Examining Student Mobility and School Attrition in Metropolitan Nashville Public Schools

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Executive Summary

In the city of Nashville, recent public disagreements over charter schools has focused stakeholders on issues related to non-residential mobility within MNPS, especially when it concerns students transferring between schools of choice (charters, magnets, etc.) and traditional schools. These issues have triggered the need to test claims made by charter school opponents that charter schools are exiting students before state examinations, and that this alleged practice makes it difficult for traditional schools to improve overall student performance as measured by state exams. For these reasons, this study sought to answer the following questions:

1) To what degree are students transferring between schools for reasons beyond residential mobility? And what impact, if any, does this have on a school's overall academic performance?

2) Is there an appropriate formula for measuring mobility within both schools of choice and traditional schools?

The study also examined why students choose to transfer schools, how school leaders, counselors, and teachers perceive issues related to mobility at their school sites, and to document the recent change in enrollment practices at MNPS.

It is our hope that as a result of this study, school leaders will have the information they need to make sound policy reforms related to school choice practices, and as result will have the opportunity to overcome political friction, and focus on providing a high quality experience for every student.

Using data provided by MNPS related to enrollment, academic performance, and discipline the team found the following in regards to the first research question.

Demographics and Mobility

- Mobility across the district often ranges between 30 and 50 percent, signaling that a relatively high number of students switch schools. Additionally, schools with higher mobility rates typically have lower overall school performance (as measured by state exams).
- African American students constitute a greater percent of the population in schools of choice than in traditional schools, while Caucasian students are a greater percentage of the overall student body in traditional schools.
- English Language Learners, students who qualify for free or reduced-price meals, and students who receive special education services constitute a smaller percentage of students enrolled in academically selective magnets than in charters or traditional schools.
- The percentage of students who transferred out of traditional schools was nearly double that of either

charter or magnets. This does not mean that these losses were a gain for another school type as students could have left one school type and enrolled in another school of the same type during the school year.

• Mobility is a challenge district-wide, and offering more choices for families increases the number of non-residential transfers.

Student Performance

• Regardless of the reason for transfer, the majority of transferring students scored below the district average on TCAP Reading, Math, and Science exams.

• The percentage of transfer students that score in the Below Basic range is nearly double that of the MNPS average.

• An analysis of enrollment, achievement and discipline data indicates that April was the month most highly correlated with lower than average TCAP scores for transferring students, though February also held a strong relationship with expulsions, remands to alternative learning centers, and intra-district transfer activity. Average suspensions in February were only exceeded by one in March, indicating that February was generally a month of relative turmoil for enrollment and discipline in MNPS.

• Coupled with the fact that transfers in February correlated with low TCAP scores, it could be suggested that if charters schools pushed students out the peak would have been at the end of winter in 2013 and not immediately before state testing in April.

However, current data collection practices in MNPS only capture part of the mobility story and determining the timing of a residential move related to a school transfer is difficult. As a result it is worth asking: Do families move to enroll their child in a school, or do they enroll their child in a school because they moved?

The Real Problem: Poverty & Student Transience

During qualitative data collection, poverty surfaced as the crucial constraint for families and their ability to take advantage of the options provided by MNPS. Even if a family chose a particular school for its focus, academic opportunities, or concerns regarding safety or special assistance, too often those families could not stay at the school. As one principal shared,

> "Once they're here, transferring out is poverty driven. A lot of it is that rent's too high or a domestic situation falls through. A lot of places around here will offer a free months rent so you see people moving at the end of the month – it forces a constant transiency."

Parents, in this situation, do not seem to be pulling their children from a school for reasons related to a personal experience at that school. Instead, they

move to a neighborhood or residence they can afford.

As part of the general mobility problem, transportation issues surfaced as a key challenge for many of the students who choose to attend charter or magnet schools. Even those parents with stable housing, and a keen awareness of school priorities and expected norms often described Nashville's lack of transportation a challenge, often leading to withdrawal from a school of choice.

Discipline Matters

Respondents agreed that one of the key issues related to why a family chose a school had to do with parents' perception of how the discipline policy would be implemented at each school. This was true both for traditional schools and schools of choice. When evaluating their options for schools, parents shared that they would reflect on their children's day-to-day experiences at their current schools.

Enrollment Centers

In examining enrollment practices, the team also explored the impact of newly established enrollment centers designed to streamline the enrollment process. A key consequence has been a reduction in communication between school sites, often resulting in both delays and loss of vital student information. For a district with high mobility, this new process appears to be both a blessing and burden. School administrators lamented the dearth of information that schools now receive,

> "We just get a snapshot now. We don't get the whole story about why they left one school or another. And there's definitely less communication between schools, since they're no longer getting in touch with us or requesting records."

With regard to students with Individualized Education Plans (IEPs) or who receive additional services, schools often do not receive the information they need to ensure accommodations are provided from the beginning. Administrators and teachers alike noted that this could be potentially devastating for students who need intensive services, especially in a culture of high stakes accountability.

Buying Goods: Marketing and Recruitment

While enrollment centers play a role in delivering information between schools, as well as some information to parents, many MNPS principals spoke of schools of choice employing different mechanisms for attracting new students that would be difficult for traditional schools to replicate. While the district hosts a schools fair each year, according to some principals this opportunity does not match what charter and magnet schools are able to achieve.

Facts not in Evidence

Finally, it was clear throughout the interviews that a majority of teachers and administrators had come to believe that transfer students from charter schools negatively impact a school's overall academic performance. Many respondents reported that the most of these students arrive just before state exams. As one principal made clear, "We know that every February, we will get an influx of students. It's been that way for several years...we have had a huge influx at that time and that's generally the cutoff at charters for TCAP." However, when researchers probed further, the veracity of these claims often fell apart.

The Formula Question

The second research question asked if there was an appropriate formula for measuring mobility within both schools of choice and traditional schools. After reviewing the literature it became clear that the formula employed by MNPS is typically used to calculate a net change in enrollment, a measure that estimates the general stability of a school population. The primary failure of this formula is that it does not isolate the number of students who leave, and as such cannot accurately demonstrate a clear picture of attrition. For example, by using the formula employed by MNPS, it is possible that if the number of entries and the number of exits are equal then the formula calculates attrition as zero, no matter how many students actually leave the school. This means that at a school of 500 students, if 100 transferred out and 100 enrolled, the formula would not capture the movement of those students, which would suggest that there was no problem with attrition, despite the fact that 20 percent of the student body would have changed. Therefore, the formula proposed by charter advocates that isolates "exits" or students who withdraw from a school is a more accurate way to calculate school level attrition.

However, the team found that neither formula adequately captured student attrition, especially in a district where generalized mobility is high. In order to accurately calculate attrition, it is important to understand and agree on what is meant by the terms mobility and attrition, and then to generate specific questions regarding what a district or school leader would like to know. These questions should guide the purpose and scope of the calculations. For example, does the district want to compare schools' ability to retain students? Or, to compare student choice activity trends district-wide? Does a school organization want to examine the relationship of mobility with test scores? And do they want to do this by school type, size, demographics, or location? Or, does the district want to evaluate the impact of new enrollment procedures? The section of the report dealing with this question outlines alternative formulae for a variety of scenarios as well as provides a model of propensity score matching that may better serve the district when making comparisons.

Recommendations

Finally, the team makes a series of recommendations that should assist stakeholders in better understanding and addressing mobility. These recommendations include:

1. Expanding and specifying data collection procedures at Enrollment Centers to ensure important information regarding transfers is collected.
2. Investing in a more agile and user-friendly data platform for organizing datasets.
3. Increase the organizational capacity for data analysis.
4. Support school choice by preparing principals and teachers with strategies for limiting and responding to mobility, and by partnering with charter schools.
5. Engage in a serious effort to examine residential mobility and work with local agencies and community stakeholders to alleviate its effects.

In an era of high-stakes accountability and in an environment shaped by priorities outlined in Race to the Top, understanding how to best serve all students no matter what types of schools they attend should be the focus of all education stakeholders. In specific, it is of paramount importance to understand the details of student mobility related to achievement, academic and social support, as well as the concerns of principals, teachers, and families. We hope this report will be in service of this end.

Introduction

In the state of Tennessee, where several education reform efforts have been initiated under the sweeping, multi pronged federal Race to the Top grant, the scale and speed of change across the state is unprecedented. With the $501 million dollar investment from the United States Department of Education (ED), these reforms include a new teacher evaluation system, the implementation of the Common Core State Standards, and the proliferation of charter schools. As such, increasing school choice and student mobility have become areas warranting examination in Metro Nashville Public Schools (MNPS). During the 2012-13 school year differing attrition estimates published by MNPS and local Charter Management Organizations, prompted concern amongst school and community leaders who seek clarity on these issues.

In the city of Nashville, the arguments over charter schools has called attention to the need for a critical examination of non-residential mobility within MNPS, especially as it relates to students switching between schools of choice (charters, magnets, etc.) and traditional schools. This study serves an opportunity to examine claims made by charter school opponents that charter schools are exiting students before state examinations, and that this alleged practice makes it difficult for traditional schools to improve overall student performance as measured by state exams.

While there is much that the extant research literature can explain in relation to school choice and student mobility, in an era of heightened accountability and unprecedented change, knowing how to make reasonable comparisons between schools has become a primary challenge. Is it fair to judge a traditional school's performance against that of a new charter? Is a new STEM magnet school a failure if its students perform at the same level as they did when the school only admitted students from its immediate zone? And what if students leave one school for another without a change in address? Does that mean the prior school is suspect, or is increased mobility simply a function of increased choice?

These questions about how to compare schools, how to assess student performance, and how to respond within an evolving policy environment are of paramount concern for districts that seek to improve the quality of the school experience for their students. Analysis of enrollment and achievement data, and interviews with school staff and families can serve to clarify what's happening on the ground.

For these reasons, this study seeks to answer the following questions:

1) To what degree are students switching between schools for

reasons beyond residential mobility? And what impact, if any, does this have on a school's overall academic performance?

2) Is there an appropriate formula for measuring mobility within both schools of choice and traditional schools?

The study also seeks to examine why families choose to switch schools, how school leaders, counselors, and teachers perceive issues related to mobility at their school sites, and to document the recent change in enrollment practices at MNPS. It is our hope that as a result of this examination, school leaders will have the information they need to make sound policy reforms related to school choice practices, and as result will have the opportunity to overcome political friction, and focus on providing a high quality experience for every student.

Background and Context

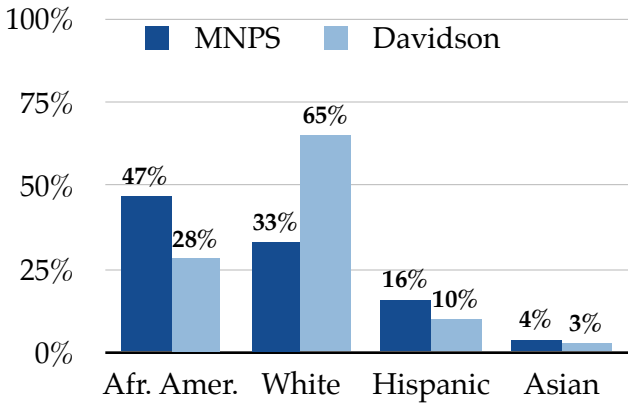
Before examining non-residential mobility in MNPS, the degree to which it impacts overall school performance, and how to best measure mobility and student attrition, it is important to briefly describe the context in which MNPS operates and the background of mobility issues within Davidson County. We will examine three interrelated areas that serve to set the stage for this study: a demographic profile of MNPS, the landscape of school choices, and the characteristics of student mobility relevant to MNPS. We also include a brief account of recent events that have made mobility and attrition areas of increased attention in Nashville.

Demographic Profile of MNPS

Today, MNPS serves close to 81,000 students in 153 schools, in Pre-Kindergarten through 12th grade and as part of their mission the district seeks to, "provide every student with the foundation of knowledge, skills and character necessary to excel in higher education, work and life" (MNPS, 2013).

Currently, the MNPS student body is 47 percent African-American, 33 percent Caucasian, 16 percent Hispanic and four percent Asian American. While both Davidson County and MNPS are ethnically diverse, the percentage of African-American and Hispanic students attending MNPS schools is far higher than the composition of the county, where African-Americans represent 28 percent of residents, and Hispanics fewer than 10 percent. Conversely, 65 percent of county residents are Caucasian, nearly twice the percentage represented within the district (MNPS, 2013; Census, 2010).

Figure 1: Composition by Race - MNPS vs. Davison Co.

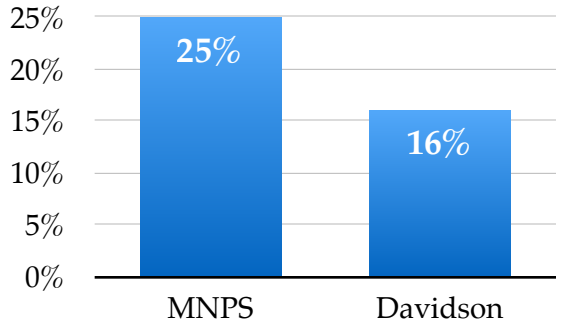


Source: MNPS & 2010 Census

The district also serves nearly 20,000 English language learners from over 100 countries who speak more than 100 languages, representing almost a quarter of students enrolled within the district, whereas data from the most recent census reveals that only 16 percent of individuals speak a language other than English at home (MNPS, 2013; Census, 2010).

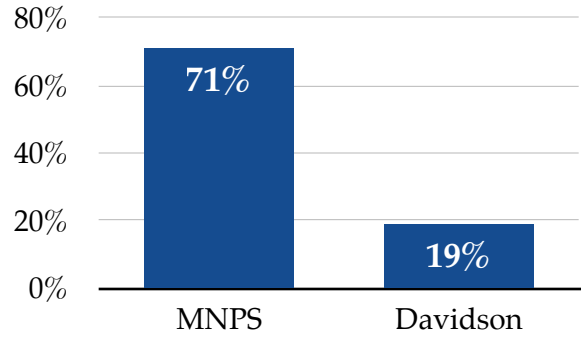
In addition, while definitions of poverty differ, the district serves a student population where 71 percent of students are classified as economically disadvantaged, a strikingly high number

Figure 2: Home Language Other Than English - MNPS vs. Davidson Co.



Source: MNPS & 2010 Census

Figure 3: Economically Disadvantaged - MNPS vs. Davidson Co.



Source: MNPS & 2010 Census

given that 19 percent of Davidson County residents live at or below the poverty level (MNPS, 2013; Census, 2010).

From these discrepancies in representativeness it is safe to assume that children from higher income families typically choose to attend schools outside MNPS. It is also safe to assume that the majority of these families are Caucasian, creating a concentration of poverty and minority students within most MNPS schools. Despite the demographic differences between the district and the county, this diversity is a point of pride for the district. As their published materials make clear, "different perspectives and backgrounds form the cornerstone of our strong public education system" (MNPS, 2013).

The Landscape of School Choice

MNPS is comprised of 73 elementary schools, 33 middle schools, 25 high schools, 15 charter schools, and seven specialty schools which covers traditional schools as well as themed academies, magnets and charters (MNPS Factsheet, 2013). This diverse range of schools aligns with one of the stated goals of MNPS, which is to pursue "a portfolio approach, integrating magnets, charters, and other choice programs, seeking to offer a variety of options to meet the needs of every student" (MNPS, 2013).

The opportunity for parents and students to choose schools they would like to attend is generally popular amongst families. However, in addition to the district's efforts to give families a variety of choices within MNPS, school choice literature suggests that factors such as how close a school is to home, racial composition of the school, perceived academic quality, safety, as well as social and cultural capital all play a role in how a family decides upon a particular school (Smrekar, 2009a).

Several studies demonstrate that the demographic profile of a school is one of the strongest predictors of a family's decision, with Caucasian families seeking schools with students who look more like

themselves, and minority families searching for schools that seem culturally familiar (Schneider & Buckley, 2002; Henig, 1996). This potentially explains why during desegregation in Davidson County during the 1970s, MNPS lost over 30 percent of its Caucasian students to independent schools as well as to districts outside the county (Pride & Woodward, 1985).

Beyond demographics, the perception of academic quality also plays a key role when families decide between schools. For the last four years under No Child Left Behind (NCLB), MNPS was listed as needing corrective action until the state was granted a waiver from NCLB requirements during the 2012-13 school year. While the district has seen academic gains of close to three percentage points in both reading and math over the last year, achievement data indicate that just over one third of students in MNPS score proficient or advanced on state exams in reading and mathematics (Nashville Public Schools Scorecard, 2013). Even though MNPS has some of the top schools in the nation, the public perception of low performance casts a shadow over the district as a whole (Nattras et al., 2013).

