

Entry and Exit of Baltimore City Teachers Before and After COVID

by Jane Arnold Lincove

Executive Summary

In 2022, after increasing pressures from the COVID pandemic and a shifting political climate, the nation's largest teachers' union warned that over half of teachers were considering exiting the teaching profession (NEA, 2022). National news media warned of a coming "mass exodus" of teachers (*EdWeek*, 2022). Locally, the *Baltimore Banner* reported in summer 2022 that Baltimore City Public Schools (City Schools) alone had more than 1,000 vacancies to fill prior to fall, and district administrators warned parents to expect teacher shortages.

More recent national and local work suggests that such anecdotal and survey evidence in the media is often not supported by administrative data (Breiger and Kraft, 2022) and that reports of a teacher exodus are often exaggerated or incorrect. There is no public data on teacher vacancies in Maryland, so in this study, we use administrative data on teacher employment to investigate whether Baltimore City Schools

has experienced changes in teacher supply due to COVID. Through descriptive evidence on teacher entry and exit from 2016 to 2022, we illustrate that teacher retention rates in City Schools actually improved over pre-COVID levels. However, the post-COVID period also saw an increase in the number of new teachers hired with temporary teaching certificates. This suggests that City Schools faces new challenges to recruit and develop the next generation of teachers for Baltimore students.

Key takeaways from this descriptive analysis are:

- Compared to pre-COVID years, City Schools retained more teachers after the pandemic years of 2020 and 2021.
- City Schools maintained high levels of teacher diversity during and after COVID. The percentage of Black teachers increased, and the percentage of male teachers remained stable.

- The number of City Schools teachers exiting to other Maryland districts fell by over 50% in post-COVID years.
- The rate of teacher mobility within City Schools also fell during the pandemic leading to substantially increased retention rates in many schools and fewer schools with retention below 50%.
- COVID saw an increase in the rate of teachers entering with a temporary teaching certificate. By 2022, 1 in 5 teachers had a temporary certificate, up from 1 in 9 in 2016.
- City Schools is increasingly recruiting new teachers from Maryland's public HBCUs and from out-of-state institutions.

DISCLAIMER: This research was supported in part by the Maryland Longitudinal Data System (MLDS) Center. We are grateful for the assistance provided by the MLDS Center. All opinions are the author's and do not represent the opinion of the MLDS Center or its partner agencies.

Introduction

Purpose

The purpose of this study is to examine the supply of teachers in Baltimore City Public Schools (City Schools), with a particular focus on sources of potential teacher shortages that emerged during the COVID-19 era. City Schools is a large, urban school district serving students within the City of Baltimore. City Schools serves a population of approximately 76,000 students, many of whom face substantial obstacles to educational success, and employs approximately 5,000 teachers. While the citywide population is 61% Black, 30% White, and 6% Hispanic and 20% of households live in poverty (US Census Bureau, 2021), City Schools serves a student population that is 73% Black, 17% Hispanic, 7% white, and 61%

economically disadvantaged (City Schools, 2023). Approximately two-thirds of incoming students fail to demonstrate school readiness on the Kindergarten Readiness Assessment, 12% of students are English Language Learners (ELL), and 14% are identified as having special educational needs (SPED) (BCPS, 2023).

City Schools facilities were closed to in-person instruction from March 2020 to February 2021, placing challenging new burdens on teachers to deliver virtual instruction. Nationwide news reports pointed to a "mass exodus" of teachers during this period, including mid-year exits that left many classrooms understaffed

(*EdWeek*, 2022). Local media reports in summer 2022 estimated over 1,000 open positions in BCPS (*The Baltimore Banner*, 2022), and BCPS alerted parents to expect larger classes and increased use of paraprofessionals or substitute teachers to staff classrooms (*WBAL-TV*, 2022).

There are no national counts of open teaching positions, but a deeper dive into staffing statistics has raised doubts about the scope and scale of teacher exits in many settings (Bleiberg and Kraft, 2022). Locally, the Maryland State Department of Education published data suggesting that teacher exits during COVID varied substantially across the state, with exits actually going down in City Schools (MSDE, 2023).

Districts can experience shortages because of increased teacher exits but also because of external factors that influence the supply of new teachers. By 2022, Maryland was experiencing historically low unemployment rates both statewide and in Baltimore City (*Government of Maryland*, 2023), while enrollment rates in Maryland teacher education programs were declining (MSDE, 2023). Thus, it is possible that current staffing challenges are due to decreased supply of individuals seeking teaching positions rather than an increased demand due to exits of current teachers. As components of federal COVID relief funds and the *Blueprint for Maryland's Future* can be used to support new teaching positions, we also expect the demand for teachers to increase statewide, putting additional strain on a limited supply of new teachers.

What is clear is that it is critical for City Schools students to have access to high-quality

teachers who reflect the racial and ethnic diversity of the student population.

The latest state assessment results suggest that around 10% of elementary students and 5% of secondary students are proficient in math (City Schools, 2023). At the same time, the *Blueprint for Maryland's Future* provides new funding for BCPS to expand its teacher workforce, increase levels of compensation, and improve retention and diversity (MSDE, 2023). In this context, City Schools must work to improve instructional quality while also expanding the total number of teachers.

Critical to this work is a clear understanding of context around the teacher supply in City Schools. This study seeks to provide policymakers, educational stakeholders, and the public at large with a clearer picture of teacher exit and entry from City Schools both before and during COVID. We do this by tracking entry and exit over time from 2016 to 2022 using a state database of public school teachers and their employment over time.

Descriptive evidence presented here illustrates that there was no “mass exodus” of teachers from City Schools during COVID. Our analysis shows that teacher retention rates actually improved post-COVID compared to previous trends, and City Schools was able to maintain a higher proportion of teachers of color than peer districts during this time. Historically, more teachers transfer out of City Schools each year than transfer in, but transfer out of City Schools to surrounding jurisdictions also declined considerably post-COVID.

One significant change during this period was a marked increase in the number of teachers working under temporary certification from

11% in 2016 to 22% in 2021, which suggests that the pool of fully certified teachers has diminished over time. This increase was also observed in peer districts where the rate of temporary certificates rose from less than 4% in 2018 to 8% in 2021. City Schools teachers

are increasingly educated at local Historically Black Colleges and Universities (HBCUs), suggesting that the strength of HBCU teacher preparation programs is vital to the district's ability to improve quality and diversity.

Data

Data for this study was provided by the Maryland Longitudinal Data System Center (MLDSC), an independent state agency that supports research on education and workforce outcomes in Maryland. Contributing agencies include the Maryland State Department of Education (MSDE), Maryland Higher Education Commission (MHEC), the Department of Licensing and Labor (DLLR), Department of Juvenile Services (DJS), and Department of Human Services (DHS). Within the MLDSC, researchers can link deidentified individual records across agency records to form a complete picture of an individual's education and employment over time. We were granted permission in December 2022 to use the MLDSC data to investigate the supply of teachers in Baltimore City and Maryland.

This data is uniquely informative regarding teacher mobility because it tracks individuals across K-12 education, college, and careers in Maryland. While local education agencies can only track individuals whom they currently employ, the MLDSC can track teachers as they graduate from state universities and enter and exit public school teaching anywhere in the state. Further, using the MLDSC enables us to compare local and statewide trends to determine if City Schools is experiencing unique or common shocks in the labor market.

