Staying in the Neighborhood
Examining Distance to Zoned Schools and Access to Transportation

Mauricio Molina, Ph.D., Erin Baumgartner, Ph.D., and Katharine Bao, Ph.D.

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Research Brief
for the Houston Independent School District
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Examining Distance to Zoned Schools and Access to Transportation

In the Houston Independent School District (HISD), how far a student lives from their zoned school determines their access to school transportation. Per district policy, students must live at least 2 miles from their zoned school to be eligible for district-provided school transportation. The Houston Education Research Consortium (HERC) examined the distance between students' homes and zoned schools across HISD to understand the effect distance has on zoned school enrollment, specifically within the context of HISD's transportation eligibility policy. The research found that most students who attend their zoned elementary schools are ineligible for district-provided transportation because they live within 2 miles of that school. Additionally, students who lived closer to their zoned school were more likely to attend that school. Significant differences also exist in the share of students living within 2 miles of their zoned school who enrolled at that school and who did not when grouped by race, socioeconomic status, English learner status, and gifted/talented status. These findings applied across all grade levels and indicate that living closer to a zoned school is associated with enrollment in that school, even though this could mean being ineligible for district-provided school transportation. Implications and recommendations for the district are also discussed.

Key Findings

On average, elementary school students districtwide lived approximately 1 mile from their zoned schools.

- The average distance between a student's home and their zoned school was 1.1 miles for elementary schools, 2 miles for middle schools, and 2.3 miles for high schools.

Students who live within 2 miles of their zoned school were more likely to enroll in that school.

- The chances of these students enrolling in their zoned school were between 66% and 76%, depending on grade level.

About three-fourths of students living within 2 miles of their zoned school chose to attend that school.

- A majority of students lived within 2 miles of their zoned school, and 73% of those students enrolled at their zoned school.

Of students living within 2 miles of their zoned school, significant differences existed between students who enrolled at their zoned school and those who did not.

- Except for Black students, differences between those enrolled and those who did not existed across economic disadvantage, English learner status, and race/ethnicity.

Background

Over time, school transportation has become an important factor in alleviating educational access inequalities caused by urban planning that disproportionately affects disadvantaged families, especially when involving school choice (Burgoyne-Allen et al., 2019; Swanson, 2017). In the context of this study, school choice is understood as a way for families to apply to a school their children are not zoned to (Swanson, 2017; Wilson & Bridge, 2019). Having access to school transportation is also important to families that do not have the means to transport their children to school. Research has shown that students from higher-income households tend to travel by automobile more often or live closer to their school of choice (Wilson et al., 2010; Wilson & Bridge, 2019). School choice tends to also be influenced by the commute time to and beyond the school (Edwards & Cowen, 2022), the quality of the school, the school's location, and household income. Those most likely to choose the schools nearest to them are lower-income families (He & Giuliano, 2018). Having distance limitations that restrict access to school transportation may influence which school a family chooses, particularly families who do not have access to other modes of transport or do not find it safe for their children to walk to school. These circumstances may make proximity to school an important factor in school choice decisions for families and students in the Houston Independent School District (HISD), as HISD has an extensive school choice program (HISD, 2021) that has school transportation policy stipulations.

HISD Transportation Eligibility Policy

In HISD, the distance between a student's home and their zoned school matters for having access to district-provided transportation (HISD, n.d.). HISD's current busing policy states that students are eligible for transportation services if they are enrolled at their zoned school and reside two or more miles from that school. Exceptions include:

- Resident district students attending a magnet program on an approved transfer who also live two or more miles from that assigned school

- Resident district students eligible for special education programs (must be the program closest to their zoned school)

Research Purpose and Questions

Within the context of HISD's transportation policy, this study aimed to better understand the relationship between proximity to a zoned school and whether students opt to attend that zoned school or a different school by exploring:

1. *How far do HISD students live from their zoned schools?*

2. *To what extent are living within 2 miles of zoned school (and thus, not being eligible for district-provided transportation) and distance to zoned school associated with school choice?*

3. *What proportion of students within a 2-mile radius of a zoned campus choose to attend their zoned school?*

4. *Who are the students enrolled at and living within 2 miles of their zoned school, and to what extent do their student demographic characteristics differ from those that enroll elsewhere?*

Data and Methods

Our sample consisted of 177,049 HISD students enrolled in kindergarten through 12th grade during the 2019–2020 school year and who had available student address data, including information on the schools each student was zoned to and that they were enrolled at. This sample represented 84% of the total 2019–2020 HISD student population, as students without an available address or those enrolled in early childhood education/pre-K were not included. We also gathered demographic characteristics for each student using Public Education Information Management System (PEIMS) data for the 2019–2020 school year. Analyses consisted of descriptive statistics and regression analyses.

Key Findings

1 **On average, elementary school students districtwide lived approximately 1 mile from their zoned schools.**

The average distance between an elementary school student's home and their zoned school was 1.1 miles; this average distance increased to 2 miles for middle school students and 2.3 miles for high school students (Figure 1). Most students in the sample were in elementary school (92,524 students), which was the grade level with the greatest number of schools (168 campuses). Only 7% of the 92,524 elementary school students lived further than 2 miles from their zoned school; however, 41% of the 37,464 middle school students and 55% of the 47,061 high school students lived further than 2 miles from their zoned school. These findings reveal that in HISD, most elementary school students, less than half of middle school students, and about half of high school students are ineligible for district-provided school transportation based solely on the distance between home and zoned school.

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**FIGURE 1** **Average distance in miles from home to zoned school by grade level**

Students		Average Miles		Campuses
92,524	1.1	ELEMENTARY		168
37,464	2.0		MIDDLE	35
47,061	2.3		HIGH	23
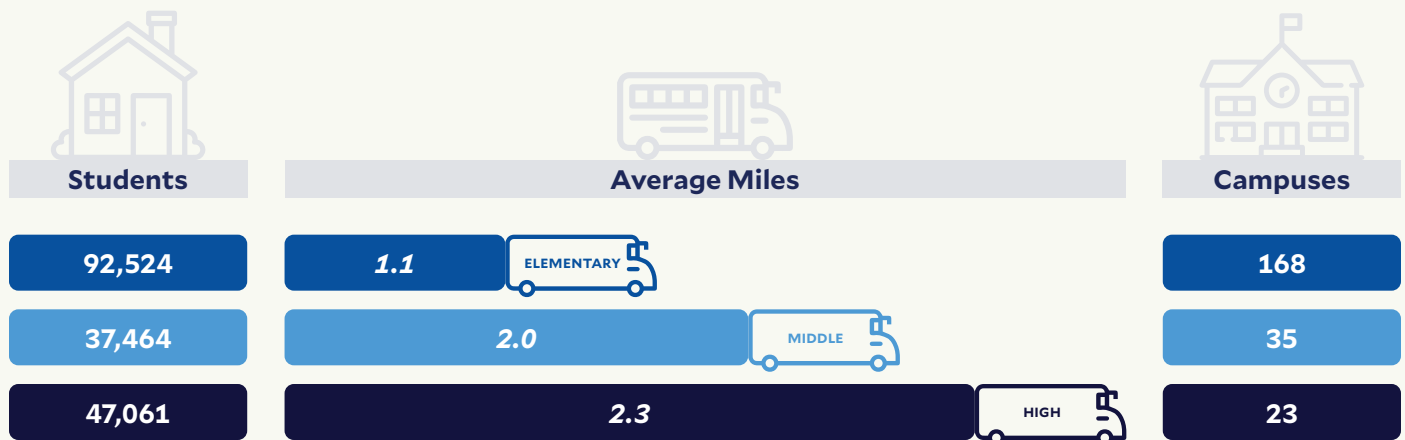
Looking at average distance between a student's home and zoned school by individual elementary school zones revealed that only five elementary school zones (Marshall, Hilliard, Elmore, Frost, and Almeda) had an average of 2 or more miles between a student's home and their zoned school. The students in the remaining elementary school zones averaged less than 2 miles between their homes and zoned schools. A large concentration of elementary school zones in the central-eastern part of HISD averaged less than 1 mile between students' homes and their zoned schools. In the context of HISD's transportation eligibility policy,

