



# STUDENT MOBILITY





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## **OUR THANKS TO**

We gratefully acknowledge the financial support of the Skillman Foundation and the Kaplan Collaborative at Wayne State University's College of Education. We especially would like to thank the steady guidance and encouragement of Siobhan O'Laoire, our program officer at the Skillman Foundation. We would also like to thank Dr. William Hill, our assistant dean. We express our sincere appreciation for the feedback, support, and engagement of Katie Rae Stolper and Stephanie Young of the Community Education Commission; Molly Sweeney, Jamila Martin, and the leadership team of 482Forward; Reverend Larry Simmons, Christine Bell, and the steering committee of Every School Day Counts Detroit; Cindy Eggleton of 313Reads; and a special shout out to Terry Whitfield of the Skillman Foundation. Thanks to Elizabeth Orr Jones, who designed this report.

## **RESEARCH NOTE**

This research result used data collected and maintained by the Michigan Department of Education (MDE) and Michigan's Center for Educational Performance and Information (CEPI). Results, information, and opinions solely represent the analysis, information, and opinions of the authors and are not endorsed by – or reflect the views or positions of – grantors, MDE, and CEPI or any employee thereof.

## **WE WANT TO HEAR FROM YOU**

This report provides an overview of student exit, mobility, and absenteeism in Detroit. Our future reports will go deeper into these issues to explore questions that community members need answered to contribute to educational improvement in Detroit. We will provide our interpretation of this research, based on data, studies from other cities, and the historical and contemporary Detroit context. But we are not the only experts. Detroit students, parents, educators, and advocates are in the best position to help us understand what our findings mean and how to act on them in policy and practice. To that end, we want to hear from you. Please go to <http://tinyurl.com/WSU-education-research-survey> to give us your feedback.

## **REFERENCE FOR THIS REPORT**

Lenhoff, S. W., Pogodzinski, B., Singer, J., & Cook, W. (2019). Student Exit, Mobility, and Attendance in Detroit. Retrieved from Wayne State University website: [go.wayne.edu/DetEdResearch](http://go.wayne.edu/DetEdResearch)



**S**chool choice policy rests on the belief that families will leave schools that are not meeting their expectations, not only leading to better outcomes for those students, but also putting pressure on schools to improve in order to attract and retain students. However, when families choose to move their children between schools, they risk the negative consequences of mobility on student performance, and in the aggregate such moves destabilize the education environment across schools and systems. Specifically, a non-routine school move – or moving between schools before completing the school’s terminal grade – on average has a negative effect on student outcomes. Mobile students are at risk of lower academic achievement (Mehana & Reynolds, 2004), slower academic growth in the early grades (Herbers et al., 2012; Lleras & McKillip, 2017), increased behavioral problems (Engec, 2006), and increased likelihood of dropping out of school (Rumberger & Larson, 1998).

In addition, students who attend schools with a highly mobile student population are at risk of adverse effects (e.g., lower achievement and higher dropout rates), even if they themselves do not change schools (Hanushek, Kain, & Rivkin, 2004; South, Haynie, & Bose, 2007). High rates of student mobility in a school impacts teachers’ ability to plan and teach effectively (Entwistle & Ramsden, 2015; Rumberger et al., 1999), contributes to decreased student classroom participation (Gruman et al., 2008), slows the pace of learning and instruction, and makes it challenging to monitor enrollment, manage school resources (like textbooks and other learning aids), and cultivate a sense of school spirit and belonging (Rumberger, 2003).

## **METHODOLOGY**

We analyzed our data set to describe the extent of student mobility across schools and communities in Detroit, and to identify associations between student-, school-, and community-factors and student mobility (see technical appendix for more details about the data set). For this analysis we focused solely on between-year moves of any Detroit resident student, defined as any non-routine move between the end of a given school year and the following fall. Therefore, the data included in this analysis only included students who were not in a “transition year”, that is finishing the terminal grade in a school and therefore having to move to another school. For example, students who completed 8th grade in a K-8 school in spring 2016 would not be included in the mobility analysis because they did not have a choice except to move.