How parents choose a school is fairly reasonable to understand. Without the time, energy, and transportation required to deeply examine the merits of each school individually, it is quite common for parents to make decisions based on word of mouth, or the resources available at a particular school (Smerkar, 2009a), a phenomenon that could be the result of lower levels of cultural and social capital (Bourdieu, 1977; Lareau, 1987). Whereas why a family chooses a particular school depends more on their level of cultural capital, as a family's peer group plays an important role (Coleman, 1988).

In addition to demographics, academic reputation, and social and cultural capital, Kahlenberg (2001) makes it clear that types of choices or programs within a district can dictate parents choices, and parents who do not have to choose often will not, undercutting the value of having options at all. If parents must choose, and the options offer distinct differences in theme or pedagogical strategies, then parents may select schools that meet their needs without regard to race or class. Smrekar (2009a) would refer to this phenomenon as "pull", or why a family is attracted to a particular school. Conversely, if a family perceives that the quality of a school is low, that their children are in danger, or that the curriculum or pedagogical methods are not serving their children's needs, the family may decide to leave, which Smrekar (2009a) describes as "push", or reasons that explain the exit of a student.

If the choices available to families are not distinct enough, or if they are only available to certain populations as a result of other factors, then school choice can actually have an adverse effect within schools, particularly as it relates to diversity (Mickelson, Smith & Southworth, 2009). This compounds problems related to a school's academic

performance, and makes it even more challenging for districts like MNPS who see increased academic improvement as an important goal.

In Nashville, the academic challenges facing MNPS are well known, and have been the focus of concerned parents and politicians alike (Nashville Chamber of Commerce Report Card, 2013). In response to persistently low performance, and a belief in school choice, Mayor Karl Dean has made the introduction of charter schools a top priority. Dean has worked to actively recruit charter organizations and has played an instrumental role in founding the Tennessee Charter School Incubator (now the Tennessee Charter School Center), which has plans to facilitate the opening of 22 new charter schools in Nashville and Memphis by 2015 (Metro Government of Nashville and Davidson County, 2014).

Nashville's Charter Controversy

The rapid increase in the number of charter schools in Nashville has been a clear point of notable controversy and at times – political friction between charter school advocates and those who oppose them. This friction has surfaced in many ways over the last few years; recently over whether to allow a charter school to open in the affluent area of west Nashville (Woods, 2013). The disagreement ultimately resulted in the Tennessee Department of Education (TDOE) deciding to withhold $3.4 million in taxpayer funding designated for MNPS (Hale, 2012). This display of state power sent a message to MNPS that TDOE would do what it could to pressure districts to comply.

Several months later, in the spring of 2013, MNPS school board member Jill Speering shared with local news organizations that principals had complained to her that charter schools were, for a variety of reasons, "pushing out" students before the administration of the Tennessee Comprehensive Assessment Program (TCAP) and sending them back to traditional MNPS schools (Zelinski, 2013). The claim was that this alleged "push-out" made it difficult for traditional public schools to meet increased academic performance goals. Since low scores can result in disciplinary action as well as contribute to how the public perceives individual schools and the district, this practice could further complicate efforts to improve student outcomes.

Claims that charter schools push out students are not new, and researchers have described several potential motivations for a school to engage in such behavior. These include improving the academic reputation of the school (Ravitch, 2012), lowering costs associated with resource intensive students (Miron, Urschel, & Saxton, 2011), and increased accountability pressures (Zimmer & Gaurino, 2013). Despite these claims, it's relatively difficult to determine whether this practice occurs in the way that charter opponents claim, or whether or not it has the effects they suggest. This is due in part to other factors related to mobility, which we discuss below.

Following the claims made about charter schools in Nashville, MNPS issued mobility rates for schools based on a formula which suggested that local charter schools had mobility rates that were in many cases 20 percentage points higher than traditional schools. Charter school advocates responded with an alternative formula resulting in increased mobility rates for all schools, highlighting mobility as a challenge district wide and not specific to charters (See Table 1).

The large differences in mobility rates prompted a series of follow up articles in local media highlighting student mobility at both charter schools and traditional schools in MNPS (Garrison, 2013). In addition to the differences in calculations, the alleged reports from principals also suggested that many students who leave charters require special education services or have multiple incidences of suspension, a common criticism of charter schools (Brown, 2013). Other claims accused charter schools of attempting to exit low-performing students in order to inflate test scores (Zelinski, 2013).

Yet the case for these claims in the research literature is thin, and mobility and attrition research suggests that students typically move of their own accord hoping to improve their educational situation by attending a higher quality school (Hanushek, Kain, Rivkin, & Branch, 2007; Rumberger, Larson, Ream, & Palardy, 1999). In a recent study by Zimmer and Gaurino (2013), the authors write,

Table 1: MNPS vs. Charter Advocate Formula Attrition Calculations

School (in alphabetical order)	**11th Day Total**	**Entries**	**Exits**	**Mobility Rate**	**MNPS formula**	**Charter formula**
Boys Prep Charter School	100	16	39	55%	-23%	-34%
Brick Church Coll. Prep Charter	103	30	30	58%	0%	-23%
Buena Vista Enhanced Option	351	137	113	71%	7%	-23%
Gra-Mar Middle School	434	131	135	61%	-1%	-24%
Hunters Lane High School	1579	474	519	63%	-3%	-25%
Maplewood High School	912	245	301	60%	-6%	-26%
Pearl-Cohn High School	827	269	310	70%	-5%	-28%
Stratford High School	677	158	193	52%	-5%	-23%
Whites Creek High School	862	216	253	54%	-4%	-23%

Enrollment is students enrolled on day 11 of the 2012-13 school year.
Mobility rate is calculated as (Entries + Exits)/11th Day Enrollment

Source: City Paper, 2013

> "Our analysis suggests that there is no evidence consistent with the claim that charter schools are in general or at the individual level pushing out low-performing students" (pp. 24).

It is also possible that low-achieving students are simply more transient for a variety of reasons (Alexander, Entwisle, & Dauber, 1996). Unfortunately for these students, transfers from one school to another can create adverse effects, leaving them without the education they need to overcome further challenges (Xu, Hannaway, & D'Souza, 2009; Booker, Gilpatric, Gronberg, & Jansen, 2007; Hanushek, Kain, & Rivkin, 2004).

It is amidst this controversy that our examination seeks to determine the degree to which students switch between schools for reasons beyond residential mobility, and what impact, if any, this has on a school's overall academic performance. As previously stated, this study will also assess the relative merits of the formulae used to calculate mobility and attrition, and attempt to find an adequate measure by which appropriate comparisons can be made.

After combing through the extant research related to these issues, it is important to emphasize that for the purpose of this study we have decided to use the definitions of mobility and attrition as presented by Ira Nichols-Barrer et. al. (2012). Who define the terms in the following ways:

Mobility is the movement of students into and out of schools—regardless of the reason or motivation—at grades other than standard entry and exit points (such as between the last year of elementary school and the first year of middle school) and that mobility encompasses both attrition from a given school or set of schools (early leavers) and late arrivals into the school.

Attrition occurs when a given student leaves a school during or immediately after a given year, provided the student is not enrolled in that school's culminating grade. The attrition rate is equal to the number of students observed in a school in a given year but not observed in the same school at a later point in the year. These attrition rates can further be separated into two substantively different types of attrition:

(1) Within-district movers are students who leave a given school to attend a different school within their local school district (possibly a local charter school), and,

(2) Out-of-district leavers are students observed in a given school in one year who are no longer observed in the data in the subsequent year. They include students who (1) begin attending a private school, (2) leave the district entirely, or (3) drop out.

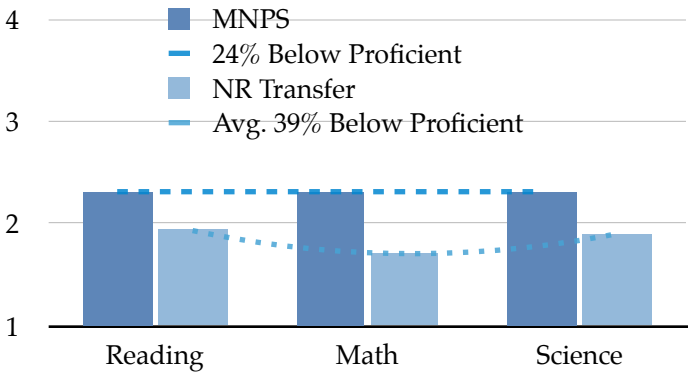
As previously stated, the focus of this study is to examine within-district transfers, and to attempt to concentrate on those students who transfer schools

for reasons beyond residential mobility. However, it should be stated that these terms are often used loosely and interchangeably in education research literature and that educators and researchers alike have yet to come to a consensus regarding the conceptual clarity of either mobility or attrition.

Project Design & Methodology

In order to address both the research questions and district concerns regarding mobility and attrition, the research team analyzed enrollment and achievement data, conducted interviews with stakeholders (principals, teachers, enrollment staff, and parents), and reviewed the extant research literature related to attrition and mobility. The datasets made available to the capstone team shaped the analysis in key ways, all of which are described in this section.

Figure 4: TCAP Performance 2012-2013 - MNPS & NR Transfers



MNPS Student Data

The data provided by MNPS included six datasets from the 2012-2013 school year allowing the team to analyze mobility across the district for students in testing grades (3-8). The research team used the 2012-2013 school year as the window of analysis to focus on moves within the school year. These datasets included:

- **Enrollment** data for the 2012-2013 school year indicating which TCAP-tested students enrolled in specific schools at different points during the school year;
- **Discipline** data from the 2012-2013 school year indicating how TCAP-tested students who transferred between school types after the initial enrollment period compared to their non-moving peers across the district;
- **Demographic** data from the 2012-2013 school year and test data from the 2012-2013 school year indicating how students of various attributes performed on the TCAP in reading, math, and science;
- **Contact** data for students in testing grades who had transferred between school types in 2012-2013 indicating the most recent school enrollment, residence, and telephone information for non-residential (NR) transfers (to facilitate parent interviews);
- **School identifiers** from 2012-2013 indicating total enrollments at schools compared to the number of non-residential transfers that enrolled after the initial enrollment period;
- **School choice** data indicating how many students transferred between

individual schools and school types for both voluntary and involuntary reasons.

Student Achievement Data

Scores from the TCAP were used to make comparisons between groups of students because every child in grades 3-8 must sit for the exam. Therefore this study focused on these specific grades for analysis. Summative scores indicated reading and math proficiency for grades 3-8, and science proficiency for grades 4 and 8. Additionally, the tests take place annually in April, making them a reasonable measure of performance for students who transferred during the first three-quarters of the school year. The Discovery Education Assessment (DEA) was also considered for comparative analysis, as it covers all grades, but as a formative assessment there were many students for whom data was absent. Therefore this assessment was not a focus during the analysis.

Transfer Student Groupings

Examining the effects of student mobility on student achievement (as measured by TCAP) led to a selection of transfer students by MNPS as the focus of their concerns. As such this study employed the following units of analysis to examine mobility effects on overall student performance:

- **students** by demographic, grade level, enrollment activity (transfer status), discipline activity, TCAP performance; and
- **schools** by type (traditional, magnet, alternative, charter).

These indicators facilitated an analysis of test score data from a system-wide view, avoiding potentially confounding variables of school-level analysis. Clusters, zones, and other geographic data serve as a proxy for student demographics, such as race and eligibility for reduced price meals, and were excluded in favor of student-level variables. Cross-referencing student variables with school types yielded a more precise look at which students transfer during the school year, how many times they transfer, as well as identifying the schools they transferred between.

Since school site principals suggested that their schools' overall academic performance was hurt by low performing students transferring from other schools, MNPS data analysts established a transfer status variable to identify students in testing grades who transferred from a zoned school after the initial enrollment period without a change in their home residence (see Figure 5). This variable served as a comparison tool between students who matched the criteria for targeted status (non-residential transfers) and students who did not match the criteria (transfers due to a change in residence).

Analysis of these scores compared children who transferred between schools out of zone after the initial enrollment period with district-wide averages on the TCAP. During data analysis the team

used aggregate groups, such as the non-residential transfer group and MNPS district-wide averages as units of analysis with schools serving as units of analysis to indicate the net effect of student mobility on a school's overall academic performance.

A means comparison shows that non-residential transfers score an average of one-half standard deviation below the MNPS average on all three TCAP exams (see Table 2).

Table 2: 2012-2013 TCAP Performance Comparison - MNPS & NR Transfers

		Reading	Math	Science
No Transfer	Mean	2.31	2.31	2.31
	SD	0.84	0.95	0.94
NR Transfers	Mean	1.93	1.7	1.9
	SD	0.81	0.79	0.89
Total	Mean	2.3	2.3	2.3
	SD	0.84	0.95	0.94

From this analysis it becomes clear that the transfer population is at risk for low performance on promotional examinations, which could lead to low persistence in high school (Xu, Hannaway, & D'Souza, 2009; Booker, Gilpatric, Gronberg, & Jansen, 2007; Hanushek, Kain, & Rivkin, 2004).

Non-residential transfers proved to be highly representative of three of five vulnerable population variables in Figure 11; however, the team wanted to ensure that no other variables intervened. To do this, residential continuity and enrollment out-of-zone variables were removed to make a broader, secondary transfer group for comparison between the MNPS averages and those of the initial transfer group defined by MNPS (see Figures 5 and 6).

Figure 5: Non-Residential Transfer Criteria

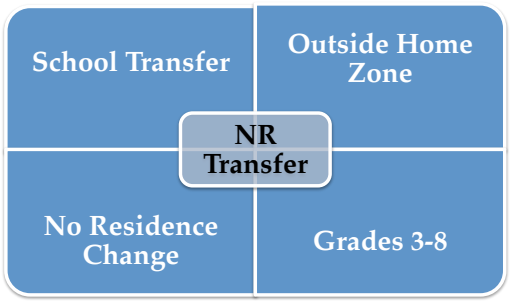
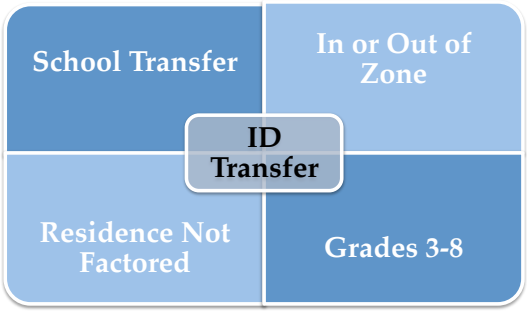


Figure 6: Intra-District Transfer Criteria



From the expanded view, inclusive of the secondary transfer group, **intra-district transfers (ID)**, there is evidence that transferring schools during the school year has a relationship with the same three student attributes as the initial non-residential transfer group, including English Language Learners. From this, it appears that the original non-residential transfer group is not the only one disproportionally at risk of low performance in relation to the MNPS average (See Table 3). Therefore, the

Table 3: Mean 2012-2013 TCAP Performance by Transfer Type

	N	% of pop.	Reading	Math	Science
Non-Transfers	33609	93	2.31	2.31	2.31
ID Transfers	2155	6	1.98	1.85	1.87
NR Transfers	123	<1	1.93	1.7	1.9
Total	35887	100	2.3	2.3	2.3

intra-district transfer group is used for further comparisons between MNPS averages as an indicator of average transfer student performance.

Qualitative Analysis – Mobility Perceptions

To examine the rationale that leads families to withdraw their students from one MNPS school and enroll in another MNPS school after the beginning of the term, our team chose a qualitative design that included interviews of MNPS staff and parents or guardians of MNPS students. The qualitative design drew a purposive sample of MNPS staff whose schools had higher numbers of mobile students compared to other MNPS schools as per the number of students who made voluntary transfers after the initial enrollment period (the NR transfers group). To investigate the rationale for transfer, researchers selected a sample of students who had moved between traditional schools and schools of choice. Interviews with parents and guardians of these students aimed to uncover why they decided to switch schools after the initial enrollment period.

Similarly the research team used MNPS data to assess which schools had the highest rates and numbers of students who transferred for reasons other than a change in residence. From that list of schools the team selected eight school sites for interviews with principals, teachers, counselors, office staff, and enrollment personnel for a total of 40 interviews. This purposive sample included traditional schools, charter schools and magnet schools allowing the team to gain a variety of views across school types (Patton, 1990).