this map shows specific regions in the district where many elementary school students, per average distance, are ineligible for district-provided transportation. The average distance maps for middle and high school zones are found in Appendices A and B.

FIGURE 2 Average distance to zoned school for each elementary school zone
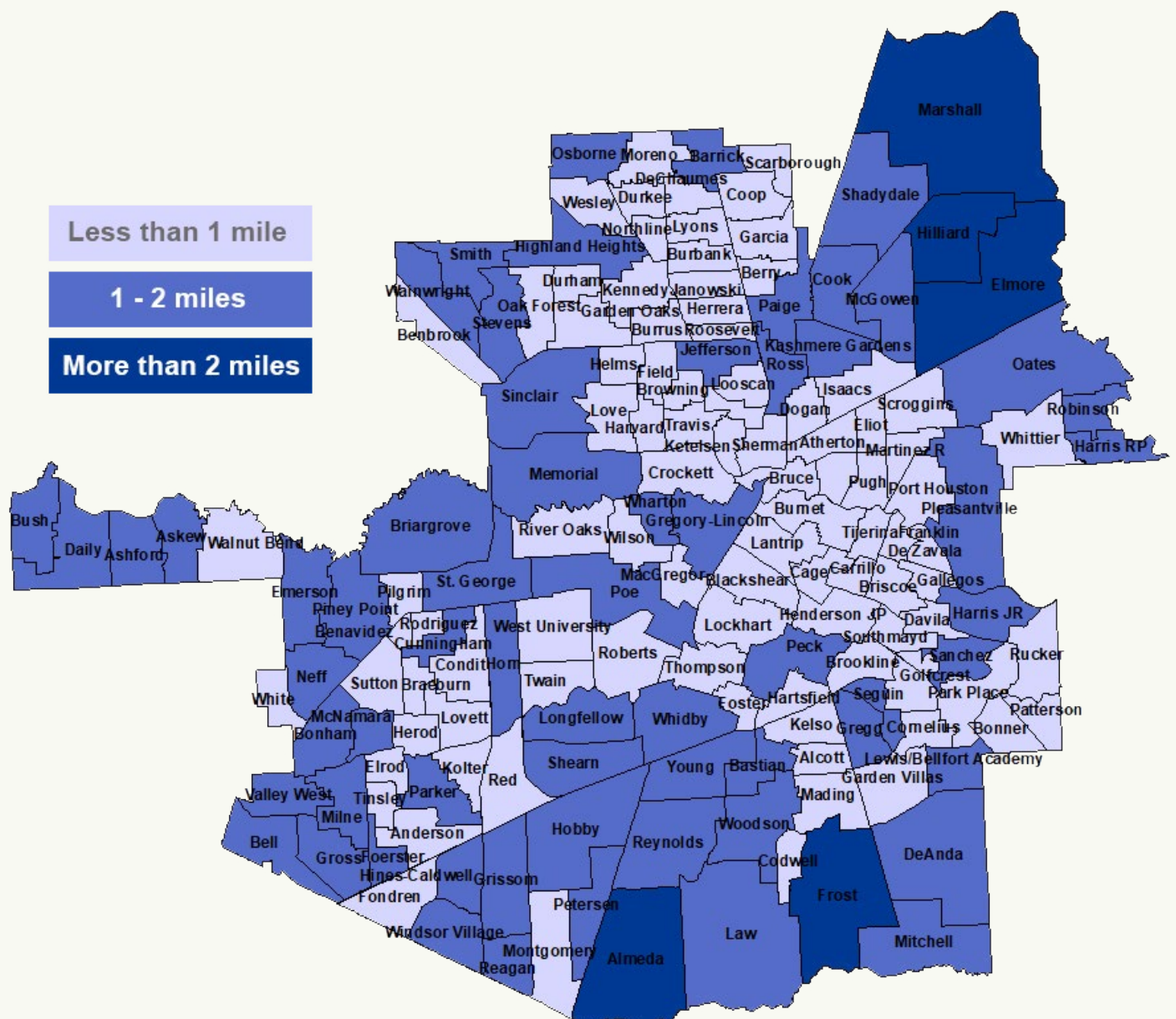
2 Students who lived within 2 miles of their zoned school were more likely to enroll in that school.

Regardless of the distance, students were more likely to enroll in their zoned school than not, but the chances were greater for those living within 2 miles of their zoned school (Figure 3). For students who lived within 2 miles of their zoned school, **the chances of enrolling in that school were 76% for elementary school students, 66% for middle school students, and 68% for high school students.** Students who lived 2 or more miles from their zoned school had a 66% chance of enrolling in their zoned elementary school and a 59% chance of enrolling in their zoned middle or high school. This shows that students across all grade levels were more likely to enroll in their zoned school even if that meant not having access to district-provided school transportation because of the 2-mile eligibility threshold. However, being transportation-eligible beyond the 2-mile threshold seemed to also not matter, as students across all grade levels were less likely to enroll in their zoned school the further they lived from it.
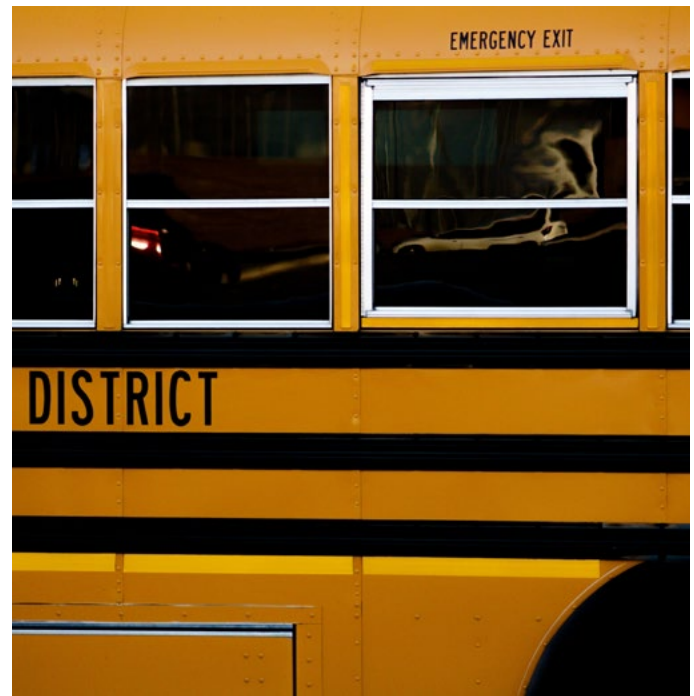
Photo by Joshua Hoehne on Unsplash