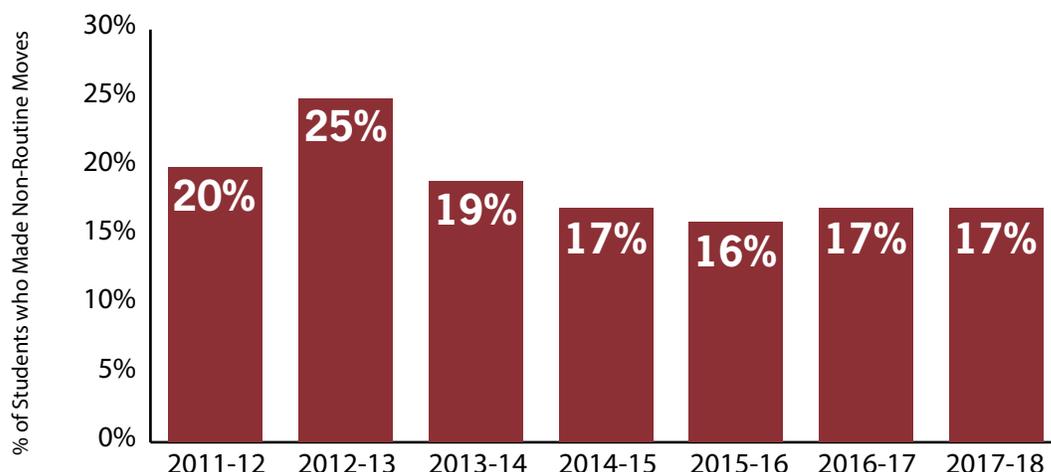
We began the analysis by describing trends in student mobility over time. We then focused analysis on the most recent year of data (2017-18) to identify the extent of student mobility across neighborhoods in Detroit, and then identified differences in student mobility by student and school categories. Finally, we estimated two logistic regressions to further identify these associations while controlling for other variables. The first model included both student and school variables as predictors. The second model included a measure of student math achievement, so it only includes students in grades 3-8 and 11, who took the M-STEP or MME.

## STUDENT MOBILITY WITHIN DETROIT

Student mobility among Detroit resident students is robust. As shown in Figure 1, approximately 17% of Detroit resident students made a non-routine school move between spring 2017 and fall 2017. The negative effects of high rates of student mobility likely get worse over time, both for individual students and for schools overall. For example, a school's kindergarten cohort with average rates of between-year mobility would, by fourth grade, include fewer than half of the students who started school there. Additionally, many students make more than one non-routine move over the course of their education, and over time, the proportion of students who were ever mobile increases within a given class cohort. For example, for students who were in the 7th grade during the 2017-18 school year, nearly 62% had made a non-routine move at some point in their education career. Although the average

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**Figure 1:** Percentage of Students Who Were Between-Year Movers (2011-12 to 2017-18)





number of moves a student in this cohort made was just over 1 (standard deviation of 1.05), nearly 25% of students made 2 or more moves between 1st and 7th grades.

In grades 1-7, rates of student mobility were fairly consistent, ranging from about 18% to 20% of students moving between years. Between 7th and 8th grade, mobility was lower, at about 16%. We saw the same drop-off in 11th and 12th grades, with students much less likely to move between the last two years of high school. The transition from 8th to 9th grade stood out as unique in our analysis. Although 80% of 9th graders were not eligible to be considered movers because the school where they attended in 8th grade did not have a 9th grade, 36% of the 9th graders who could have stayed at their previous school decided to switch schools instead (see Table 1). This increased rate of mobility between 8th and 9th grade may be indicative of several different factors, including increased parental and student concerns about school safety, academic quality, or athletic/extracurricular programs. Given the nature of our current data we cannot yet test these hypotheses, but these patterns suggest the need for greater attention.

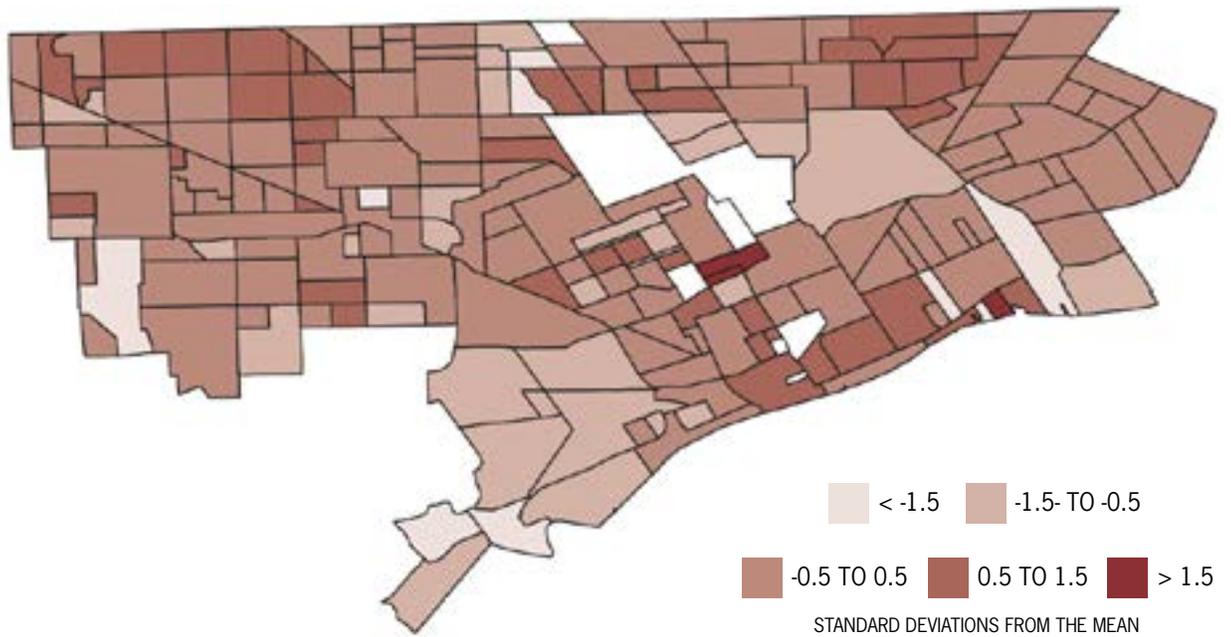
Student mobility is also not evenly distributed across communities within Detroit. As shown in Figure 2, mobility rates varied greatly across sections of the city. For example, approximately 40% of the students who lived in

