starting teacher recruitment in winter/early spring

⁷ Ibid.

⁸ Federal requirements exist to fill a special education vacancy and for assigning a substitute teacher.

(between January–April 2022). By contrast, in the lead up to the 2019-2020 school year, 79% of district leaders reported starting teacher recruitment entirely in the spring (between March–June 2019) (See Figure 5). There is some evidence to suggest teacher recruitment is now a year-round process, adding additional strain to the duties of Human Resources staff and administrators.



Figure 5. Month teacher recruitment began.⁹

Even with more time devoted to teacher recruitment, district leaders reported more than double the number of teacher vacancies at the beginning of this school year (7 vacancies) compared to the beginning of the 2019-2020 school year (3 vacancies). At the same time, the number of applicants for teaching positions is less than half for the current school year (5 applicants) compared to the school year leading up to the pandemic (10 applicants). (See Figure 6, below).¹⁰

⁹ Ibid.

¹⁰ The longer-term effects of budget increases in Michigan toward teaching incentives and other recruitment efforts that have yet to be fully implemented are too early to tell.

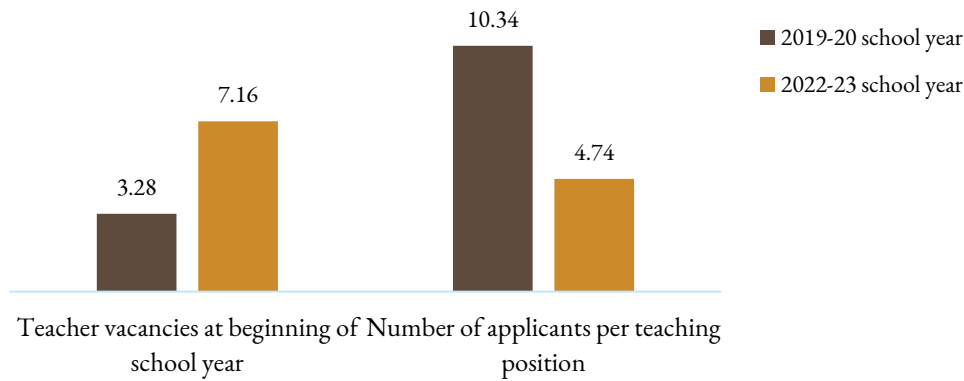


Figure 6. Average teacher vacancies and applicants per position for the current and pandemic school year.¹¹

APPLICANT AND HIRE QUALITY

District leaders were also probed for their insights on the overall quality of the applicants as well as hires for the several types of roles (building instructional, building non-instructional, and administrative positions). Results are presented in Figure 7 (applicant quality) and Figure 8 (hire quality), below. Many district leaders felt that the overall quality of applicants has declined since 2019, for teachers in particular. About half of district administrators agreed that the applicant quality for substitute positions has declined since 2019. Despite the general consensus of respondents that the quality of *applicants* for some types of building positions has declined since 2019, a minority of district leaders agreed that the quality of *hires* for these positions has also declined.¹²

¹¹ Ibid.

¹² The specifics of the decline in perceived quality cannot be provided from these data. Additional qualitative data will be combined with these findings to attempt to illustrate the perceived changes.

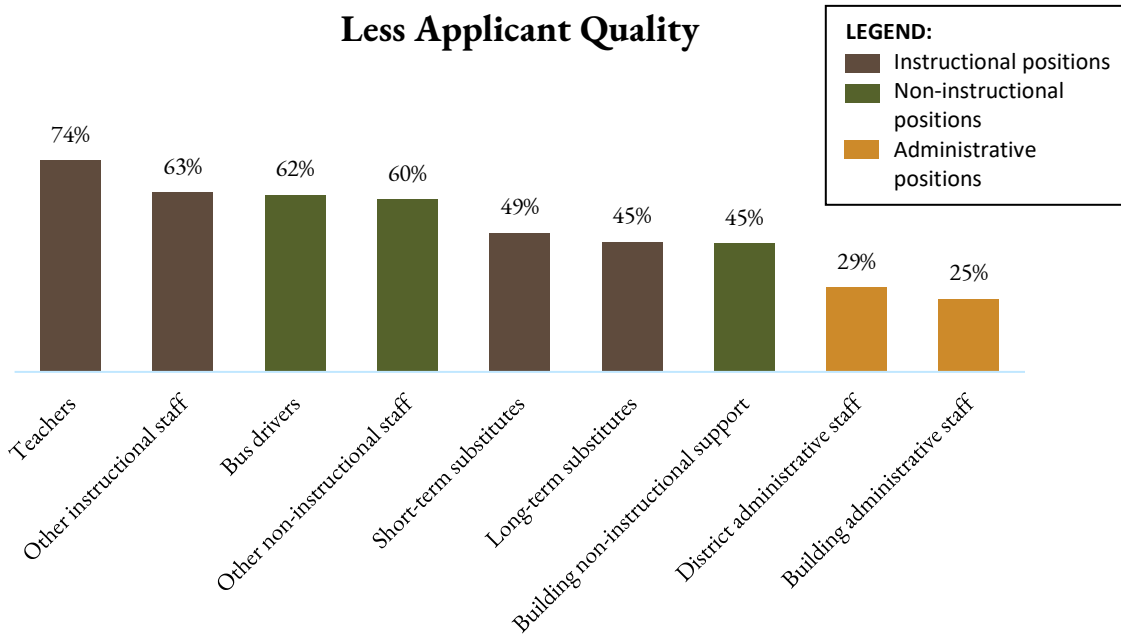


Figure 7. Percent reporting that applicant quality is “much less” or “somewhat less” compared to 2019, by position.¹³

