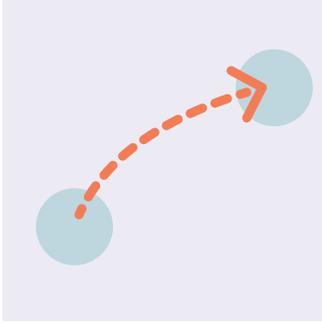


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Introduction

Within schools, teachers have the single greatest impact on student achievement.ⁱ Yet, the unprecedented interruptions to school-based learning over the last two school years and the trials of navigating remote and hybrid instruction due to the Covid-19 pandemic have brought heightened concern about the stability of the teacher workforce and the potential of a pending teacher shortage. So far, available state and local data have not shown teachers leaving their positions at increased rates compared to before the pandemic, but recent survey data from RAND Corporation and the EdWeek Research Center indicate that more teachers are considering leaving their roles.ⁱⁱ

Teacher mobility, or teacher turnover, has garnered attention as a critical educational equity gap. The U.S. Department of Education (DOE) explained that teacher mobility heavily influences student access to excellent and effective educators, specifically when highly effective educators leave high-need schools.ⁱⁱⁱ In 2014, the DOE announced it would require all states to “develop equity plans to ensure that all students have access to excellent educators.”^{iv} In response, the Pennsylvania State Plan for Ensuring Equitable Access to Educators for All Students identified “high rates of turnover” as one of nine equity gaps disproportionately impacting students in schools with the highest proportions of students of color and students from low-income households in the state.^v

A national study estimated an average annual teacher mobility in Pennsylvania of under 10%, among the lowest in the country.^{vi} Yet Research for Action (RFA)’s Educational Opportunity Dashboard found that in Pennsylvania, the gap between White students and Black students in overall access to quality educators is the second highest of any state in the country.¹ RFA previously found high teacher mobility rates in Philadelphia, averaging 27% turnover each year.^{vii} Other studies have identified high teacher mobility as a critical issue in charter schools, rural districts, and other large urban districts, including Chicago, Detroit, and New York.^{viii} Meanwhile, in Allegheny County, media reports by Action 4 News and PublicSource have identified high teacher mobility rates in some Allegheny County school districts and particularly in the county’s charter school sector.^{ix}

This study, from RFA’s Allegheny County Education Research (ACER) project, takes a closer look at teacher mobility in the region by examining six years of data leading up to the pandemic. Specifically, this study:

1. Identifies teacher mobility trends in Allegheny County public schools from 2014-15 to 2019-20,
2. Describes the destinations of mobile teachers, and
3. Identifies key characteristics of mobile teachers and the schools they exited and entered within the county to determine if potential equity gaps exist.

¹ The [Educational Opportunity Dashboard](https://www.researchforaction.org/educational-opportunity/state-rankings/)’s state rankings are available at <https://www.researchforaction.org/educational-opportunity/state-rankings/>. Note the Dashboard does not include teacher mobility rates, but users can select the “Educators Index” to rank states based on several indicators of student access to quality educators.

Notable findings include the following:

- On average, 12% of Allegheny County public school teachers were mobile in a year, similar to the state overall, but lower than the national average.² The county average includes a wide range among school districts that averaged from 3% to a high of 30% teacher mobility, and individual schools that averaged from 1% to 41%.
- Early career educators and late career educators were the most mobile.
- Teachers of color in Allegheny County experienced higher teacher mobility than White educators.
- Students of color and students with economic disadvantage were disproportionately enrolled in schools with higher teacher mobility.
- Schools with higher average teacher mobility rates had lower average passing rates on all state standardized tests.
- Allegheny County charter schools had higher teacher mobility rates than district schools, and these trends held across each band of teacher tenure.
- Nearly half of all teachers who exited their schools in Allegheny County left public-school teaching in the state of PA while more than one third of mobile teachers moved to another school within the same district.

Defining Teacher Mobility

In this report, a **mobile teacher** is one who does not return to teach in the same school in the following year. The term **teacher mobility rate** refers to the percentage of teachers from a school, school district, or county in a given year that exit a teaching role in their schools for any other destination in the following year. Teacher mobility is inclusive of all teachers who leave a teaching role regardless of reason for departure.³

² [Learning Policy Institute \(LPI\)](#) calculated a national average of 16% teacher mobility, which was driven by higher rates of mobility across Southern states and lower rates in the Northeast. Importantly, LPI calculated these teacher turnover rates from 2011-12 to 2012-13, a year not included in this study and a time with heightened involuntary teacher mobility due to the Great Recession.

³ Other research has used the term teacher turnover to describe this phenomenon. RFA selected the term mobility as this report does not explore if a position is filled the following year after a given teacher leaves.

Why Teachers Leave

Existing research has identified a range of reasons^x for teacher mobility. Key reasons cited for teacher departure are shown in Figure 1.

Figure 1. Reasons for teacher departure cited in the field.

 Structural/District Factors	 Working Conditions	 Organizational Conditions	 Personal Reasons
<ul style="list-style-type: none"> • School closures or district realignment • District furloughs 	<ul style="list-style-type: none"> • Low salary/insufficient compensation • Large class sizes • Lack of classroom resources • Unsustainable time commitment/teacher "burn out" 	<ul style="list-style-type: none"> • Lack of consistent administrative support or trust in school administration • Inadequate professional development • Lack of collaboration among staff and leadership • Limited teacher influence 	<ul style="list-style-type: none"> • Retirement • Career change • Family care

Reasons for teacher departure vary case-by-case and multiple reasons can play a role in a teacher ultimately leaving a school building. Given this complexity, more research is needed to further understand the systemic inequities teachers face within education systems. Some research shows different trends for teacher mobility based on teacher race.^{xi} Specifically, teachers of color overall and Black educators in particular have been found to be more mobile and more likely to cite non-personal reasons, such as the working and organizational conditions and structural factors displayed in Figure 1 above, for leaving a position than White, non-Hispanic educators. Studies on teacher race and mobility are limited and few explore additional aspects of teacher identity, such as gender.^{xii}

Why Teacher Mobility Matters

Some teacher mobility is expected to occur each year with teachers retiring or moving into leadership roles that require teaching experience such as becoming principals or teacher coaches. And, some mobility can be beneficial if an ineffective teacher is leaving a certain school or an educator moves to a better fit position.