**Table 1:** Student Mobility by Grade

Grade Level	Not Between-Year Movers	Between Year Movers	Total Students Not in a Transition Year
K	-	-	-
1st	5,961 (81.57%)	1,347 (18.43%)	7,308
2nd	5,821 (81.71%)	1,303 (18.29%)	7,124
3rd	5,559 (81.15%)	1,291 (18.85%)	6,850
4th	5,594 (82.16%)	1,215 (17.84%)	6,809
5th	5,432 (81.16%)	1,261 (18.84%)	6,693
6th	4,308 (80.48%)	1,045 (19.52%)	5,353
7th	5,358 (82.33%)	1,150 (19.52%)	6,508
8th	5,370 (83.75%)	1,042 (16.25%)	6,412
9th	822 (63.72%)	468 (36.28%)	1,290
10th	5,173 (82.50%)	1,097 (17.50%)	6,270
11th	4,928 (88.28%)	654 (11.72%)	5,582
12th	5,513 (91.02%)	544 (8.98%)	6,057
Total	59,839 (82.82%)	12,417 (17.18%)	72,256



**Figure 2:** Percentage of Between-School Year Movers by Neighborhood



the Northeast Detroit neighborhood Connor Creek were mobile between spring 2017 and fall 2017. Conversely, only 8% of students who lived in the Southwest Detroit neighborhood made a between school year move.

### **FACTORS ASSOCIATED WITH STUDENT MOBILITY**

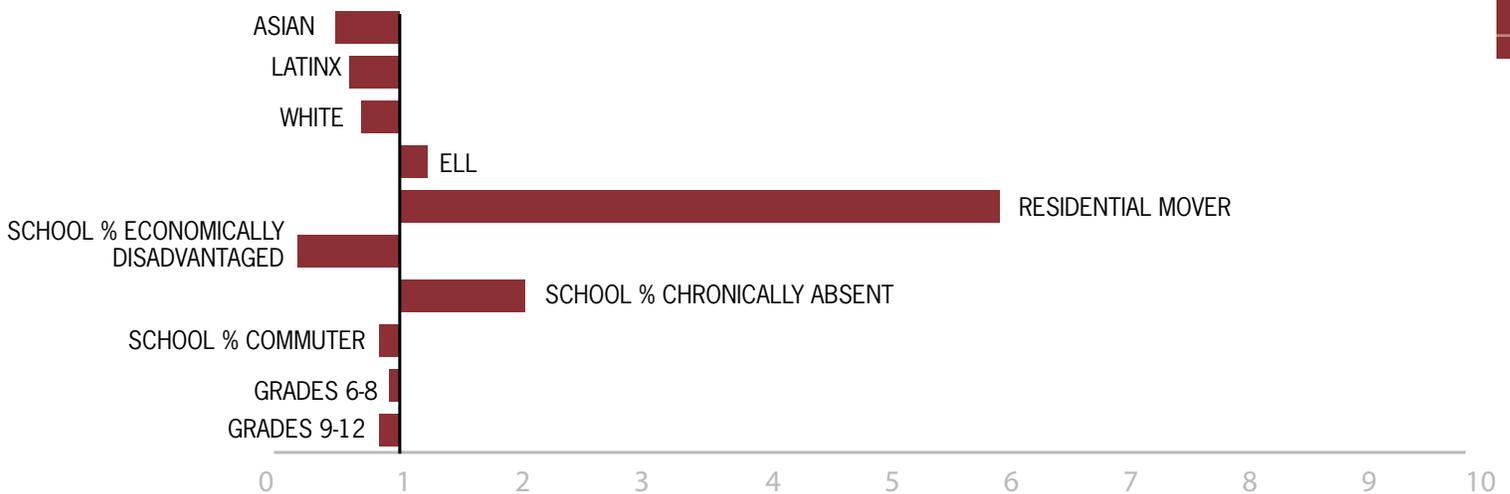
In addition to geographic indicators, a larger proportion of Black students were mobile compared to Latinx or white student groups. Additionally, student movers on average had lower math achievement scores than non-movers. While 11% of non-movers had changed residence between school years, 44% of mobile students had changed residence. Therefore, it should be noted that nearly 56% of all school movers did not change their residence in the prior year. This suggests that, beyond issues related to housing instability, parents used school choice options at high rates. Furthermore, students were more