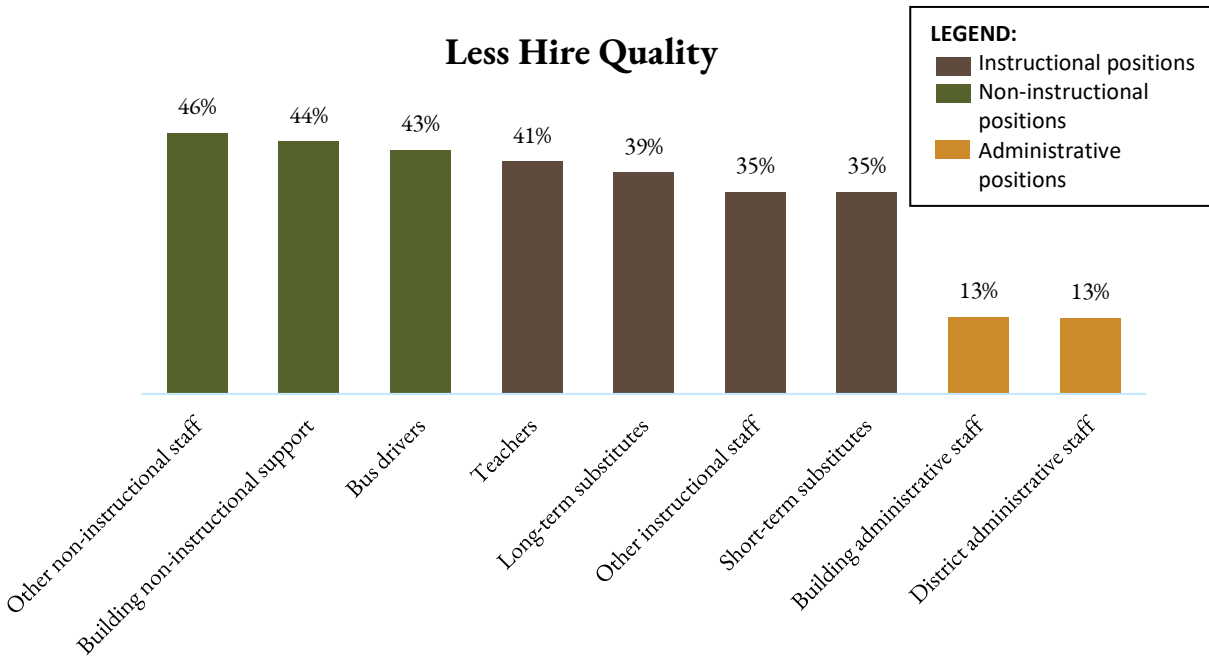


Figure 8. Percent reporting that hire quality is “much less” or “somewhat less” compared to 2019, by position.¹⁴

¹³ Ibid

¹⁴ Ibid

REASONS FOR TEACHER VACANCIES AND ABSENCES

Third, an exploration of the data to answer the question: *What are the primary reasons that teaching positions are vacant and that teachers are absent?*

Two in three district leaders (67%) said that one of the biggest reasons for teacher vacancies in their district is that teachers were leaving to teach in another district.¹⁵ Additionally, 60% of district leaders agreed or strongly agreed that neighboring districts poaching (actively recruiting) their teachers is a serious staffing problem. This suggests the pool of available teachers is not increasing. Districts may not be attempting to recruit individuals new to the teaching profession to fill their teaching roles, but instead are recruiting experienced individuals already in teaching roles. This strategy merely serves to displace the vacancy to another district.

The view from school leaders was slightly different, but no less problematic. Almost half of school leaders (49%) said retirement is the biggest reason for teacher vacancies in their building. However, 30% of school leaders said that the biggest reason for teacher vacancies is because teachers are leaving to teach in another district.¹⁶

A distinct issue from teacher vacancies is teacher absences. Substitutes have traditionally been responsible for filling in for teachers in the case of either teacher vacancy or teacher absence. When asked why substitute teachers are primarily needed, more than 3 in 4 district leaders (77%) identified the most important reason as teacher illness (including physical health, mental health, and burnout). According to respondents, weekly teacher absences have increased 50% since before the pandemic. During the 2019-2020 school year, district leaders reported there were 18 teacher absences during a typical week. By contrast, district leaders reported that during the 2022-2023 school year, approximately 27 teachers are absent for the entire school day for any reason during a typical school week. **Rates of teacher absences are likely significantly impacted by district size and should be interpreted with caution.**

USE OF SUBSTITUTE TEACHERS

Fourth, a reporting of preliminary data to answer the question: *Are there enough substitute teachers to meet the needs of districts and schools, and what strategies are employed when a qualified substitute cannot be found?*

Substitute teachers are largely responsible for filling the vacant teaching positions and covering for teacher absences. While vacant positions can be filled by a long-term substitute who can become integrated into the school's culture, short-term substitutes are primarily used on a day-to-day basis and may be less familiar with the school's policies, procedures, and culture.

