# Vouchers, Magnet Schools, Charter Schools, and Options

## Analyzing the Effects of School and Housing Choices on Mode Choice to School

Carrie Makarewicz

**The topic of safe routes to school has been researched since the 1970s, and safe routes to school have been a goal of government programs since 1997. Despite the improvements made because of these efforts, the share of students walking and biking continues to decline. Identified barriers include parents' concerns about safety, the environment, time, and external factors such as traffic, weather, and distance. This research suggests that planners have overlooked two important factors influencing distance: education movements since the 1950s for greater school choice and affordable housing policies. Beyond desegregation, the creation of magnet schools, vouchers, academies, charter schools, and other school options has resulted in growing shares of urban students traveling long distances to school. In Oakland, California, only 49% of students attend school in the neighborhood where they live, and another 10,228 attend 34 charter schools with countywide enrollment. U.S. housing policies have also changed. Construction of public housing has ceased, save for the construction of replacement units. Housing voucher programs are oversubscribed, and individuals with vouchers often change neighborhoods or cities to find a unit. Foreclosures, high prices, and low vacancy rates in cities have also limited housing availability. School and housing policies combined have eroded the economic location theory, in which families balance housing and transportation costs to be near work and good schools. The study uses surveys, time use diaries, and interviews with 70 Oakland parents or caregivers. Results identify the complex choices that affect school travel and offer potential ways for transport, land use, and education planners to coordinate active travel to school.**

Researchers who study most safe routes to schools (SR2S) programs appear to assume that students live in the neighborhoods where they attend school. However, this has not been the case since the 1950s. This first assumption is closely tied to a second assumption that most families live in the housing and neighborhood that they carefully selected on the basis of neighborhood amenities, where they work, and where they want their children to go to school, for example, on the basis of the theory that families choose a city or neighborhood for a bundle of amenities or to balance housing and transport costs (*1, 2*). In reality, attendance at a neighborhood school and the availability of a broad choice of homes and neighborhoods in which to live are not the norm for most families of moderate and low income in the large urban school districts throughout the United States. Instead, most families make the two choices over school and housing at separate times through separate institutional processes. This changing reality has tremendous significance for SR2S practice and research.

For more than two decades, SR2S research has investigated the multiple other barriers to active modes of travel to school. Public health experts have also recently weighed in on the topic of SR2S and view active modes of travel as a way to reduce childhood obesity. However, the group that is least vocal in SR2S discussions is educators. Even educators who are interested in community and family partnerships and recognize that transportation is an issue view transportation to be beyond their primary responsibility of providing a quality education (*3*). In her research on school distance and location, McDonald has started the conversation in the planning world that the policies of education facilities are a major factor contributing to distance and, thus, the ability of children to use active routes to school (*4*). Before publication of that article, SR2S research that examined education policies as the source of the commute mode decision focused on school policies that restricted active modes, such as whether schools had biking policies, adequate facilities, and operational policies to address hazards at drop-off zones. Although these issues have various but often minor impacts on active travel modes, they are insignificant compared with distance in determining the probability that a child will walk or bike to school.

In contrast, in a study conducted in Saint Paul, Minnesota, Wilson et al. noted the effect of school choice policy (*5*). In their analysis of commute modes for students who attended neighborhood versus magnet schools, they found that students attending magnet schools were less likely to walk, bike, or commute by auto and more likely to commute by bus. Income and race were also factors, possibly indicating that low-income families who choose magnet schools at greater distances from their homes are not able to afford the time or cost of driving their children to school.

McDonald suggests that community schools are a potential solution but cautions that their use neglects equity issues if students are restricted to attending poor-performing schools within their community (*4*). An increasing number of school districts are interested in planning more community schools; however, a community school in the planning literature has a definition different from that of a community or full-service school in the education world. The definition in the education world is about the promotion of educational equity through the creation of higher-quality schools through the provision of services at the school for both the students and

Department of City and Regional Planning, University of California, Berkeley, 5350 Shafter Avenue, Oakland, CA 94618. carriemak@berkeley.edu.

