Building Equitable Student Transit (BEST)

Alex Karner, Georgia Institute of Technology & Nancy Erbstein, UC Davis

School Choice, Transportation, and Student Outcomes

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EXECUTIVE SUMMARY

The San Diego Unified School District (SDUSD) allows students to apply to attend any school in the district under their "open enrollment" policy. In this research brief, we examine the demographic, transportation, and student performance implications of this policy. We find that students are generally attending non-neighborhood schools at high rates. Across student of color populations, the choice to attend a non-neighborhood school is associated with increased travel distances and higher propensities to use public transit but it is not associated with diminished performance or attendance. Students remaining in their neighborhood schools might lack the transportation resources necessary to access higher-performing schools located further away. These findings indicate the continuing importance of neighborhood school quality.

INTRODUCTION

In this research brief, we examine an issue that has become increasingly important at both the federal and state levels across the county—school choice. While providing additional options for students beyond their neighborhood school can facilitate access to higher quality education, the types of students and families that will be able to take advantage of non-neighborhood opportunities might be limited by the availability of affordable, reliable, and convenient transportation. Additionally, neighborhood schools that experience substantial disenrollment might enter a cycle of decline from which they are unable to recover. On the other hand, a focus on neighborhood schools only can ensure that patterns of residential segregation are reflected within school sites.

Within the SDUSD, students can always attend their neighborhood school. However, the district also provides school choice options through their "open enrollment" policy, which allows students to apply to attend any school in the district. Choice applications are prioritized based on a number of different factors and, importantly, no transportation is provided if a student chooses to enroll in a non-neighborhood school.

Understanding whether the benefits of school choice are equitably shared across a district's population can help to shape the appropriate balance between an enrollment emphasis on neighborhood versus choice schools. At SDUSD, understanding the benefits and costs of school choice policies is especially important, as the district's mission statement cites "quality schools in every neighborhood" as a central goal.[1]

Here, we focus on three key research questions:

1. *Which students take advantage of school choice?* Are there demographic differences between students taking advantage of school choice versus those attending their neighborhood school?
2. *What are the transportation implications of school choice?* How much further are students traveling to reach non-neighborhood schools and is public transit well-suited for making these non-neighborhood trips?
3. *What are the student performance implications of school choice?* Are there differences in GPA or rates of chronic absence between students who attend neighborhood and non-neighborhood schools?

[1] San Diego Unified School District (2013). "Vision 2020: Quality Schools in Every Neighborhood" San Diego, CA.

RESEARCH METHODS

The analysis presented here relies on de-identified SDUSD student record data from the 2014-2015 academic year. These records include students' residential addresses and enrollment locations, along with other demographic and performance information. We combined these student records with school location and attendance boundary information to assess whether each student was attending their neighborhood school or taking advantage of the district's open enrollment policy.[2]

Additionally, we used methods similar to those presented in Research Briefs 1 and 2 to calculate an expected travel time to school by both public transit and driving. Specifically, travel times by public transit included walking to a transit stop, waiting for the vehicle, riding the vehicle, and walking to the destination. An average travel time during the morning peak period (6:30am – 8:30am) was calculated between each student's residential address and their school. In cases where walking to school would be faster than public transit, travel times reflect only walking speed. An equivalent automobile time was calculated using the Google Maps Distance Matrix Application Programming Interface (API).[3]

Although we were unable to determine which students actually rely on public transit to make the trip to school, we can use demographic information and residential location to understand how likely transit use might be. Using the 2010-2014 American Community Survey five-year estimates, we associated each student with their home census tract to provide further demographic information on the likelihood of public transit use.

SCHOOL CHOICE STUDENT DEMOGRAPHICS

Of the 110,193 students for whom we were able to identify a neighborhood school, 62% chose to enroll in it, meaning that 38% of students and families chose, or were required to attend, a school outside their neighborhood attendance area.[4] Table 1 summarizes racial/ethnic differences between students who enrolled in non-neighborhood schools.[5] Latino, Black, and Indochinese students tend to enroll in non-neighborhood schools at higher rates than Asian, Filipino, and white students; American Indian and bi-/multi-racial students fall in between. Performing a similar analysis using parents' highest education level (not shown) reveals that lower educational attainment is also associated with an increased tendency to attend non-neighborhood schools.