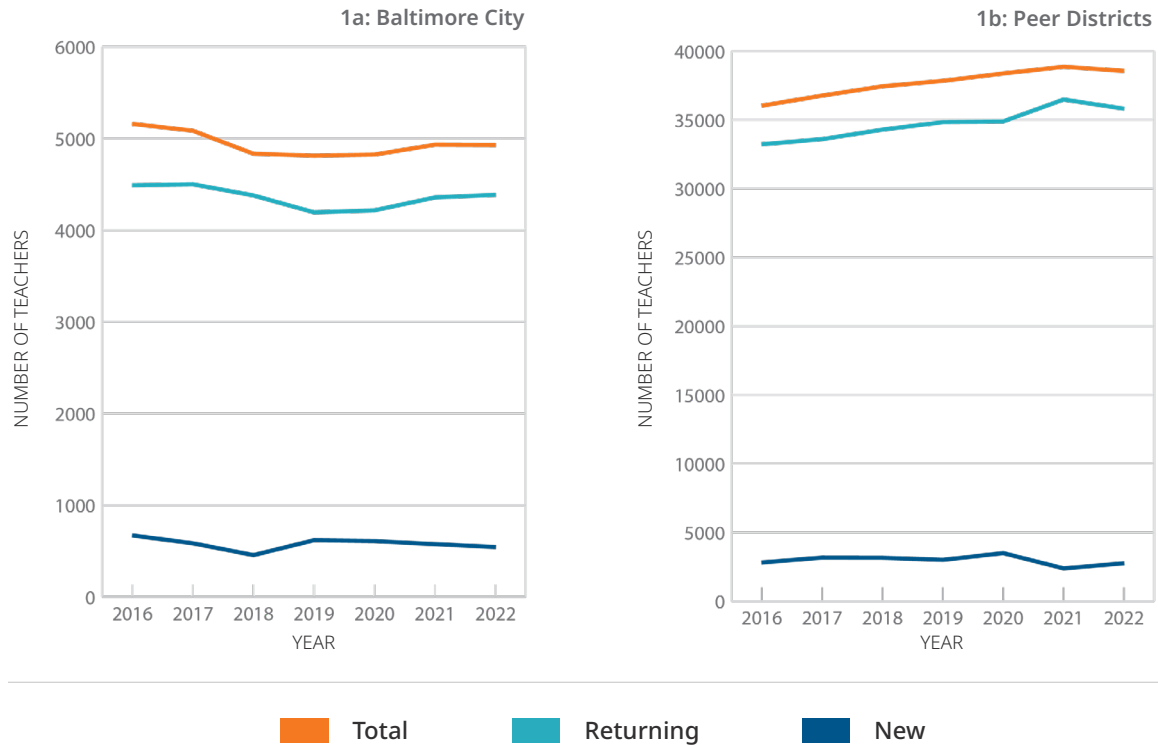
BCPS TEACHER COHORTS

We used the MLDSC to identify all teachers working in Baltimore public schools from the 2015-2016 to 2021-2022 school years. Throughout this report, we will refer to school years by their spring year (e.g., 2015-2016 is 2016). For each teacher, we identified employment, demographics, and certification information from MSDE files. We also linked each teacher to MHEC records of higher education in public and private colleges and universities in Maryland. We were able to look backward to see where teachers earned bachelors' degrees prior to teaching. This data was available for all Maryland higher education institutions dating back to 2008. From 2016 forward, we traced the career pathways of City Schools teachers. Through MSDE and DLLR employment files, we observed annual exit from City Schools teaching positions and subsequent employment outcomes in Maryland including the interdistrict transfer of teachers in and out of City Schools over time.

PEER DISTRICT COHORTS

To understand the teacher labor supply in the broader context of Maryland, we replicate much of our analysis for a group of peer districts. Five peer districts—Anne Arundel County, Baltimore County, Howard County,

Figure 1. Teacher Counts Over Time



Montgomery County, and Prince George's County—were identified by City Schools staff as districts with which City Schools competes to hire and retain teachers. Data confirm that over 95% of interdistrict transfers into or out of City

Schools occur across these five districts. We aggregate teachers from the five peer counties into a single comparison group and repeat our analysis for this aggregate group to identify whether trends are unique to City Schools.

Data Analytics

Teacher Entry and Exit

We begin by examining the entry and exit of teachers over time from 2016 to 2022. [Figure 1a](#) illustrates the number of returning, new, and total teachers each year. New teachers are identified as those in their first year of employment as a City Schools teacher,

and returning teachers were employed as a teacher in City Schools in the prior school year. During the period of study, student enrollment in City Schools fell by 7% from approximately 83,600 students in 2016 to 77,800 students in 2022. The total number of teachers declined

from 5,159 in 2016 to 4,928 in 2022, which reflects only a 4.4% decline overall. Most of the decline in both students and teachers occurred prior to 2019.

During the COVID school years of 2020 and 2021, the total number of teachers in City Schools increased each year before a small decline in 2022, while the number of students declined overall. Thus, we find no evidence of any decline in the overall number of teachers in City Schools during COVID years.

Figure 1b illustrates teacher counts during the same period for peer districts. Peer districts

did not experience the pre-COVID declines in students and teachers that we observe in City Schools, and post-COVID trends are similar across settings.

Figure 2a illustrates the share of new and returning teachers in City Schools each year. Typical pre-COVID return rates of 85-90% persisted after COVID, and the share of new teachers declined slightly from 12.8% in 2019 to 11.0% in 2022. **Figure 2b** illustrates the share of new and returning teachers in peer districts each year. Peer districts have higher teacher retention in all years—ranging from

Figure 2. Shares of New and Returning Teachers

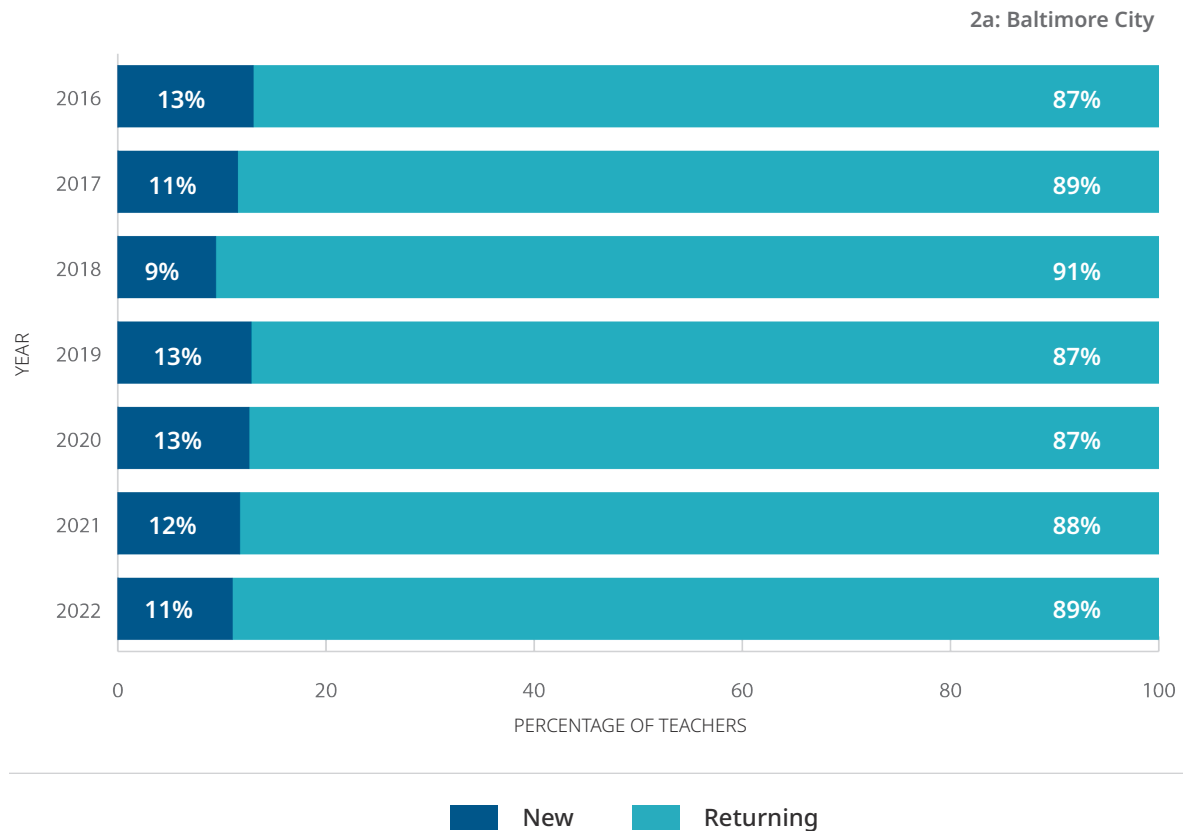
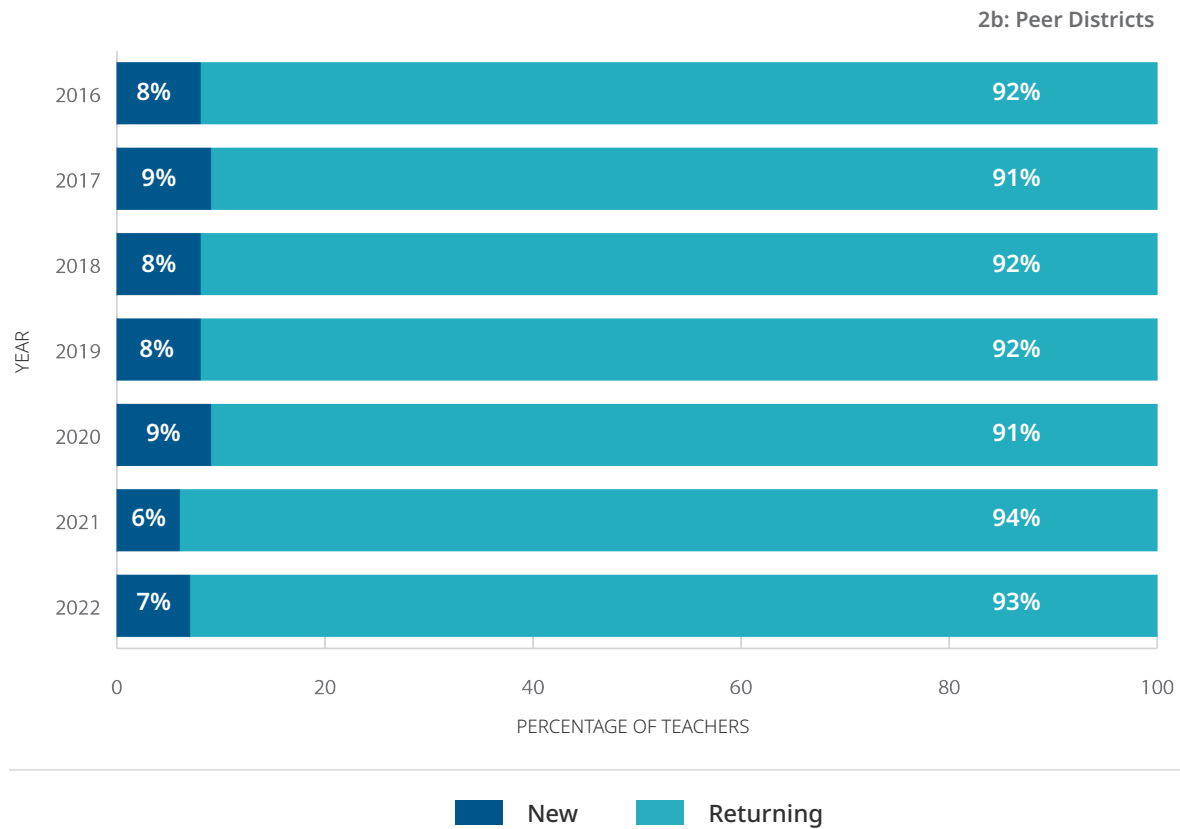