FIGURE 3 **Chances of enrolling in zoned school by grade level**

Chance of Enrolling in Zoned School

Elementary: 76% (Less than 2 miles), 66% (2 or more miles)
Middle: 66% (Less than 2 miles), 59% (2 or more miles)
High: 68% (Less than 2 miles), 59% (2 or more miles)

■ Less than 2 miles   ■ 2 or more miles
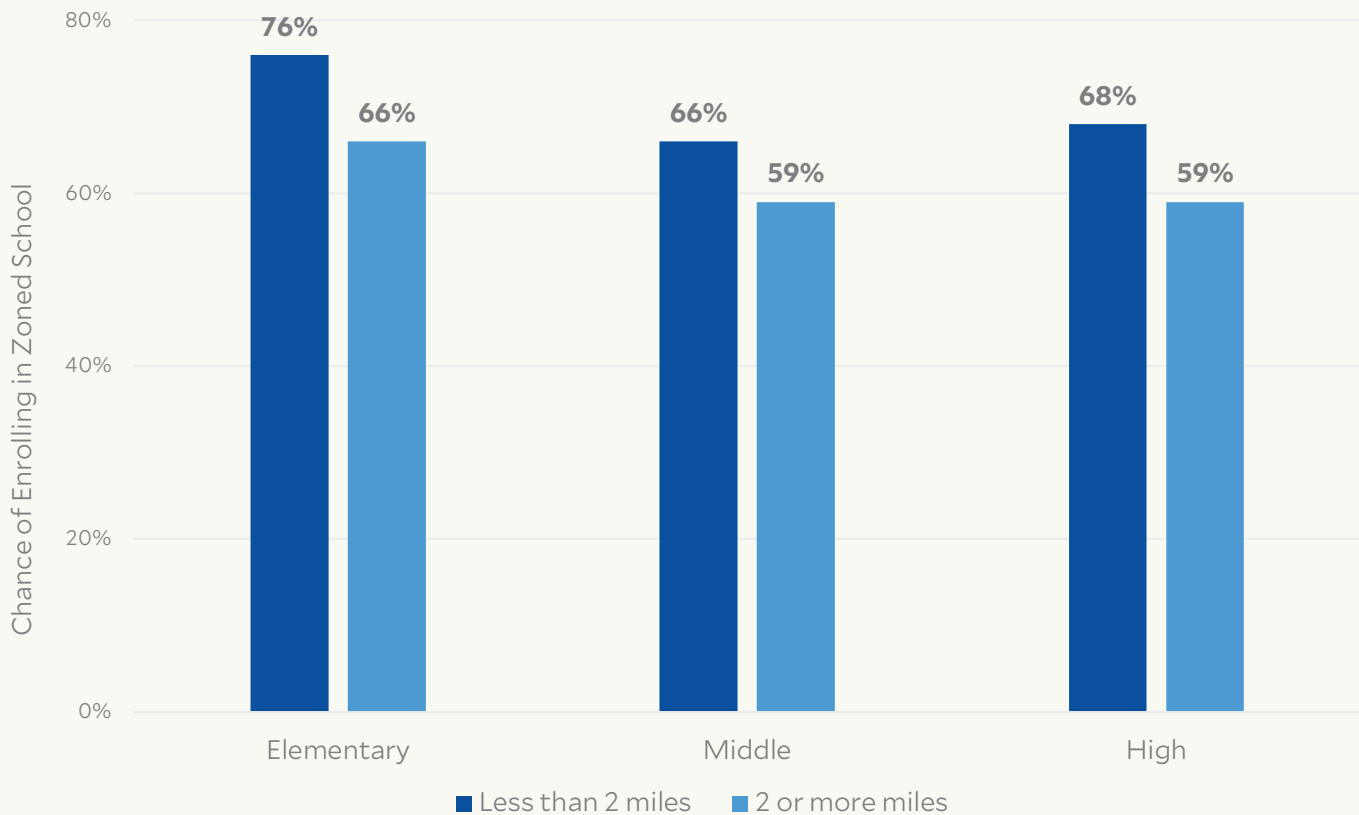
3 About three-fourths of students living within 2 miles of their zoned school chose to attend that school.

A large portion of HISD students (129,382 students, or 73%) from the total sample (177,049 students) lived within 2 miles of their zoned school. Looking at only those 129,382 students living within 2 miles of their zoned school, 73% (94,642 students) enrolled at their zoned school (Figure 4). This indicates that **a majority of HISD students lived within 2 miles of their zoned school and about three-fourths of those enrolled at that zoned school.**

The percentages presented in Figure 4 give an averaged overview of the entire district. Although 73% of those students that lived within 2 miles of their zoned school also enrolled at that school, the share of these enrolled-at-zoned students for each individual school zone varied. Figure 5 presents the percentages of enrolled-at-zoned students for each individual elementary school zone regardless of the student living within or beyond 2 miles from that zoned school. Only three elementary

school zones had less than half of its zoned students enroll in their zoned school: Memorial, Love, and Helms. The maps showing the percentages of enrolled-at-zoned students by middle and high school zones are found in Appendices A and B.

FIGURE 4 **Most students living within 2 miles of their zoned school enrolled at that school**