Table 1 Enrollment in neighborhood and non-neighborhood (labeled "outside") schools by race/ethnicity in the SDUSD, 2014-2015.

	Type of School Attended			
	Outside		Neighborhood	
Hispanic or Latino	20,968	42%	29,271	58%
Black or African American	3,954	41%	5,638	59%
Indochinese	2,314	41%	3,399	59%
Two or more races	2,912	36%	5,246	64%
American Indian	97	34%	188	66%
White	8,241	32%	17,400	68%
Pacific Islander	180	29%	432	71%
Filipino	1,601	28%	4,060	72%
Asian	1,108	26%	3,184	74%

[2] SDUSD's enrollment data did not include information on students enrolled in charter schools, so the analysis is only representative of students enrolled in traditional public schools.
[3] The API allows the user to generate many travel times and distances without having to type each into the Google Maps web interface.
[4] The actual proportion will be slightly higher than this as the specifics of the analysis required a number of approximations to be made to particular shared and overlapping attendance boundaries for some SDUSD schools.
[5] The racial/ethnic categories are modified slightly from those employed by the SDUSD for consistency with preferred contemporary terminology.

Not surprisingly, as illustrated in Figure 1, for almost all racial/ethnic group and grade level combinations, the majority of students not attending their neighborhood school are choosing to attend one of higher quality as indicated by California's Academic Performance Index (API).[6] The figure is limited only to those students who do not attend their neighborhood school. It shows the portion of those students who are attending a school that has a higher API than the neighborhood school that they would attend at that grade level. In some cases, the proportions are as high as approximately 80% (Asian and Filipino middle school students).

There do not appear to be vast differences in the rates across racial/ethnic groups. Although API is a coarse and limited measure of quality, it appears as though, across racial and ethnic groups, students taking advantage of SDUSD's open enrollment policy are attending schools that exceed their neighborhood school in terms of API scores.[7]