Figure 2. Shares of New and Returning Teachers (cont.)



90%-94%—but neither City Schools nor peer districts saw large increases in teacher exit rates or decreases in the overall number of teachers during the COVID period. For City

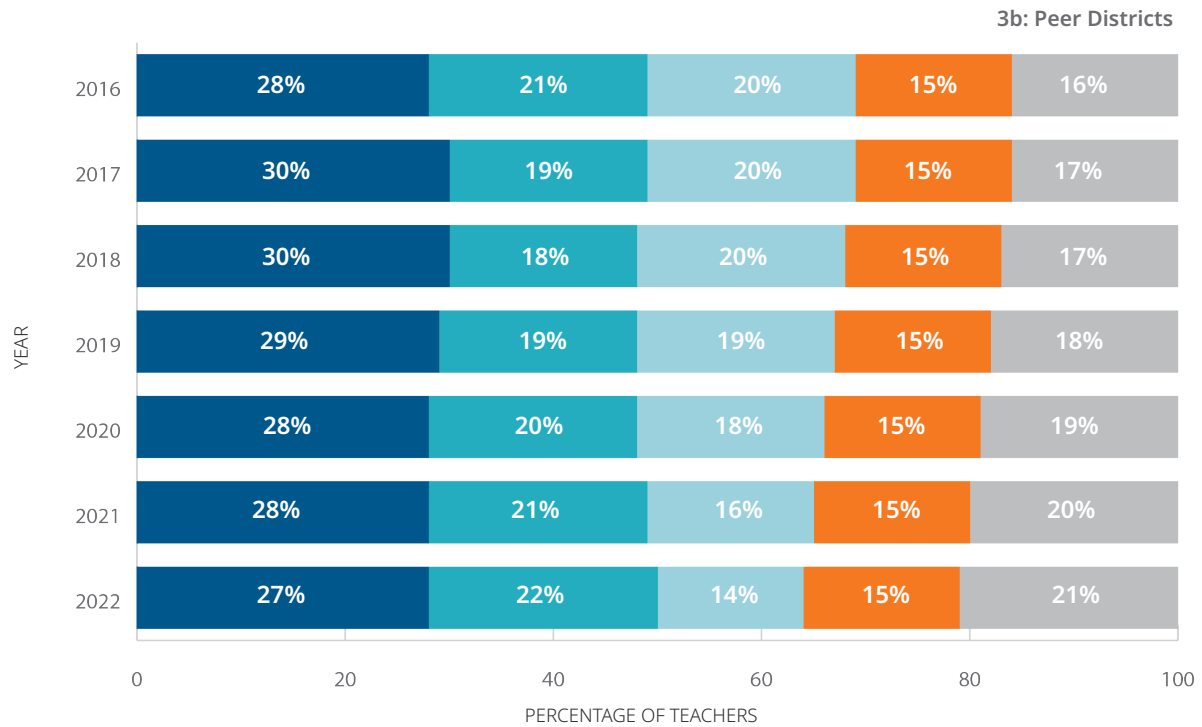
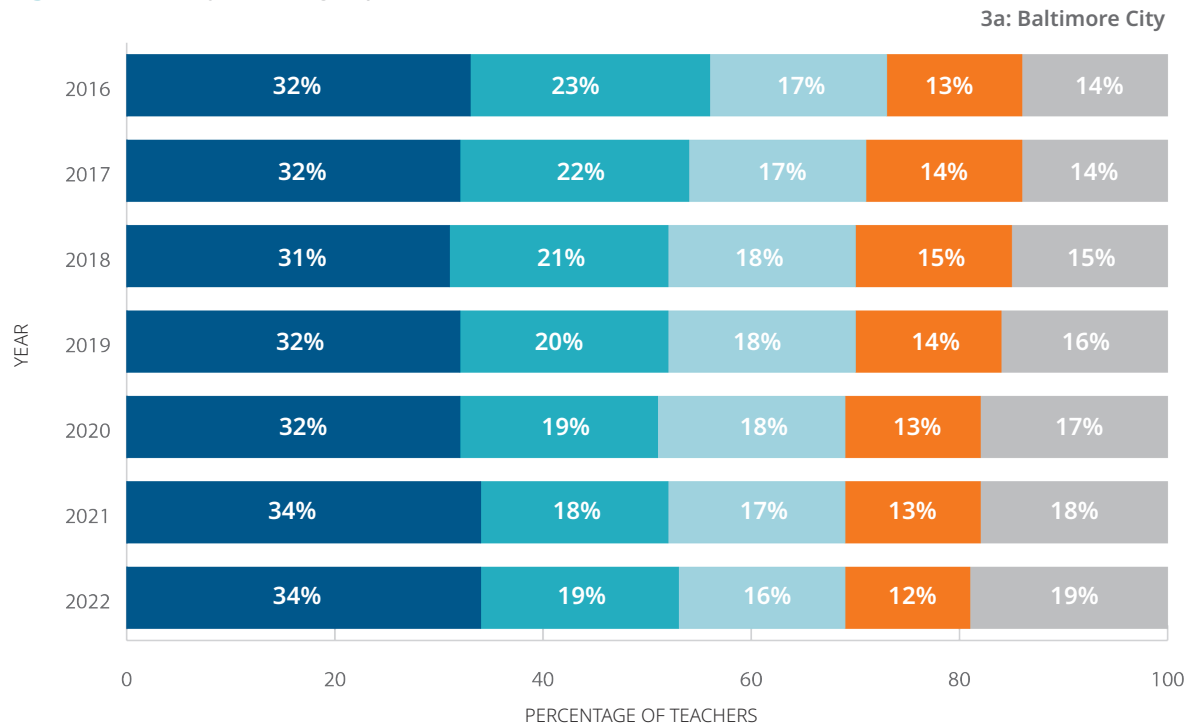
Schools, an increase from 90% retention to 95% would eliminate the need to hire approximately 250 new teachers each year.