*Transportation Research Record: Journal of the Transportation Research Board, No. 2327,* Transportation Research Board of the National Academies, Washington, D.C., 2013, pp. 1–8.
DOI: 10.3141/2327-01

school-community members, in which school-community members are defined as the principal, teachers, staff, parents, and students of the school and not the geographic community surrounding the school. Typical services include English classes, job search assistance, family health clinics, and parent resource centers. By offering services, the schools hope to garner greater community, that is, parent, involvement; and by providing more on-site services, they support the child emotionally, physically, and developmentally (*6*).

However, in some districts in which the district is working with urban planners or nonprofit neighborhood groups, the definition of "community" is changing to be more spatially oriented. For example, the Oakland Unified School District (OUSD) in the San Francisco, California, Bay Area has launched a vision to make all schools community full-service schools. The vision blends the spatial aspect of community, or neighborhoods, with the community of users and providers. OUSD's impetus for this vision is threefold. First, the district believes that students need to be wholly supported to thrive academically. Second, because of the district's current options process, in which students do not have to attend their neighborhood school, many neighborhood schools are declining in both academics and enrollment, and this has had negative effects on school equity (*7*). Third, California is one of the few states that do not mandate district busing; therefore, OUSD students are responsible for their own transportation. Thus, the goal of the vision is to make every neighborhood school high quality and attractive to the families that live nearby to reduce inequities by neighborhood and to reduce student travel.

Nevertheless, because of the limited resources of schools and the continued separation between school districts and local governments, an obvious omission from the OUSD vision of full-service community schools are plans to improve the housing, retail, safety, transportation, and other amenities of the neighborhood. These things also influence housing location choices and have positive or negative effects on schools and student achievement. Even if the district were to fully implement the vision, families may still elect to send their children to schools in safer, wealthier, or calmer neighborhoods.

This paper builds on the findings of McDonald (*4*) and Wilson et al. (*5*) that to tackle SR2S barriers, the distance to schools and the policies contributing to longer distances need to be analyzed. However, the paper goes beyond the school siting and options decisions, which are part of the distance puzzle, and analyzes the multiple conflicting policies for education, housing, and transportation that collide to increase the distance and prevent many families from simultaneously choosing a neighborhood for its accessibility, housing quality, school quality, safety, proximity to friends and family, and other amenities.

These policies are particularly at odds in major U.S. cities, in which a substantial number of families rely on public transportation, housing assistance, and public schools. The 100 largest school districts in the United States enroll 23% of U.S. public school students and also have growing numbers of charter, magnet, and other types of schools (*8*). To access their school of choice, many students rely on transit systems that are increasing fares while cutting services, if their parents do not drive them to school. In addition, most large cities have multiyear waiting lists for housing vouchers. Furthermore, housing prices and rents continue to rise in the most accessible urban neighborhoods as singles, young couples, and empty nesters return to cities for the urban lifestyle and walkability. These factors create limited housing choices for many families of low and moderate income, and when paired with the option to attend a potentially better school in another neighborhood, families often experience transportation costs that are higher in both time and money.

The analysis is based on a mixed-methods study of 70 households in Oakland, California. Data were gathered through surveys, time use diaries, and in-depth interviews. The qualitative data provide an in-depth understanding of the full context within which parents or caregivers determine how their students travel to school, after they have made their housing, transportation, and school assignment decisions. The quantitative data allow comparison of households according to multiple personal characteristics and external factors.

The purpose of the research is to understand how the urban environment (built, institutional, and social) affects the engagement of parents in their children's learning and schooling. How parents and students travel to the school is relevant for engagement because it affects the ability of parents to volunteer, meet with teachers, attend events, interact with other parents, meet their children's friends, and coordinate their work schedules with their children's school schedule. Higher transportation costs associated with longer school commutes also consume household finances, making it more difficult for families to afford housing, food, extracurricular programs, computers, Internet access, health care, leisure, and other goods and services.