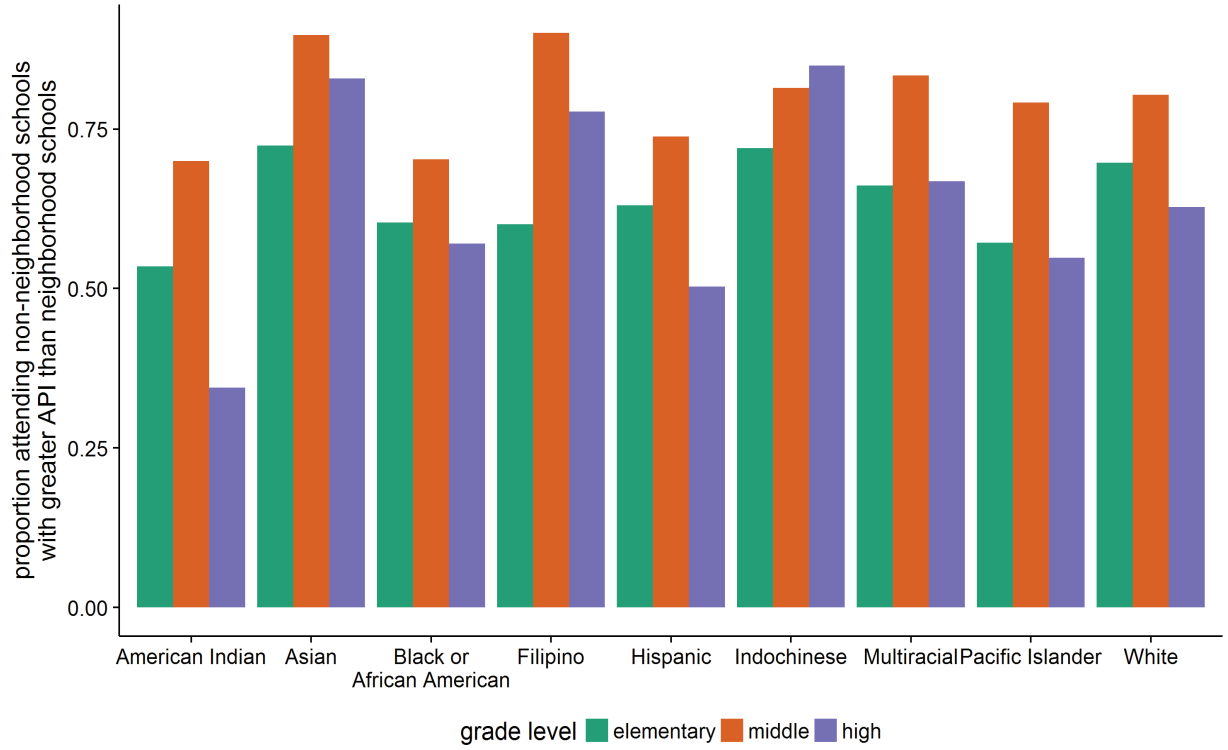

Figure 1. Proportion of students whose non-neighborhood school API exceeds that of their assigned neighborhood school by race/ethnicity and grade level. Only students who are not attending their neighborhood school were included in the calculations.

TRANSPORTATION IMPLICATIONS OF SCHOOL CHOICE

Regardless of race or ethnicity, SDUSD students are attending non-neighborhood schools at high rates and these schools are often higher performing schools than their neighborhood option. But the shift to a non-neighborhood school is likely to have transportation-related consequences. In general, across our student-level records, students attending non-neighborhood schools are located 5.5 miles from school while students enrolled in their neighborhood school reside only 1.1 miles away.[8] But these averages mask substantial differences by race/ethnicity.

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[6] While imperfect, the API is the most current source of consistent information on school performance. Based on standardized test performance and changes over time, it was last calculated in 2014. The California Department of Education is developing an alternative measure—the California Assessment of Student Performance and Progress—but that effort is not yet complete.

[7] Note we are unable to assess whether performance is higher at certain schools partially as a result of an influx of higher performing students attending through the school choice program.

[8] These distances consider actual travel along the road network between residential and school locations.

Figure 2 shows the additional distance that students are traveling to attend a non-neighborhood school, with results presented separately for each racial group. Three groups of non-neighborhood students are clear:

1. Black and Hispanic/Latino students are traveling approximately *five miles further* than required to reach their neighborhood school.
2. Indochinese, American Indian, and Pacific Islander students are traveling *approximately four miles* further than required to reach their neighborhood school.
3. White, Asian, and Filipino students are traveling approximately *three miles further* than required to reach their neighborhood school.