Teacher Experience

We next examine whether teacher turnover has influenced aggregate experience of teachers in City Schools. [Figure 3a](#) illustrates the distribution of teacher experience by year in 5-year bins. Since 2019, there has been modest growth in the share of teachers with less than 5 years of experience, from 30.9 percent in 2018 to 33.6 percent in 2022. This is primarily offset by a reduction in the share of teachers with 5-9

years of experience. The share with 10 or more years of experience has remained relatively stable over time, and there is no evidence that the district's most experienced teachers were triggered to exit during or after COVID. Shifts in the distribution of teacher experience come primarily from early career exits and a reduction in the number of novice teachers who persist beyond 5 years.

Figure 3. Years of Teaching Experience



Number of years teaching: 0-4 5-9 10-14 15-19 20+

A similar trend can be seen in peer districts (Figure 3b), but there we see the share of teachers with 10-14 years of experience declining, while the share with 5-9 years

increases, which suggests that mid-career exits are more common in peer districts, while early career exits are more common in City Schools.

Teacher Demographics

Figure 4a illustrates the distribution of City Schools teachers by race/ethnicity from 2016 to 2022. In 2016, City Schools teachers were 47.4% white, 39.1% Black, 7.7% Asian, 3.2% Hispanic, and 2.7% other or multiple races. Over time, the share of white teachers declined to 42.6% in 2022, while the share of Black and

other or multiple race teachers increased to 42.0% and 3.4%, respectively. These continuing trends help the teacher workforce better reflect the student demographics of Baltimore. We see no evidence of substantial shifts in teacher demographics during the pandemic.

Figure 4. Teachers by Race/Ethnicity

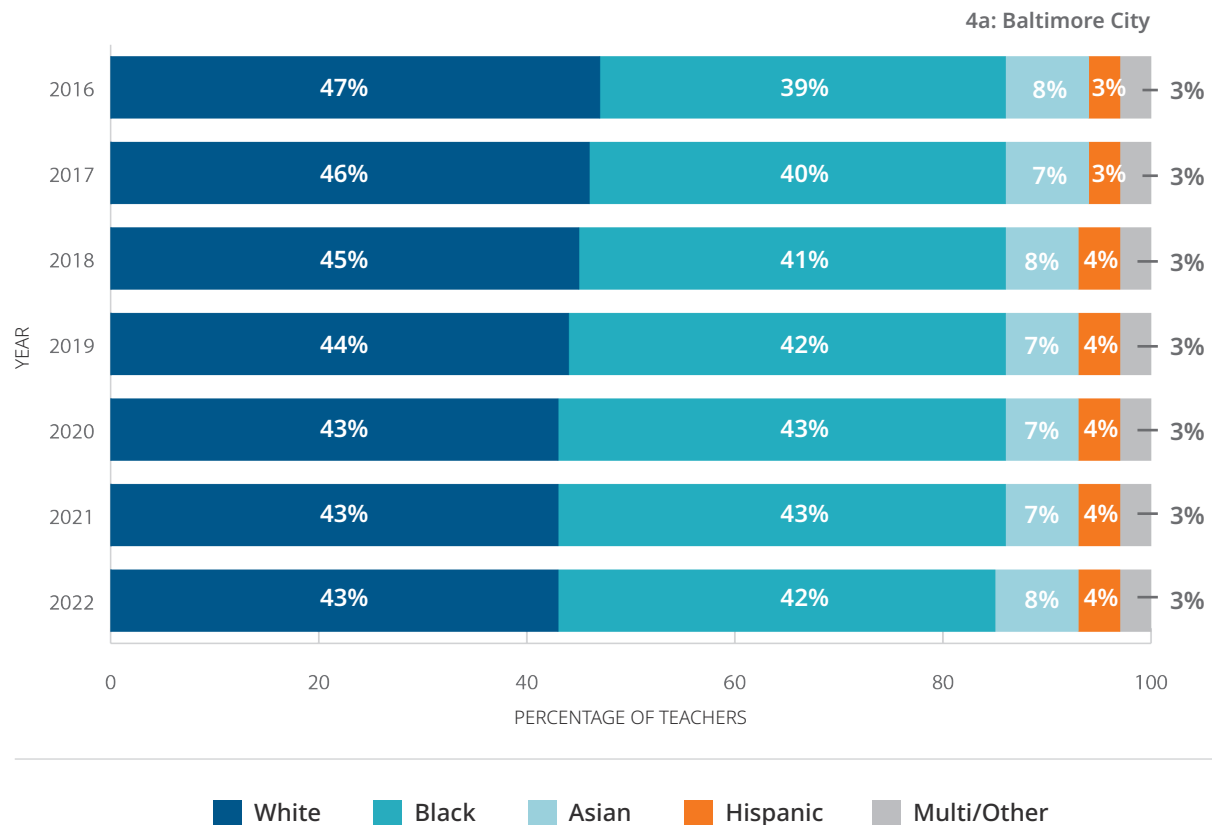


Figure 4. Teachers by Race/Ethnicity (cont.)