Total Sample

177,049 students

Within 2 Miles of Zoned

73%
129,382 students

2 or More Miles of Zoned

27%
47,677 students

Enrolled in Zoned

73%
94,642 students

Not Enrolled in Zoned
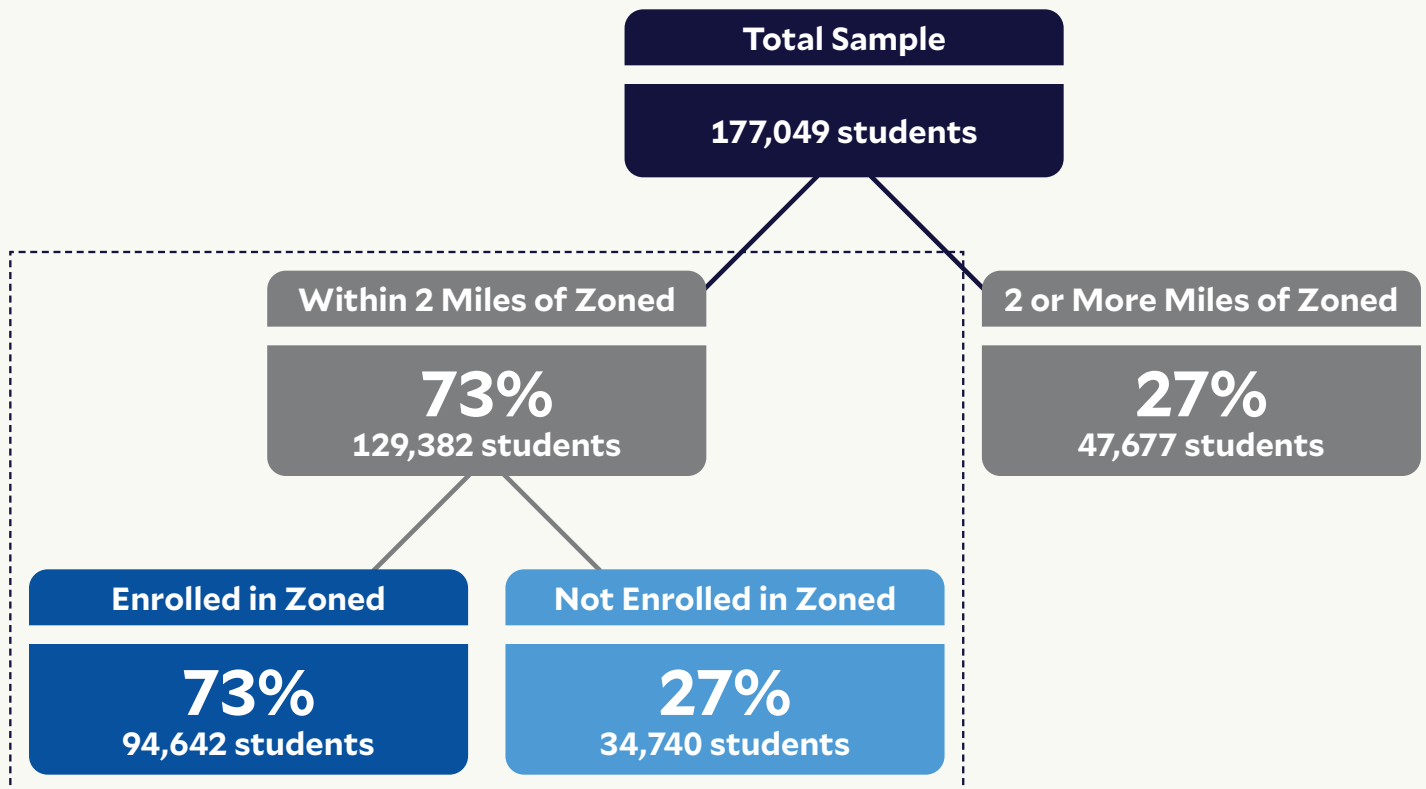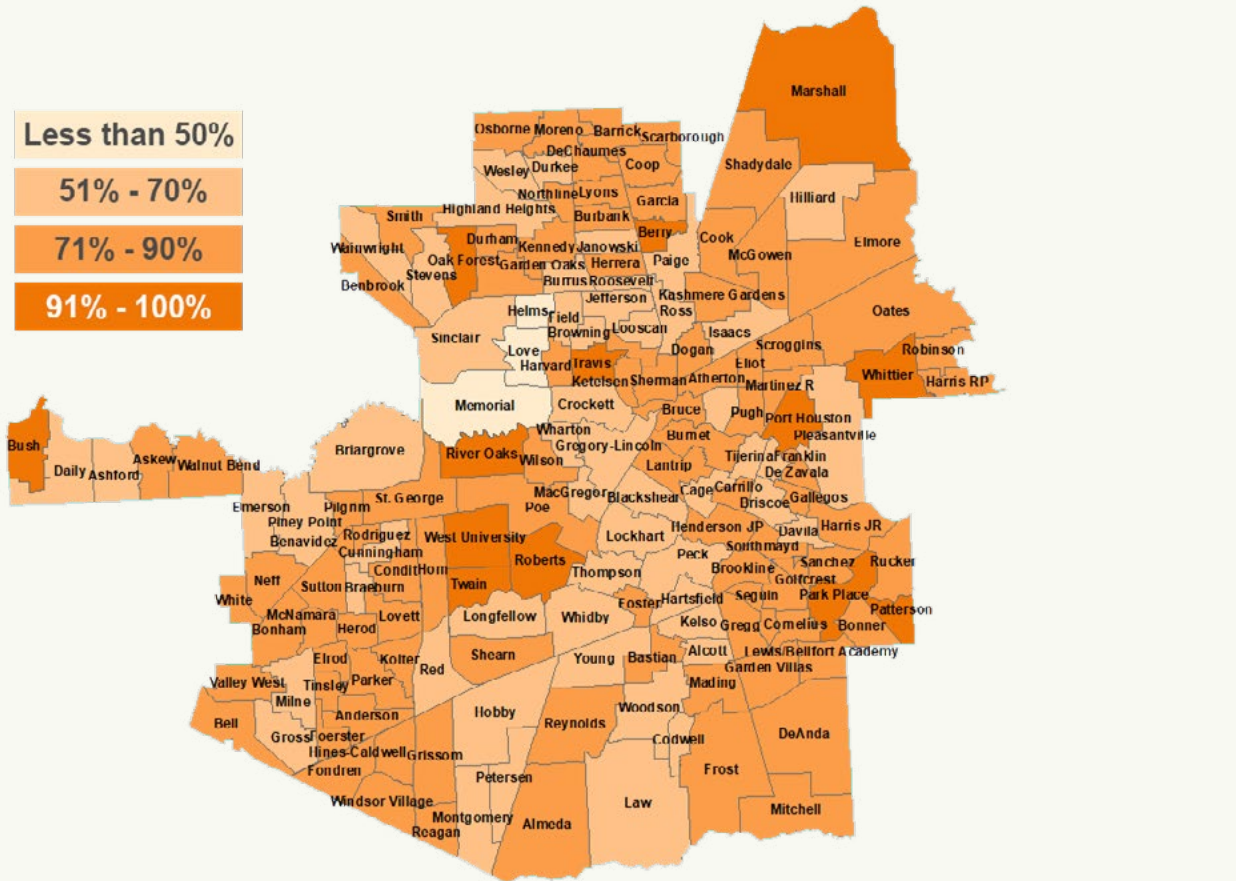
27%
34,740 students

FIGURE 5 **Percent of elementary school students that enrolled at their zoned school**