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RESIDENCE IN THE PRIOR YEAR.



**Figure 3:** Odds Ratios for Making a Non-Routine Move



**Note.** This is a graphical representation of the odds ratios for student mobility, or switching schools in a non-transition year between 2016-17 and 2017-18. Only the statistically significant variables ( $p < 0.01$ ) from Model 1 are displayed. Full regression output for Models 1 and 2 can be found in the technical appendix. Race variables are in comparison to Black students.

likely to transfer out of schools that had lower average student achievement and higher chronic absenteeism rates. Finally, students were more likely to switch schools when they had attended a charter school rather than a traditional public school the previous year.

In order to further understand the association between student mobility and key predictors, we estimated a series of logistic regressions in order to control for other predictor variables. School-level variables were taken from the school the student attended the year before (2016-17). Based on our preferred base level model, Black students were more likely to be mobile compared to Latinx and white students, but not more likely to be mobile compared to Asian students. For example, Black students were over two times more likely to be mobile than Latinx students, holding all other variables constant. Not surprisingly, the odds that a student was mobile were six times higher if they had changed residence the year before.

Students were less likely to be mobile if they were in junior high or high school than in elementary school, possibly reflecting fewer school options available in the later grades. At the high school level, this finding was likely driven by lower rates of mobility during the transition from 10th to 11th grade and 11th to 12 grade, where there were noticeably lower rates of mobility compared to the transition from 8th to 9th and 9th to 10th grades. While students were more likely to be mobile if they had attended a school with



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higher percentages of chronically absent students, they were less likely to be mobile if they had attended a school with a higher than average percentage of economically disadvantaged students. This likely relates to marginal effects of deviations from the mean in an environment marked by high percentages of economic disadvantage across schools in the city. Finally, in this first model, there was no statistically significant measurable impact of attending a charter school or attending a school in Detroit on student mobility.

In the second regression model, we controlled for both student-level math z-score (from the M-STEP/MME) and school average math z-score. In this reduced sample analysis, there were slightly higher odds of mobility if a student had attended a charter school the previous year, but slightly lower odds if they had attended a school in Detroit. On average, students with higher math z-scores were less likely to be mobile, which aligned with the finding that students who attended schools with higher average math z-scores were less likely to be mobile.

### **SUMMARY**

Student mobility has been shown to have potentially negative impacts on both student and school outcomes, and as shown in this analysis, student mobility is robust among Detroit students. Overtime, such high rates of mobility compounds the negative outcomes that plague individuals and schools. Our analysis has shown that there are student and school factors associated with high rates of student mobility, and suggests the need for continued attention. Below we offer the key takeaways, policy implications, and direction for future research.

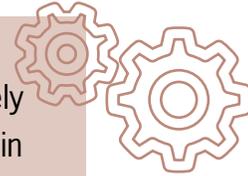


## KEY TAKEAWAYS

- The highest rates of student mobility were concentrated in specific neighborhoods.
- Student mobility was higher in schools marked by high rates of chronic absenteeism and lower student achievement.
- Student residential moves were associated with a much higher likelihood of student mobility, but over half of all non-routine moves were among students who did not change residence.
- A school's kindergarten cohort, with average rates of between-year mobility would, by fourth grade, include fewer than half of the students who started school there.

## POLICY IMPLICATIONS

- Policymakers should attend to community characteristics which negatively impact access to schools, as student mobility was heavily concentrated in specific neighborhoods across the city.
- Efforts should continue to improve school quality, as parents seek effective and welcoming schools.
- Efforts to reduce student mobility should be more strongly linked to efforts to reduce housing insecurity and residential moves.



## FUTURE RESEARCH

- What student-, school-, and community-characteristics mediate student mobility over time?
- What is the association between specific school quality indicators and student mobility?
- How do school and community characteristics jointly predict student mobility?