However, high teacher mobility negatively affects schools and students. A summary of research on high teacher mobility shows:

- On average, teacher mobility negatively impacts student achievement.^{xiii}
- Teacher mobility impacts the stability of a school building, creating discontinuity in professional development, potential short-term or long-term teacher shortages, and a loss of institutional knowledge among teaching staff.^{xiv}
- The hiring process for new teachers including recruitment, screening, and orientation is costly.^{xv}
- High teacher mobility disproportionately impacts schools serving students with economic disadvantage and students of color, creating equity gaps.^{xvi}

About this Study:

Given these negative impacts and concerns for the potential of increased mobility after the added stress on educators during the COVID-19 pandemic, this research seeks to better understand teacher mobility in Allegheny County by answering the following research questions:

1. What were the rates of teacher mobility in Allegheny County between 2014-15 and 2019-20 and how did rates vary by district and by school?
2. How do mobility rates vary by teacher characteristics?
 - By years of teaching experience?
 - By teacher race and ethnicity?
 - By teacher certification/subject matter taught?
3. How do the characteristics of schools with high teacher mobility compare to schools with low mobility? Is there any evidence of equity gaps or evidence demonstrating equity concerns?
4. How do rates of teacher mobility in Allegheny County charter schools compare to districts?
5. Where did mobile teachers move to? Among Allegheny County teachers who exited teaching in their schools, what percentage:
 - Moved to another school in the same district in Allegheny County?
 - Moved to different district in Allegheny County?
 - Moved to a charter school in Allegheny County?
 - Moved to a Pennsylvania public or charter school outside of Allegheny County?
 - Exited public education in the state of Pennsylvania?
 - Moved to an administrative role (either in the same school or in a new school)?
6. For mobile Allegheny County teachers staying in the classroom PA, what were the characteristics of schools they entered?

Design and Methods

To answer the research questions, we conducted descriptive analyses of a staff-level analytic dataset. This dataset was constructed using the Professional Personnel Staffing Data including race / ethnicity obtained through formal records request from the Pennsylvania Department of Education (PDE).⁴ This dataset includes administrator and other staff level positions, which we retained in order to identify teachers that moved to other school-based positions. The dataset includes a unique, time-invariant teacher ID. This ID was used to track mobile and non-mobile educators in the dataset over time.

In any given school year, educators could be listed as holding more than one assignment, since teachers could have multiple responsibilities in one school or could be assigned to multiple schools in a given school year. The first step of the analysis was to reduce the data file to a single record per educator per year.⁵ To do so, in the years where the “primary assignment” variable was included and identified a single role for an individual, only that role was kept. For the years where the data did not include an educator’s primary assignment, the primary assignment was determined by the record with the highest FTE value. In cases of ties in FTE values, the first record in the file was used as primary assignment.⁶

Once the dataset was reduced to a single record per educator per year, we then dropped records for pre-K teachers, since it was not the focus of this analysis.⁷ We also then reduced the dataset to educators who were employed in Allegheny County during at least one of the years studied. Based on these sample criteria, a total of 51,417 teacher-year records (from 12,900 unique teachers) comprised the analytic sample.

For the analytic sample, we categorized Allegheny County teachers at the end of each school year based on whether and where they were teaching in the following school year. These pathways include:

- **Non-mobile teacher:** These teachers returned to teach in the same school in the following year.
- **Transferred to a teaching role in another school:** These teachers remained in a teaching role but moved to a different school. That school might have been in the same district, a different district, or a charter school, and the school might have been inside or outside of Allegheny County.
- **Left public education in Pennsylvania:** These teachers were not found in the dataset the following year, indicating that they exited the Pennsylvania public education system. They might have left teaching altogether or might be teaching in the private sector or another state.
- **Moved into an administrative or non-teaching staff role:** These teachers remained in the Pennsylvania public education and may have even remained in the same school, but they moved to an administrative or staff position in the following year.

⁴ More detail about the data used for this analysis is provided in Appendix A.

⁵ Before identifying the primary role, we first dropped roles where an educator was assigned to an LEA or an Intermediate Unit. These are often roles for consultants who support many schools or for substitute teachers. Since they were not assigned to a school, we would not be able to accurately assess mobility between schools and thus elected to remove these records from our analyses.

⁶ The order of records in the original data file does not have any inherent meaning. Without another way to identify which record should be kept as a primary assignment, this method was selected as a way to be consistent and repeatable.

⁷ There were a total of 14 teachers who moved between a Pre-K and a K-12 teaching role during the study period. Because of our sample restriction, these teachers would appear to have been mobile even if they taught at the same school in those two roles.

Note on school reconfigurations:⁸ School districts may determine reconfiguration is necessary and seek approval from PDE to close a school, merge schools, consolidate schools, or realign schools within their district. When a school closes, it forces a teacher to be mobile. Because this study looks at the amount of mobility but not the causes (see limitations below), and because mobility due to closure still has an important impact on teachers, we have not made any sample restrictions to remove suspected school closure-caused mobility from our sample.⁹ In addition to closures, sometimes schools are reconfigured through a merger, consolidation, or realignment process to serve different populations of students (such as changing from a K-5 school paired with a Junior-Senior High to a K-8 school with a Senior High school). This study could not identify all realignment-based role change; thus, if a teacher is identified as working in a different school the next year, even if they were still serving in the same role, those teachers are identified as mobile.

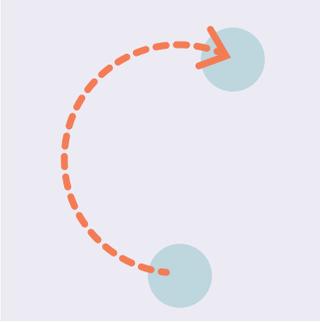
Limitations

We did not have access to additional survey or qualitative data for this report and are thus not able to examine the reasons why teachers in our analytic sample left a given teaching position or further explore potential inequities with teacher departures.

Data on the achievement of students taught by each teacher was also not available in the public dataset used for the report, so this analysis is unable to assess the extent to which individual teacher mobility may have been beneficial or harmful to students and schools.

⁸ PPS has recently used the term "[modernize footprint](#)" for this plan as an alternative term to realignment or school closings/merges as presented to the board in February. "Right-sizing" was a term used in previous closures and still used by some board members in addition to school closures. The PDE uses the broad term reconfiguration for school closings, merges, consolidation, and realignment.

⁹ Based on the computed teacher mobility rates, a total of 18 of the 289 schools in this study are suspected to have closed or been reconfigured during the study window.



Findings

Q: What were the rates of teacher mobility in Allegheny County between 2014-15 and 2019-20 and how did rates vary by district and school?

On average, 12% of Allegheny County public school teachers per year were mobile from 2014-15 to 2019-20, which reflects a wide range across school districts and schools.