This allowed the team to interpret interactions between school personnel and families who enrolled or withdrew; and how these individuals compared between traditional schools and schools of choice. Interview protocols were designed around themes that surfaced in the extant research literature. Interviews of MNPS staff focused enrollment procedures, including acclimating and developing children socially and academically, providing support for struggling students, and communicating with families about school options and enrollment (Rubin & Rubin, 2012). Interviews with families of children who met the transfer criteria aimed to complete the picture by examining their experiences in communication with the schools, knowledge of schooling options,

perceptions of the school environment, and satisfaction related to the school from which their child withdrew and the one in which they were currently enrolled. Stakeholder groups were the unit of qualitative analysis: school administrators, enrollment center officials, teachers, counselors, and parents or guardians of transfer students.

Interviews at each school site began with the principal and then led to a counselor, teachers, and office staff interviews. Protocols for these interviews as well as those for families may be found in Appendix A. Family interviews constituted a purposive sample of parents and guardians of transfer students and were limited to a small number of cases given participant availability, cooperation, and accuracy of contact information provided by MNPS.

Data Analysis Plan and Coding Scheme

After conducting all interviews, the team organized and analyzed data to discover emergent themes. Since research questions and interview protocols derive from the conceptual framework the team relied loosely on this framework when analyzing data. During the following processes the team did its best to avoid forming preliminary conclusions in order to allow new categories to surface. Following options provided by Patton (2002) for organizing and reporting qualitative data the team used recommendations for a case study approach as well as suggestions for analytical framework approach related to issues and questions (p. 439). The team identified relevant elements of a case study approach that applied to this specific scenario (taking notes from semi-structured interviews, transcribing when necessary, and organizing findings by role) and analyzed by listening for repeated perceptions and noting overlaps and contradictions.

Interviews and Matrices

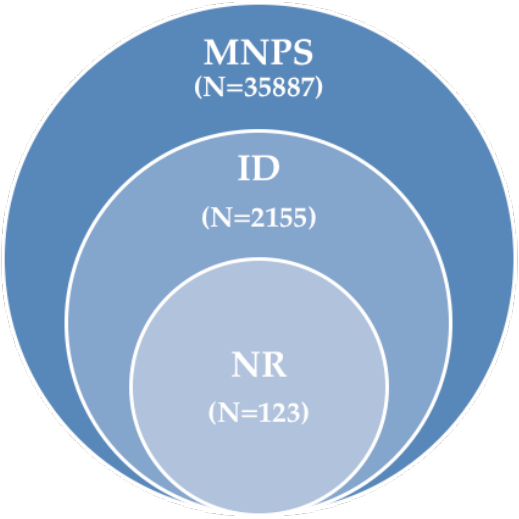
For interview data, team members each listened to all of the interviews in order to best understand the landscape of responses. During this process the team listened to each interview a total of three times as recommended by Smrekar (2012). The goal of the first review was to gain a general understanding of respondent perceptions. For the second review the team used the interview protocols in order to begin discerning emergent themes. During the third review the team listened for key quotes that succinctly captured these themes. At the end of this process the team developed an interview matrix to record discoveries for each interview. As emphasized by Patton, this matrix was used as a tool to "ask questions of the data" and provided "an additional source of focus in looking for themes and patterns" (2002, p. 477).

Limitations

There were a few key limitations to the team's approach during the study. First, the team chose to analyze the entire grades 3-8 population from the 2012-2013 school year (N=35,887) for the most

accurate and comprehensive calculations possible (see Figure 7).

Figure 7: Data Analysis Population Totals



Previous years data were excluded for a variety of reasons, including historical changes between years (changing state tests, changes in enrollment policy, and charter school openings and closures) and the emphasis on within-year transfer effects on test scores. Even though the team initially planned to review multiple years worth of data, MNPS provided data for only the 2012-13 school year. Therefore, the team found it appropriate to make inferences from the examination the entire population of 35,000 TCAP-tested students within the 2012-13 .

Furthermore, the way in which the data were provided to the capstone team required a level of re-organizing that would have made this second year of data nearly impossible to manage given the time available for the study. As such the team cannot comment on the degree to which any of these findings are consistent from year to year, or whether the 2012-13 school year was an anomaly. As previously stated, other changes within MNPS would likely have made year-to-year comparisons vulnerable to threats of validity.

Second, in using the results from the TCAP the team was limited to six grade levels to measure for the affect of mobility on student achievement, essentially assessing approximately half of the district's entire population. This limitation seemed appropriate given the high rate of transfers during those grades (especially in middle school), and allowed the team to focus on this population without the burden of addressing mobility in high schools which have their own set of challenges regarding to mobility; most notably related to student drop outs.

Third, regarding determination of transfer status criteria, that is targeting students who transferred schools without a corresponding address change out of zone, the relatively small number of cases made it difficult to draw meaningful conclusions about the group overall. Additionally, the decision to target students based on this variable inevitably fails to capture students who change addresses in order to transfer schools, or to estimate the degree to which the residence changes themselves are legitimate. Given the methods of data collection at MNPS and the broad range of definitions for student mobility, this targeting process was the best option,

and at this time is the only way to address the district's concern regarding non-residential school transfers.

Finally, due to transience of this limited target group, contacting parents proved challenging. The team worked diligently to contact parents for interviews but often found that phone numbers provided by MNPS had been changed or were no longer in service, leaving the team an even smaller sampling of parents to choose from. Additionally, many of the parents were simply not interested in speaking to researchers.

Findings

Findings address each study question in turn: the first investigates the context, rationale, and results of within-district mobility for reasons beyond a change in residence; the second question assesses various mobility and attrition formulae along with potential procedures for measuring them in the future.

Study Question 1

To what degree are MNPS students transferring within the district for reasons beyond residential mobility; is change of school type involved? And what effect, if any, does this have on a school's overall academic performance?

Demographics: Defining Transfer Groups

Understanding the student population of MNPS was a primary step for a thorough and comprehensive analysis of the effect of student mobility on achievement. Specifically, the team compared means and frequencies of the TCAP-tested MNPS population for the following variables to establish a comparative baseline by which transfer groups could be compared:

- race
- gender
- grade level
- eligibility for free or reduced-price meals
- special education or English language learner status
- discipline activity
- enrollment activity
- TCAP performance

enrollment activity frequencies for the following variables:

- date of enrollment activity
- type of enrollment activity
- enrollment activity by school
- enrollment activity by student

and discipline activity means for the following independent variables:

- discipline type
- event type
- discipline date
- school type

There is only one MNPS enrollment code to identify students who withdrew because enrollment in another MNPS school had been processed. It does not specify school types or if the transfer was related to a change in residence. It is therefore more complicated to determine where students transferred from than to quantify where they went.

Table 3 and Figures 8-10 illustrate a comparison of test performance means between the distributions of both transfer group demographics and those of MNPS aggregate grades 3-8, respectively.

Adding students who indicated a withdrawal code for enrollment in another MNPS school to the transfer pool, enabled the team to compare MNPS test score means with those of students who transferred schools for reasons both related and unrelated to residential mobility. Over 2,000 cases, comprising six percent of all students in grades 3-8, matched the intra-district transfer criteria, making that transfer group approximately seventeen times larger than the non-residential transfer group. This revealed a pervasive mobility issue for MNPS. The next step was to investigate the expanded transfer group for differences in attributes, performance, and enrollment as compared to students who transfer schools without changing residence, and then with the rest of the TCAP-tested MNPS students.

The team explored student attribute means for both transfer groups as compared with that of MNPS students who did not transfer to determine if any student attributes were disproportionately represented in either of the two transfer groups. As shown in Figure 11 (next page), the team found that students who received special education services, African American students, and students of low-income families were more prominently represented in both transfer groups when compared to the MNPS average. Boys were represented more prominently in the NR group and English language learners represented more prominently in the ID transfer group, indicating that students with these attributes are more likely to transfer. See

Figure 8: TCAP Reading Score Distribution

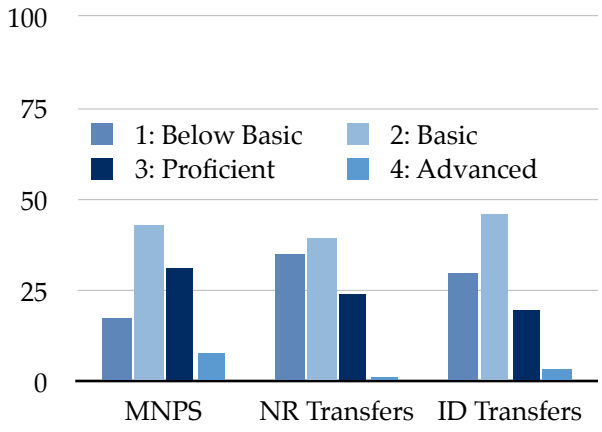


Figure 9: TCAP Math Score Distribution

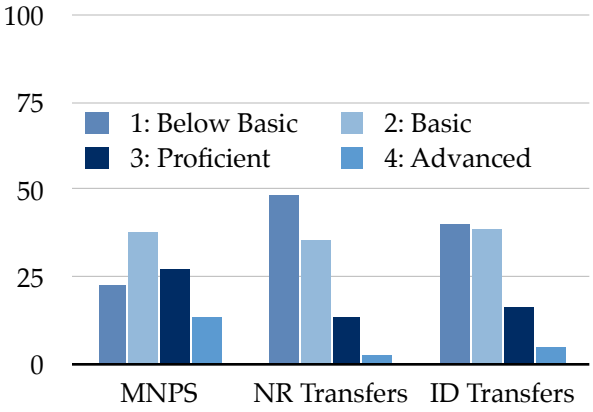


Figure 10: TCAP Science Score Distribution

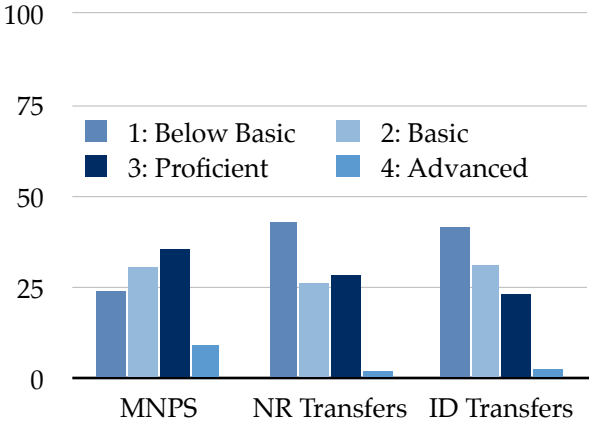


Figure 11: Student Attribute Composition Percentage Comparison by Transfer Type

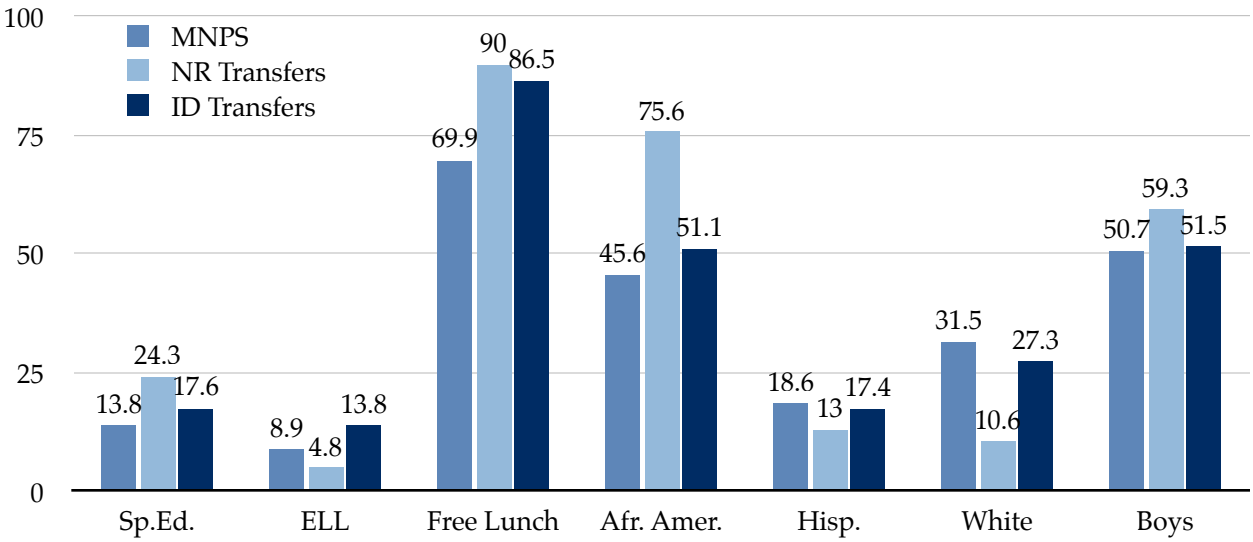


Figure 12: 2012-2013 TCAP Performance by Race

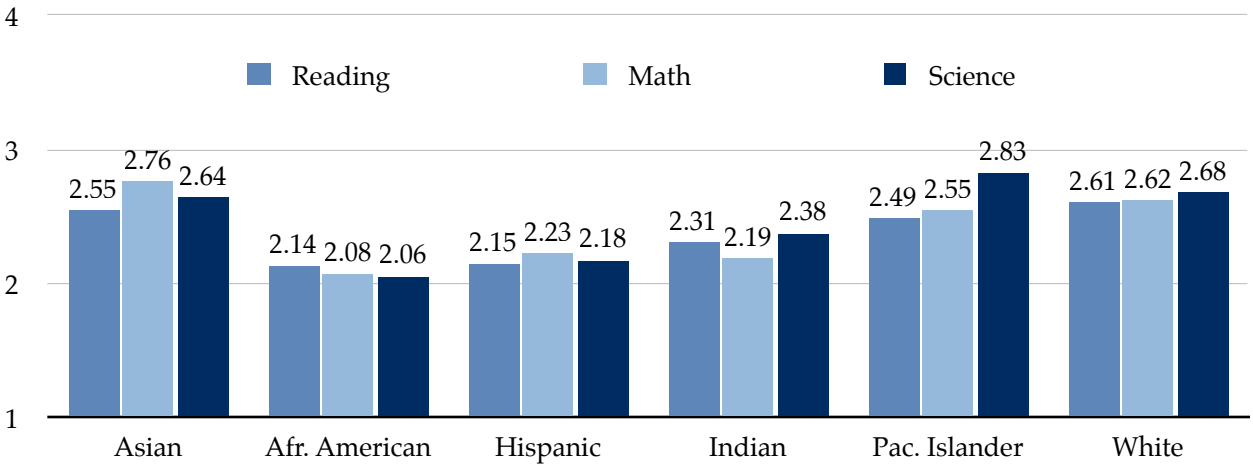
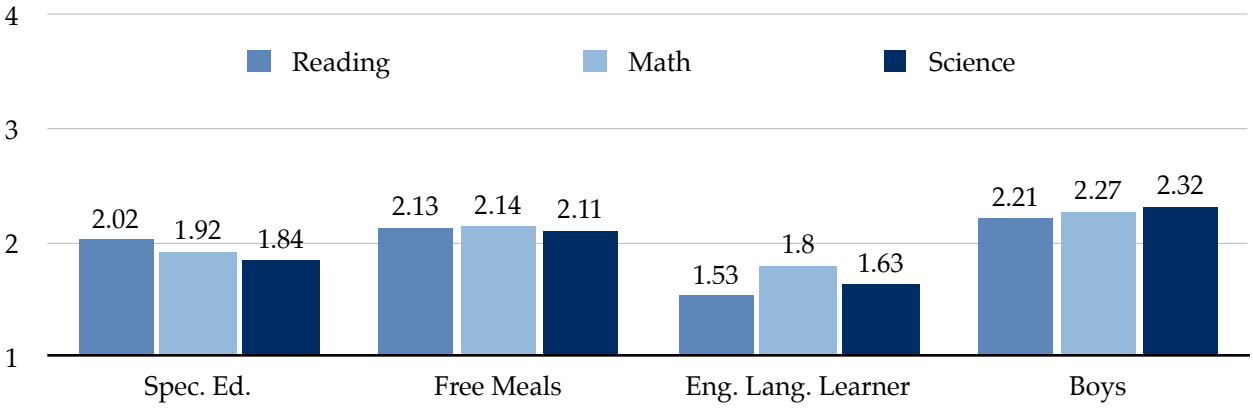


Figure 13: 2012-2013 TCAP Performance by Over-Represented Sub-Groups



Figures 12 and 13 for a comparison of TCAP scores for these sub-groups.