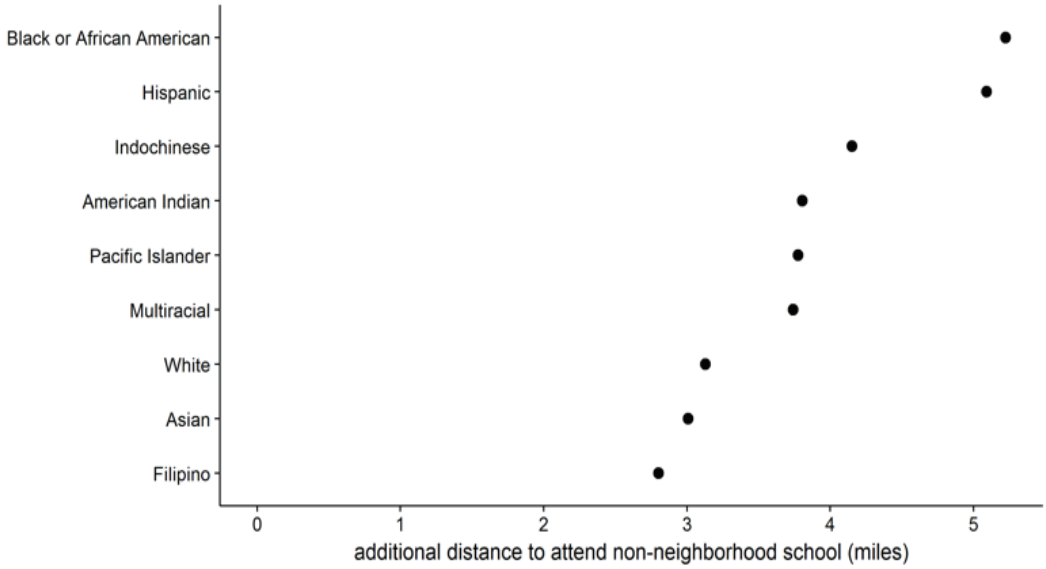

Figure 2. Difference between travel distance to non-neighborhood school and neighborhood school by race/ethnicity.

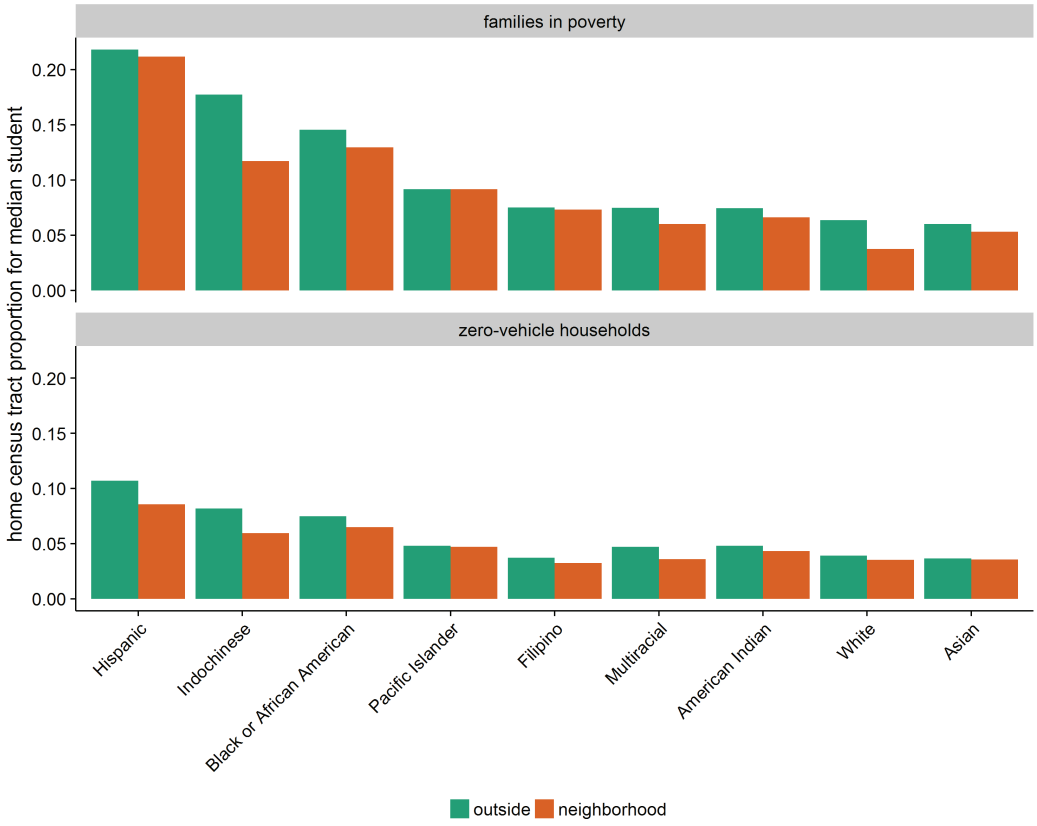

Figure 3. Census demographics in students' home location by racial/ethnic group and attendance at neighborhood/non-neighborhood (labeled "outside") school. Demographics shown are for the student residing in the tract with the median concentration of each characteristic (either proportion families in poverty or proportion zero-vehicle households) in each group. Source: 2010-2014 American Community Survey five-year estimates.