At the county-level, mobility rates were slightly higher from 2014-15 to 2015-16, but otherwise fairly consistent across all years studied. As shown in Table 1, the average county-level mobility rate over all the years studied was 12%. Pittsburgh Public School District (PPS), included in Table 1 below as the largest district in the county, experienced higher teacher mobility (14%) compared to Allegheny County as a whole. PPS trended similarly to the county with higher mobility in 2014-15 to 2015-16, followed by fairly consistent mobility in the years that followed.

Table 1: Average teacher mobility rates.

School Year	2014-15 to 2015-16	2015-16 to 2016-17	2016-17 to 2017-18	2017-18 to 2018-19	2018-19 to 2019-20	5-year average	Average teachers per year
Allegheny County	14%	11%	11%	10%	11%	12%	10,283
Pittsburgh Public School District	20%	13%	14%	10%	12%	14%	1,664

Apart from PPS, the 5-year average mobility rates in Allegheny County school districts ranged from as low as 3% to as high as 30%. At the school level, the 5-year average mobility ranged from as low as 1% to as high as 46% for schools that remained open during the study period.

An Excel file providing the mobility rate for all 289 individual schools and 43 districts in Allegheny County is available for download [here](#).

Q: How do mobility rates vary by teacher characteristics?

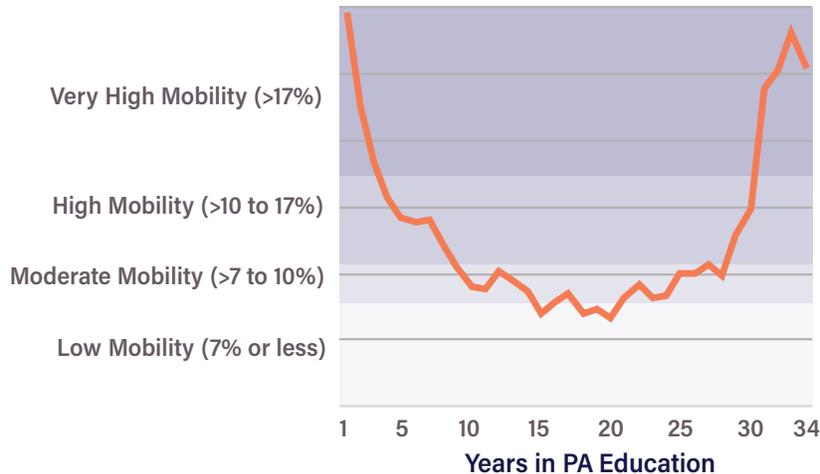
Below we explore trends in teacher mobility by years of teaching experience, teacher race and ethnicity, and teacher certification level and subject matter.

► Years of teaching experience of mobile teachers

In Allegheny County, early career educators (less than 5 years of experience) and late career educators (more than 25 years) of experience were the most mobile.

This finding is consistent with teacher mobility trends in K-12 schools across the country, with higher mobility occurring among early career educators who are more likely to be unsure about where and/or if they want to pursue the profession and late career educators who are more likely to be ready for retirement.^{xvii} This trend is often described as “u-shaped”, high on the ends and low in the middle. Figure 2 shows the familiar u-shape for Allegheny County, as it displays the mobility rate by the number years the educator has worked in PA public education (which could include time multiple in schools and in both the district and charter sectors).

Figure 2. Allegheny County teacher mobility rate by teacher years of experience in PA public education.



In the sections that follow, we describe some of the findings across teacher experience bands (less than 5 years; 5 to 9 years; 10 to 14 years; and 15 or more) to account for the experience-driven variation in teacher mobility.

► Race and ethnicity of mobile teachers

Between 2014-15 and 2019-20, teachers of color in Allegheny County left their positions at greater rates than White educators.

The data available from PDE provided an opportunity for RFA to explore if teacher mobility varies across lines of teacher race and ethnicity. As RFA previously analyzed in ACER FAQ: Allegheny County Teacher Demographics, the county has predominately White teachers (95.5%).^{xviii} The findings that follow do not disaggregate teacher mobility for all racial identities due to small n-sizes.

Overall, we found that teachers of color—that is teachers reported by PDE as American Indian/ Alaskan Native, Asian, Black or African American, Hispanic, Native Hawaiian or other Pacific Islander, and two or more races—experienced higher teacher mobility than White educators (19% vs. 11%; see Appendix B for breakdowns by race/ethnicity category).

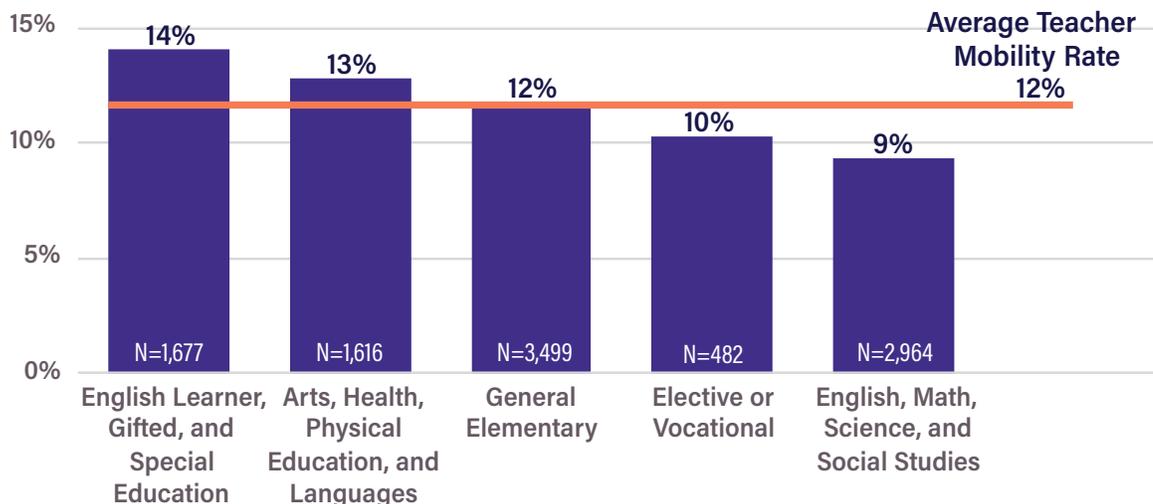
► Certification level / Subject matter of mobile teachers

Allegheny County teacher mobility varied across teaching assignments.

Our analysis found that teacher mobility varied across teaching assignments (Figure 3). Specifically:

- Secondary teachers (grades 7-12) were typically less mobile than elementary teachers.
- Mobility rates of special education teachers were typically higher than general education teachers in the same grade bands.
- Core subject area teachers (English, math, science, and social studies) experienced slightly less mobility than other subjects, including general elementary.

Figure 3. Average teacher mobility rate by teaching assignment.