Almost all district leaders (98%) and school leaders (96%) said that there are not enough substitute teachers in their area to meet their day-to-day (short-term) needs. More specifically, 72% of district leaders and 62% of school leaders said that once a week or more, there is a need for a day-to-day substitute teacher, but they are unable to find one. This is despite 81% of school leaders reporting the usage of an external agency/third party provider to obtain a list or "pool" of substitute teachers available for assignment, and 70% of district leaders reporting that they employ full-time or "building" substitutes; however, not every building in a particular district is likely to have a building substitute available.

¹⁵ Based on the data available in Michigan, it is challenging to track teacher mobility over time with a clear indication of the reasons that initiated the move.

¹⁶ The connections between school leader and district leader were not linked for this report.

VARIATIONS IN SUBSTITUTE NEED BY SUBJECT AREA

Only 34% of school leaders reported that the need for day-to-day substitute teachers varies by subject area. Of these, school leaders agreed that mathematics (24%), special education (21%), and self-contained regular classrooms (28%) are the subject areas for which substitutes are needed the most. Special education and mathematics are also at the top of the school leader's list of subjects for which it is the most challenging to find qualified staff.

STRATEGIES IMPLEMENTED WHEN A SUBSTITUTE CANNOT BE FOUND

When a substitute is not available, school leaders reported that the two most common strategies used to cover that classroom are asking a teacher to give up their planning period (39%) and having other instructional staff (such as interventionists or teaching assistants) fill in (35%). These two strategies also aligned with school leaders' beliefs in the strategies that have the least detrimental impact on students. Having students engage in a non-instructional activity (such as going to the gym to watch a movie) was the least-common strategy used, which school leaders employed only after strategies such as redistributing students among other classrooms or having non-instructional staff/administrative staff fill in. More than half of school leaders (52%) reported that having students engage in a non-instructional activity has the worst impact on students when a substitute is not available.

SUBSTITUTE EXPERIENCES AND BACKGROUND

Fifth, an examination of the data from the substitute survey to answer the question: *What are the typical professional backgrounds, working conditions, and career trajectories of Michigan's substitute teachers?*

Substitutes play an important but understudied role in K-12 schools. Whether there are teacher vacancies or absences, substitutes are the principal method of filling the void. Specific shortages in the substitute labor market therefore have a major impact on schools. Unfortunately, the research base on attracting and retaining substitutes, and the overall shape of the substitute labor market, is surprisingly thin. This section presents results that pertain to the professional backgrounds, working conditions, and career trajectories of substitutes.

PROFESSIONAL BACKGROUNDS

Respondents to the substitute survey were asked whether they ever trained to be a full-time teacher in a K-12 school. 46% reported having trained in some type of teacher preparation program, with the majority of these reporting they majored in education in college or in another college teacher preparation program. This is different than the understanding of substitute backgrounds from district and school leaders (see Table 1). In the case of district leaders, only 22% believed that the most common background of their substitutes relates to education (including being an educational staff member, such as a paraprofessional; being a retired teacher; or being a present member or recent graduate of a teacher preparation program), while another 50% believed most substitutes have no background in education. For school leaders, 26% believed the most common background of their substitutes relates to education, while 52% believed most of their substitutes have no educational background.

Table 1. District and school leader's beliefs in the most common background of their substitutes.¹⁷

	District Leaders	School Leaders
Background in education	22%	26%
No background in education	50%	52%
Other/Not Sure	28%	22%

¹⁷ Source: District Leader and School Leader Surveys.

WORKING CONDITIONS

When asked for reasons individuals decided to become a substitute teacher, flexible hours were selected by almost 7 in 10 participants, as indicated by Table 2. Likewise, a separate question asked respondents what they liked about being a substitute, and 7 in 10 participants (71%) liked the flexibility associated with substitute teaching. Other reasons many individuals endorsed as contributing to becoming a substitute relate to involvement in the school, community, or children. Only 27% reported working as a substitute to get experience as a teacher.

Table 2. Reasons individuals became a substitute.¹⁸

	Number	Percent
Flexible hours, able to choose when I worked	361	68.89%
Able to choose how many hours I worked	209	39.89%
Wanted to contribute to the community	188	35.88%
Needed the money	186	35.50%
Wanted to be involved in the school	185	35.31%
To get experience as a teacher	144	27.48%
Had children in the school	140	26.72%
Wanted to get back into/back to the workforce	105	20.04%
I was recruited because the school needed help	91	17.37%
Wanted something to do	75	14.31%
I wanted to work with teachers	73	13.93%
In between jobs—need something temporary	72	13.74%
Sense of responsibility	62	11.83%
Seasonal employment	35	6.68%
Needed a 2 nd job	33	6.30%

When asked about things individuals do not like about being a substitute, pay topped the list of concerns, as indicated by Table 3. Additionally, almost 6 in 10 individuals (57%) reported students' level of discipline as a feature of substitute teaching they do not like. Finally, an important consideration is that more than 1 in 4 individuals (26%) felt that substitute teaching suffers from a lack of professional support.