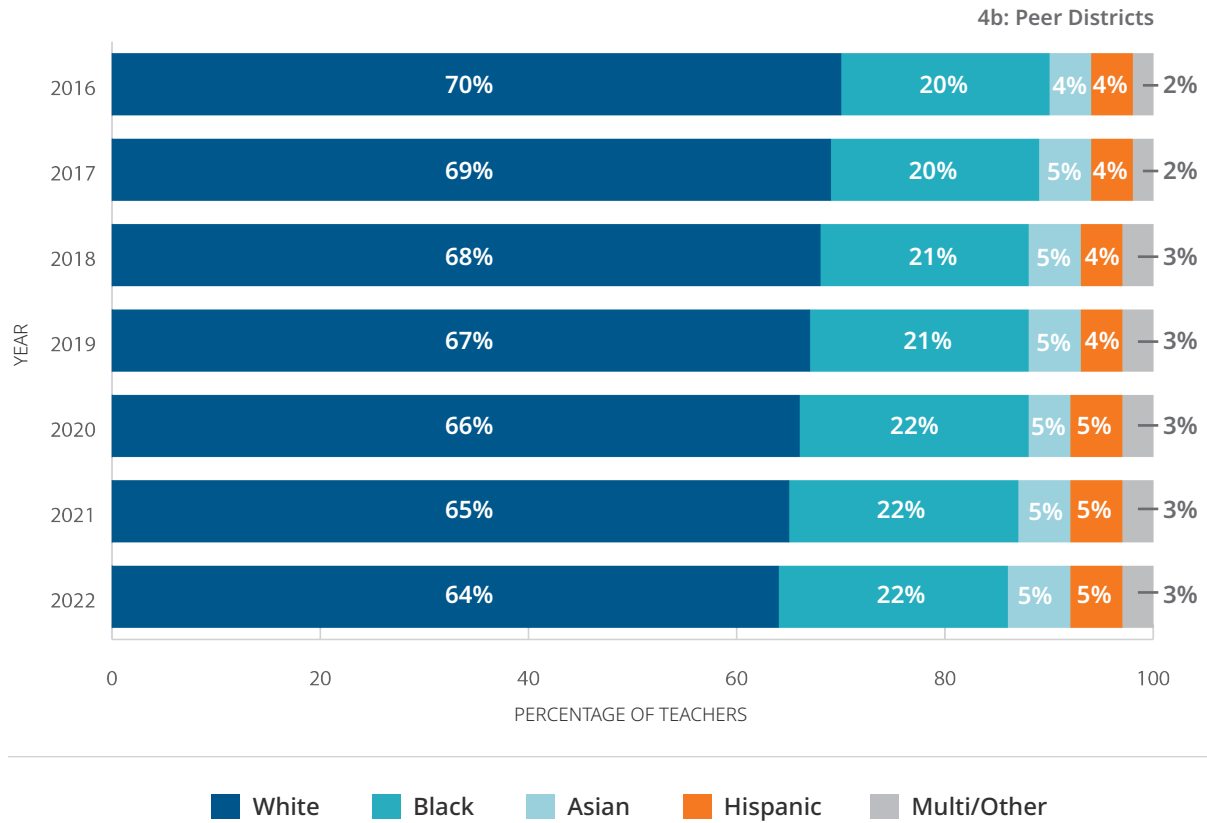
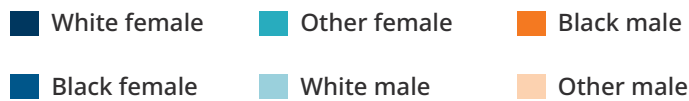
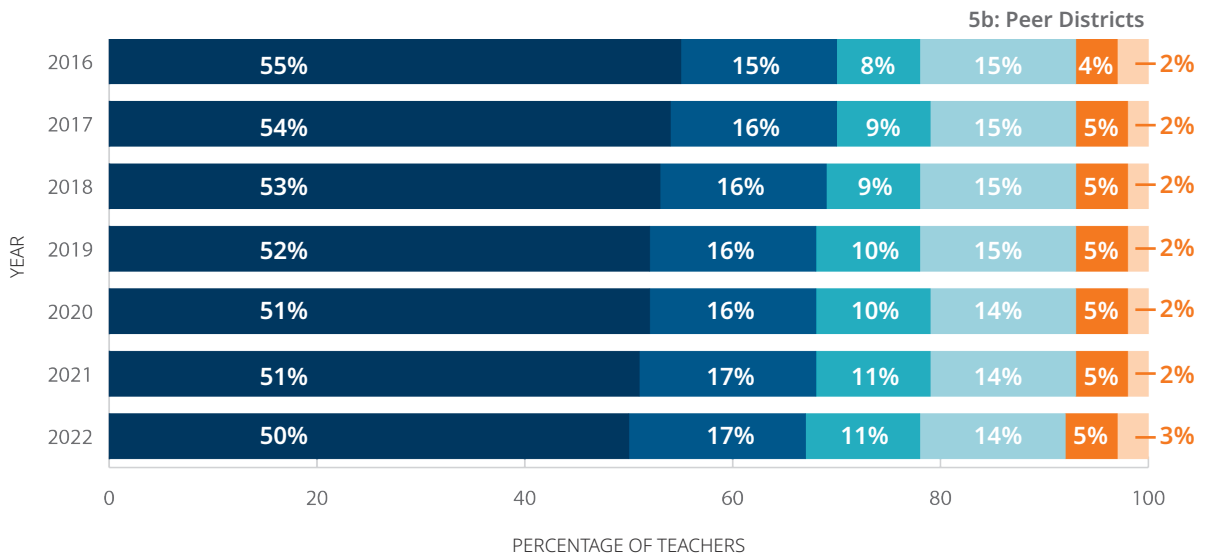
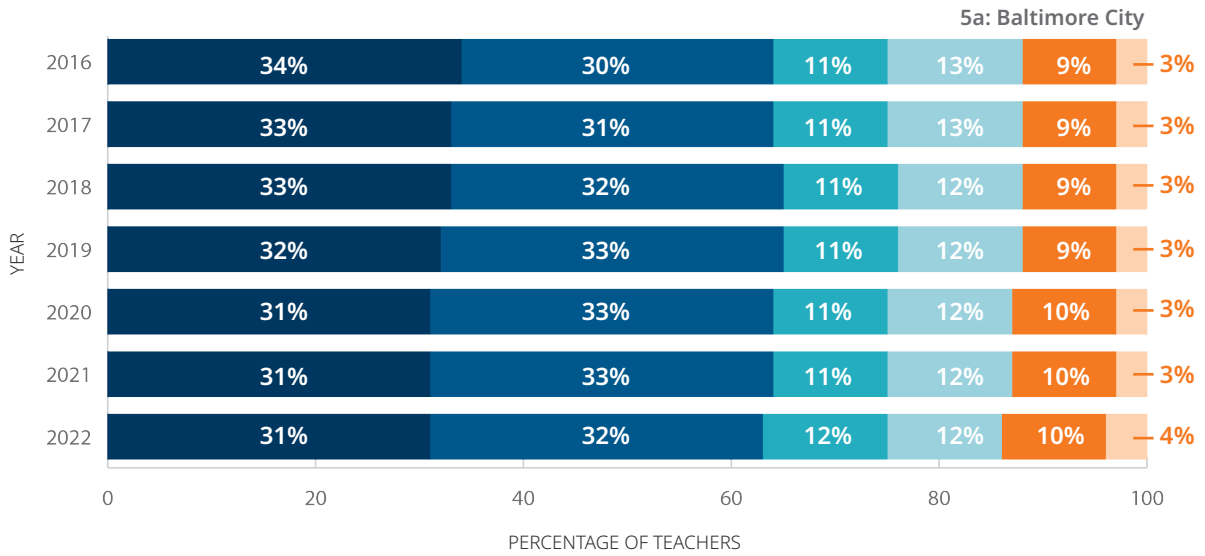


Figure 5a further disaggregates City Schools teachers by race (white, Black, or other) and gender (female or male). City Schools teachers were approximately 75% female and 25% male across all years, and the increases in the share of Black and other or multiple race teachers occurred for both males and females. Compared to peer districts, City Schools had greater teacher diversity across the study period with both a larger portion of teachers of color and a larger portion of male teachers.

Figure 5. Race/Ethnicity x Gender



Teacher Certification

Figure 6a illustrates the distribution of City Schools teachers by certification status from 2016 to 2022. We note that in each year, between 7%-16% of teachers are missing certification data in the MLDSC. The majority of City Schools teachers have permanent certificates, and about half have advanced certificates. We observe the portion of teachers with temporary certificates increased sharply during COVID from 13% in 2018 to 20% in 2021. A temporary certificate indicates

a regular classroom teacher who is still completing teacher training with an approved Maryland certification program. The percentage of teachers in this status increased slowly from 11.9% in 2016 to 14.5% in 2020, and then jumped to 20.3% in 2021 before falling slightly to 19.8% in 2022. This means that 1 in 5 classroom teachers in City Schools is now working under a temporary certificate, compared to 1 in 9 in 2016.