Note: Each of these categories contains a mix of elementary and secondary teachers. The vast majority of “English, Math, Sciences, and Social Studies” are secondary teachers, but some are elementary teachers. Ns refer to the average number of teachers per year.

Q. How do characteristics of schools with high teacher mobility compare to schools with low teacher mobility?

To identify the types of schools and students who experience the highest teacher mobility, we divided all schools in Allegheny County into four quartiles of school-level mobility and categorized them as low, moderate, high, or very high mobility, based on their relative 5-year average mobility rates (Table 2).

Table 2. Quartiles of Allegheny County public schools by 5-year average teacher mobility rates.

Quartiles	Number of Schools	Average Teacher Mobility Rate
Very High Mobility	71	Over 17%
High Mobility	72	>10% to 17%
Moderate Mobility	74	>7% to 10%
Low Mobility	71	7% or less

Note: All charter schools in Allegheny County fall into the two highest quartiles for average teacher mobility- “Very High” and “High” mobility with the majority (21 out of 23 schools) categorized as “Very High.”

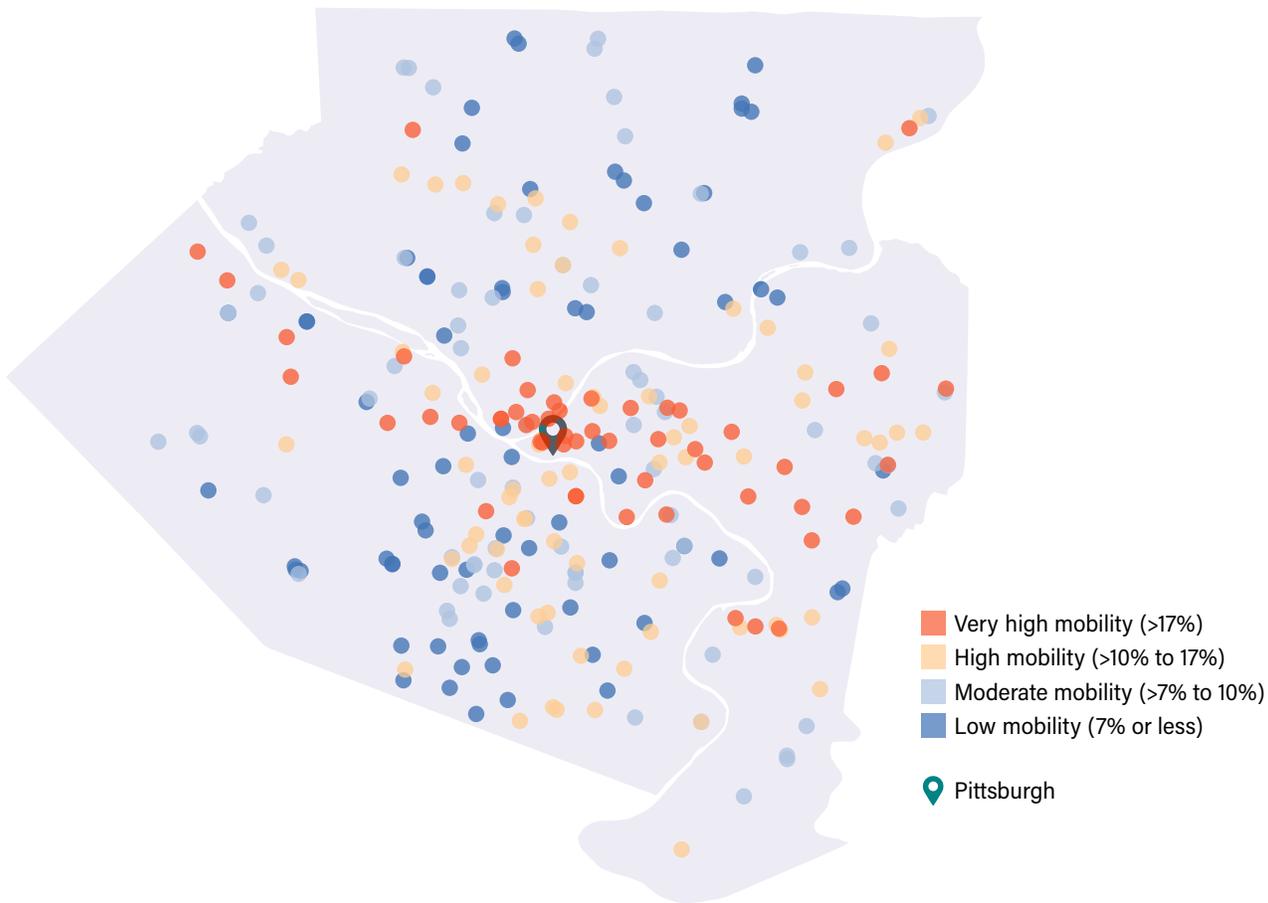
Quartiles were examined to identify patterns of teacher mobility rates based on (1) school geography, (2) school size, (3) student race and income, (4) average teacher salary, and (5) proficiency rates on state standardized test scores. Findings are described below:

► School Geography

Schools with higher mobility rates are predominately located within, near, or east of the city of Pittsburgh.

In Figure 4, we mapped each school in the county using the four quartiles of mobility. As shown in the map, “Very High” and “High” mobility schools are concentrated in and around Pittsburgh, as well as in neighborhoods east of the city. There are pockets of schools from both categories distributed throughout the county.

Figure 4. Allegheny County schools by average teacher mobility rate.



► School Size

Schools with higher mobility rates had a smaller student population size, on average.

Consistent with state-wide analysis, we found that schools with very high mobility were, on average, smaller schools than those with lower mobility (Table 3).^{xix}

Table 3. Average school size by teacher mobility quartile.

	Very High Mobility Schools (Over 17%)	High Mobility Schools (>10 to 17%)	Moderate Mobility Schools (>7 to 10%)	Low Mobility Schools (7% or less)	All schools
Average school size	326	544	535	694	524

► Student Race and Income

Students of color and students with economic disadvantage were disproportionately enrolled in schools with the highest average teacher mobility rates.

As previously discussed, existing research has found that students with economic disadvantage and students of color disproportionately attend schools with high teacher mobility.^{xx} Similar to these national findings, students of color and students with economic disadvantage in Allegheny County were disproportionately enrolled in schools with the highest average teacher mobility rates (Table 4).

Table 4. Percentages of students of color and students from low-income households across teacher mobility quartiles.

	Very High Mobility Schools (Over 17%)	High Mobility Schools (>10 to 17%)	Moderate Mobility Schools (>7 to 10%)	Low Mobility Schools (7% or less)	All schools
Average % students of color in schools	63%	36%	28%	20%	37%
Average % of students with economic disadvantage	63%	46%	36%	32%	44%

► Average Teacher Salary

Schools with higher teacher mobility rates had lower teacher salaries on average.