Includes all students zoned to the school regardless of distance

Alcott	55%	Crockett	70%	Henderson JP	84%	Memorial	46%	Scarborough	88%
Almeda	71%	Cunningham	70%	Henderson NQ	68%	Milne	62%	Scroggins	81%
Anderson	73%	Daily	65%	Herod	78%	Mitchell	76%	Seguin	72%
Ashford	55%	Davila	68%	Herrera	83%	Montgomery	66%	Shadydale	83%
Askew	84%	Deanda	88%	Highland Heights	53%	Moreno	87%	Shearn	70%
Atherton	75%	DeChaumes	86%	Hilliard	68%	Neff	87%	Sherman	80%
Barrick	83%	DeZavala	87%	Hines-Caldwell	75%	Northline	78%	Sinclair	67%
Bastian	74%	Dogan	75%	Hobby	66%	Oak Forest	95%	Smith	78%
Bell	85%	Durham	70%	Horn	86%	Oates	89%	Southmayd	78%
Benavidez	82%	Durkee	69%	Isaacs	61%	Osborne	71%	St George	80%
Benbrook	85%	Eliot	75%	Janowski	69%	Paige	61%	Stevens	68%
Berry	90%	Elmore	79%	Jefferson	52%	Park Place	90%	Sutton	83%
Blackshear	61%	Elrod	79%	Kashmere Gardens	71%	Parker	80%	Thompson	69%
Bonham	75%	Emerson	67%	Kelso	64%	Patterson	93%	Tijerina	65%
Bonner	85%	Field	58%	Kennedy	76%	Peck	64%	Tinsley	78%
Braeburn	54%	Foerster	77%	Ketelsen	84%	Petersen	60%	Travis	93%
Briargrove	65%	Fondren	76%	Kolter	83%	Pilgrim	78%	Twain	91%
Briscoe	59%	Foster	74%	Lantrip	81%	Piney Point	63%	Valley West	81%
Brookline	82%	Franklin	69%	Law	54%	Pleasantville	68%	Wainwright	60%
Browning	61%	Frost	72%	Lewis	79%	Poe	82%	Walnut Bend	82%
Bruce	81%	Gallegos	75%	Lockhart	62%	Port Houston	91%	Wesley	61%
Burbank	81%	Garcia	78%	Longfellow	64%	Pugh	77%	West University	92%
Burnet	71%	Garden Oaks	78%	Looscan	54%	Reagan	81%	Wharton	69%
Burrus	62%	Garden Villas	81%	Love	48%	Red	53%	Whidby	59%
Bush	92%	Golfcrest	80%	Lovett	77%	Reynolds	71%	White	89%
Cage	70%	Gregg	72%	Lyons	87%	River Oaks	97%	Whittier	90%
Carrillo	71%	Grissom	71%	MacGregor	66%	Roberts	92%	Wilson	75%
Codwell	68%	Gross	67%	Mading	75%	Robinson	83%	Windsor Village	82%
Condit	83%	Harris JR	89%	Marshall	93%	Rodriguez	81%	Woodson	56%
Cook	79%	Harris RP	88%	Martinez C	71%	Roosevelt	70%	Young	63%
Coop	88%	Hartsfield	62%	Martinez R	72%	Ross	67%		
Cornelius	86%	Harvard	85%	McGowen	85%	Rucker	71%		
Crespo	86%	Helms	49%	McNamara	71%	Sanchez	71%		

4 Of students living within 2 miles of their zoned school, significant differences existed between students who enrolled at their zoned school and those that did not.

Of students living within 2 miles of their zoned school, there were significant differences between those that enrolled at their zoned school and those that did not across multiple demographic characteristics (shown in Figure 6). For those students living within 2 miles of their zoned school, a greater share of economically disadvantaged students (83%) enrolled at their zoned school than the share of economically disadvantaged students who enrolled elsewhere (73%). The same pattern emerged for English learner (EL) students, with 46% of those that enrolled at their zoned school being EL versus the 36% of those that enrolled elsewhere being EL. On the other hand, a larger proportion of the students who chose to enroll in a non-zoned school were attending gifted/talented programs (29%) than those enrolled at both their zoned school and in a gifted/talented program (13%).

By race/ethnicity, the only group that did not proportionally differ between those that enrolled at their zoned and those that did not were Black students. However, the differences for White, Asian, and Hispanic students were significant; Hispanic students, for example, made up 67% of those who lived within 2 miles of and enrolled at their zoned school versus 62% of those within 2 miles of their zoned school but enrolled at different schools.

Differences in demographic composition of students living within 2 miles of their zoned school

Enrolled in Zoned
73%
94,642 students

Not Enrolled in Zoned
27%
34,740 students

�ள statistically significant difference between groups
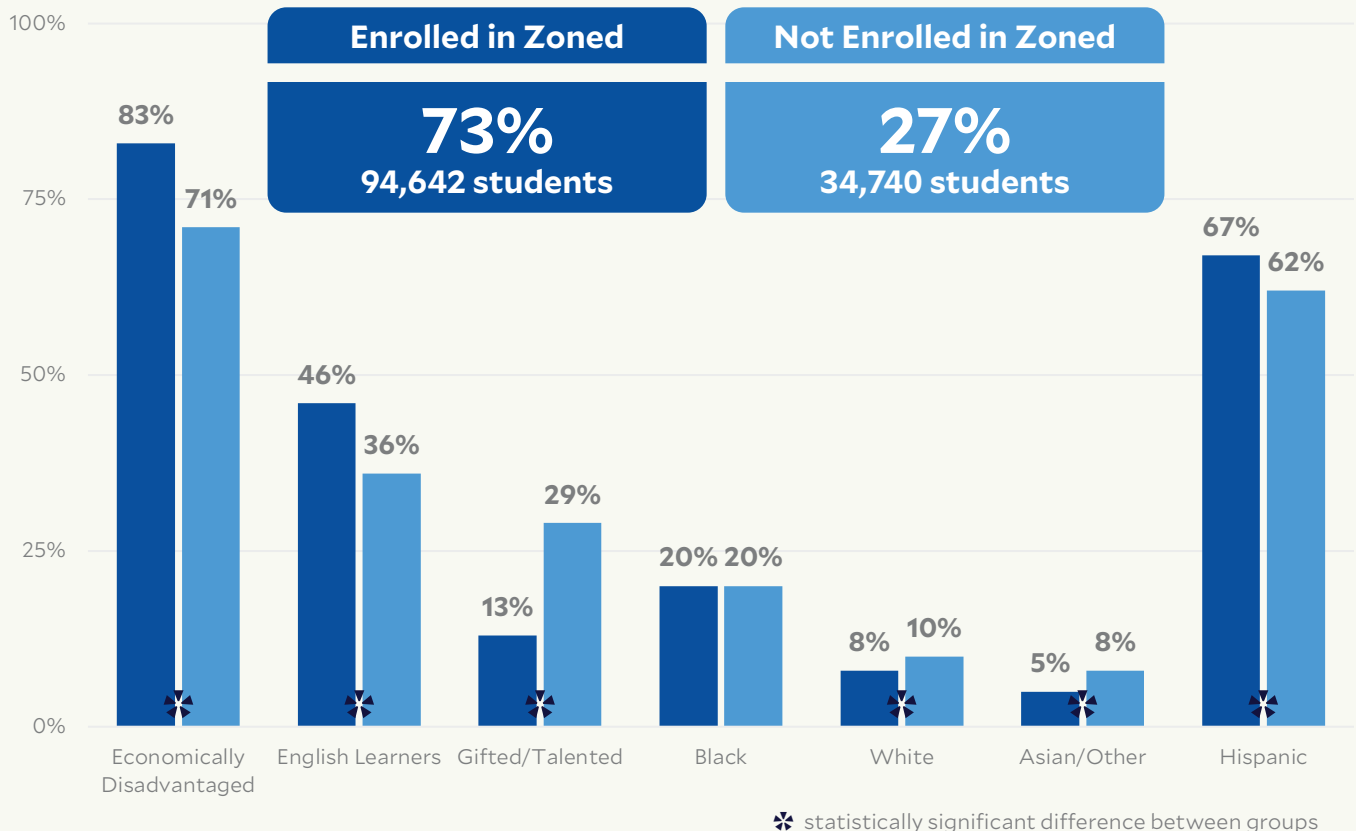
Implications

The purpose of this research was to understand the role of proximity to zoned school enrollment, specifically around the 2-mile range requirement in HISD's school transportation eligibility policy. The data show that elementary school students, which represent almost half of all the district's students, live about 1 mile from their zoned school on average. Based on distance alone, half of HISD's students are ineligible for district-provided school transportation, and these students are also the district's youngest based on grade level.