Reasons for Transfer — What the data suggest

Because interviews with MNPS families indicated that school type was a factor in transferring schools, the team decided to retain school type analysis for further quantitative comparisons. Figures 15-18 demonstrate an example of such analyses that informed our examination related to mobility in MNPS. The study team found that out-of-school suspensions of TCAP-tested students in MNPS occur disproportionally in magnet schools, with virtually no difference between traditional schools and charter schools.

Reviewing the TCAP scores by student attributes (Figures 12 and 13) and the populations of school types constituted of ID transfers (Figure 17), it seemed that students in over-represented sub-groups could have transferred to another school because their current school was not meeting their academic needs. In Figure 18, we found that African American students constitute a greater percentage of magnet and charter school populations than traditional schools, while white students are more common in traditional schools than in charters. Other students over-represented in transfer groups, such as English language learners, students who qualify for free or reduced-price meals, and students who receive special education services are fewer in selective magnets than in charters or traditional schools.

Figure 14: TCAP 2012-13 Means by School Type

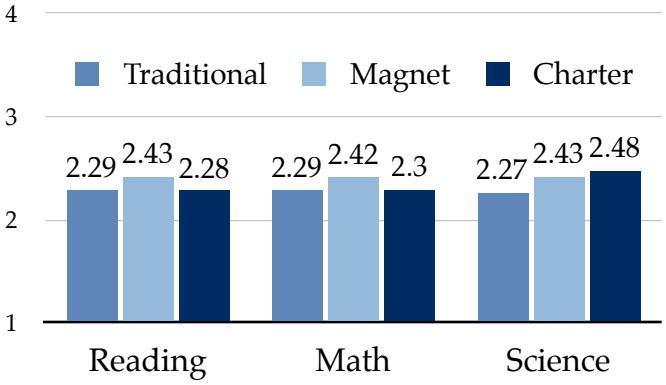


Figure 15: 2012-13 Percent Mobility of Total Population by School Type

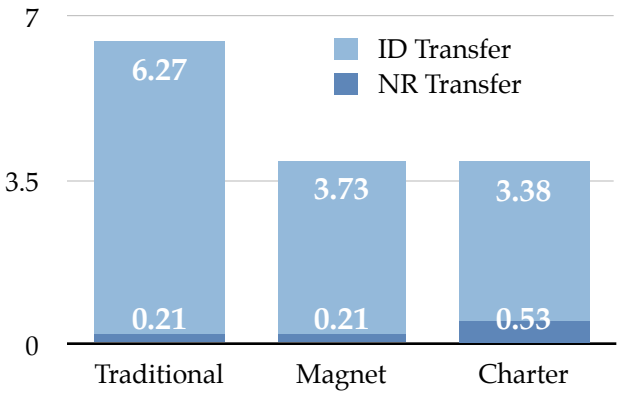
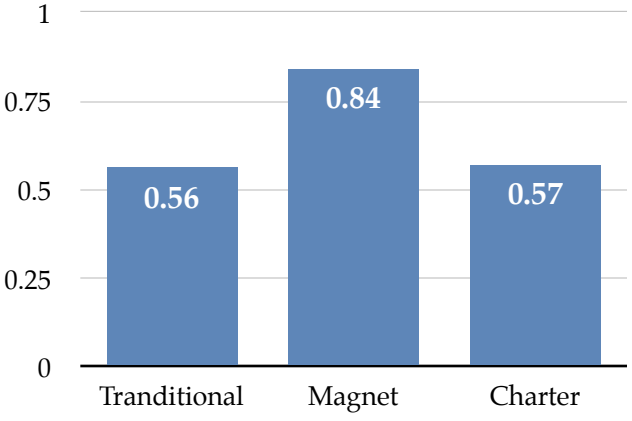


Figure 16: Mean Per Capita Out-of-School Suspensions by School Type



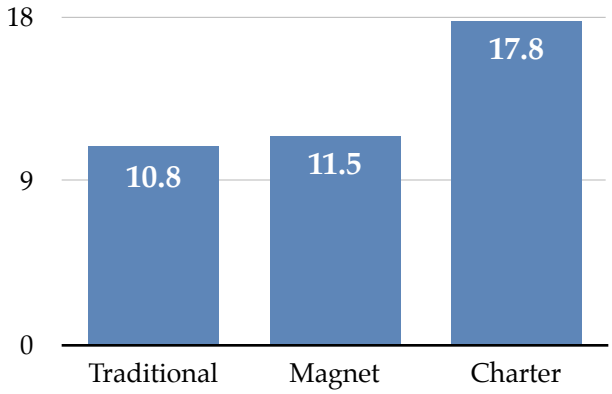
These data may indicate a degree of dissatisfaction among some subgroups with certain school types, or that one school type appeals to particular subgroups. See Figure 18 for an analysis of student body composition attributes by school type.

Considering the enrollment proportions of each school type, the team examined how this activity occurred during the school year. Figure 15 shows how school types compare in rates of attrition, expressed by the percentage of students who transferred from their original school after December 2012. Overall, the percentage of students who transferred out of traditional schools was nearly double that of either charter or magnets. This does not mean that these losses were a gain for another school type; students could have left one school type and enrolled in another school of the same type during the school year.

Figures 15 and 17 illustrate transfer activity by school type to demonstrate the mean percentage of students who initiated a withdrawal for another school in MNPS. Traditional schools had relatively more withdrawals via enrollment in another MNPS school, while charters had the highest percentage of transfer enrollment, as seen in Figure 15. This indicates that a higher percentage of students transferred from traditional schools to charters than students who enrolled in other traditional schools or in magnets.

The recommendations section describes potential solutions for a more accurate way to capture details related to

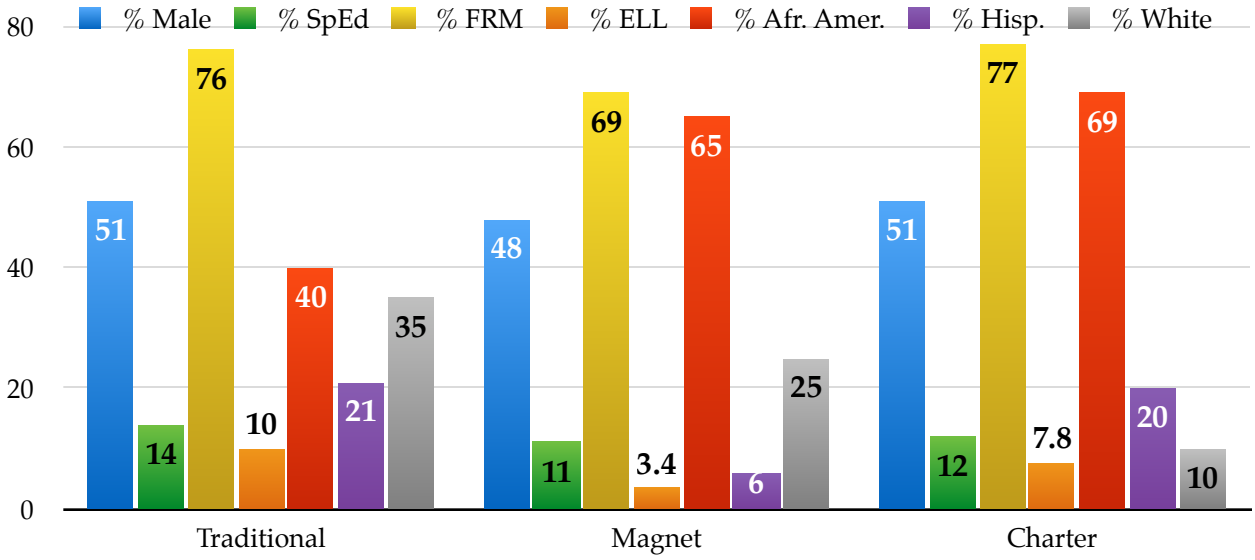
Figure 17: 2012-13 Percent of School Type Constituted of ID Transfers



mobility using enrollment codes. Note that slightly higher sums in Figure 20 relative to those in Figure 21 are due to the addition of involuntary remands to Alternative Learning Centers (ALCs); they are omitted in Figure 21 to show only those students who voluntarily transferred between schools.

The enrollment code that quantifies transfers within the district could be expanded to include entry or exit reasons, as well as origins and destinations within the district. Data collection in MNPS only paints part of the picture, as school withdrawals are reported once a child has enrolled in another school, and those instances are aggregated into enrollment pull dates occurring semi-monthly. This makes a determination in the timing of a residential move related to a school transfer improbable. The current process also makes quantification and analysis of residence-motivated transfers difficult and spurs the question: ***do families move to enroll their child in a school, or do***

Figure 18: Student Attributes Proportions by School Type



they enroll their child in a school because they moved?

This question made it difficult for the team to know how reliable attrition calculations could be given current data collection methods. However, when calculating attrition by the percentage of students who withdrew from one school and enrolled elsewhere between December and April (before TCAP administration) the data revealed that traditional public schools had the greatest percentage intra-district transfers, and that charters had the greatest percentage of non-residential transfers (see Figure 15). A comparison of transfer activity by school type indicates that a relatively higher number of charter school student enrollments are the result of a transfer than is the case for traditional or magnet schools (see Figure 17). This emphasizes two points, **(1)** ***that mobility is a challenge district-wide, and*** **(2)** ***that school choice may facilitate mobility.***

District Geography

Considering the number of transfers around the district, both within and out-of-zone, the team also analyzed school locations and home addresses of non-residential transfer students in order to determine whether there might be geographic patterns. The team sought to know whether certain areas, particularly those in economic distress, could help explain why students transfer. However, no pattern emerged, neither by school type nor by school cluster. Only one zip code produced substantially more non-residential transfers in 2012-2013, due to the closing of a charter school, which explains the large number of students who transferred to other schools. Overall, transfers by location did not vary significantly, suggesting that student mobility was not a result of geographic location. Rather, school type and student attributes were factors significantly related to incidences of transfer.

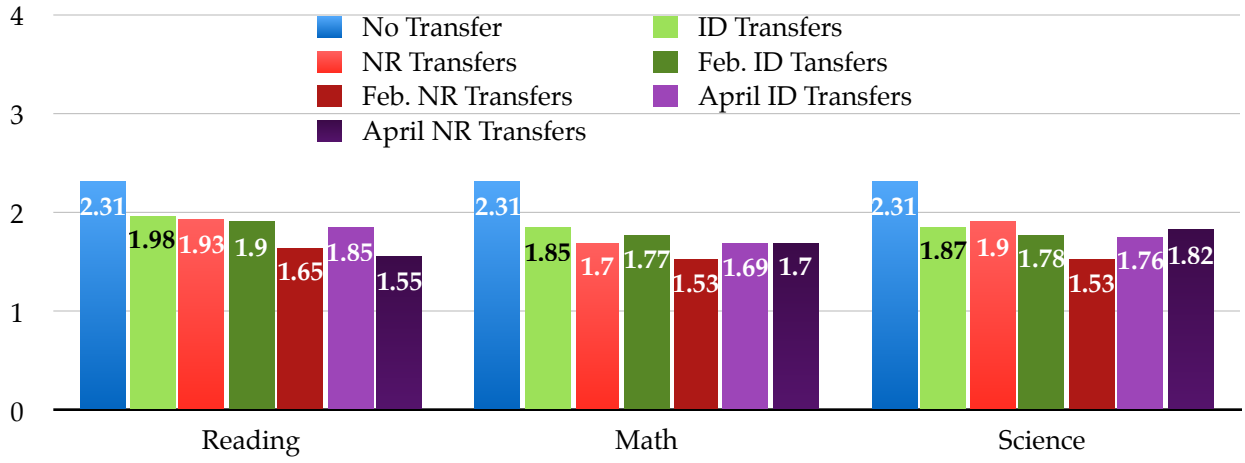
Student Performance

Regardless of transfer type, both the NR and ID transfer groups scored an average of fifteen percent or more below the district average on TCAP Reading, Math, and Science exams (Figure 19). The percentage of transfer students that score in the Below Basic range is nearly double that of the MNPS average, whereas half to one-third as many scored in the advanced range (see Distribution of TCAP scores in Appendix B). As a result of concerns from local media and traditional school principals regarding transfer students from charter schools, school attributes were also considered during analysis. Furthermore, as stated earlier, students who transfer may do so simply because the option to choose an alternate school exists.

Additionally, the team conducted a means comparison of TCAP scores by school type revealing that while charters and traditional schools had similar average scores in math and reading (charters performed approximately two standard deviations above traditional schools in science), magnet schools showed higher scores than traditional schools in all three areas, with each a standard deviation higher than charters or traditional schools in reading and math (Figure 14). A disaggregated list of the nine individual schools with the highest number of non-residential transfers and a comparison of each school's scores as well as a list of schools that received the most primary non-residential transfer students appears in Appendix B.

Approximately thirty percent of students in the non-residential transfer group concluded the 2012-2013 school year in an Alternative Learning Center (see Appendix B). This contradicts the perception that non-residential transfers are due to "skimming". Instead, due to their small number and large representation in Alternative Learning Centers (ALCs), the data suggest that non-residential transfers are a subgroup of a larger population requiring their own examination.

Figure 19: Mean 2012-2013 TCAP Performance by Transfer Type & Time



Timing is Telling

Not only was it imperative for the team to examine state test scores as a dependent measure of mobility; it also was necessary to explore mobility as a dependent of time as a possible correlative with test scores. To more fully understand the effects of mobility, the team analyzed transfers within the 2012-13 school year to examine how the temporal distance between the date of transfer and the date of TCAP administration affected test scores. This within-year analysis of mobility led to the development of both the non-residential transfer and the intra-district transfer groups into chronological transfer status by monthly intervals. Overall, data indicate an increase in enrollment for all school types from December 2012 to April 2013, signifying that attrition is not an issue for any particular school type