As shown in Table 5, the average teacher salary was lower at schools in the highest mobility rate quartiles. This may be expected since salary in the teaching profession is so tightly tied to years of experience and schools with higher mobility are shown to have more teachers newer to the profession. For reference, Table 5 also includes average years of experience for each quartile.

Table 5. Average teacher salary and teacher experience by teacher mobility quartiles.

	Very High Mobility Schools (Over 17%)	High Mobility Schools (>10 to 17%)	Moderate Mobility Schools (>7 to 10%)	Low Mobility Schools (7% or less)	All schools
Average salary of teachers (2019)	\$63,165	\$72,965	\$76,507	\$77,050	\$72,426
Average # of years teachers have been in PA public ed	10.8	13.8	14.7	15.2	13.6

► Proficiency Rates on State Standardized Test Scores

Schools with higher average teacher mobility rates had lower average passing rates on all state standardized tests.

Schools in the highest quartile of teacher mobility had the lowest average passing rates on all standardized tests. Schools with mobility rates in the second highest quartile had higher pass rates, but still substantially lower than schools in quartile 1 or 2, particularly for the Keystone Exams (Table 6).

Table 6. Average percent proficient or advanced on state assessment for schools by teacher mobility quartiles.

	Very High Mobility Schools (Over 17%)	High Mobility Schools (>10 to 17%)	Moderate Mobility Schools (>7 to 10%)	Low Mobility Schools (7% or less)	All schools
Math PSSA	29%	48%	54%	53%	46%
Reading/ELA PSSA	43%	64%	71%	72%	62%
Algebra Keystone	21%	51%	70%	74%	59%
Literature Keystone	36%	61%	78%	83%	69%

Q: How do rates of teacher mobility in Allegheny County charter schools compare to school districts?

Existing research has reported higher teacher mobility in the charter sector compared to the district sector across the U.S., an issue some refer to as “the turnover gap.”^{xxi} Reasons cited specifically for higher charter teacher mobility include:

1. *Differences in charter school working conditions:* Many charter school teachers experience longer working hours if the charter operates, as many do, with an extended school day. In addition, charter school teachers may experience additional tasks, such as recruiting students or creating their own curriculum, because they work for an autonomous school.^{xxii}
2. *Differences in charter school teacher characteristics:* Charter school teachers were found to be younger and less experienced than teachers working in the district sectors, two characteristics that make charter school teachers more likely to be mobile.^{xxiii}

In Allegheny County, as described in the note under Table 2 (pg. 10), 21 of the 23 charter schools were classified in the “very high mobility” quartile (with average annual mobility rates over 17%). Given this trend’s alignment with existing research, we look more closely into the comparison of teacher mobility rates at district versus charter schools below. For this analysis, the following local contextual differences are important to keep in mind as we analyze the mobility rates by public school governance type in Allegheny County:

1. **Location:** While district schools encompass every community in the county, charter schools are more heavily concentrated in some areas than in others, particularly in and around the city of Pittsburgh. For this reason, we include an additional analysis that compares the charter schools to the school districts from which the greatest share of their students reside.
2. **Teacher experience:** Teacher experience also differs between the two types with district schools having, on average, teachers with more years of experience in PA public education. In 2019-20, the average number of years in PA education was 15.7 for district teachers and 6.5 for charter teachers. These experience differences might be motivated by many forces, including the fact that charter schools are far newer education entities in Allegheny County,^{xxiv} differences in compensation and benefits (discussed next), and other factors. Because experience has a strong relationship to mobility, we compare mobility rates between charter and district schools across teacher experience bands.
3. **Teacher compensation and additional benefits:** Teacher salary varies across county public schools with distinct differences by school governance type. In 2019-20 the average district teacher salary was \$78,363 while the average charter salary was \$49,670.¹⁰ Average district salaries are higher within each band of tenure, with the biggest difference between the most experienced teachers in each respective sector. For example, teachers with 20 or more years of experience in a district make an average salary of \$98,673 while teachers with 20 or more years of experience in charter schools earn an average of \$57,768.¹¹ In addition to salary, other benefits such as teacher pension, health care, and the option to join a teacher’s union vary across the county and between governance types.¹² These differences in benefits could influence teacher mobility rates, but they are not accounted for in our descriptive analyses below.

¹⁰ Average salaries for each sector were computed using the PDE Professional Personnel Individual Staff Reports.

¹¹ Average salaries for tenure were computed using “Years in Education” and salary from PDE Professional Personnel Individual Staff Reports.

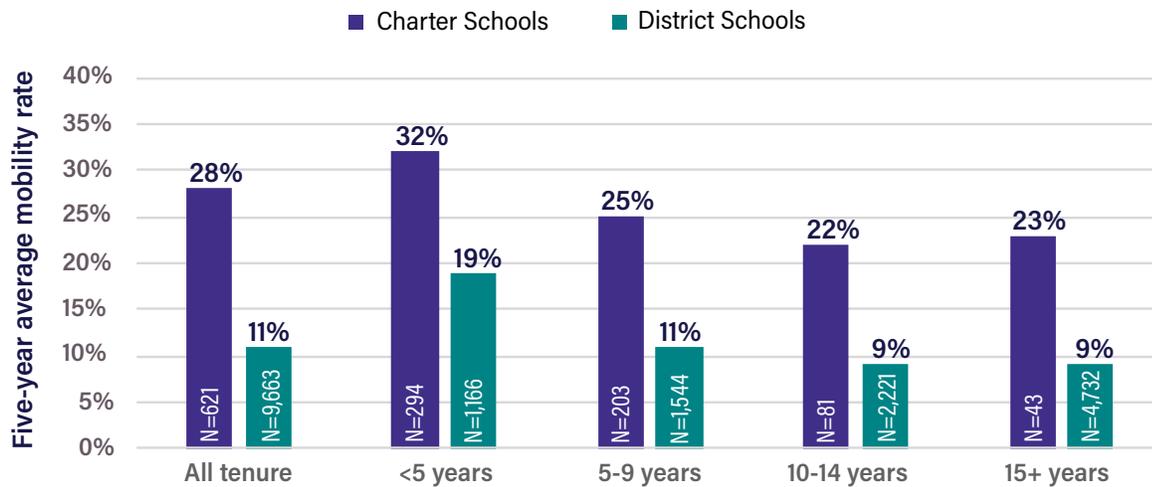
¹² Most charter schools in Allegheny County have not historically had teacher unions. Educators at Propel Charter Network and the Environmental Charter School have recently formed unions.