Distance also contributes to zoned school enrollment decisions. The further a student lived from their zoned school, and therefore increased the possibility that they were beyond the 2-mile transportation eligibility distance, the less likely they were to enroll in their zoned school. Additionally, those who lived within the 2-mile radius of their zoned school had a higher chance of enrolling in that school than those who lived further than 2 miles. From the transportation policy lens, this suggests that students eligible for school transportation to

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their zoned school are less likely to enroll in that school than those who are ineligible for school transportation because they live less than 2 miles from that school. Both findings point to the importance of proximity and the less significant role of access to school transportation on enrollment in zoned schools.

Moreover, even though most students living within 2 miles of their zoned school attend that school, a quarter of those students still choose a different school. The makeup of who enrolled in their zone despite being ineligible for transportation varied by race, socioeconomic status, EL status, and being gifted/talented. Black students living within 2 miles of their zoned school were the only group that enrolled at their zoned school and

non-zoned schools at similar rates. Nearly a third of students who did not enroll in their zoned school were gifted and talented, which is likely due to these students taking advantage of Vanguard magnet programs that exist at specific campuses. A larger portion of economically disadvantaged and EL students enrolled at their zoned school compared to those that did not, meaning that these students were more likely to choose the school that was closer to their homes and, for those within 2 miles of that school, were ineligible for school transportation because of their proximity.

Recommendations

Review of current district-provided school transportation need and use

A review of current district-provided school transportation use could give the district a better understanding of which eligible students are using school transportation services. This could point to explicit areas, schools, and student demographics that are in most need and in use of school transportation. Such a review could inform revisions to the transportation policy to include more inclusive eligibility requirements beyond distance or magnet and special education statuses. Furthermore, the district could consider the need for school transportation as another factor influencing families choosing a school within the context of HISD's School Choice program.

### Consideration of grade level and socioeconomic status in transportation policy

Since students who live within 2 miles from their zoned school are still more likely to enroll in that school without transportation, the district could consider reducing the 2-mile boundary so that more students have access to school transportation. This recommendation applies particularly to elementary school students, since 93% of them reside within 2 miles of their zoned school and the average distance between an elementary school student's home and their zoned school is less than that (approximately 1 mile). It also applies to economically disadvantaged students, as more of them living within 2 miles of their zoned school also chose to enroll in it. Additionally, most elementary school zones saw most of their zoned students enroll in their zoned schools, meaning that more students overall could benefit from district-provided transportation as needed.

Appendix A: Middle School Distance and Enrolled-at-Zoned Maps

Most middle school zones had an average of less than 2 miles between a student's home and their zoned school, and these zones were mostly in the central-eastern parts of HISD. On the other hand, students zoned to Revere, Holland, or Thomas Middle Schools averaged more than 3 miles between their homes and their zoned middle school. In the context of HISD's transportation eligibility policy, this map shows that the zoned students for about half of the middle schools are, on average, living less than 2 miles from their zoned school and therefore ineligible for district-provided transportation.
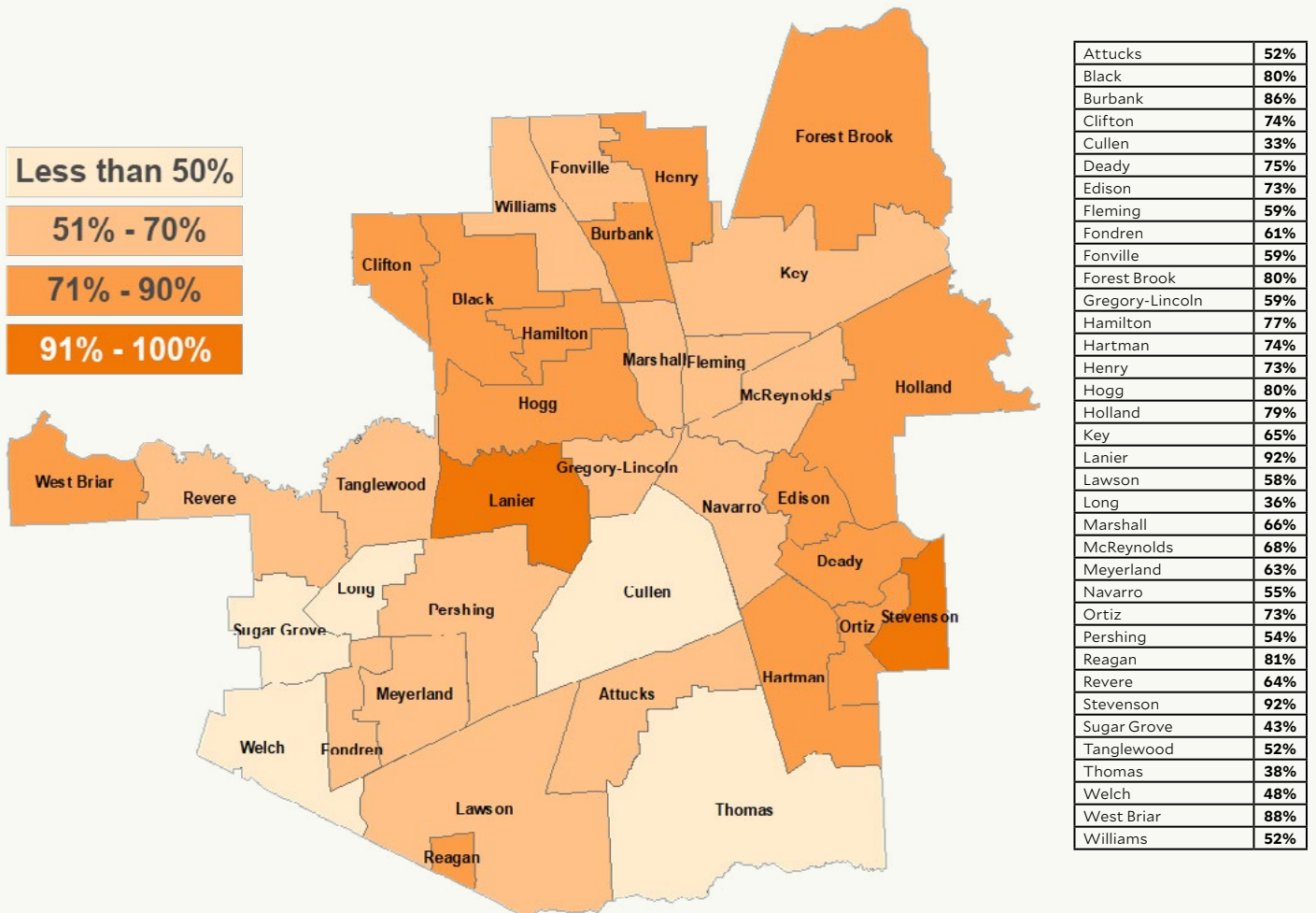
Average Distance to Zoned School by Middle School Zone
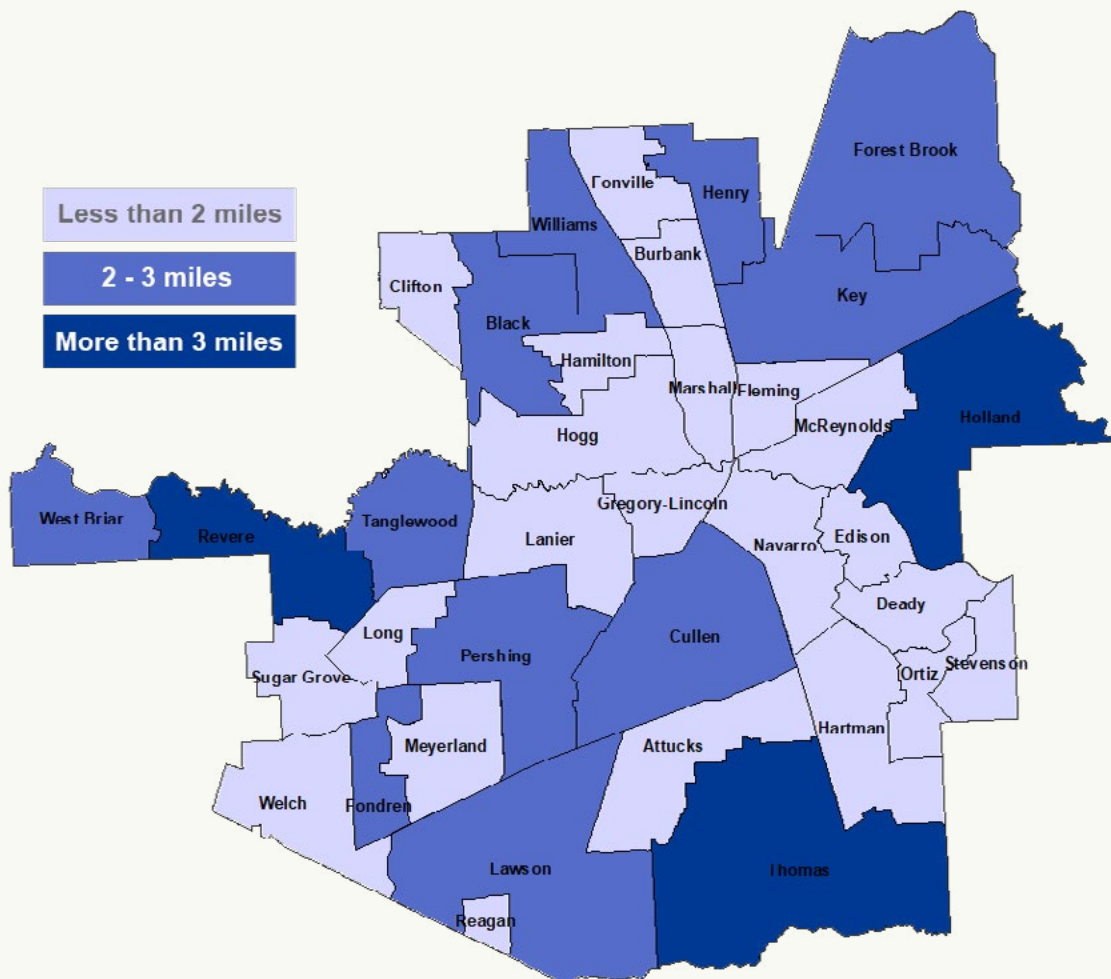
Only Lanier and Stevenson Middle Schools had over 91% of their zoned students enroll in their zoned school; both middle schools' zoned students also averaged less than 2 miles between their homes and their zoned schools. There were five middle school zones that had less than half of its zoned students enroll in their zoned school (Long, Sugar Grove, Welch, Cullen, and Thomas), and all of these zones were in the southern half of HISD.