Figure 6. Teacher Certificate Types

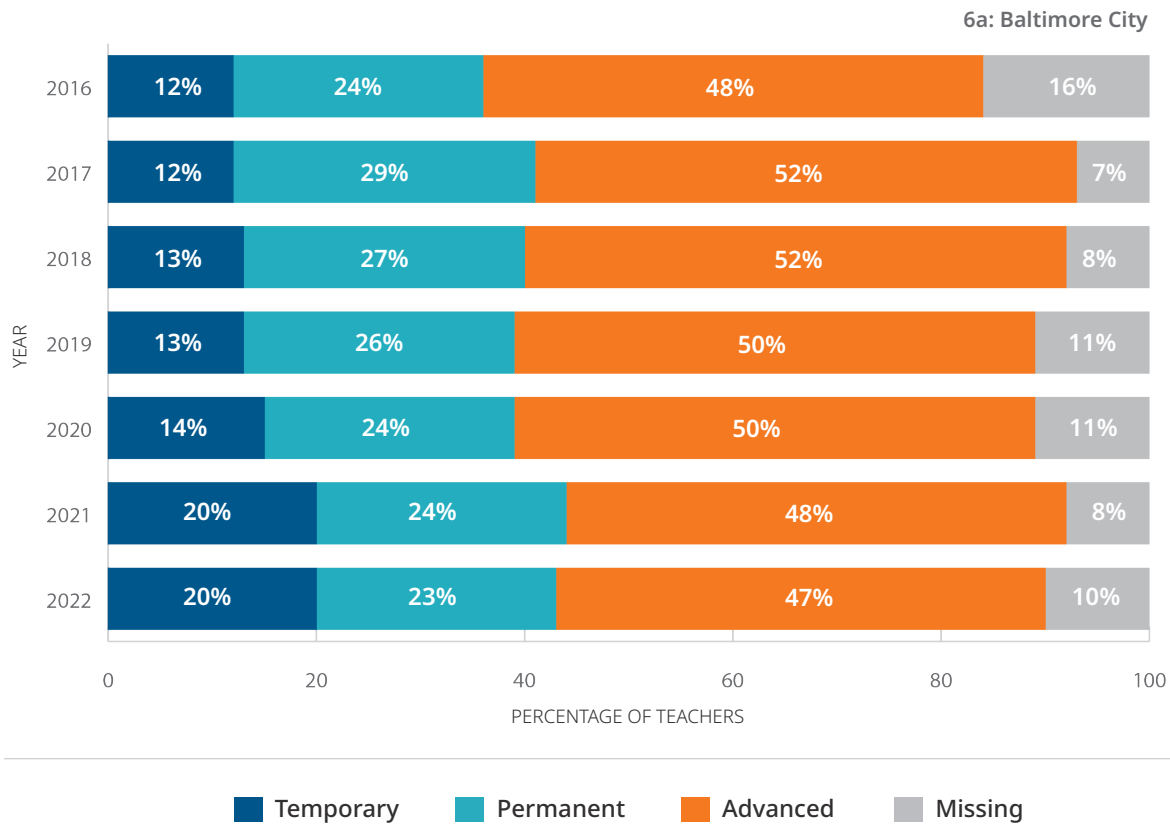
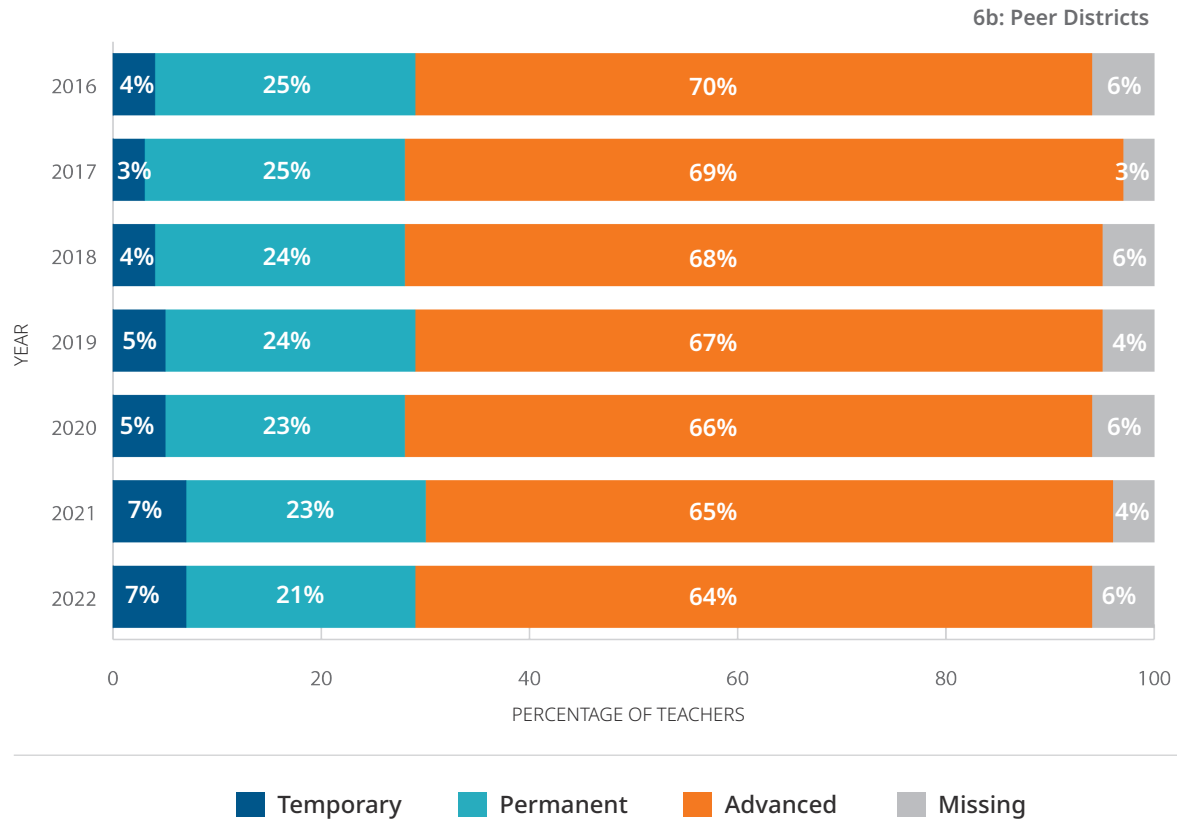


Figure 6. Teacher Certificate Types (cont.)



Peer districts (Figure 6b) also saw a jump in the share of temporary certificates during COVID but on a much smaller scale rising from 5.0% in 2020 to 7.3% in 2021. This suggests that while retention of existing, certified teachers has been relatively stable,

it has become increasingly common for new teachers to enter City Schools before completing certification. This points to a potential shortage of new candidates and not an increasing rate of teacher exit.

Teacher Mobility and Exit

We examine teacher employment mobility by looking at MLDSC employment data over time. Figure 7 illustrates the subsequent year’s employment status for City Schools teachers from 2016 to 2021, showing the number of teachers who returned to City Schools, exited

to a different district, or exited public school teaching in Maryland. In the years prior to COVID, it was typical for City Schools to lose more than 700 teachers per year, with the majority exiting teaching entirely. During COVID, overall exits fell to 493 in 2020 and

Figure 7. BCPS Teacher Mobility

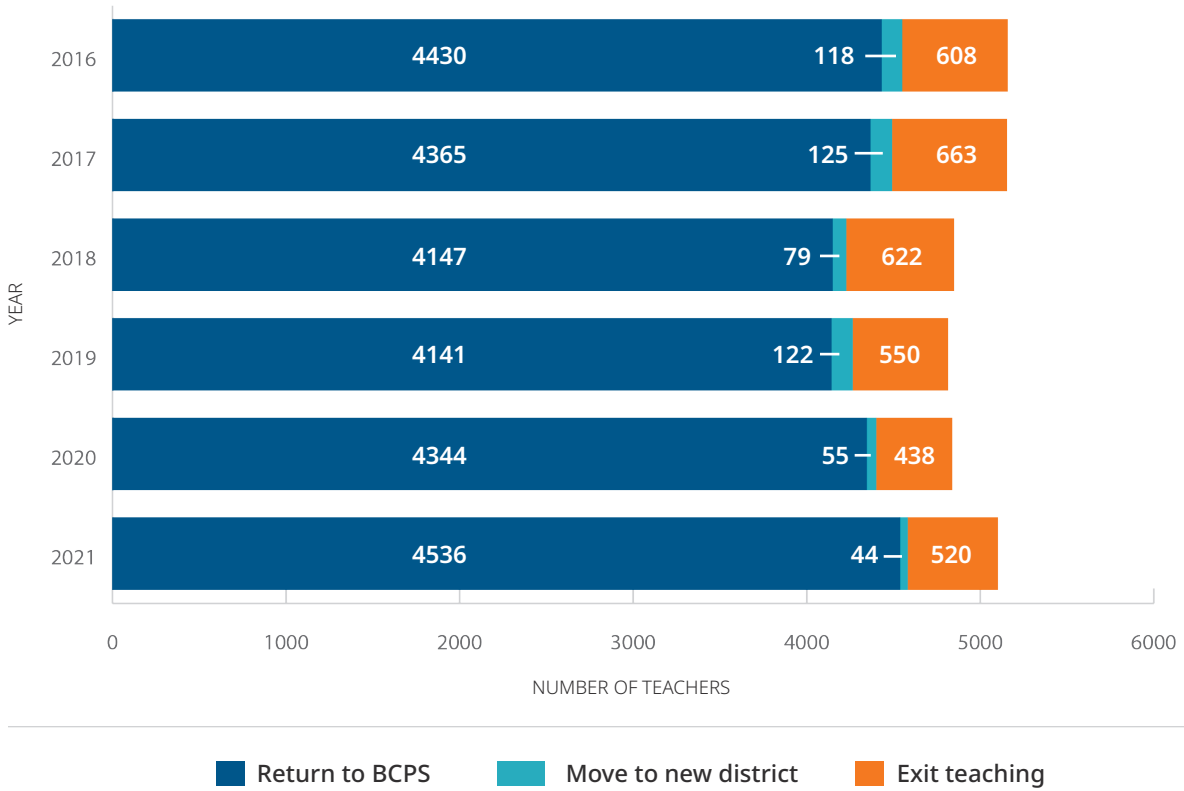
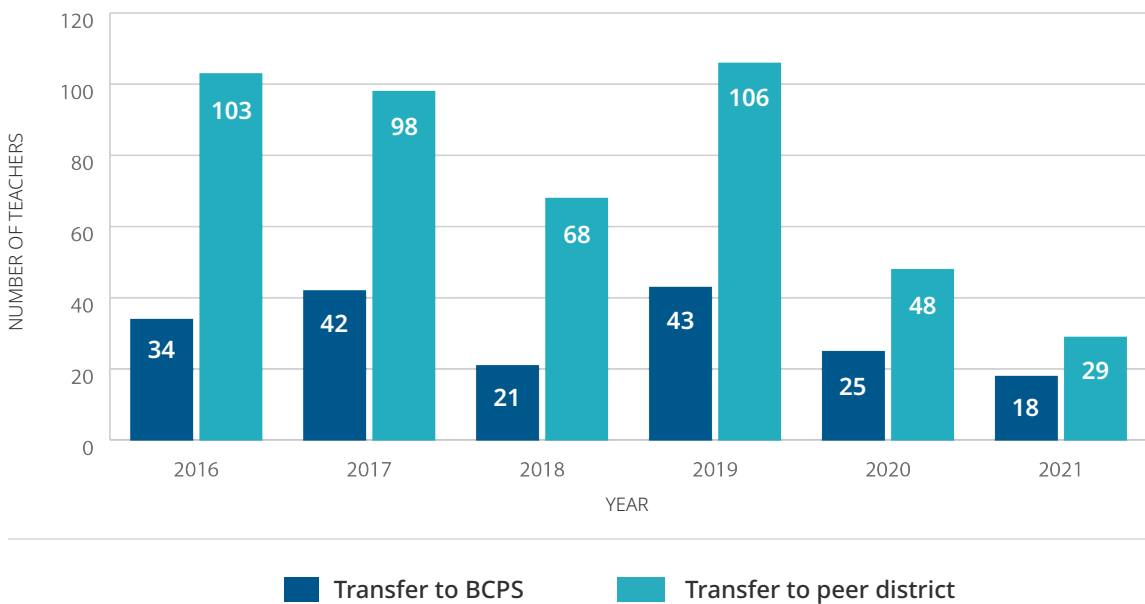