4. **Enrollment differences:** While the number of public-school students in Allegheny County attending charter schools is growing, the vast majority of students (94%) are enrolled in a district school. There are 266 district schools, but only 23 charter schools in the county.

Collectively, Allegheny County charter schools had a higher average teacher mobility rate than district schools, and these trends held across each band of teacher experience.

With those contextual differences in mind, we analyzed teacher mobility rates across the two sectors broken down by teacher experience. As shown in Figure 5, we found that charter schools saw mobility rates 1.5 to 2.5 times higher than district schools across each band of teacher experience. Even the band of teacher experience with the lowest mobility in charter schools (those who had taught 10-14 years at 22%) is higher than the highest mobility band in the district sector (those who taught less than 5 years at 19%).¹³ It's important to keep in mind the contextual differences of the two sectors, described above, when comparing these mobility rates.

Figure 5. Five-year average teacher mobility rates by school governance type and tenure band.

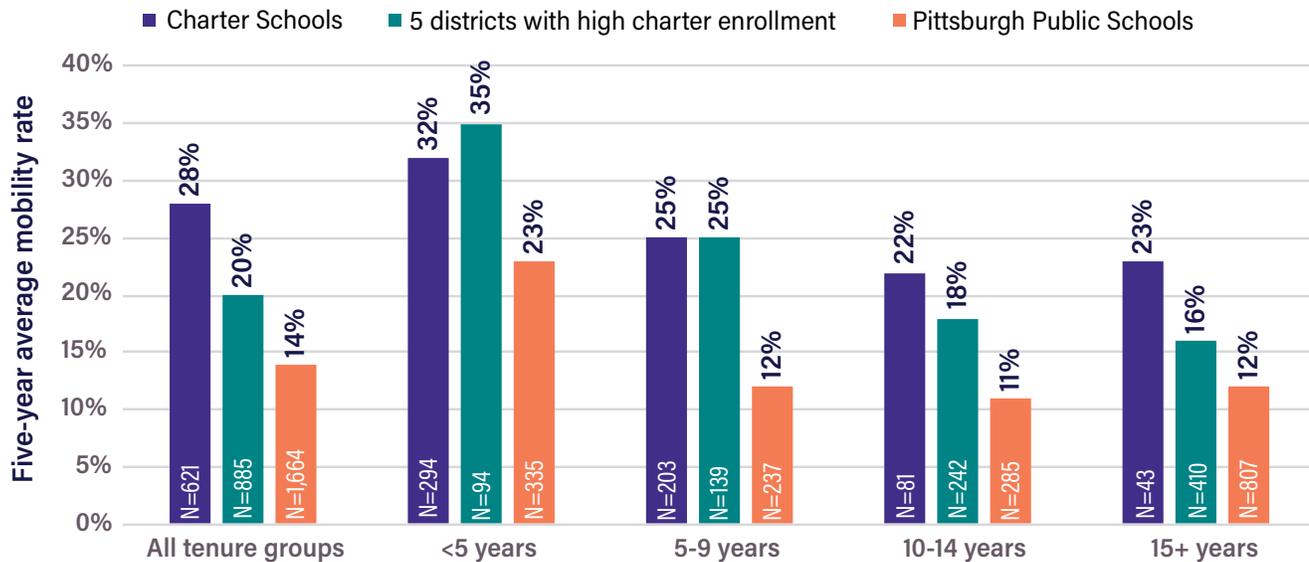


Because charter schools are not evenly distributed throughout the county, the additional analysis below compares the charter sector to the districts where the greatest share of Allegheny County students attending charter schools reside.¹⁴ As the largest school district in the county and the single largest contributor of charter students, we analyzed the mobility rates of Pittsburgh Public Schools (PPS) separately from the next 5 districts with high charter enrollment. As displayed in the first group of bars in Figure 6, charters still have a higher 5-year average mobility rate than PPS and the 5 districts which collectively account for one-third of the students in Allegheny County charter schools.

¹³ The number of teachers for each sector and band of experience (displayed below each bar) varied substantially, with the charter sector having 43 teachers with 15+ years of experience.

¹⁴ Students residing in Pittsburgh Public SD comprised 41% of the total Allegheny County charter school enrollment in 2018-19. The five districts with the next highest charter school enrollment from students of residence were Woodland Hills SD, Penn Hills SD, McKeesport Area SD, Sto-Rox SD, and Wilkesburg Borough SD, whose resident students collectively comprised 34% of the charter school enrollment. The residences of the remaining 25% of students in charter schools are distributed across dozens of additional school districts both in and outside of Allegheny County.

Figure 6. Five-year average teacher mobility for charter schools compared to districts with highest charter enrollment.



When comparing teacher mobility across teacher experience for charters, PPS, and the 5 districts with the next highest charter enrollment, RFA found:

- Compared to PPS (the district with the highest proportion of charter enrolled students), charter schools in Allegheny County have a higher mobility rate on average than PPS overall and across all experience groups.
- Allegheny County charter schools have a higher concentration of teachers with less than 10 years of experience (teachers who tend to be more mobile) than in the five Allegheny County school districts (in addition to PPS) with the highest proportions of charter school enrollments.
- Among the subset of teachers with less than 10 years of experience, Allegheny County charter schools have a similar average mobility rate as the five Allegheny County districts with the next highest charter school enrollment of students of residence (Woodland Hills SD, Penn Hills SD, McKeesport Area SD, Sto-Rox SD, and Wilkinsburg Borough SD).
- Among teachers with 10 or more years of experience, Allegheny County charter schools have higher mobility rates compared to the five districts with high charter enrollment.

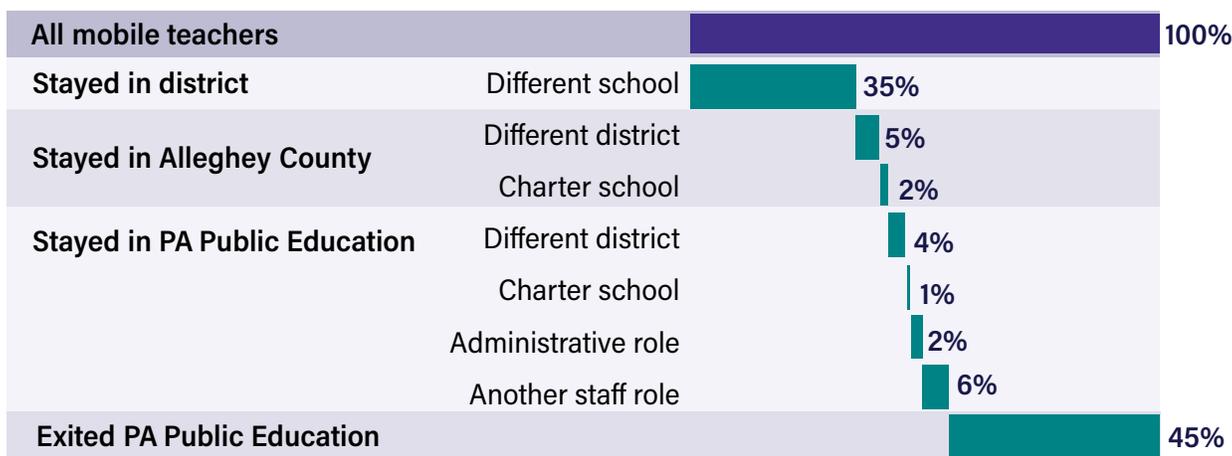
Q: What destinations did mobile teachers move to?