Percent of Students Enrolled at their Zoned Middle School

Includes all students zoned to the school regardless of distance

Legend:
- Less than 50%
- 51% - 70%
- 71% - 90%
- 91% - 100%

| School	Percent
Attucks	52%
Black	80%
Burbank	86%
Clifton	74%
Cullen	33%
Deady	75%
Edison	73%
Fleming	59%
Fondren	61%
Fonville	59%
Forest Brook	80%
Gregory-Lincoln	59%
Hamilton	77%
Hartman	74%
Henry	73%
Hogg	80%
Holland	79%
Key	65%
Lanier	92%
Lawson	58%
Long	36%
Marshall	66%
McReynolds	68%
Meyerland	63%
Navarro	55%
Ortiz	73%
Pershing	54%
Reagan	81%
Revere	64%
Stevenson	92%
Sugar Grove	43%
Tanglewood	52%
Thomas	38%
Welch	48%
West Briar	88%
Williams	52%

Appendix B:
High School Distance and Enrolled-at-Zoned Maps

Only eight high school zones (out of 23) had an average of less than 2 miles between a student's home and their zoned school, with most of these zones being in the western part of HISD. The rest of the zones averaged more than 2 miles, with students zoned to North Forest, Westside, Worthing, and Sterling High Schools averaging more than 3 miles between their homes and their zoned high school. In the context of HISD's transportation eligibility policy, this map shows that the zoned students for about one-third of the high schools are, on average, living less than 2 miles from their