Figure 3 plots the proportion of households in poverty and zero-vehicle households for students by racial/ethnic group and their enrollment in a neighborhood or non-neighborhood (labeled "outside") school. These results illustrate that, in general, Hispanic/Latino, Indochinese, and Black students are much more likely than students from other demographic groups to reside in census tracts with high proportions of zero-vehicle households and households in poverty whether or not they attend their neighborhood school. Students that enroll in non-neighborhood schools tend to live in census tracts with higher concentrations of those demographics that are associated with public transit use. This means that there is a high likelihood that Hispanic/Latino, Indochinese, and Black students attending their non-neighborhood school will depend on public transit at higher rates than their counterparts.

SCHOOL CHOICE, TRANSPORTATION, AND STUDENT OUTCOMES

Increased travel distances and times may have implications for student performance, as students have less time available to rest, study, or participate in extracurricular activities. At the same time, higher travel burdens might be offset if students experience an enhanced educational opportunity. Table 2 indicates that despite having to travel further and potentially relying on public transit at high rates, Black and Hispanic/Latino students not attending their neighborhood schools appear to have higher GPAs and virtually unchanged rates of chronic absence when compared to students that remain in their neighborhood school.[9] In fact, across all racial/ethnic groups except white, students enrolled in their neighborhood schools have lower GPAs than those who enroll elsewhere. While multiracial, American Indian, and Asian populations attending non-neighborhood schools have higher rates of chronic absence than their counterparts in neighborhood schools, the opposite pattern is reflected among the other racial/ethnic groups.

Table 2. Student-level performance indicators by racial/ethnic group and attendance at neighborhood/non-neighborhood (labeled "outside") school.

	Average GPA			Proportion Chronically Absent		
	Outside	Neighborhood		Outside	Neighborhood	
Black or African American	2.59	2.43		13.7%	13.2%	
Asian	3.25	3.02		5.7%	4.6%	
Filipino	3.06	2.97		5.4%	5.4%	
Hispanic	2.51	2.39		13.6%	13.8%	
Indochinese	3.10	2.96		3.1%	4.8%	
Multiracial	2.93	2.90		11.8%	9.2%	
American Indian	2.63	2.56		24.7%	20.7%	
Pacific Islander	2.58	2.55		18.9%	20.1%	
White	3.07	3.09		11.4%	8.3%	

One potential explanation for these findings is that students growing up in households with parents/caregivers who are motivated and able to complete the non-neighborhood school enrollment process are also more likely to experience home environments conducive to academic success.

[9] Here, a student is considered to be chronically absent if they miss 10% or more of days enrolled.

CONCLUSION

In general, students in the SDUSD are taking advantage of school choice policies at high rates and in the process are attending higher performing schools. This access does not come without a price, however, as students enrolling in non-neighborhood schools have to travel much further than students enrolled in neighborhood schools. Racial disparities in travel burdens (as measured by distance) are evident. Students facing these increased distances also reside in census tracts whose demographics suggest that the use of relatively slower modes like public transit would be more likely.

In addition, students who want to leave their neighborhood school to attend a site with different or stronger learning opportunities may find it difficult to do so in part because of a lack of transportation resources. For some students, public transit might not be a viable option, long transit trips could be cost prohibitive, and/or a caregiver simply might not have the time, energy, or resources to transport them to a distant school site in their private vehicle. In an environment of increasing emphasis on school choice, these students may face compounding disadvantages as public resources are directed to schools which students choose to attend as opposed to those they attend based on their residential location.

Alex Karner, Ph.D.
alex.karner@design.gatech.edu

Nancy Erbstein, Ph.D.
nerbstein@ucdavis.edu