Figure 8. Teacher Transfers to and from Peer Districts



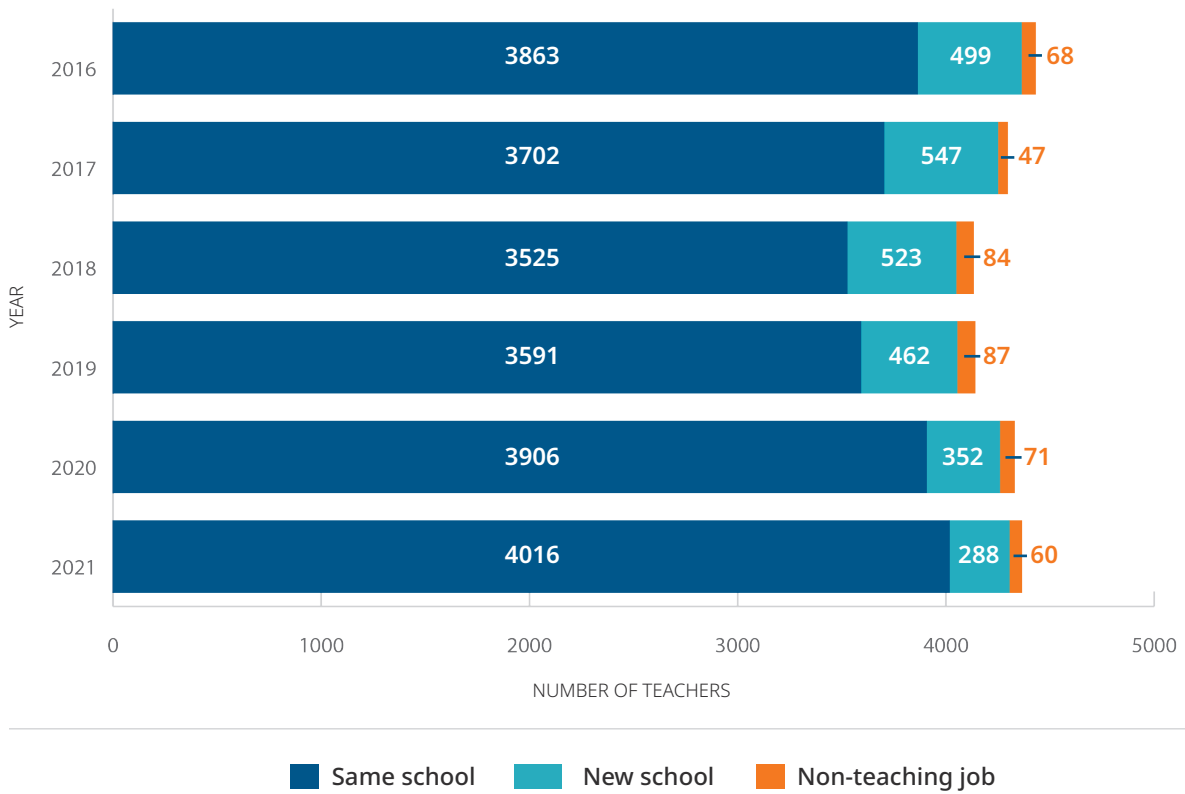
564 in 2021, and the numbers of City Schools teachers exiting to other districts fell from 122 in 2019 to just 55 in 2020, and 44 in 2021.

Interdistrict transfers also provide a potential pipeline of teachers for City Schools. **Figure 8** illustrates the entry and exit of City Schools teachers to and from peer districts from 2016 to 2021. Peer districts include Anne Arundel County, Baltimore County, Howard County, Montgomery County, and Prince George’s County. Fewer than 5 teachers entered or exited City Schools from each other county each year. City Schools teachers are most likely to exit to neighboring Baltimore County and to

enter from either Baltimore County or Prince George’s County. Overall, interdistrict transfer led to a net loss of teachers for City Schools in each year. However, a trend of increasing exits was reversed in the COVID period. The number of exits from City Schools to other districts fell by nearly 40% in 2020 and 2021, compared to 2019, while the number of entrants from other districts declined by a much smaller amount.

At the school-level, teacher transfer within City Schools can also lead to internal teacher shortages. We examine internal mobility for teachers who remained in City Schools in **Figure 9**, including both transfers to a new

Figure 9. Internal Mobility for Returning Teachers

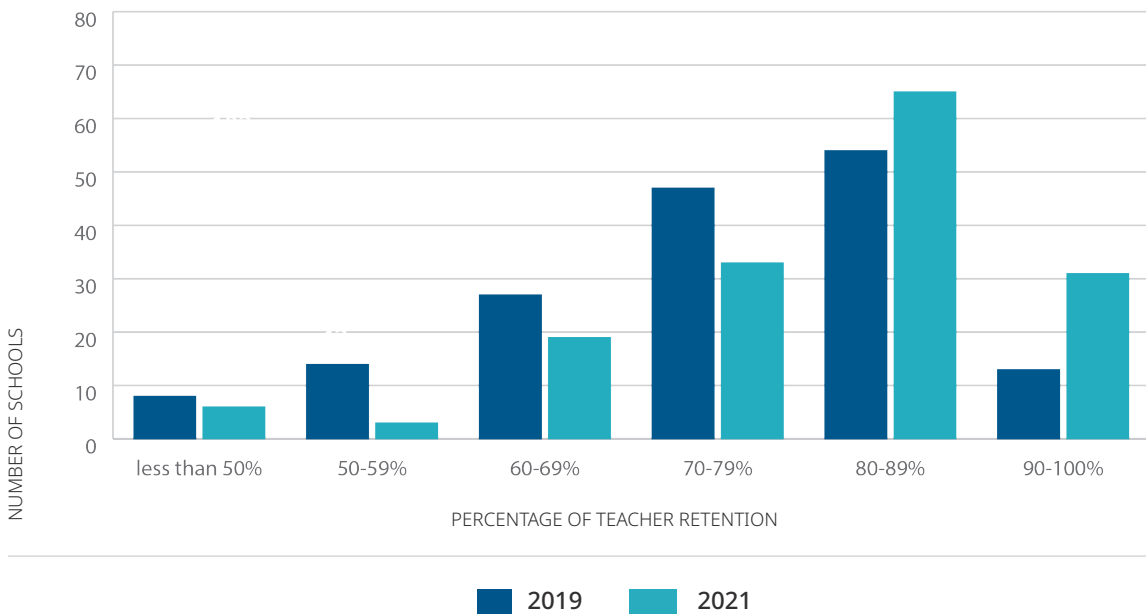


school and movement to positions beyond the classroom. Internal mobility in City Schools comes primarily from movement to teaching positions in a different Baltimore school. Prior to COVID, 10%-15% of teachers changed schools each year, and less than 5% moved to non-teaching positions. Mobility rates and numbers dropped considerably in 2020 and 2021, with only 6.5% of teachers changing schools between 2021 and 2022, and less than 2% moving to non-teaching positions.