Figure 20: 2012-2013 Enrollment & Discipline Activity By Month

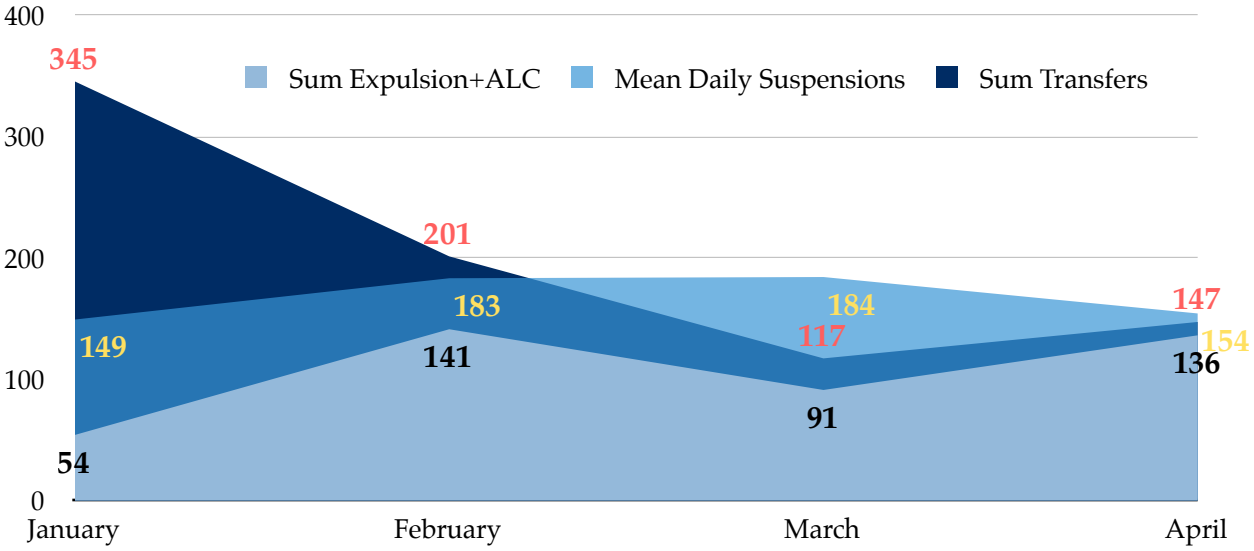


Figure 21: Intra-District Transfers by School Type and Month

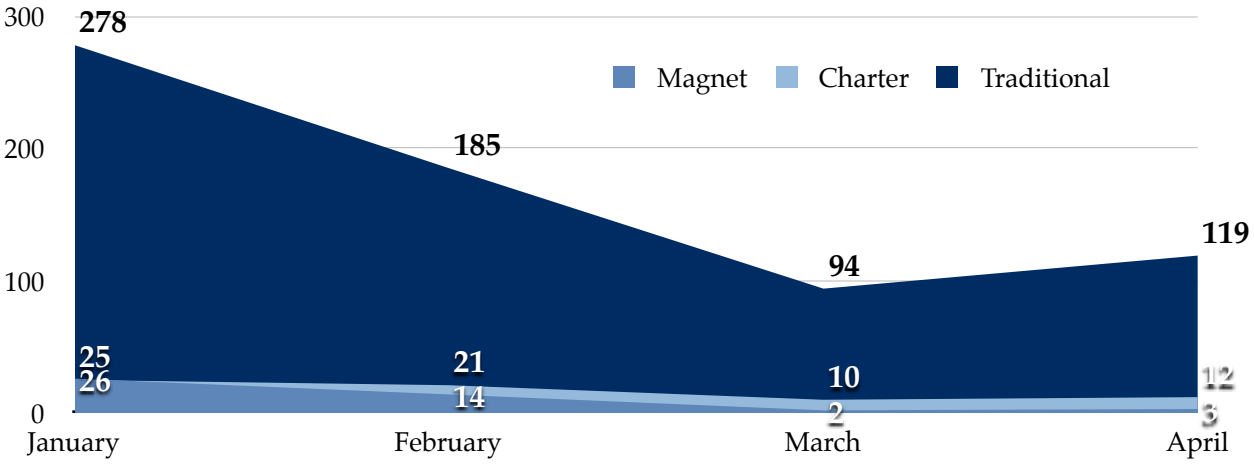
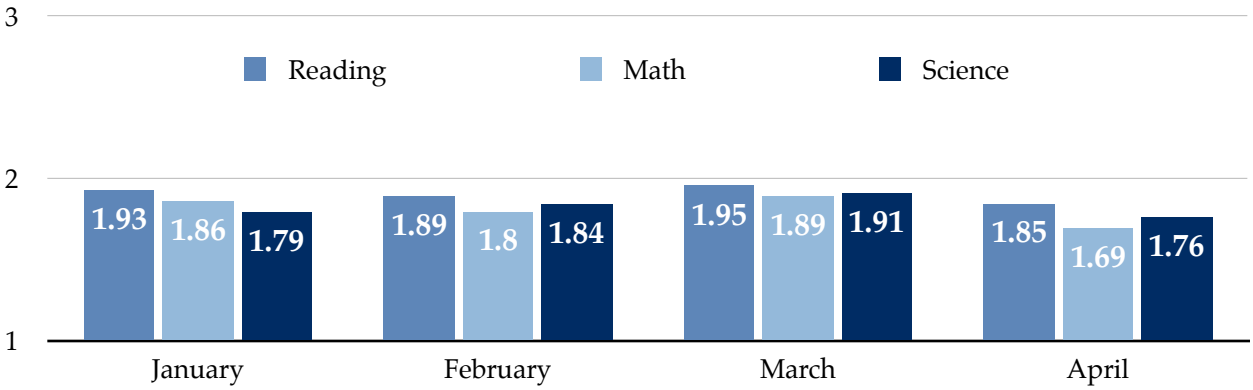


Figure 22: Intra-District Transfer TCAP Performance Means by Transfer Month



and that district enrollment has increased across the board.

A means comparison for month-to-month analysis of both transfer groups revealed that students who moved in February or April scored the lowest when compared to their transfer group. As the next section will make clear, this is likely due to insufficient time to adapt to a new school environment and acclimate to social and academic norms. Figure 22 illustrates the differences in TCAP means of ID transfers in each subject by month leading up to TCAP administration in 2013.

Furthermore, by linking enrollment, achievement and discipline data, the team discovered that students who transferred in April had the lowest average TCAP scores, though February and April both held a strong relationship with expulsions, remands to alternative learning centers, and intra-district transfer activity (see Figure 20). Average suspensions in February were only exceeded by one in March, indicating that February was generally a month of relative turmoil for enrollment and discipline in MNPS. Coupled with the fact that transfers in February correlated with low TCAP scores, it could be suggested that if charters schools pushed students out the peak would have been at the end of winter in 2013 and not immediately before state testing as has been alleged. Finally, it is evident that in March and April, transfers to alternative learning centers and expulsions constitute approximately half of all transfers, a large increase from the December to February period.

Alternative Learning Centers, though a school type, were excluded from achievement analysis, due to the concentration of attendance and behavior issues that predicates their existence. As an example of both the unreliability of transfer students' impact on a school's TCAP score means and the misleading nature of school-level analysis, see Appendix B for a list of the four schools that received the most non-residential transfers in 2012-2013 and their effect on each school's TCAP means.

Ultimately, it is difficult to understand the effects of mobility without a complete picture. Students in the intra-district transfer group may or

may not have had a change in residence, and, without a more accurate enrollment coding system or comprehensive data collection at the time of withdrawal or enrollment, the team could not determine whether or not there was a direct relationship between a residential move and a school transfer.

Predicting Performance

To project the effects of mobility on test scores, the team conducted a series of linear regression analyses in order to demonstrate the effect of a trait or attribute on the dependent variable, in this case, TCAP scores. Regression tables in Appendix B show the effect of each transfer group on overall district achievement by subject. Typically, the intra-district transfers had a greater effect because of their group size, even though non-residential transfers had lower mean scores.

To examine the extent to which MNPS could use data to inform enrollment policies, the team used logistic regression analysis to predict the degree to which a school type will produce both non-residential transfers and intra-district transfers. The analysis used a binary independent variable, in this case using traditional public schools as the baseline, with charters and magnets as a combination 'choice' value for the dichotomous variable. Positive coefficients in these tables, expressed as odds ratios, predict that schools of choice will have more transfers of every type. However, this does not express a causal relationship between schools of choice and mobility, especially not as a group. Nor does this indicate that schools of choice exit more students. It merely illustrates that schools of choice create exactly that, choice. Students may elect to transfer during the year simply because the district gives them the option, allowing them to transfer for reasons of dissatisfaction or because they want to try something new. This analysis also reveals that the effect of transferring schools within the district during the school year correlates with a significant decline in scores. ***Simply put, a student who transfers school during the year is likely to score nearly half an achievement level lower on TCAP.***

Perceptions on the Ground

While the previous section examines enrollment and achievement data related to who transfers schools and how these transfers affect student achievement, the team also sought to examine why students and their families transfer schools after the initial enrollment period when there is not a simultaneous change in address. Interviews with school administrators, teachers, enrollment center officials, and parents suggest a nuanced story regarding why students decide to switch schools in MNPS.

The Primary Push: Poverty & Student Transience

While the district's initial request for this study was to discover the degree to which students switch schools for

reasons other than residential mobility, the consensus across respondent groups was that the real problem was general student transience as a result of poverty. When issues beyond residential mobility were discussed, nearly all respondents doubled back to discuss the idea that poverty and the lack of consistency with living situations were an important factor. It is clear that for most students, these issues of mobility are distinctly intertwined and that poverty keeps it that way.

More than anything, poverty acts as a crucial constraining influence for families and their ability to take advantage of the options provided by MNPS. Even if a family chooses a particular school for its theme or instructional approach, perceived academic opportunities, or concerns regarding safety or special assistance, too often those families cannot stay at the school due to lack of transportation and/or consistent housing.

It was clear through interviews with teachers and administrators that poverty amplifies residential mobility. When parents struggle to find work, pay the rent, or change employment, families often move from one area of Nashville to another. This mobility impacts the ability of a student to stay at one school for the academic year. As one teacher made clear,

> "Once they're here, transferring out is poverty driven. A lot of it is that rent's too high or a domestic situation falls through. A lot of places around here will offer a free months' rent so you see people moving at the end of the month – it forces a constant transiency."

Parents, in this situation, do not seem to be pulling their children from a school for reasons related to a personal or academic experience at that school. Instead, they are moving to a school in a neighborhood that they can afford.

Complicating this, urban renewal and change in the Nashville continues to impact low-income students. As large housing projects are razed and other, new options for low-income housing emerge, these conditions mean more students switching schools. One school leader discussed the upcoming closure of a nearby subsidized public housing project and how it will impact their school community, "They're closing the projects, so that effect is going to be massive. If Casey Homes shuts down, we lose 200 students. That's massive." If there is no communication between schools, and public housing and urban planning committees in Nashville, these students will be forced to move, not because they are dissatisfied with their schools but because they can no longer afford to live in the area.

Sometimes these moves also occur in close proximity. Students and their families move into homes only two miles away, but even these short distances impact the schools they can attend. In some cases, students end up in a game of residential and school ping-pong that could carry on all year long. Several

school and enrollment managers spoke to small-sized zones where moving across the street could mean a new school address and increased mobility. With such small school assignment zones, students who move and go through the proper channels may have no choice but to leave.

In addition, as poverty disproportionately affects immigrants several respondents spoke of how this subgroup of economically disadvantaged students frequently change schools,

> "The vast majority of the time students leave because they are moving. The four that moved this week all of them moved out of state. We have lots of families who have just moved to the country and as they adjust they then become transient."

It was not uncommon to hear that once students learned English or became settled, families might move or return to their countries of origin depending on how much they attained or acclimated to life in Nashville. While many of the respondents spoke to the inclusive nature of their schools and the ways in which current ELL students help to acculturate new ELL students, staying in one school is impossible if a family can not afford to live reasonably close to the school.

Despite this more general mobility problem, these issues make transportation a key challenge for many of the students who choose to attend charter or magnet schools. Even those parents with stable housing, and a keen awareness of school priorities and expected norms, can often find Nashville's lack of transportation a challenge, often leading to withdrawal from a school of choice. As one administrator made clear, "If you choose to come here, you have to have your own transportation." Some parents reported that they did not anticipate how difficult it would be to get their children to and from schools of choice until a few weeks into the school year. Once parents had to get their kids to a particular school every day, reality set in.

One principal, whose school had to move as a result of construction, confirmed that transportation is a serious problem saying that several families could not follow the school two miles to its new site and had to return to their original schools. One parent noted that she had moved to make the school of choice a viable option for her family, "At first, we had to hire someone to pick up the child from the cluster bus stop. But, we ultimately had to move to a new home when the school changed locations to be close to the building." This last comment also underscores one of the key challenges facing MNPS, and an important limitation of looking at school choice issues by targeting students who did not change residences. Simply put, parents who can, will move, or say they have moved in order to have their children attend a particular school. Without a more reliable way to confirm residency, and without better data collection related to student transfers it is

nearly impossible to understand the scope of the problem.

Beyond the everyday concerns related to poverty, a lack of cultural capital in the school selection and application process was also an important theme that surfaced when speaking with stakeholders. In the current choice system, parents receive information via district mailings and the school district website and can attend district-sponsored fairs to learn about which schools they can choose from within the district. Likewise, parents might also receive information about specific charter schools that open around Nashville. Despite having access to this information, several administrators and parents spoke to the challenges parents faced in understanding which factors were most important when making school selections. One administrator at a school of choice shared that,

> "Even as much as we talk about school choice options, there's still a lot of parents who don't realize they have options...when there's illiteracy in the family they may not be getting the information they need."

The fact that these parents do not necessarily have the knowledge and skills to make the best choice for their students directly impacts both a student's chances for success and a family's satisfaction with the school they have chosen. This was clear when stakeholders shared that parents often pull their students from schools that differ from what they expected. In this case, administrators note that such choices often lead to exiting students who explain, "I didn't think the school would be like that," even when the a school's approach is clearly stated in their informational materials.

Given the experience to try something new, and without a clear understanding of what a new school will be like, some students realized they were happier at their previous schools. This reality is likely true across the socioeconomic spectrum, but it surfaced as an especially prevalent challenge for poorer families in Nashville.

Discipline Matters

One of the key issues related to a lack of understanding when reviewing potential school options is how parents perceive the discipline policy will be implemented at each school. This was true both for traditional schools and schools of choice. When evaluating their options for schools, parents shared that they would reflect on their children's day-to-day experiences at their current schools. One parent mentioned this as her reason to move her son to a charter school: "There was bullying at our zoned school, class size was overwhelming, and the campus was too large." Another spoke of a "downward spiral in behavior " at her child's zoned school. As a result, parents looked for options they believed would provide a close-knit learning environment that would cater to the

needs of their children and hoped for a positive school culture for their students.

At the same time, administrators and teachers in traditional schools noted that many of the incoming students from charter schools throughout the school year were transferred as a result of behavioral issues. One principal shared, "our charter school kids come with a lot of discipline problems," while another echoed the same sentiment:

> "Most of the students who come from charters are here because of discipline issues. I had eight children in my office at the end of last year; six of them were from charters. I've seen that for three years now."

For these school leaders, the behavior of students who transfer from schools of choice impacts their ability to develop a positive school culture where all students can learn. Principals also communicated that students who returned to their schools cited that behavior was a challenge for them at their last school. One principal shared a common refrain of students who had returned from a school of choice, "I just didn't want to be there," while others admit that their being "kicked out" was reasonable given their behavior. In addition, principals in MNPS schools often spoke to the idea that students who leave schools of choice often do so as a result of discipline policies that to these principals appear unreasonable, "I've seen some of their behavior contracts and some of the time [kids get kicked out] for very minor things that middle school kids do like tapping a pencil. These are just things that middle schoolers do." These discussions with students who return to their zoned schools for similar reasons have colored the perceptions of some MNPS school staff regarding charter schools generally.

However, schools of choice have their own story. School leaders at charters and magnets explained that students are rarely asked to leave for such minor infractions and that the perceptions of traditional public school staff are not the reality. One charter principal shared his experiences working with MNPS officials to create a policy that allows for multiple levels of intervention before students are asked to leave. This same school leader also spoke to the idea that a student leaving is not forever but rather for the rest of the academic year and that students are allowed to return to the school the following year. Interviews with administrators, teachers, and support staff revealed that these schools of choice engage in Student Success Team (SST) meetings much like MNPS schools when a student's behavior is consistently in violation of school policy.

Interestingly, during the time that increasing numbers of charters began opening in Nashville, many school administrators from traditional schools spoke about the need and subsequent development of a school wide positive behavior system (SWPBS). When principals described these systems, they often spoke to the successes they have

had in changing school culture for the better. One assistant principal explained,

> "The discipline policy at this school is kind of in transition...when we got here there was no discipline structure in place whatsoever. The kids did whatever they wanted. Now that we've got them under control we're trying to find a balance."

Ironically, the new system that many schools have implemented mirrors the policies described by charter schools, one based on incentives that leads to rewards. Students earn points that are tallied and lead to celebrations of varying levels, depending on the school site. One current principal described the system as it plays out at their school,

> "Kids know what is expected here: show respect, be prepared, etc. When they break one of those rules it's on the job training. When a child comes here you've got to inspect what you expect, but you've also got to train them with what you expect. We walk students to every area and we have a person at every station that tells them what's expected in every station. We train our students. We don't allow bullying."

From our discussions on discipline with stakeholders at both MNPS schools and schools of choice, it is clear that most school sites set similar behavioral expectations. The primary differences lay at the thresholds, or at what points the school can say enough is enough. It appears tension and misconceptions between school types related to discipline stem from this key difference. While schools were overwhelmingly similar in how they respond to major offenses (those that warrant immediate suspension or expulsion), how they deal with lesser transgressions varies considerably. Without a consistent protocol for discipline across schools, it is difficult for schools to judge how and when students transfer as a result of their disciplinary record.

The Sibling Effect

Additionally, while one student may be struggling with behavior or academic issues, it impacts the student's siblings and peers when it comes to transportation and ensuring that affected students get to school on time. Parents and administrators both spoke to this "group" effect that occurs when it comes to leaving schools of choice. One parent noted that she could not get one boy to his zoned school and another to a charter so she moved them both back to their zoned schools. As a result, the sibling effect appears to traditional school leaders as an influx from schools of choice rather than one student entering with his siblings or peers in tow.

Not-So-Smooth Transitions

Related to issues of discipline and behavior, school leaders in both traditional schools and schools of choice

discussed the challenges of helping transfer students adapt to a new school culture after the start of the year. As school cultures can vary widely from building to building regardless of school type, this can be difficult terrain for both students and staff to navigate, especially if the student has a history of academic and disciplinary challenges. At one charter school an administrator shared how difficult it can be to facilitate a seamless entry into their school and to help mid-year transfer students adjust. This is especially relevant for students who enter in the later grades, often filling an available seat resulting from another transfer,

> "The kids who leave are filling seats that were already vacated in our fifth grade class. One thing we've learned is that most of our attrition came from students who were filling seats that had been vacated in the first year. It was a revolving door. Newer students dramatically under performed after being in MNPS for 5th grade and struggled to meet academic and behavior expectations. The moment someone leaves in fifth grade it becomes a four year problem."

Schools leaders with similar problems continue to work on ensuring that a smooth transition occurs but explained that attrition originates from these seats and will likely continue until they are able to find student who adapt quickly.