Nearly half of all teachers who exited their schools in Allegheny County left public-school teaching in the state of PA while more than one-third of mobile teachers moved to another school within the same district.

The destinations of mobile teachers are included in Figure 7, including that 45% of mobile teachers left employment in Pennsylvania public schools entirely. Apart from leaving PA public education, mobile teachers most often moved to a different school within the same district (35%). Less common mobility included teachers moving to a different district (5%) or charter school (2%) in the county.

While our analysis can provide some insight into where teachers go when they leave a position, available data do not support an analysis of why teachers left their school or left teaching all together. It is important to note that “leaving PA public education” does not necessarily mean that a teacher has left teaching for a career change or retirement. For example, a teacher may have left with intentions to come back due to family or personal needs, such as taking an extended maternity leave, or may have moved to teach in a private school or in another state. Teachers’ reasons for leaving are not included in the data and are beyond the scope of this analysis.

Figure 7. Mobile teacher destinations.



Mobile teachers from charter schools were more likely to move to a district school than vice-versa.

The vast majority of district teachers who remained in PA education moved to another school in the same district (41%). Since charter schools are separate “districts” in the eyes of the state, this is not an option for teachers who were mobile from charter schools, so their mobility patterns were more dispersed.¹⁵ For example:

- 20.6% of mobile charter teachers moved to a district school (13.9% in Allegheny County, 6.7% out of Allegheny County)
- 13.2% of mobile charter teachers moved to another charter (10.7% in AC, 2.5% out of AC)

In contrast, almost no district teachers moved to charter schools (less than 1%) and only 7% of district teachers moved to a school in a different district.

Meanwhile, a higher percentage of mobile charter school teachers moved into an administrative role or another staff role (14.4%) compared to mobile district teachers (7.6%)

¹⁵ The state terminology for groups of schools is a “Local Education Agency.” Charter schools are each their own Local Education Agency, even if they are within a network of schools (e.g. Propel charter schools). We did not study within network mobility due to the small number of charter schools and the different classification by the state.

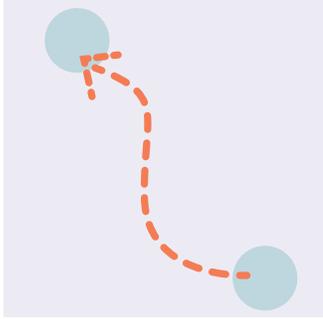
Q: For mobile Allegheny County teachers staying in the classroom in PA, what were the characteristics of schools they entered?

RFA found that the average profile of schools that mobile teachers left was fairly similar to the average profile of receiving schools, though with slightly higher academic proficiency.

We examined whether patterns of mobility suggest that teachers are moving to similar or dissimilar schools. We found mixed results. Schools on average were fairly similar in terms of salary and student economic resources but had somewhat higher academic achievement (Figure 8).

Figure 8. Characteristics of schools that mobile Allegheny County teachers exited and entered, among those who remained in teaching in PA public schools.

	Average characteristics of schools that mobile Allegheny County teachers exited	Increase / Decrease	Average characteristics of schools that mobile Allegheny County teachers entered
Teacher compensation			
Average teacher salary, in 2019 dollars	\$70,192 (N=2,995)	+\$913 	\$71,105 (N=2,994)
Vulnerable students			
% students with economic disadvantage	50% (N=2,994)	-3% 	47% (N=2,946)
School academic proficiency			
% pass PSSA math	39% (N=1,367)	+6% 	45% (N=968)
% pass PSSA reading / ELA	55% (N=1,367)	+5% 	60% (N=968)
% pass Algebra Keystone	50% (N=406)	+9% 	59% (N=276)
% pass Literature Keystone	61% (N=406)	+8% 	69% (N=276)



Implications

This research provides clear evidence that students of color and students with economic disadvantage in Allegheny County schools experience the negative impacts of high teacher mobility at disparate rates, a finding that aligns with national trends.^{xxv} In addition, we found higher mobility rates for the county's Black educators, which contribute to the overall decline in the number and percentage of Black educators in Allegheny County. As RFA recently reported in the FAQ: Allegheny County Teacher Demographics, the number and percentage of Black teachers in the county has been cut almost in half in less than 20 years.^{xxvi}

In addition, over a quarter of charter school educators leave their positions each year, more than twice the rate of district educators. While this is partially attributable to higher proportions of early career teachers in charter schools, the trend of higher mobility in charter schools holds even across each band of teacher tenure. And while over 20% of mobile charter teachers moved to a district school, nearly zero mobile district teachers moved to a charter school.

Overall, nearly half of all teachers who exited their schools in Allegheny County left public school teaching in the state of PA altogether. Evidence suggests that mobile teachers that do return to teaching are generally entering schools that appear to have at least slightly better support than the schools they are exiting.

Further research is needed to better understand, with a localized focus, why teachers with varying backgrounds and identities elect to leave their schools or teaching all together. But existing research, cited in “Why Teachers Leave” (p. 4), suggests that to eliminate disparities for students and reduce mobility educational leaders should consider:

- Supporting greater teacher autonomy.
- Providing more opportunities for collaboration and faculty input in school decision-making.
- Revising teacher recruitment to attract more local community members into the field of teaching.
- Improving organizational and teacher working conditions to increase retention, especially in schools that enroll high rates of underserved students, such as:
 - reducing class size,
 - offering coaching or providing tailored professional development,
 - improving compensation and the availability of classroom resources, and
 - providing stronger administrative support.

Several of these strategies require resources to implement. But especially in the wake of navigating remote and hybrid instruction due to the Covid-19 pandemic during the past two school years, these investments maybe be necessary to bring stability to the county's teacher workforce and the students they serve.

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The Heinz Endowments, one of the nation's leading private foundations, aims to create more just communities and model solutions to major regional, national, and global challenges. The Endowments focus on advancing a sustainable future for our community and planet, successful learning outcomes for young people and their families, and a culture of engaged creativity for all.