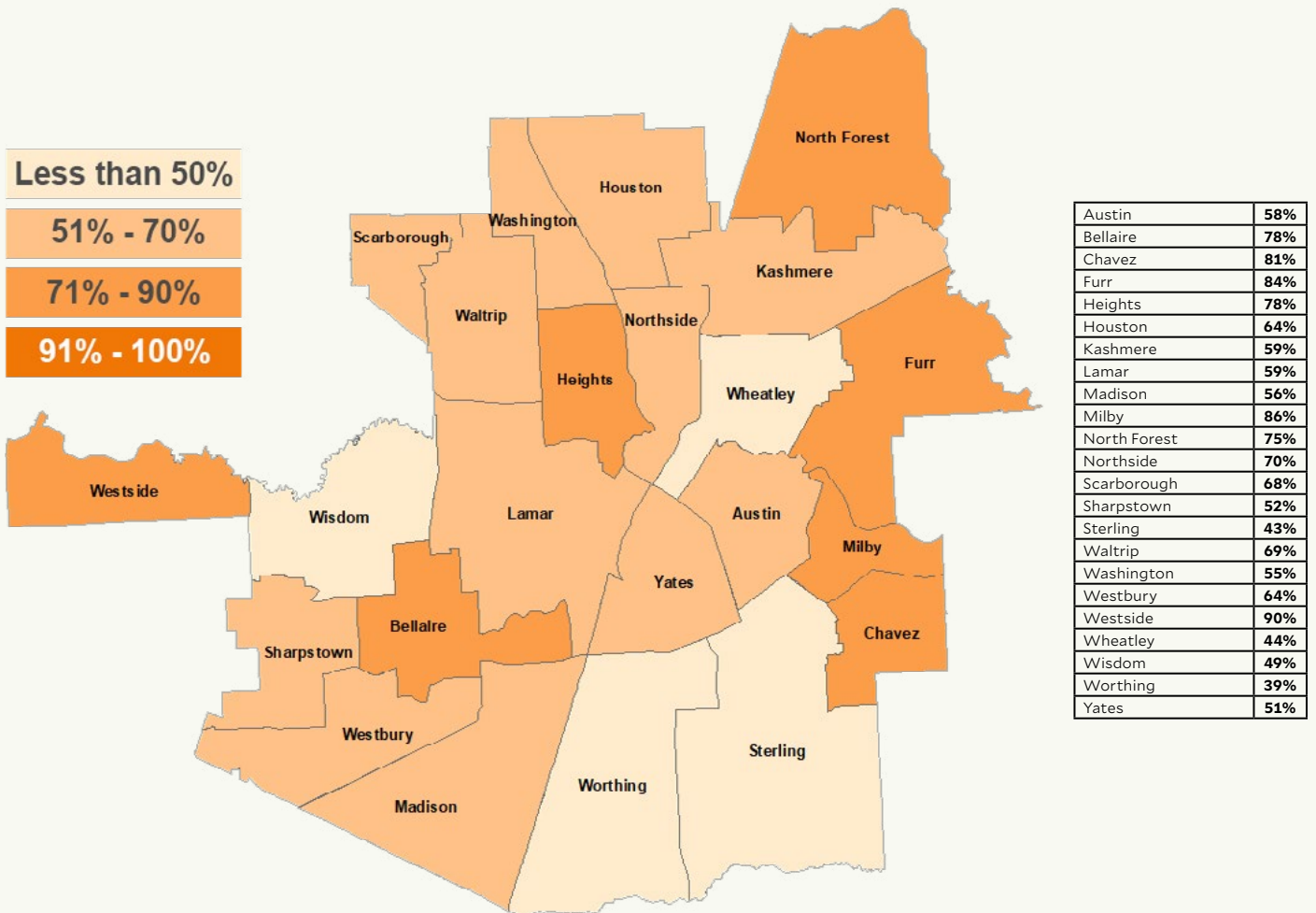## Average Distance to Zoned School by High School Zone
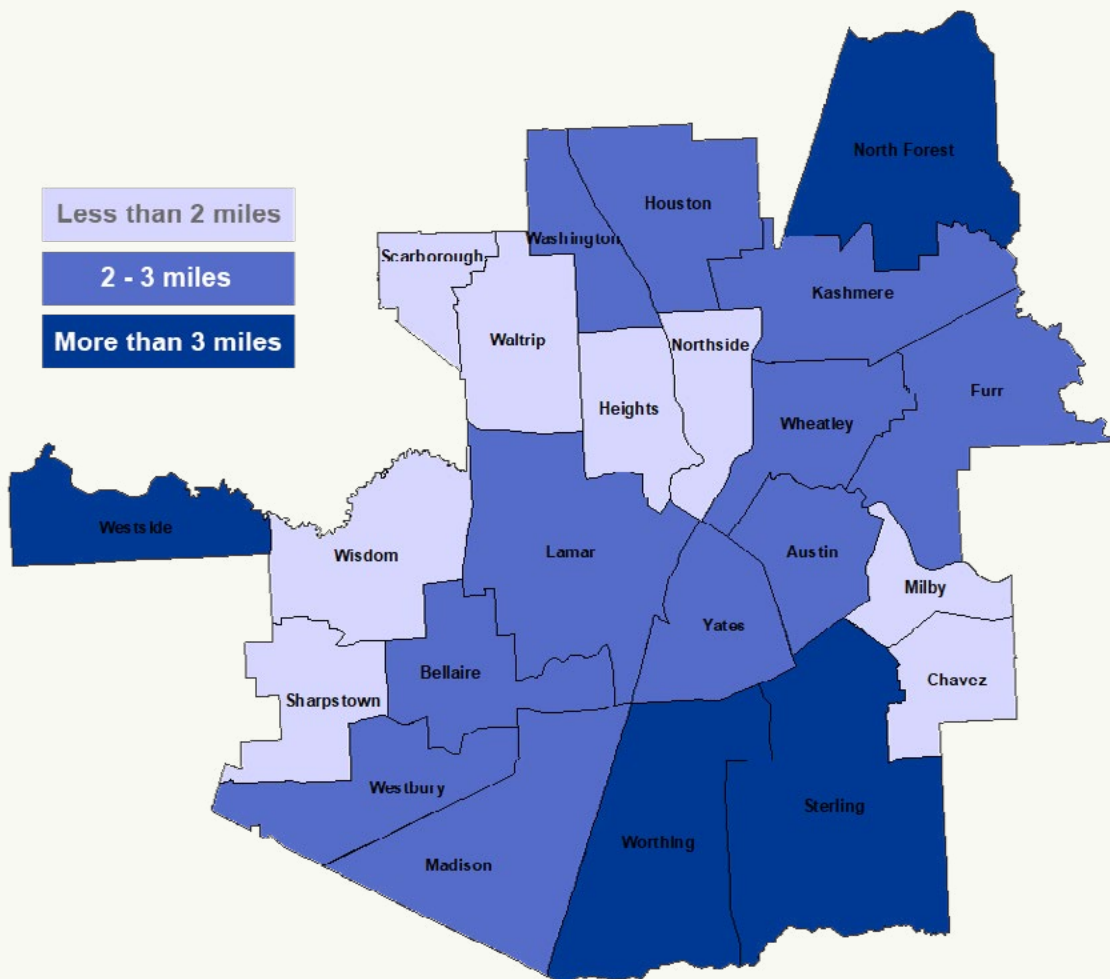
zoned school and therefore ineligible for district-provided transportation.

No high schools had over 91% of their zoned students enroll in their zoned schools; however, Westside High School did have 90% of its zoned students enroll at its campus. There were four high school zones that had less than half of its zoned students enroll in their zoned school (Wheatley, Wisdom, Worthing, and Sterling), and most of these zones were in the southern half of HISD.

Percent of Students Enrolled at their Zoned High School

Includes all students zoned to the school regardless of distance

Austin	58%
Bellaire	78%
Chavez	81%
Furr	84%
Heights	78%
Houston	64%
Kashmere	59%
Lamar	59%
Madison	56%
Milby	86%
North Forest	75%
Northside	70%
Scarborough	68%
Sharpstown	52%
Sterling	43%
Waltrip	69%
Washington	55%
Westbury	64%
Westside	90%
Wheatley	44%
Wisdom	49%
Worthing	39%
Yates	51%

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Mission

The Kinder Institute for Urban Research builds better cities and improves lives through data, research, engagement and action.

About

The Houston Education Research Consortium (HERC) is a research-practice partnership between the Kinder Institute for Urban Research and 11 Houston-area school districts. HERC aims to improve the connection between education research and decision making for the purpose of equalizing outcomes by race, ethnicity, economic status, and other factors associated with inequitable educational opportunities.

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