Table 3. Qualities individuals do not like about being a substitute.¹⁹

	Number	Percent
Pay	313	63.23%
Students' level of discipline	281	56.77%
Lack of professional support	130	26.26%
Lack of resources	88	17.78%
Treatment by administration	84	16.97%
School climate and culture	84	16.97%
Didn't feel prepared	82	16.57%
Unreliable/unpredictable schedule	76	15.35%
Working conditions	64	12.93%
Parents	49	9.90%
Didn't feel I could help my students	45	9.09%
Lack of independence and professionalism	33	6.67%

¹⁸ Source: Substitute Survey. Please note, individuals could select more than one; percent does not sum to 100%. There was not sufficient sample size of people who were only long-term substitutes to make valid comparisons. There were 28 long-term only substitutes, 248 short-term only, and 239 who were both.

¹⁹ Source: Substitute Survey. Please note, individuals could select more than one; percent does not sum to 100%.

CAREER TRAJECTORIES

The study next sought to understand the extent to which substitutes are engaging with substitute teaching as a longer-term career within the K-12 labor force, versus working as a substitute temporarily as they seek to transition to other positions inside or outside the K-12 market. Individuals who completed the substitute survey (all of whom were employed as substitutes in the 2018-2021 period) were asked where they were working now (as of Spring 2023). Figure 9 illustrates the career trajectories of individuals who responded to the survey.

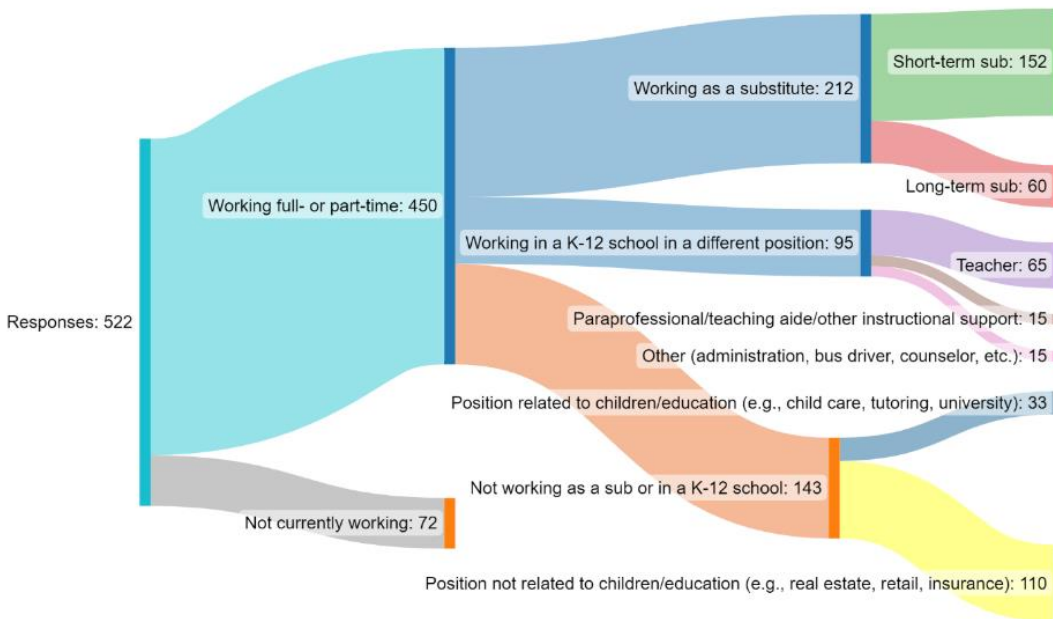


Figure 9. Current (Spring 2023) workplace for individuals employed as substitutes from 2018-2021.²⁰

Of those who were working full- or part-time, 47% reported they are still working as a substitute (with the majority in short-term subbing positions). An additional 21% of individuals are working full- or part-time reported working in a school other than as a substitute, with the majority working as teachers.

Ultimately, almost 7 in 10 of those surveyed were working in a K-12 school in some capacity. Of the individuals who work in a K-12 school other than as a substitute, 37% said that they are working in the same school where they worked as a substitute, 12% are working at a different school in the same district, and 51% are working in a different district. The remaining 3 in 10 individuals are not working as a substitute or in a K-12 school (though a smaller number of these were in roles related to children/education, including child care).

The substantial percentage of respondents that are still working in education and related fields suggests many individuals are at least loosely integrated in the broader education labor market, and many ultimately transition to other positions in K-12 schools.

The individuals not currently working as a substitute were asked why they were no longer in that role; most individuals (43%) reported having found a different job, and another 41% said they were not making enough money as a substitute.