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About ACER

RFA's Allegheny County Education Research (ACER) project is designed to inform education policy discussions in Pittsburgh and Allegheny County through rigorous, objective policy briefs and research-based commentaries. The goal is to provide accessible and actionable research that helps local education policymakers, practitioners, families, and the community at large better understand what is and is not working for youth and to ultimately contribute to system-wide improvements.

Appendix A. Data Sources

RFA used data personnel records received via records request from the Pennsylvania Department of Education (PDE) and school-level information retrieved from public data published by PDE to answer the questions above. In all, the study included 12,900 unique teachers who ever taught in Allegheny County public schools during the study period.

Staffing Data

- Most of the staffing data used in this analysis can be found in the publicly available [Professional Personnel Individual Staff Reports](#). The publicly available data set does not, however, include teacher race and ethnicity. This analysis is based on staffing reports that do include race and ethnicity and were received from PDE in 2020 via formal records request.
- Staffing level data includes each teacher's:
 - School and LEA (Local Education Agency) – meaning the school and school district or the charter school where the educator worked.
 - Primary Assignment – A yes/no variable indicating if this role was the educator's main assignment for the year. This data point was not available in the 2014-15 school year.
 - Position / Assignment Description - Description of the educator's role, including the grades and subject taught or type of administrator.
 - Salary
 - Years in Education – The number of years the educator has worked in PA public education. Any time a teacher spent working in another state or in the private sector is not reflected here.
 - Years in LEA
 - Race / Ethnicity
 - FTE Percent – Full-time equivalency of the role. If the role was an educator's only role and they worked full-time, this would equal 100.

School Level Data

- Data was compiled from sources published by PDE. Specifically, [PSSA](#) scores and [Keystone Exam](#) scores as well as the student race/ethnicity and economically disadvantaged status prior to 2017-18 were downloaded from PDE. Student race/ethnicity and economically disadvantaged status for 2017-18 and 2018-19 were sourced through [PDE's Future Ready PA Index](#).
- School level data includes:
 - Student racial/ethnic composition
 - Percentage of students with economic disadvantage
 - PSSA passing rates in math and reading/English Language Arts
 - Keystone passing rates in Algebra and Literature

Appendix B. Data Tables

B1. Mobility rates for charter sector and districts with high charter enrollment.

Teacher tenure	LEA group	2014-15	2015-16	2016-17	2017-18	2018-19	Five-year Average	Avg # of teachers / year
<5 years	Charter	35%	35%	34%	26%	28%	32%	294
	Pittsburgh SD	30%	21%	25%	18%	21%	23%	335
	5 school districts with next highest charter enrollment	35%	45%	32%	16%	46%	35%	94
5-9 years	Charter	28%	25%	23%	22%	28%	25%	203
	Pittsburgh SD	18%	13%	10%	8%	11%	12%	237
	5 school districts with next highest charter enrollment	19%	32%	22%	20%	33%	25%	139
10-14 years	Charter	19%	26%	18%	22%	27%	22%	81
	Pittsburgh SD	14%	8%	10%	9%	11%	10%	285
	5 school districts with next highest charter enrollment	12%	18%	20%	7%	32%	18%	242
15-19 years	Charter	23%	30%	19%	21%	19%	23%	29
	Pittsburgh SD	16%	10%	9%	8%	7%	10%	401
	5 school districts with next highest charter enrollment	5%	13%	18%	12%	24%	14%	237
20-24 years	Charter	25%	29%	30%	27%	0%	22%	8
	Pittsburgh SD	22%	10%	10%	6%	9%	11%	245
	5 school districts with next highest charter enrollment	11%	19%	28%	8%	19%	17%	126
25+ years	Charter	25%	20%	17%	20%	44%	25%	6
	Pittsburgh SD	19%	26%	18%	22%	27%	22%	81
	5 school districts with next highest charter enrollment	30%	35%	38%	34%	10%	29%	48

B2. Teacher mobility by teacher race/ethnicity and teacher tenure bands and overall.

Teacher Race / Ethnicity	Mobility for teachers with less than 5 years experience	5-9 years experience	10-14 years experience	15-19 years experience	20-24 years experience	25 or more years experience	Average over all tenure bands
American Indian / Alaskan Native	27% (n=2)	0% (n=2)		0% (n=1)	0% (n=1)		10% (n=4)
Asian	24% (n=13)	9% (n=9)	9% (n=10)	6% (n=5)	10% (n=4)	50% (n=2)	14% (n=42)
Black	29% (n=74)	27% (n=53)	15% (n=56)	12% (n=81)	14% (n=55)	20% (n=36)	19% (n=355)
Hispanic	21% (n=15)	16% (n=8)	11% (n=7)	12% (n=7)	13% (n=3)	10% (n=4)	16% (n=45)
Multi-Racial	35% (n=15)	13% (n=2)	0% (n=2)			0% (n=1)	30% (n=18)
White	21% (n=1341)	12% (n=1673)	9% (n=2228)	7% (n=2203)	8% (n=1434)	16% (n=941)	11% (n=9820)

Note: n = Average number of teachers per year

B3. Teacher mobility by salary and teacher tenure bands and overall

Annual Salary Bands	Mobility for teachers with less than 5 years experience	5-9 years experience	10-14 years experience	15-19 years experience	20-24 years experience	25 or more years experience	Over all tenure bands
45K or less	30% (n=464)	23% (n=118)	23% (n=53)	17% (n=14)	8% (n=4)	44% (n=2)	28% (n=654)
45k-54k	17% (n=758)	14% (n=760)	12% (n=301)	15% (n=38)	16% (n=9)	4% (n=3)	15% (n=1869)
55k-64K	17% (n=200)	10% (n=669)	8% (n=1043)	10% (n=278)	20% (n=21)	25% (n=6)	10% (n=2217)
65k-74K	11% (n=21)	9% (n=137)	8% (n=433)	7% (n=394)	8% (n=42)	9% (n=13)	8% (n=1040)
75k-84K	37% (n=4)	15% (n=22)	10% (n=138)	6% (n=294)	8% (n=52)	17% (n=24)	8% (n=534)
85k-94K	14% (n=6)	9% (n=30)	11% (n=250)	7% (n=443)	9% (n=350)	19% (n=172)	10% (n=1249)
95k-104K	33% (n=2)	26% (n=8)	11% (n=69)	7% (n=563)	7% (n=629)	15% (n=459)	10% (n=1730)
105K or more	100% (n=1)	25% (n=2)	8% (n=13)	6% (n=273)	7% (n=390)	15% (n=303)	9% (n=983)

Note: n = Average number of teachers per year

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