Enrollment Centers: Missed Opportunities & Disconnections

In the beginning of the 2013-14 school year, MNPS reorganized to shift student enrollment responsibilities away from the school site by creating enrollment centers based in a specific high school for each zone cluster. Previously a family would withdraw from one school and bring paperwork to the school that they planned to attend and enroll on site. Now, when a student wants to enroll at a school, students and their parents report to their local enrollment center and provide some basic information and learn what options are available to them.

At these centers students are registered for their new school and can begin attending as soon as the enrollment center provides them with an official copy of their transfer paperwork. This new process was designed to streamline registration while increasing efficiency district wide. However, during this first year of implementation there have been some unexpected impacts on student mobility and on the experience of transfer students and the schools they transition between.

One outcome from the creation of enrollment centers has been a reduction in communication between school sites, often resulting in both delays and loss of vital student information. For a district with high mobility, this new process appears to be both a bonus and burden.

School counselors discussed that this new process was especially challenging for the seventh and eighth graders; who often come to school unattended. School administrators lamented the dearth of information that schools now receive,

> "We just get a snapshot now. We don't get the whole story about why they left one school or another. And there's definitely less communication between schools, since they're no longer getting in touch with us or requesting records."

While schools do their best to make sure students get to classes quickly, for students with Individualized Education Plans (IEPs) or receive additional services, schools often do not receive the information they need to ensure accommodations are provided from the beginning. Administrators and teachers alike noted that this could be potentially devastating for students who need intensive services, especially in a culture of high stakes accountability.

Additionally, administrators and enrollment officials underscored the need to gather more information about why students transfer. One official described the confusion around students when they transfer schools, "Right now all we know is they're leaving, but I don't think anybody's really asking why they're choosing to go to a different school." The enrollment manager of the Antioch cluster spoke to the potential of a newly designed system that could capture information during a family's visit to an enrollment center. While she did not outline any details of what a new system might look like, she mentioned, "This may help to us know why students are leaving more specifically."

Administrators at some charter schools are beginning to gather this data independently and cited the need to have more information during the decision making process around student mobility and attrition. One charter school leader discussed the adoption of sixteen different enrollment codes that pinpoint specific reasons for a why students might leave. Their hope is that this new process will enable them to better understand attrition and mobility at their school and to make adjustments as necessary.

Enrollment officials also note that gathering data around this issue still has flaws. While students move between schools and residences each year, not all information families provide is correct. One enrollment center manager expressed concern about parents who do not accurately report their address or move temporarily to get into a school and then do not continue to reside there. Additionally, despite the new process for enrollment school leaders report that some parents still go directly to their school of choice or zone school to enroll their students.

In addition to the limitations of the current data collection process, school leaders and counselors described that while crucial student data such as potential IEP accommodations can be delayed, they also no longer have access

to important anecdotal information that was often discussed between counselors at both the sending and receiving schools, or learned from valuable face to face interactions. When schools controlled the process, counselors and administrators had time to meet the parents, give them a tour, ask them questions and gather information about their children before the school received their records.

Counselors shared that they now have very little information about a student when piecing together a schedule or selecting the most appropriate classroom environment. Guidance counselors talked about being the tour guide, an enrollment agent, and the person who schedules and finds support for each student, but with the new enrollment system, their ability to provide a tailored program of support and to ensure a smooth transition is quite limited.

Buying Goods: Marketing and Recruitment

While the enrollment center plays a role in delivering information between schools, as well as some information to parents, many MNPS principals spoke of schools of choice employing different mechanisms for attracting new students that would be difficult for traditional schools to replicate. Even though the district hosts a schools fair each year, according to some principals this opportunity cannot match what charter and magnet schools are able to achieve. As one principal explained, "They're out there banging on doors, and our superiors keeps telling us to market, but who are we marketing to? When and how are we to supposed to market our school?" He noted that through this recruitment, magnets, charters and other schools of choice become "special" as parents' interests are piqued.

In addition to this more sophisticated and often personalized recruitment, some principals shared that their peers leading elementary schools are not doing their part to ensure that pipelines into Metro schools exist,

> "The elementary school teachers don't promote us. We know this for a fact. Some of our parents went to one of the elementary schools and they told people not to send their kid to our school. But they don't take the time to come visit this place themselves."

Traditional public school principals readily admit that without good marketing, it will be hard for them to retain students and keep them from transferring to schools of choice. Administrators made it clear that when students leave a school, people notice and that it is difficult to shift public perceptions regardless of accuracy.

Facts Not in Evidence: Mobility and Overall School Performance

While the data presented earlier shows how student mobility impacts student performance on state exams by transfer group and school type,

interviews with school staff helped the research team understand perceptions on the ground. Similar to previously published media accounts, administrators often demonstrated their frustration with what they see as two different sets of rules for traditional schools and schools of choice. One traditional public school principal shared that he, "…wished there were guidelines so the accountability was the same for charters as it is for us. So you couldn't just move them out. It's not fair, and it's not making you dig in."

Interestingly, teachers and administrators alike confirmed that the timing of a transfer is telling and that not all students who make the switch into a traditional school are going to be an issue. Several respondents noted that in the beginning of the year, students who arrive after the initial enrollment period come for a variety of reasons, but as the year progresses those students seem to share similar characteristics, "In the beginning it's a mixed bag…but then we start to get to a point right before fall break, when the kids who come have more problems, both academically and behaviorally" a counselor explained.

It is this change that has an impact both in terms of school culture and later in the year as high stakes exams approach. As the counselor continued, "in the beginning it's smiles [from the teachers], but as the year progresses, you see the look change—'oh that student is coming to my class?'—you can feel a shift." Teachers consistently shared that they were excited to teach but they feared the impact student transience had on their classroom culture and that their value added scores would suffer. Teachers also discussed the "emotional drain" that comes from teaching students and then seeing them transfer out. Principals were aware of these sentiments and discussed how it made students transitions more challenging,

> "What I know is that there is a difference between those who start the year and have that first period of time when teachers are building community, and going over procedures, and then there's kids who come in throughout the year. It's different because they're learning together and then a student shows up a month into the year and teachers are zeroed in on instruction and not on climate—it's hard for the kids to become acclimated—they [the teachers] carry a chip on their shoulders sometimes."

It was clear throughout the interviews that a majority of teachers and administrators have come to believe that these students will negatively affect how the public perceives the school, and that students who transfer in will negatively impact the school's overall academic performance. Many respondents believe that the majority of these students come from charter schools, and that they arrive just before state exams. As one principal made clear, "We know that every February, we will get an influx of students. It's been that way for several

years...we have had a huge influx at that time and that's generally the cutoff at charters for TCAP."

For this principal, with the additional openings of charters, he shared that the influx continues to come from these choice schools as opposed to neighboring traditional schools. When researchers probed further the veracity of these claims often fell apart as principals admitted that said "influx" was never more than 30 or so students, and that this group often included students from both schools of choice and traditional schools, and that the individual student's academic performance varied greatly. Some students carried their high achievement with them, while others carried their challenges.

Lastly, school staff also commented on the creation of enrollment centers as having made it more difficult to know exactly what services to provide students, especially those who may require an IEP. One school official described ways in which this could impact student test scores as well as his own professional evaluation score,

"If they got kicked out they need more support. I had a kid last week with an IEP and I didn't know he had one, so I couldn't provide the support he needed. I think it could affect our scores, but I'm not sure because at a certain point they don't count towards our scores."

Another principal expressed that many of these students have "pretty significant baggage," and that without the proper tools to "unpack and sort the bags quickly," it will continue to be a challenge for everyone involved.

Summary

Overall, respondents shared a variety of opinions for why students choose to transfer schools, describing both "push" and "pull" factors that play a role in the process. While a lack of clear communication and deeper data collection impede MNPS and schools of choice from discussing issues of student attrition and mobility, it is clear that poverty shapes the ways in which parents choose (or are forced) to move their students. With a more unified approach to student and family support during the transfer process, and added mechanisms for communication across schools, there may be ways in which schools of choice and traditional schools can collaborate to improve outcomes for all students.

Study Question 2

Is there an appropriate formula for measuring mobility within both schools of choice and traditional schools?

Competing Formulas

In the spring of 2013, MNPS school board member Jill Speering shared with local news organizations that traditional school principals informed her that charter schools had, for a variety of reasons, transferred several students back to traditional MNPS schools before the

administration of the TCAP (Zelinski, 2013). As discussed earlier, MNPS then issued mobility rates for schools based on a formula that calculated student mobility by subtracting the number of students who leave a school from the number of students who entered, then dividing that number by total school enrollment as depicted here:

$$\frac{Entries - Exits}{Enrollment\ on\ Day\ 11}$$

Results calculated in this way suggest that charter schools in Nashville have mobility rates that in many cases are 20 percentage points higher than traditional schools. The large differences in mobility rates prompted a series of follow up articles in local media highlighting student mobility at both charter schools and traditional schools in MNPS (Garrison, 2013).

The alleged reports from principals suggested that many students who leave charters like KIPP have special needs or have multiple incidents of suspension. This allegation is a common critique of charter schools (Brown, 2013). Still other claims accuse charter schools of attempting to exit students in order to inflate charter school test scores (Zelinski, 2013). These recent issues call attention to one question that faces policy and community stakeholders: *How do MNPS charter schools and traditional schools compare?*

In response to these claims and the formula employed by MNPS, charter school advocates like Hunter Schimpff, a special projects manager for the Tennessee Charter School Center, devised an alternative formula for calculating rates of mobility that divides the number of students who leave by the total enrollment and students who enter the school, or:

$$\frac{Exits}{Enrollment\ on\ Day\ 11 + Entries}$$

In contrast to the formula used by MNPS, the rates resulting from Schimpff's formula suggest that traditional schools and charter schools have similar rates of attrition. The differences between the results are quite large, which prompted MNPS and other stakeholders to ask which formula is appropriate for making comparisons between schools.

After reviewing what scant extant literature offered any precedent, it quickly became clear that the formula employed by MNPS is typically used to calculate a net change in enrollment, a measure that estimates the general stability of a school population. The primary failure of this formula is that it does not isolate the number of students who leave, and as such cannot accurately demonstrate a clear picture of attrition. For example, by using the formula employed by MNPS, it is possible that if the number of entries and the number of exits are equal then the formula calculates attrition as zero, no matter how many students actually leave the school. This means that at a school of 500 students, if 100 transferred out and 100

enrolled, the formula would not capture the movement of those students, which would suggest that there was no problem with attrition, despite the fact that 20 percent of the student body would have changed. The formula proposed by the Tennessee Charter School Center that isolates "exits" or students who withdraw from a school is the more accurate way to calculate school level attrition.

However, neither formula adequately captures student attrition, especially in a district where generalized mobility is high. In order to accurately calculate attrition, it is important first to understand and agree on what is meant by the terms *mobility* and *attrition*, and then to generate specific questions regarding what a district or school leader would like to know. From these questions it should become clear the organization's purpose or scope when attempting to calculate attrition. For example, *does the district want to compare schools' ability to retain students?* Or, *to compare student choice activity trends district-wide? Does a school organization want to examine the relationship of mobility with test scores? And do they want to do this by school type, size, demographics, or location?* Or, *does the district want to evaluate the impact of new enrollment procedures?*

Next, the district or school must consider the scale at which they would like to calculate attrition: *intra-district*, or *inter-district*, *during-year* or *year-to-year*, *residential* or *non-residential*, and then decide which combination of these variables makes the most sense given the district's intent. To further understand the scope and scale of how the district could examine attrition, we provide a list of potential options and corresponding formulas.

First, what is the purpose for measuring attrition?

a. to compare schools' ability to retain students
b. to compare student choice activity trends
c. to examine the relationship with test scores
d. to evaluate enrollment procedures

Second, what does the district plan to do with this information?

a. to create an index of school attrition rates
b. to target transfers for counseling interventions
c. to make PPM funding decisions
d. to address testing, enrollment, or zoning policy

Formulae and statistics in Table 4 can yield appropriate calculations for each of these potential scenarios.

Table 4: Attrition Measurement Purposes & Formulae

Measurement Purpose	Formula / Suggested Approach
To calculate reduction percentage	$\frac{\textit{Total students withdrawals to date}}{\textit{Total student enrollment to date}}$
To calculate reduction ratio	$\frac{\textit{Total student enrollment to date}}{\textit{Total students withdrawals to date}}$
To calculate percentage growth or reduction	$\frac{\textit{Total student enrollment at day 1}}{\textit{Total student enrollment to date}}$
To calculate expected number withdrawn by means	Conduct chi square statistic
To calculate percentage students enrolled in home zone: create enrollment codes for enrolled in choice school and enrolled outside home zone (1b/2d)	$\frac{\textit{Total students enrolled in zone}}{\textit{Total students assigned to zone}}$
To examine the relationship with test scores, or target transfers for counseling interventions (1c/2b)	Assign a variable to each student case for month of withdrawal and type of transfer (see mobility definitions); compare test score means for each independent variable.
To evaluate enrollment procedures (1d)	Create enrollment codes for nature and time of transfer; create variables for transfer type, school type, transfer date; create dummy variables for all student attribute variables; compare means for transfer dates.
To make Per Pupil funding decisions (2c)	Run transfer means by student attribute.
To anticipate mobility	Run regression on transfer type by school or student attribute.
To anticipate mobility effects	Run regression on TCAP scores by transfer type.

Propensity Score Matching: Anticipating Attrition & Mobility

In addition to considering the previous purpose-oriented solutions, it is also possible to measure mobility and attrition as characteristics of a school while controlling for a school's other characteristics. By employing propensity score matching, the team matched schools by similar student body attribute variables that occur disproportionately in transfers, such as:

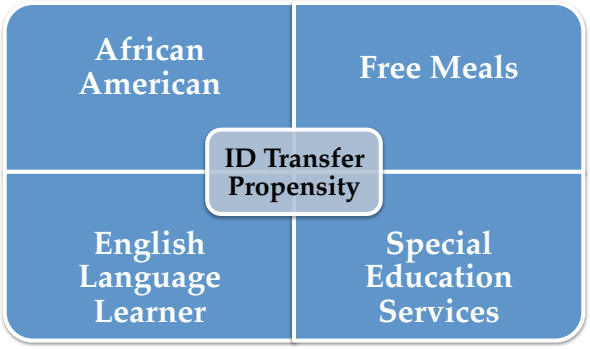
- racial demographics;
- free lunch eligibility;
- special education; and
- English Language Learners.

The study team also used school attributes to match peer schools based on the size and scope of the site, such as,

- school type;
- grade levels; and
- total enrollment.

The propensity score matching process is used to determine the effect of a treatment (in this case, schools producing transfer students), given the similarity of variables between certain groups (in this case student attributes, school type, and total enrollment). The team sorted schools of similar student populations into groups of three to make a peer index. The team then used these groups to compare the coefficient values (represented as an odds ratio) of the predicted production of intra-district transfers (see Figure 23 for the Transfer Propensity model).

Figure 23: Intra-District Transfer Propensity Criteria



This model uses the four values from these variables most highly represented (more than 10 percent greater representation than the MNPS mean) by the 2012-2013 intra-district transfer group to predict the risk of future transfers by combining them as covariate predictors in the regression model. This calculation assigned every student in grades 3-8 an odds ratio. The team used the average of these ratios (by school) to come up with each school's mean odds ratio for transfer student production. In other words, the higher the school's mean odds ratio, the more likely it is to result in cases of intra-district transfer.

Prediction accuracy of the model in each case was high, though relatively few cases of non-residential transfers reduced the predictability of the model, so the team widened the transfer group criteria to include intra-district transfers.

In our examples of propensity score matching, there are discrepancies

between some variables when matching schools into groups. For example, the likelihood that even two schools fall within a ten percent range of similarity on all selected variables is narrow. Therefore, matches should be made within reason by utilizing best fit from a cross-tabulation of these variables as a best practice. As such, the school in the matched peer group that has the highest number of student withdrawals after day ten, or the highest mean of intra-district transfer occurrence in enrollment codes, is most likely a school on which the district should focus its attention. Student scores, or the likelihood that they will transfer based on their attributes, can be a useful tool in targeting counseling services, or conducting program evaluations to gauge satisfaction with a school.

The propensity score tables exhibit individual student examples; a school's mean score based on the scores of their students, a peer group score, and intra-group comparisons by means. The propensity scores correlate significantly (Pearson's r= 0.234 with 2-tailed significance of 0.000 at the 0.01 confidence level) with the intra-district transfer group, indicating the validity of the model. When used purposefully, these comparisons may make it possible for the district, or individual schools, to target interventions and policies to help offset the effects of mobility on student achievement. See Appendix X for example odds ratio comparisons by student, by school, and by matched peer school clusters.