²⁰ Source: Substitute Survey. Please note, three individuals did not provide enough information to determine their career trajectory.

IMPACTS OF STAFFING ISSUES ON STUDENTS AND STAFF

Sixth, and finally, there is an examination of the question: *What are the impacts of workforce shortages on students and staff, and what strategies are districts and schools implementing to address these challenges?*

District and school leaders agreed these teacher vacancies and absences—and the challenges they have filling these positions, even with substitutes—is having a negative impact on students. Specifically, 81% of district leaders agreed or strongly agreed that the lack of substitute teachers is having a negative effect on student learning in their district. Moreover, 73% of district leaders said learning interventions targeting high-need students had to be suspended due to a lack of staff, in some cases for the remainder of the school year. Of the districts that suspended learning interventions, the majority (64%) only had to suspend them for the short-term (1-3 days).

These challenges impact not only students, but also staff and school climate. For the most part, school leaders rated the impacts of teacher absences and teacher vacancies as having similarly negative impacts on student learning, school climate and culture, and morale of school staff (see Figure 10). In all cases, between 57-68% of school leaders reported teacher absences and vacancies have moderate or major negative effects.

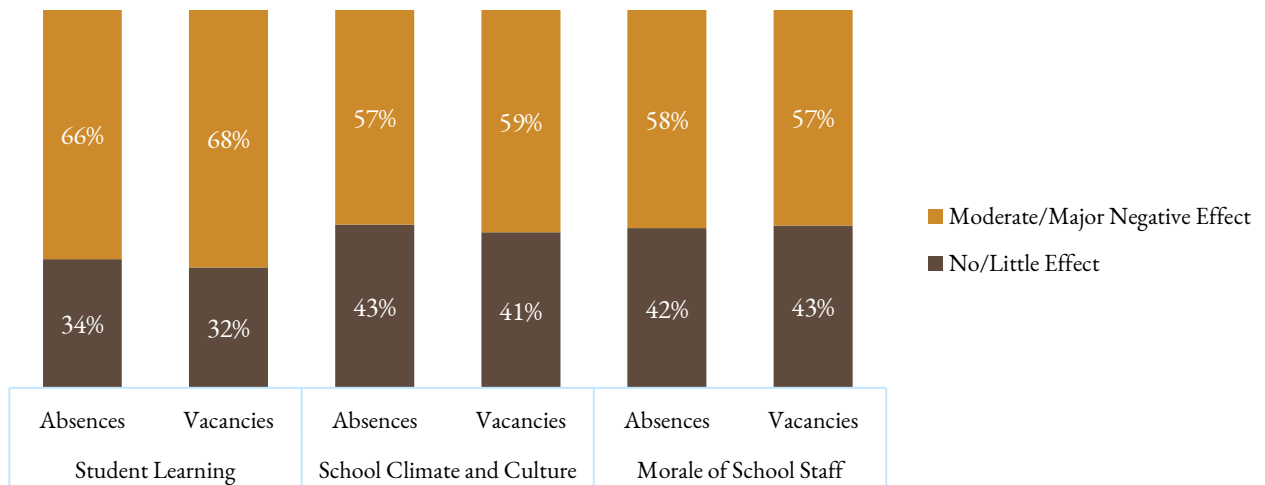


Figure 10. Impacts of teacher absences and vacancies on learning, climate, and morale.²¹

Respondents believed that the impacts of teacher absences and vacancies on efforts to help disadvantaged students were more severe than impacts on student learning, school climate and culture, and morale of school staff. Additionally, school leaders viewed the impacts differently for absences and vacancies (see Figure 11, below). Namely, more school leaders agreed that teacher absences have a moderate/major negative effect on students, compared to teacher vacancies. This may be because schools find alternative strategies to help support disadvantaged students in the case of teacher vacancies (for example, by employing long-term substitutes). It may be more challenging to implement these efforts in the case of day-to-day teacher absences.

²¹ Source: School Leader Survey.

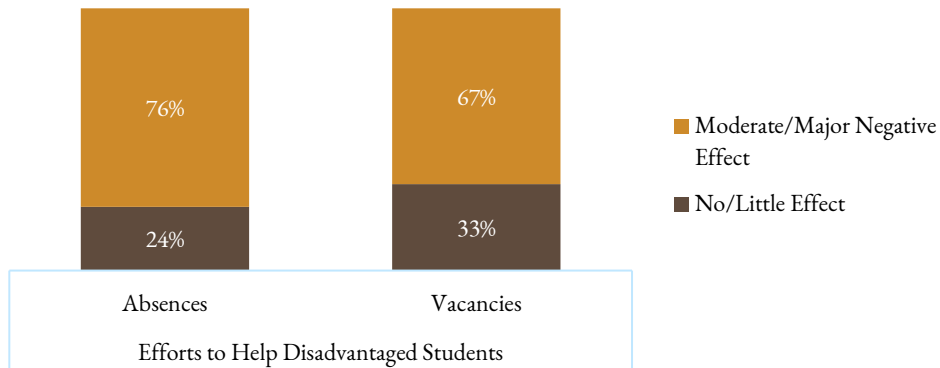


Figure 11. Impacts of teacher absences and vacancies on helping disadvantaged students.²²

STRATEGIES IMPLEMENTED TO ADDRESS STAFFING PROBLEMS

In recognition of the impact of the pandemic on schools, much federal and state funding was made available to school districts in efforts to help with efforts such as teacher recruitment, retention, compensation/benefits, and new teaching and support positions. Nearly 8 in 10 district leaders (79%) reported using COVID relief (such as ESSER) to support efforts such as these, and almost 6 in 10 school leaders (58%) reported using COVID funds to hire additional instructional staff.