Internal mobility of teachers can lead to staffing problems if exits are unequally spread across schools. [Figure 10](#) illustrates the distribution of

schools by teacher return rate across Baltimore City schools with 10 or more teachers. The data examines 2019 teachers returning in 2020 (pre-COVID) versus 2021 teachers returning in 2022 (post-COVID). The distribution improved substantially after COVID with more than twice as many schools experiencing return rates over 90%, and fewer schools experiencing return rates below 60%. This suggests that increased retention districtwide was spread across schools, and that COVID did not coincide with a teacher exodus from an atypical number of schools between 2021 and 2022.

Figure 10. Pre- and Post-COVID Retention Rates Across BCPS Schools



Teacher Pipeline into BCPS

UNDERGRADUATE DEGREES

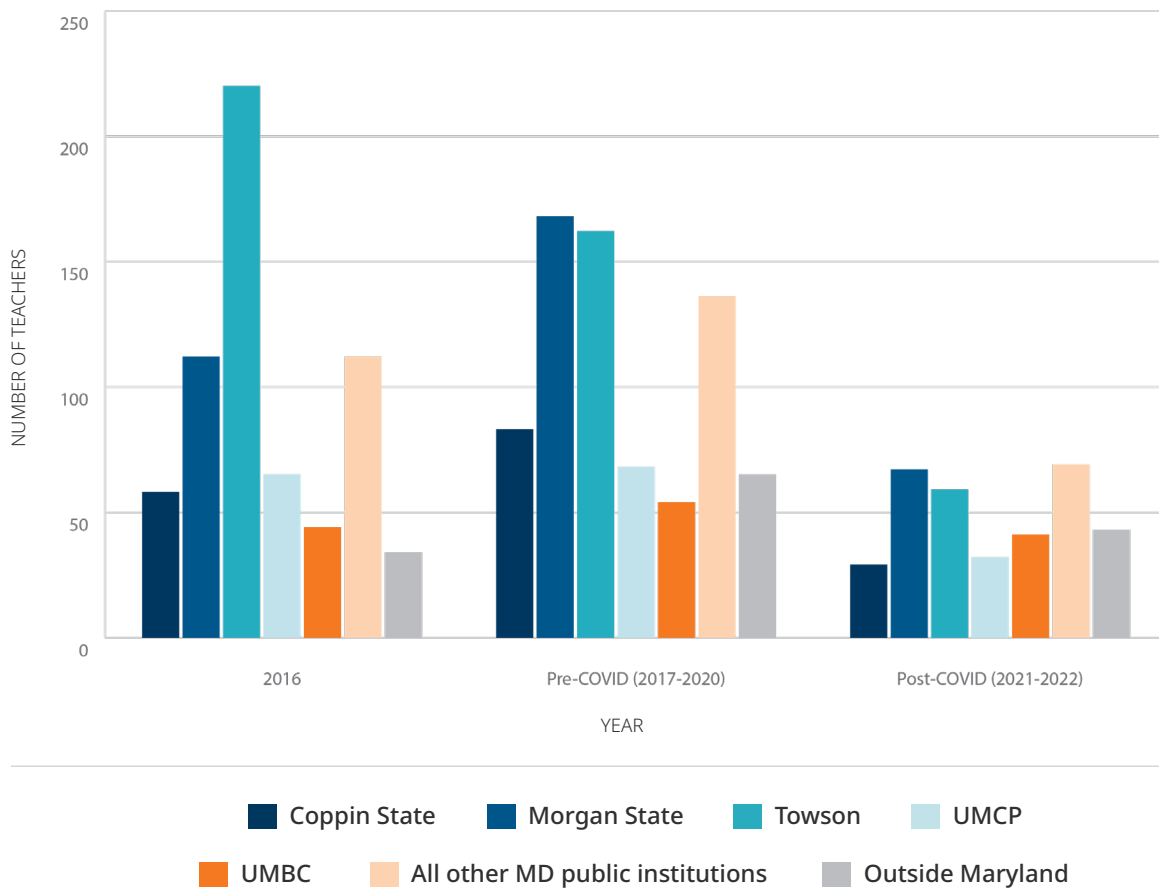
Using data from MHEC and the National Student Clearinghouse (NSC) in the MLDS, we located Maryland undergraduate degrees for City Schools teachers employed from 2016-2022. The data include degrees obtained beginning in spring 2008, so we are unable to identify degrees obtained prior to that year.

Figure 11 illustrates the sources of post-2007 bachelors' degrees for City Schools, including both new and returning teachers. The figure

includes the top Maryland institutions that educated City Schools teachers plus an aggregate measure of out-of-state college and universities. The primary sources of City Schools teachers are Maryland public universities, including several of the state's Historically Black Colleges and Universities (HBCUs).

The most common undergraduate institutions for the 2016 teacher cohort were, in descending order, Towson, Morgan

Figure 11. Top Undergraduate Colleges of New BCPS Teachers



State, Coppin State, and University of Maryland, College Park (UMCP). During the 2017 to 2020 school years, prior to COVID, the most common institutions were Morgan State, followed by Towson, Coppin State, and UMCP. The pre-COVID period saw a rise in teachers educated at University of Maryland, Baltimore County, as well as increases in teachers educated outside of Maryland.

For new teachers who entered City Schools during or after COVID school closures, Morgan State and Towson continued to be the most common institutions, followed by UMBC, UMCP, and Coppin State. During this period, the number of teachers educated outside Maryland continued to grow and surpassed many state schools as a source of new teachers.

Discussions and Conclusions

The descriptive evidence presented focuses on the demand for teachers in City Schools. The data strongly refute rumors of a mass exodus of teachers from City Schools during COVID. Based on annual exit data and declining enrollment, the annual demand for new City Schools teachers has declined, and teacher retention rates both across schools and districtwide have improved.

While there is no evidence of a teacher exodus, there are still reasons for concern about the teacher supply in City Schools. Most notably, the proportion of new teachers with temporary credentials climbed considerably during COVID, so that 1 in 5 BCPS teachers lacked a permanent certificate in 2022. This coincided with a shift in where new teachers are educated away from smaller Maryland colleges and toward public HBCUs and Minority Serving Institutions, as well as more teachers who were educated outside Maryland.

The changing teacher pipeline suggests that even if City Schools maintains or improves teacher retention, finding qualified new applicants might become more challenging. The *Blueprint for Maryland's Future* heightens

the importance of a strong and diverse pipeline of future City Schools teachers but also creates opportunities for state-funded efforts in recruitment and retention. Strong local relationships with HBCUs such as Morgan State and Coppin State will be especially important to maintain and increase the number of Black teachers for a district with a majority Black student body.

The increase in temporary certificates and increased exit rates among early career teachers also point to the potential need for more expanded support for City Schools teachers in their first 5 years. Teachers with temporary certificates are completing teacher training and graduate-level coursework while teaching full time. This places extra stress on new teachers who already face a steep learning curve in their first few years. If colleges of education continue to see declining enrollment, it will become important for large school districts to enhance internal professional development programs to ensure that credentialing requirements and the adjustment to classroom teachers are not triggers for early exit.

About the Author

Jane Arnold Lincove is a Professor of Public Policy at the University of Maryland, Baltimore County. She holds a Ph.D. in Public Administration from the University of Southern California and a Masters in Public Policy from UCLA. Her research examines the design and effects of market-based education reforms in the US and developing countries. Current research interests include hiring and compensation policies in public schools, school choice, and college access for students of color. She holds research affiliations at the Baltimore Education Research Consortium, the IES-funded National Center for Research on Education Access and Choice (REACH) at Tulane University, the Maryland Longitudinal Data System Center, and Education Policy Innovation Collaborative (EPIC) at Michigan State University.

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