Making Sense of It All

What is clear from examining the various formulae is that intent matters. Attempting to calculate mobility and attrition without a clear purpose and well defined rationale can prove misleading, especially if left in less than capable hands. While the formula employed by charter advocates does a better job at enabling quick draw comparisons, those comparisons mean little upon further examination. They are merely snapshots at a given point in time, and reveal nothing about matters of achievement, discipline, and poverty, all of which shade how the numbers should be interpreted. In addition, since we now know that the month you take that snapshot could change the entire story, it is even more important to seek out complexity in these matters. If school leaders are intent to get to the bottom of challenges related to mobility and attrition then they must ask detailed questions focused on specifics. Simply assuming that one formula works for a variety of purposes, or that lower numbers are inherently better, precludes important nuances that are crucial to understanding the problems.

Discussion

The two questions addressed in this study were a reasonable starting point for examining the complex nature of mobility and attrition within MNPS. The findings presented here should serve several purposes. First, in terms of the extent to which students are switching schools, when and where they transfer to, and the impact these moves have on student achievement, the findings suggest that mobility and attrition are tightly coupled constructs that require a dogged focus on specifics. It is impossible to discuss one in absence of the other, and naïve to discuss them without delving into the details. However, focusing on attrition specifically, proved to be a useful way to gain a more nuanced perspective about mobility overall, especially in terms of student achievement. Second, in terms of assessing the attrition formulae currently in use, as well as reflecting on the ways of calculating mobility and attrition in the future, this section will briefly discuss how MNPS might think about how to view these findings going forward.

Choosing to Understand Choice

Simply put, establishing a system of school choice guarantees increased mobility, as evidenced by Figure 17 that quantifies the percentage of each school type constituted of intra-district transfers. Current enrollment policy and the availability of school options have given families the opportunity to make market-like decisions for their students. When options are presented, it is reasonable to assume that people will choose from among them. Though these choices could benefit families, an investigation into how they could affect a variety of outcomes and serve the district's objectives would be advisable: academic performance and enrollment trends, how choice is perceived by families of varying financial means, and how current processes of school selection, enrollment, and retention affect student performance, are many factors to consider when developing a portfolio approach to school choice.

Currently, it appears as though the MNPS theory of action regarding choice rests on the notion that parents will look at schools rationally, gather information about each option, and make a rational choice about where to send their children to school. Coleman (1990) refers to this as rational choice theory. However, other research suggests this is often not the case (Holme, 2002; Thomas, 2010), and that parents more often trust what they hear from informal social networks, and other parents, rather than official district or school communications (Ball & Vincent, 1998; Berends & Zottola, 2009; Holme, 2002).

In addition, Smrekar and Goldring (1999) found that school visits, speaking with teachers, and discussions

with their own children were key factors when deciding in which school parents would enroll their children. This suggests that parents are what Buckley and Schneider (2003) describe as "meta-rational" when making these decisions; meaning that parents employ both formal and informal criteria when selecting a school and that the process is not as objective and reason-oriented as one might think. As noted several times across interviews, it is these peer networks and information that parents receive from their elementary schools that drive decision-making around schooling.

In addition to this meta-rational stance that parents employ when moving their child to a school of choice, several factors such as race and class come into play. Smrekar and Golding (1999) speak to the push and pull factors, inclusive of academic quality, safety, teacher quality transportation, cultural orientation, and parents' educational background as impacting a parent's choice to move from or stay within their current school setting. It is also important to contextualize the notion that schools of choice are often the only option available to minority and low-SES families due to lack of funds (Loveless & Field, 2009). Saporito and Lareau (1999) assert that "Minority and low-income parents are also less likely to evaluate school quality based on academic resources or test scores." With all of this in mind, it is clear that schooling for many minority and low-SES families becomes a way in which they can push for betterment of the future, even if the choice is not really rooted in academic outcomes.

Moving forward, coming to terms with this reality is a necessary precondition when considering how to support choice. Simply offering choices to spur curricular innovations or use alternative organizational structures to increase student outcomes is not enough to match students' needs to the school best suited to serve them.

As a result, districts who enable parents to make market-like choices must work to collect, analyze, and evaluate data related to how school choice changes district and school dynamics. In absence of this, confusion reigns and educators make judgments about how schools should function based on anecdotal evidence and personal experiences, not based on objective concrete evidence. Ladd (2009) stated "Potentially more important… giving parents more choice may improve the schooling options--and outcomes -- for black students more than for whites." Ultimately, for these parents issues that relate closely to who they are as people and families guide their decision making processes (Smrekar & Goldring 1999).

The claims made by traditional school principals that charter schools are counseling out students before high stakes assessments are a perfect example. These claims are popular among school leaders threatened by competition, but have yet to be substantiated by peer-reviewed research (New York City Independent Budget Office, 2014; Zimmer & Gaurino, 2013; Nichols-Barrer

et al., 2012). This means that an improved capacity to use data in order to understand mobility and attrition will be crucial.

Purposeful Analysis

The analyses in this study examine the issue of mobility beyond the surface, as simple calculations of students who leave a school only tell a small part of the mobility story. As Zimmer and Guarino note in their own study on student mobility,

> "While we cannot definitely know why a student exits a school, we can at least try to control for two reasons why a student may transfer—to attend a better school or because the student is performing poorly" (Zimmer & Guarino, 2013).

The purpose of any district's mobility analysis must inform both their data collection procedures and the scope of their calculations (addressed in the recommendations section). If MNPS wants to address attrition and mobility across the district, cross-tabulations of test scores means, population distribution comparisons, and logistic regressions of transfer propensity will provide an analysis between schools, school types, and student attributes necessary to understand the social and organizational context for these issues.

Measuring attrition and mobility requires a purpose for calculation: is the district attempting to find what portion of the student body diminished or increased, the origin of transfers, or their destinations? There are unique ways to measure all of these. District and local CMOs' current formulae simply serve to quantify change in student population by school. As it stands, MNPS does not take into account any context other than school type. As evidenced in the quantitative and qualitative data analysis, it is much more complex and involves a host of other important student-level variables. The current formula that charter advocates use is more accurate in quantifying reduction of student body, but neither CMOs nor MNPS formulae are advanced enough to accurately and comprehensively analyze attrition. Furthermore, those who have not taken the time to understand the issues can too easily wield said formulae and come to conclusions that support views without regard for the nuance and complexity these issues require. For these reasons, it would be prudent to discard both formulae in favor of the solutions highlighted in the previous section.

Supporting Choice for Students and School Leaders

Beyond understanding how choice functions within the MNPS, district leaders have a responsibility to ensure that students, parents, and school leaders grasp how choice policies will impact their everyday experiences.

Part of this process begins by having a clearer grasp on how parents interact with schools. For instance,

research suggests that poor and working class parents are less likely to activate their social and cultural capital by contacting school personnel when they find teachers to be inadequate although they are often familiar with the curriculum. These parents are more likely to learn about school from their children, and have narrow social ties that rarely included professionals (Laureau and Horvat 1999; Laureau 1987, 1989; Horvat, Weiinger, and Laureau 2003). Even this, as predictable as it may sound is only the beginning of what districts need to know as they endeavor to provide choices for families.

Assuming districts begin to understand how parents make school choice decisions, they must also provide students with proper supports when they try out a new school.

Swanson and Schneider (1999) note that "students who move at least once are more likely to repeat a grade, have more serious disciplinary problems, drop out of high school at higher rates, and reach lower levels of educational attainment." Additionally, several studies report that many students struggle due to the limited information that families and students have in the choice process; even when they do have some information, families still choose for other reasons besides academic quality (Driscoll 1993; Schneider et al. 1996; Wells 1993; Witte 1993).

Our findings suggest this is also true for transfer students within MNPS. If the district is going to enable students to choose from a portfolio of schools, it will be necessary to examine how to counter the effects of increased mobility on student achievement.

Second, our findings suggest that leaders of traditional schools encounter serious managerial and instructional challenges without a clear sense of how to navigate the added difficulties associated with student mobility. In interviews, principals often appeared powerless in the face of mobility rates that at times reached close to 60 percent. As a result of these conditions, many of them struggled to support both teachers and students. Many of them perceived that schools of choice were easy targets for blame associated with student transience and downward academic performance, even when data suggested otherwise. In these instances, it was clear that principals had little understanding of how mobility affects student achievement in their schools. Districts that enable choice must help principals understand how it will affect their work.

Supporting choice in these ways is especially important given that vulnerable student populations are the ones most likely to continue suffering from the status quo. Seeing that 70 percent of the student population in MNPS is eligible for free or reduced meals, a strategic plan aimed at addressing poverty will be absolutely essential in order to tackle mobility issues and support school choice.

Interviews with school staff and families revealed that residential mobility is a key problem, and as a result this

support is even more critical. As Crowley (2003) points out,

"The negative effects of residential mobility are most burdensome for children who are poor and who are members of racial minorities" (p. 34).

In order to overcome these obstacles, research related to poverty and school choice suggest that parents must come to see their child's school as a key part of everyday life (Crowley, 2013), and that engaging parents and making them part of their child's "teaching team" can be a valuable incentive for parents when making housing decisions. Providing material resources (coats in winter, free childcare, clinical services, etc.) are also common points of discussion for schools in disadvantaged areas, are a cornerstone of Promise Neighborhood initiatives, and are embedded in the Broader Bolder Approach to Education (Bold Approach, 2014). However, as Crowley (2003) writes,

> "In addition to material aid, schools can offer or refer parents for counseling, training and education, and support groups (Fisher et al., 2002). Parents who feel a bond with the school in their own right will include the value of their children's education at the school as part of the equation when making the cost-benefit analysis about the next move" (p. 35).

Dealing with these challenges will be arduous, but should provide the social stability students need, and reduce psychological and behavioral problems that surface as a result of high mobility (Rumberger, 2003). These efforts are necessary in their own right, but are especially critical for districts with high mobility.

In addition, it is important for districts to examine procedures related to student transfers, provide increased support at points of enrollment, and help traditional school principals compete programmatically and academically with schools of choice for recruitment and retention of students. Supporting choice should include educating school staff throughout the district about the key differences between traditional and choice schools, and explain the rationale for allowing schools of choice to operate differently than traditional schools.

Recommendations

Throughout the course of this study the research team sought to understand mobility and attrition within MNPS in hopes that these results could inform future considerations about how the district can meet challenges associated with high levels of student mobility. The following recommendations stem from both our challenges in trying to capture the story within MNPS, and from observations made by respondents during interviews. As such, the first few recommendations are related to data and data collection procedures as improvements in these areas would allow the district to gain much needed clarity about who transfers schools, when, why, and the effects on student achievement. The last few recommendations relate to how the district might consider approaching other issues, such as tension toward charter organizations, and how to support traditional public schools in the face of growing competition.

Improve Data Practices: From Coach to First Class

During the course of the study it became clear there were a few key areas warranting improvement in terms of what data is collected, how it is organized, and inevitably how it can be accessed. The following recommendations work toward these ends. To begin, when it comes to data collection, the district must expand beyond the coding system used by TDOE.

- This can be achieved by ***having Enrollment Centers collect more information from families*** related to transfers, including documenting which school students transfer from, where they plan to enroll, and why the transfer is taking place. This means that the district should create codes for transfer types within MNPS and record them, ideally including the reason for the school transfer (such as a residential change, or enrollment in another school type). Some of the codes recommended by the previous Vanderbilt capstone team could also prove valuable (see Nattras, Phillip & Johnson, 2013). In addition, parents should be asked if the opportunity to attend a particular school is what inspired a residential move. If the transfer is not related to a change in residence, the enrollment specialist should have a list of codes for other reasons, e.g. "Not satisfied with academic expectations", "Dispute with school official", "Bullying", etc. While this type of self-reporting can be unreliable, this opportunity would allow the district to better correlate residential moves with school transfers, and allow them to generate feedback about particular schools or student experiences related to transfers. This feedback might also allow for MNPS

schools to create more targeted campaigns at reducing mobility by placing resources where necessary. In this spirit, the district should also employ more variables during data collection to characterize units of analysis. There are currently no variables for school type, transfer type, or geographic indicator. If the district had this information each student and school could be assigned a transfer propensity score by using logistic regression.

- *Next,* ***MNPS should invest in a more agile and user-friendly data platform for organizing datasets.*** This will allow for interested parties to view and cross-reference datasets (i.e. mobility data, achievement data, discipline data) in a more organized fashion, making data easier to use by both district and school site staffs. This recommendation stems from our own challenges while cleaning and organizing the data, as well as our findings on school types enrolling and exiting significantly different proportions of students. Additionally, during our process we found multiple instances of a student identification number appearing for each instance of enrollment or discipline which could instead be quantified as instances of activity by variable under each student's identification number. The research team re-coded and transformed many variables; practices that MNPS should adopt to make more accurate statistical calculations. Finding a solution to the data organization problem should allow the district to combine datasets for better data maneuverability. Instead of each variable theme having its own dataset, such as enrollment, discipline, and test scores, these should be combined to allow calculations across variable themes, as was done in the longitudinal analysis of TCAP scores for this report.

- *In addition,* ***MNPS should increase the organizational capacity for data analysis*** through professional development activities aimed at relevant district employees, school administrators, counselors, and classroom teachers. Through our interviews it was clear that most respondents demonstrated a beginner's capacity regarding how to analyze and synthesize data. For instance, when researchers asked principals and teachers about issues concerned with mobility, academic achievement, and discipline, few could harness examples from data analysis in order to support their responses. Fewer expressed that they knew how to do so. The ability to use data fluently and with depth must become the standard for professionals across the district.

At the district level this could mean expanding the current level of data analysis. Regression analysis can be used in a variety of ways to either quantify or predict the effect of a particular treatment, intervention, or policy change.

To make more precise and contextualized policy decisions, the district must have a more thorough grasp on where data can lead them. For example, the use of propensity score matching should tell MNPS which schools may need assistance retaining students, or which students need assistance in choosing a school that best matches a student's profile.

Not only will increased data fluency enable more reasoned choices, it will allow for better communication amongst stakeholders and relieve tensions based on little more than gut-feelings and well-worn rhetoric. Further, if MNPS makes data transparent to stakeholders, for example by publishing a school's propensity score related to its like peers, this could give families a more complete view of the school than is available with test scores alone. This process might also give schools an incentive to work toward retaining students.

Meet Mobility Head On

Beyond data issues, the district should also consider making adjustments in other areas as well.

- *First, the district should* ***support choice by preparing principals and teachers with strategies for limiting and responding to mobility, and by partnering with charter schools*** so that students who transfer have smoother transitions between schools. Through our interviews respondents shared that the bitterness traditional school staff hold towards schools of choice stems from frustrations based on (1) a lack of information about why schools of choice are allowed to function as they do (a perceived lack of fairness), (2) because traditional schools feel powerless in the face of high residential mobility, and (3) because increased competition from charter schools and magnets makes it harder to convince families of a traditional school's advantages. Taking each in its turn these are not indomitable challenges.

District leadership has the opportunity to support choice by embracing charter schools and other schools of choice and engaging with them in order to create understanding amongst traditional schoolteachers and administrators. This could mean coordinating professional development that allows teachers of different school types to learn from one another through activities focused on teaching practices. Additionally, administrators of all school types, but especially those from schools with high transfer rates, should have regular meetings to discuss mobility issues, raise concerns, and work through challenges. Principals at traditional schools described their meetings with one another as a key component of a reflective practice that helped them problem-solve. Widening the circle to include charter and magnet school leaders in these meetings could go a long way toward mutual cooperation and respect. These efforts have the potential to increase communication, dispel

rumors, and build community across school sites and types. Without sustained efforts in this area, tensions will likely remain.

If the district can support school choice to establish new, smoother transitions for transferring students. One approach should include modifying the pink transfer slips that students bring with them when they show up at a new school. These forms should include pertinent information about students to ensure continuity of services from the moment they begin attending a new school; information that schools report is often lost or delayed with the implementation of Enrollment Centers. Critical student information such as IEP accommodations, ELL status, and an inventory of student academic or extracurricular interests, will not only make sure that students are receiving services guaranteed them by law, but also give the receiving school information to welcome new students into academic and extra-curricular opportunities that help to stave off diminished performance. A new data platform that integrates student information in the ways previously described could also help. Furthermore, opening this platform to schools of choice would ensure that everyone is on the same page.