In efforts to increase teacher recruitment and retention 58% of district leaders reported offering higher salaries. However, 32% of districts reported they are unable to offer any type of new financial incentive (including bonuses, higher salaries, or more generous leave policies). Additionally, 61% of district leaders are not confident they will be able to continue these policies once COVID relief funds are exhausted.

²² Ibid.

Discussion and Policy Recommendations

The survey results suggest that Michigan's K-12 schools are grappling with significant staffing challenges, with specific shortages of qualified educators across various positions (depending on location), particularly for teachers and substitutes. While COVID-related funds have provided temporary relief to districts and schools in supporting teacher recruitment, retention, and compensation, many district leaders feel they will not be able to continue offering such benefits after these funds expire.

The apparent increase in teacher absenteeism and mobility poses a profound challenge to administrators, especially considering the perceived impact on students. Districts and schools are finding their reliance on substitute teachers has increased, even as the pool of substitute teachers has not changed significantly, or may be worse in some areas, since before the pandemic. Substitute teachers are an important tool in filling staffing gaps, but the fact that most substitutes' professional careers are within the education space suggests that districts are having limited success in attracting substitutes from the broader pool of contingent labor. Major initiatives are needed to reduce teacher turnover and absenteeism, but policymakers should also work to improve the status of substitute teachers in the K-12 system. The prevalence of permanent building and district substitutes is a potentially positive development, but more needs to be done to integrate substitute teachers into the culture of the building—making them feel more connected to the staff and students.

More broadly, the teacher recruitment process has become prolonged and the number of applicants per role (across education positions) has declined compared to before the pandemic. District leaders are finding it more challenging to recruit new personnel to fill vacant positions, and sometimes must rely on non-instructional staff to cover periods when students should be learning. Many district leaders reported that teachers are finding positions in other districts that offer more compensation, and some school leaders reported teachers are retiring from the profession entirely. Additional research will be necessary to understand the specific reasons for teacher departures, such as burnout, and develop collaborative solutions to reduce turnover. In addition to supporting the current workforce, substantial efforts must be made to attract new individuals to the workforce, as well as retain individuals who may be weighing other options.

One limitation of this research is the reliance on convenience samples for the district and school leader surveys. Because individuals elected to participate, it is possible the perspectives represented here are not indicative of all districts and schools in Michigan. Although the substitute survey is drawn from a random sample, there remains some risk of selection bias. These findings should therefore be viewed as one contribution in the development and understanding of the K-12 labor market in Michigan. **The Technical Appendix discusses these issues with generalizability further.**

This report sheds some light on the status of Michigan's K-12 workforce from the perspective of some of its key stakeholders, but it represents only one source of information. In upcoming work, these survey results will be integrated with qualitative data from teachers, administrators, substitutes, principals, and other K-12 staff, as well as state substitute assignment data and personnel data from case study districts. Variations in the K-12 labor market by region, school type, and student demographic characteristics will be further explored.

Technical Appendix

SAMPLING STRATEGIES

As noted in the main text, there were two different sampling strategies used to recruit participants for the surveys: convenience sampling (used for the district and school leader surveys) and randomized sampling (used for the substitute survey).

The key difference between the two strategies lies in how participants are selected. Convenience sampling relies on the availability and accessibility of the participants. This method is often used for practicability and convenience, as it allows researchers to quickly gather data without incurring significant costs in time or effort. A limitation of convenience sampling is the potential introduction of bias, which limits the generalizability of the findings. In the case of district and school leaders, it may be the case that only leaders in districts and schools with more institutional bandwidth were able to complete the survey. This might introduce selection bias, where districts and schools who struggle the least with staffing were the ones able to contribute to the survey. Alternatively, perhaps districts and schools with *greater* staffing challenges were compelled to complete the survey to expose the extent of their challenges. Convenience sampling may suffer not only from selection bias, but representativeness. Because respondents opted-in to the survey, this may result in a sample that does not accurately represent the broader population that the sample is meant to represent; certain types of schools, districts, or regions may be overrepresented, while others may be underrepresented.

Randomized sampling, on the other hand, minimizes bias and enhances generalizability by providing each member of the population with an equal chance of being included in the sample. This method is generally considered more robust and reliable for making valid inferences about the target population, which here substitutes in Michigan schools during the pre- and post-pandemic era, from 2018-2021. Results from convenience sampling, by contrast, must be interpreted with more caution due to the problems inherent in sample representativeness.

DISTRICT LEADER SURVEY

All school district administrators from the October 2022 EEM were invited to complete the district leader survey. In the cases where an email survey invitation was not delivered and “bounced,” researchers attempted to find updated contact information for the current administrator or another senior personnel of the district (such as superintendent).

Individualized survey invitations were sent to 835 individuals in November and December 2022. The email invitation, while addressed to the district administrator (or other senior district personnel), invited them to forward the survey invitation to another key senior staff member with in-depth knowledge of staffing, such as an assistant superintendent or Director of Human Resources. If respondents did not complete the survey within two weeks, an automatic reminder email was sent. The individualized survey invitations yielded 77 responses (such that the response rate was 9.2%).

Given the desire to capture additional responses, the research team employed several ad-hoc outreach strategies to enhance survey response rates. A survey URL was created for broader distribution. Throughout January 2023, PPA’s Director of Education Policy, Dr. Daniel Quinn, disseminated the survey URL among key school personnel advocacy groups, including the Michigan Association of School Personnel Administrators and the Michigan Alliance for Student Opportunity. The survey URL was also distributed among HR representatives for Michigan’s Intermediate School Districts. These outreach efforts yielded an additional 37 survey responses.

In total, 114 district leaders completed the district leader survey between November 16, 2022, and February 27, 2023. Of these, 77% of respondents identified their role as District Superintendent, and an additional 7% identified their role as assistant superintendent, assistant superintendent of human resources, or human resources manager. The remaining 16% of respondents identified their role as superintendent/principal, principal, or other staff (e.g., chief financial officer; executive director of student and staff services.; etc.)

As noted in the main text, district leaders were asked if they felt able to compare staffing in the 2022-2023 school year with staffing before the pandemic, in the lead up to the 2019-2020 school year. A total of 70 respondents (61.4% of the total sample) answered these comparative questions. District leaders who did not feel able to compare staffing to before the pandemic were asked to provide contact information for someone who could. These individuals were emailed separately and invited to complete a separate survey, which only contained comparative questions. While 22 individuals were emailed this request, only one individual responded, their response was included along with the relevant district's data.

DEMOGRAPHIC AND SCHOOL CHARACTERISTICS OF RESPONDING DISTRICTS

Those who were sent individualized email invitations had district information already connected with their response. Survey respondents were also prompted to enter their school district name into the survey, allowing researchers to identify the responding district of those who completed the survey via the URL.

Michigan School Data Student Count Files were downloaded from MISchoolData.org for the 2022-2023 school year on March 6, 2023. From the student count files, two district characteristic variables were computed: percentage of students that are economically disadvantaged, and percentage of students that are non-white. These variables and other relevant demographic and geographic characteristics (e.g., district locale) were merged with the district leader survey data.

Table A (below) represent characteristics of the entire population of school districts in Michigan (first column), the characteristics of those who responded to the district leader survey (second column), and district characteristics from the subset of those who responded to the pre-COVID comparison questions (third column).

Table A. Characteristics of district population, full sample, and COVID comparison sample.²³

		Population (<i>n</i> = 832 districts)	Full sample (<i>n</i> = 114 districts)	COVID Comparison sample (<i>n</i> = 70 districts)
District Type	LEA	65%	82%	81%
	PSA	35%	18%	19%
Locale	Rural	38%	41%	40%
	Town	12%	15%	19%
	Suburb	31%	27%	26%
	City	19%	17%	16%
Student Characteristics (Mean)	Total Enrollment	1,668 students	2,604 students	2,746 students
	% Non-White	37%	30%	30%
	% Economically Disadvantaged	63%	59%	58%

²³ Please note, some variables may not sum to 100% due to rounding. Please note, all prosperity regions were included, and the proportion of responses by prosperity region was very similar to the sample universe.

Although a convenience sample was utilized, the districts represented by the survey responses are roughly in-line with the population of Michigan districts in terms of their locale, student race, and student economic disadvantage. However, districts who responded to both the regular survey and the COVID comparison survey were less likely to represent Public School Academies (PSAs) and more likely to represent Local Education Agencies (LEAs). As such, the districts who responded to the survey also tended to be larger by about 1,000 students than the average Michigan school district. Thus, PSAs and smaller districts are underrepresented in the district survey; these types of districts might face particular challenges in staffing, and the ability to represent their experiences using the data available is limited.

SCHOOL LEADER SURVEY

The process for recruitment of the school leaders was nearly identical to the process of recruitment for the district leaders. Individualized invitations to complete the survey were sent to 2,664 individuals in January and February 2023. Most of these were recorded as school principals in the October 2022 EEM, but a smaller number of contacts were found via individual school websites in case the principal assignment had changed. The email was addressed to the school principal (or other senior school personnel), but recipients were invited to forward the survey invitation to another key senior staff member with in-depth knowledge of staffing, such as an assistant principal. If respondents did not complete the survey within two weeks, an automatic reminder email was sent. The individualized survey invitations yielded 161 responses (with a response rate of 6.1%). As with the district leader survey, the research team engaged in several ad-hoc outreach efforts to increase the response rate for principals, including by advertising a survey URL in newsletters for the Michigan Association of Secondary School Principals and the Michigan Elementary & Middle School Principals Association. These ad-hoc outreach efforts yielded an additional 44 survey responses.