The district can also better support school choice by training traditional school principals and staff in how to brand and market their schools to the Nashville community. Many school leaders and teachers in struggling schools spoke to the challenges associated with negative perceptions attached to their sites. Despite changes in leadership, organizational structure, and pedagogy, community members have held on to what the school was like when they attended, and that shared history often overshadowed the progress that many schools had made. In a marketplace of schools principals and teachers must be engaged in a full throttle campaign to attract and retain students, but many of these schools are without the resources or know how to do so. Schools of choice have been successful at building their student populations because they have defined their missions and boldly communicated them to the public, often by going door-to-door to reach families. In an era of choice, this is the new normal.

If the district wants to compete they will have to support administrators and teachers through this process. Not only will this approach to marketing traditional schools give these schools better odds of recruiting and retaining students, it will also force schools to do some important soul searching and figure out what exactly they are offering students and the community. Communicating the specific objectives of a school to students and their families will serve to let the community know that each school is unique, and should also help to alleviate the burden of the past.

✦*Lastly,* ***MNPS must engage in a serious effort to examine residential mobility and work with local agencies and community stakeholders to alleviate***

its effects. While we understand that the district is already burdened with a variety of pressing challenges, avoiding this issue will only continue to undercut the aspirations of a district with a lot to offer. Every school we visited, and every person we spoke with discussed the need for progress in this area. By all accounts, residential mobility is the mother lode. While there are no silver bullets in education, figuring out how to stabilize residential mobility would be a coup for the district and for Nashville as a whole.

Serious and meaningful collaboration with the Metropolitan Development and Housing Agency (MDHA), the Tennessee Department of Health and Human Services, as well as the Chamber of Commerce, the Mayor's Office, and various employers and employment agencies could provide a pathway forward for families in Nashville. Putting education at the center of this effort might provide a crucial focal point for these entities to work together to ensure that students are less likely to bounce from one school to the next as housing and employment shift within their families. This type of coordination could also help to alleviate concentrations of poverty in school zones, and re-engage families who leave MNPS for other districts or private schools. Despite the enormous scope of this challenge, MNPS has a responsibility to its students to engage on this issue in a substantive way.

Final Thoughts

The findings presented in this report only scratch the surface of these issues, but in doing so have hopefully provided MNPS with a better understanding of who transfers schools, where they transfer to, why they transfer, and the relationship these have with student achievement. We hope these findings help the public understand mobility and attrition as complex and nuanced issues. The formulas and processes presented here should provide stakeholders with a variety of ways to calculate, analyze, and understand mobility for diverse purposes. In essence, *knowing why you want to calculate mobility and attrition will best prepare you decide how to calculate it.*

Research going forward should flesh out these formulas further and experiment with statistical regression in a similar vein as the propensity score process outlined earlier. Efforts in this area will likely provide schools with even more precise calculations for each of the aforementioned purposes. In addition, research efforts related to understanding and evaluating how districts collect, organize, and share data could prove invaluable as districts and school sites struggle to make meaningful use of the data available to them. The dearth of research in this area made it difficult to recommend more specific actions related to data management in educational settings.

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APPENDICES

A. Interview Participants & Protocols

Interview Protocols		
School Interviews		
Principals		6
Executive Director		1
Assistant Principals		3
Teachers		10
Counselors		4
Other School Officials		5
	Subtotal	29
Enrollment Center Interviews		
Enrollment Officials		3
Parents		
Parent Interviews		9
	Total	**41**

Teacher and Staff Interview Protocol

I. Introduction

1. Before we begin, can you please tell me a little about your current position and what made you choose to work at this school? (Prompts include: How long have you been in this position? How long have you been in this district? Have you worked in any other districts? If so, for how many years?)

II. General Perceptions of Mobility and Attrition

2. Why do you think student mobility and attrition are important issues to MNPS and the greater Nashville community?

3. Do you expect that greater understanding of these this issues will improve the quality of the school experience for students? If so, why? If not, why not?

III. Current Practices - Enrollment (Choice/Mobility)

4. Why students and families choose to come to this school?
   Follow-up questions:
   a. What would you say are the factors that would encourage a parent to choose this school for their child?
   b. Can you take me through the student application process for your school?
   c. What information do you provide for parents and guardians during the application process? (*If necessary: Do you hold information sessions for interested parents? What percentage of parents attends these meetings? Does the school collect data related to parent attendance?)*
   d. How does the current choice system impact school selection for students here in Nashville?
5. How does your school communicate with staff about the addition or exiting of students after the beginning of the school year?
6. Is there a process for integrating new students –academically, socially – when they enter mid-year, or well after the start of the year?
7. What effects do you see from students entering or exiting after the initial enrollment period? (Possible follow-up questions: Are there grades better or worse? Do you have more behavioral issues with these students? Are more students classified as being special needs?)

IV. Attrition

8. When it happens, why do students leave this school?
9. Are there discussions or meetings with parents during this process? If so, who has these discussions? (Possible follow-up: Are other alternatives discussed with parents when it is determined that a student may need to leave the school?)
10. How would you describe the discipline policy at this school?
    a. Why would a student be being suspended or expelled from this school?
11. Can you describe what academic remediation looks like at your school?
12. How and when do parents become involved in academic or behavioral intervention issues?
13. Do you believe that attending this school is best for every student who comes to your school?

IV. Student Achievement & Academic Supports

14. Describe your school's academic performance in general? How would you describe the academic environment of this school—e.g, nature and quality of rigor, press?
15. How would you describe the academic achievement of students who enter your school from another traditional public school? From a school of choice, or charter school?

16. To what degree do issues related to student mobility and attrition impact your school's overall academic performance?
17. Describe what academic supports are available to students, e.g. tutoring, after school programs? What about for ELL and SPED students?

VI. Conclusion

18. Is there anything you would like to tell us about mobility or student attrition in your school, or district that we didn't discuss during our conversation?
19. Is there anyone else that you feel we should speak with regarding these issues?

Principal Interview Protocol

I. Introduction

1. Before we begin, can you please tell me a little about your current position and in what ways that you are involved with student enrollment?

   (Prompts include: How long have you been in this position? How long have you been in this district? Have you worked in any other districts? If so, for how many years? What roles, or responsibilities, have you had related to student attendance, student withdrawal, student in-take? What roles, or responsibilities, do you have this year?)

II. General Perceptions of Mobility and Attrition

2. Why do you think student mobility and attrition are important issues to MNPS and the greater Nashville community?

3. Do you expect that greater understanding of these this issues will improve the quality of the school experience for students? If so, why? If not, why not?

III. Current Practices - Enrollment (Choice/Mobility)

4. Why students and families choose to come to this school?
   Follow-up questions:
   a. What would you say are the factors that would encourage a parent to choose this school for their child?
   b. Can you take me through the student application process for your school?
   c. What information do you provide for parents and guardians during the application process? (*If necessary: Do you hold information sessions for interested parents? What percentage of parents attends these meetings? Does the school collect data related to parent attendance?)*
   d. How does the current choice system impact school selection for students here in Nashville?

5. How does your school communicate with staff about the addition or exiting of students after the beginning of the school year?
6. Is there a process for integrating new students –academically, socially – when they enter mid-year, or well after the start of the year?
7. What effects do you see from students entering or exiting after the initial enrollment period? (Possible follow-up questions: Are there grades better or worse? Do you have more behavioral issues with these students? Are more students classified as being special needs?)

IV. Attrition

8. When it happens, why do students leave this school?
9. Are there discussions or meetings with parents during this process? If so, who has these discussions? (Possible follow-up: Are other alternatives discussed with parents when it is determined that a student may need to leave the school?)
10. How would you describe the discipline policy at this school?
    a. Why would a student be being suspended or expelled from this school?
11. Can you describe what academic remediation looks like at your school?
12. How and when do parents become involved in academic or behavioral intervention issues?
13. Do you believe that attending this school is best for every student who comes to your school?
14. When it does happen, how do you calculate attrition for the school? At what point do you take official count and note dropping off?

IV. Student Achievement & Academic Supports

15. Describe your school's academic performance in general? How would you describe the academic environment of this school—e.g, nature and quality of rigor, press?
16. How would you describe the academic achievement of students who enter your school from another traditional public school? From a school of choice, or charter school?
17. To what degree do issues related to student mobility and attrition impact your school's overall academic performance?
18. Describe what academic supports are available to students, e.g. tutoring, after school programs? What about for ELL and SPED students?

VI. Conclusion

19. Is there anything you would like to tell us about mobility or student attrition in your school, or district that we didn't discuss during our conversation?
20. Is there anyone else that you feel we should speak with regarding these issues?

Enrollment Official/Charter School Official Interview Protocol

I. Introduction

1. Before we begin, can you please tell me a little about your current position and in what ways that you are involved with student enrollment and/or recruitment?

   (Prompts include: How long have you been in this position? How long have you been in this district? Have you worked in any other districts? If so, for how many years? What roles, or responsibilities, have you had related to student attendance, student withdrawal, student in-take? What roles, or responsibilities, do you have this year?)

II. General Perceptions of Mobility and Attrition

2. Why do you think student mobility and attrition are important issues to MNPS and the greater Nashville community? (*If not part of MNPS, ask more generally speaking*)

3. Do you expect that greater understanding of these this issues will improve the quality of the school experience for students? If so, why? If not, why not?

III. Current Practices - Enrollment (Choice/Mobility)

4. Why students and families choose to come to this school?
   Follow-up questions:

   a. What would you say are the factors that would encourage a parent to choose a school of choice for their child?

   b. Can you take me through the student application process for your district?

   c. What information do you provide for parents and guardians during the application process? (*If necessary: Do you hold information sessions for interested parents? What percentage of parents attends these meetings? Does the school collect data related to parent attendance?)*

   d. How does the current choice system impact school selection for students here in Nashville (or your city in your experience-if not from MNPS)

5. How does the district facilitate communication around the movement of students after the start of the school year?
6. What guidance do you give schools when integrating new students –academically, socially –when they enter mid-year (or well after the start of the year) to your school?
7. What, if anything, have heard about in students who have left a school and moved to another in the middle of the year?(Possible follow-up questions: Are there grades better or worse? Do you have more behavioral issues with these students? Are more students classified as being special needs?)

IV. Attrition

8. How do you calculate attrition at your schools?
9. What do you see as the major reasons that students choose to leave your schools?
10. What guidance is given to support schools in keeping students for the entire year?
11. What is the perception of schools who have higher levels of attrition?
12. How would you describe the discipline policy at this school?
    a. Why would a student be being suspended or expelled from this school?
13. Can you describe what academic remediation looks like at your school?
14. How and when do parents become involved in academic or behavioral intervention issues?

15. Do you believe that attending this school is best for every student who comes to your school?
16. When it does happen, how do you calculate attrition for the school?

IV. Student Achievement & Academic Supports

17. How does the achievement of schools impact the levels of attrition at your schools?
18. What do you schools do with data from students who transfer into your school? How is it viewed within the organization?
19. What impact do transfer students have on the overall achievement of schools? Do teachers and staff see a difference?

VI. Conclusion

20. Is there anything you would like to tell us about mobility or student attrition in your school, or district that we didn't discuss during our conversation?
21. Is there anyone else that you feel we should speak with regarding these issues?

Parent Interview Protocol

1. How many of your children currently attend school in Metro Nashville? Which schools do they attend?
2. Earlier you mentioned that your child switched schools during the last year. Why did you decide to have your child switch schools?
3. Did the switch happen in the middle of the school year? Was this the first time that your child was going to make a move in the middle of the school year?
4. Did you speak to the school administration or teachers before you made the decision to leave? How many times did you voice your concerns or thoughts about leaving? Were you the one who initiated those conversations?
5. Were other alternatives provided or presented to you/discussed with you by school officials when this option came to light?
6. What factors did you consider when choosing a different school for your child? What were the most important issues? (e.g., teachers, other families/students, caring climate, safety, proximity to home/work)
7. Were there concerns that you had about your child changing schools?
    a. If zone school – making transition to charter or magnet?
       If charter - making the transition from a charter or magnet to zone school?
    b. Have you used one of the district's Enrollment Centers? What documentation did you need to provide when changing schools?
8. Who did you talk to about the transition between the schools and what eased any concerns that you may have had?
9. What ultimately drew you to this particular school? Why this (charter or innovation zone school)?
10. What was your experience like when your child started at their current school? How did it differ than what you expected?

11. Do you believe that leaving *the other* school was ultimately the best decision for your child? Do you have any regrets about the switch? Any thing you would do differently?

B. Mobility Data

Regression: Effect of School Type on Rate of Non-Residential Transfers (Binary: Traditional & Choice)

	Unstandardized Coefficients		
	B	Std. E	Sig.
(Constant)	-5.252	0.019	0
School Type	1.698	0.033	0

99.3% Prediction rate from classification table

Regression: Effect of School Type on Rate of Intra-District Transfers (Binary: Traditional & Choice)

	Unstandardized Coefficients		
	B	Std. E	Sig.
(Constant)	-2.099	0.004	0
School Type	0.471	0.013	0

88.6% Prediction rate from classification table

Regression: Effect of Transfer on TCAP Reading Performance

	Unstandardized Coefficients		
	B	Std. E	Sig.
(Constant)	2.324	0.005	0
ID Transfer	-0.345	0.02	0

Regression: Effect of Transfer on TCAP Math Performance

	Unstandardized Coefficients		
	B	Std. E	Sig.
(Constant)	2.334	0.005	0
ID Transfer	-0.482	0.022	0

Regression: Effect of Transfer on TCAP Science Performance

	Unstandardized Coefficients		
	B	Std. E	Sig.
(Constant)	2.331	0.005	0
ID Transfer	-0.456	0.021	0

Odds of Peer Charter Groups to Result in ID Transfers

Group	Score	+/- MNPS
Group 1	0.0671	+0.00314
Group 2	0.06988	**+0.00592**
Group 3	0.04821	-0.01574
Mean	0.06173	-0.00222

Odds of Students in Public School A to Result in an ID Transfer

Student	Score	+/- School
Student 1	0.0716	-0.00045
Student 2	0.09937	**+0.02732**
Student 3	0.0663	-0.00575
School Mean	0.07205	

Odds of Peer Magnet Schools to Result in ID Transfers

School	Score	+/- Group
School A	0.07158	-0.00105
School B	0.07329	**+0.00066**
School C	0.07302	+0.00039
Group Mean	0.07263	

TCAP Reading Performance Comparison With and Without Non-Residential Transfers

School/Inst.	Type	# of Transfers	Avg. TCAP Reading	Avg. TCAP w/o Targets	% of MNPS TCAP Avg.
Smithson	Charter	32	2.21	X	96
KIPP Acad.	Charter	24	2.51	2.5	109
LEAD Acad.	Charter	18	2.2	2.19	95
Bailey STEM	Magnet	15	1.8	1.84	78
Two Rivers	Traditional	15	2.24	2.23	97
Boys Prep	Charter	15	1.71	1.72	75
Apollo	Traditional	14	2.11	2.11	92
STEM Prep	Charter	11	2.56	2.56	111
MNPS	District	123	1.93	2.31	(83)

Top 4 Schools in Enrollment of NR Transfers after Day 10

School	TCAP 2012-13	TCAP w/o NR	% below MNPS	# of transfers	% student body
Gra-Mar	1.91	2.04	12	7	1.6
Jere Baxter	1.96	1.84	8	12	2.4
McCann ALC	1.64	1.75	17	28	55
Baxter ALC	1.43	1.41	23	9	X

Distribution of TCAP Reading Scores 2012-2013

Score Category	No Transfer	% of MNPS Total	NR Transfer	% of NR Total	ID Transfer	% of ID Total
1: Below Basic	5983	17.2	42	35	587	30
2: Basic	14979	43.1	47	39.2	901	46.1
3: Proficient	10954	31.6	29	24.2	389	19.9
4: Advanced	2824	8.2	2	1.7	78	4

Distribution of TCAP Math Scores 2012-2013

Score Category	No Transfer	% of MNPS Total	NR Transfer	% of NR Total	ID Transfer	% of ID Total
1: Below Basic	7499	22.2	58	48.3	811	40.4
2: Basic	12789	37.9	43	35.8	777	38.7
3: Proficient	9026	26.8	16	13.4	325	16.3
4: Advanced	4416	13.1	3	2.5	94	4.6

Distribution of TCAP Science Scores 2012-2013

Score Category	No Transfer	% of MNPS Total	NR Transfer	% of NR Total	ID Transfer	% of ID Total
1: Below Basic	8500	24.3	52	43	856	41.9
2: Basic	10625	30.4	32	26.4	645	31.6
3: Proficient	12474	35.7	34	28.1	484	23.7
4: Advanced	3350	9.6	3	2.5	58	2.8