Total, 205 school leaders completed the school leader survey between January 10, 2023, and April 17, 2023. Of these, the vast majority (95%) identified their role as principal or assistant principal, with the remaining 5% serving in other school leadership roles (e.g., Human Resources).

As with the district leader survey, school leaders were asked if they felt able to compare staffing in the 2022-2023 school year with staffing before the pandemic, in the lead up to the 2019-2020 school year. A total of 127 respondents (62% of the total sample) answered these comparative questions. School leaders who did not complete the comparative questions were asked to provide contact information for someone who could. While these individuals were emailed, no one responded.

DEMOGRAPHIC AND SCHOOL CHARACTERISTICS OF RESPONDING SCHOOLS

As with the district survey, school leaders provided their building and district name, enabling the researchers to link survey responses with demographic information pertaining to those schools. Table B, below, represent characteristics of the entire population of schools in Michigan (first column), the characteristics of those who responded to the school leader survey (second column), and school characteristics from the subset of those who responded to the pre-COVID comparison questions (third column). The schools represented by the school leader survey responses are roughly in-line with the population of Michigan schools in terms of their type, locale, and student characteristics.

Table B. Characteristics of school population, full sample, and COVID comparison sample.²⁴

		Population (<i>n</i> = 3,236 schools)	Full sample (<i>n</i> = 205 schools)	COVID Comparison sample (<i>n</i> = 127 schools)
School Type	LEA School	88%	86 %	85 %
	PSA School	11.17%	11%	12%
	Unknown	--	2%	3%
Locale	Rural	28%	33%	35%
	Town	12%	17%	14%
	Suburb	38%	32%	31%
	City	21%	17%	17%
	Unknown	--	2%	3%
Student Characteristics (Mean)	Total Enrollment	427 students	447 students	478 students
	% Non-White	36%	30%	28%
	% Economically Disadvantaged	59%	58%	58%

SUBSTITUTE TEACHER SURVEY

Unlike the district and school leader surveys, the substitute survey was fielded to a random sample of all individuals employed as a substitute in Michigan's schools in the 2018-19, 2019-20, and 2020-21 school years. Contact information for individuals who received a substitute permit in this period (drawn from the Michigan Online Educator Certification System) was cross-referenced with the list of individuals assigned as a substitute during this period, drawn from the Registry of Educational Personnel.

In Spring 2023, personalized email invitations were sent to 4,223 individuals who were randomly selected from the entire pool of eligible individuals. To be retained in analyses, individuals must report they were still based in Michigan at the time of survey completion.

In total, 525 Michigan-based individuals who responded to the survey between March 13, 2023, and April 17, 2023, were included in the analyses, with a response rate of 12.4%.

DEMOGRAPHIC CHARACTERISTICS OF SUBSTITUTE RESPONDENTS

Those who completed the substitute survey were asked demographic questions. These results are summarized in Table C, below. Most respondents (82%) are White, followed by Black (10%) and multiracial/biracial (4%), with the remaining 4% identifying as Hispanic/Latino, Asian American/Pacific Islander, and American Indian/Native American Native. With respect to gender, most respondents are female (72%). The modal age category was 45-54 years (28%), followed by 55-64 years (24%), with 16% of respondents indicating their age as over 65 and 33% indicating their age as 44 or younger (note, values do not sum to 100% due to rounding). The vast majority of respondents (88%) reported holding a Bachelor's degree or higher.

²⁴ Please note, some variables may not sum to 100% due to rounding.

Table C. Demographic characteristics (race, gender, age, education) of substitute survey respondents.²⁵

		Number	Percent
Race	White	400	82.82
	Black	47	9.73
	Multiracial/Biracial	20	4.14
	Asian American/Pacific Islander	9	1.86
	Hispanic/Latino	5	1.04
	American Indian/Native American/Alaska Native	2	0.41
	Total	483	100.00
Gender	Female	369	71.93
	Male	134	26.12
	Prefer not to answer	9	1.75
	Non-binary	1	0.19
	Total	513	100.00
Age	18-24 years	6	1.16
	25-34 years	74	14.26
	35-44 years	90	17.34
	45-54 years	143	27.55
	55-64 years	124	23.89
	65+ years	82	15.80
	Total	519	100.00
Education	Prefer not to answer	2	0.38
	Some college	10	1.90
	Associate's degree	47	8.95
	Other professional credential	2	0.38
	Bachelor's degree	293	55.81
	Master's degree	157	29.90
	PhD	3	0.57
	Other advanced degree (e.g., JD, MD)	11	2.10
	Total	525	100.00

²⁵ Please note, some variables may not sum to 100% due to rounding. Please note, these responses were optional. Compared with the REP and MOECS data from 2018-2021, the race and gender of the two samples were quite similar. However, the survey respondent pool trended older (16% of survey was 65 or older, but only 8% in the REP data; also, there were many fewer in the 18-24 category in the survey).



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