The study's contribution to the knowledge base is to confirm that distance is a major barrier and, more important, provide a discussion of the various policies that create greater distances between homes and schools.

## LITERATURE

### Safe Routes to School

Numerous papers on SR2S and active travel have explored the various reasons why more children do not walk or bike to school. Stewart's extensive review of 42 studies identified four major factors that most frequently influenced active travel to school (ATS): "distance, income, traffic and crime fears, and parental attitudes and schedules" (*9*).

As distance increases, the propensity to walk greatly decreases, as it directly affects time. In general, the accepted walking distance is approximately 1 mi (*4*). Income tends to be negatively associated with active travel; greater incomes translate into the ability to afford auto travel, and higher earners may have less flexible work schedules that do not allow time for slower travel (*10, 11*). Minority and ethnic status is also negatively associated with ATS, although this finding is somewhat counter to the fact that vehicle ownership, which tends to be lower among minority and ethnic groups, is also negatively associated.

Several studies have found various relationships between parental values and attitudes and the use of walking as a mode of travel to school. These different relationships often occur because other factors, including schedule, traffic, and distance, are more important deciding factors than attitudes or preferences. A parent may prefer to walk for environmental reasons, but time constraints or traffic safety concerns may prohibit it (*12*). Traffic concerns are typically greater for younger children; as children move into middle and high school, they are more likely to use active modes or to take public transit. Older siblings may chaperone younger siblings, until siblings go to separate age-specific schools. Another factor is family schedules, which are typically defined by work status, which matters more for female than male respondents. Students with mothers who are employed full or part-time are less likely to use active modes. In some studies, mothers working part time were found to be the ones most likely to drive their children, possibly because the work schedule may allow greater flexibility to drive (*13*).

Factors related to the built environment, including density, the presence and quality of sidewalks, and the availability of parks and playgrounds along the route, are positively associated with active travel. If these factors are positive and the parents are also interested in active modes, children are more likely to use active modes. In this case, external factors complement parent attitudes or values (*14, 15*).

### Housing and School Choice Programs

Some good solutions for improved forms of travel to school have come from the research and evaluations of SR2S programs. These solutions have addressed the school policies, personal fears, information, traffic, and physical barriers that prevent more active and environmentally friendly forms of travel. At the same time that the transportation and public health fields have been trying to solve the SR2S and active travel dilemma, however, school policy changes have been working against the ability of students to walk or bike to a nearby school and have been doing so for a much longer period. Although safe travel to school became a research concern in the 1970s, SR2S programs did not begin until 1997 and were not adopted by Congress until 2005. However, reforms to promote school choice—attendance at a school outside one's neighborhood attendance area—began with desegregation reforms in the mid-1950s and were quickly followed by movements from across the political spectrum to promote school choice through vouchers; through competitive admissions to magnet schools, academies, and programs for gifted and talented students; and, later, through charter schools, lotteries, and small schools (*16*).

Districts also have open policies for school assignment to traditional public schools. In OUSD, in addition to magnet schools, academies, small schools, or charter schools, all students have had the ability to participate in the options process since 2005. The process allows parents to list their top eight choices of schools, and through an assignment process based on four criteria (in order, a sibling attends the school, the child is a resident of the neighborhood, program improvement schools, and open lottery), students are assigned to one of their choices in the spring before the next academic year. Other cities have similar assignment and school options policies. For instance, San Francisco has a lottery system; and Chicago, Illinois, encourages families to first look at the neighborhood school and then the Montessori schools, small schools, charter schools, military academies, fine and performing arts programs, and many other options. As the first school district to desegregate, Washington, D.C., has allowed students to attend out-of-boundary and even schools out of the District of Columbia in the Maryland suburbs since the 1950s.

Likewise, changes in the housing market and housing policy have eroded families' connections to both neighborhoods and neighborhood schools. For families of low and moderate income, the neighborhood school option is often inconsequential. Because of their restricted housing and neighborhood choices because of ever-rising home prices in desirable areas, foreclosures (on families or their landlords), a tight rental market, reductions in public housing units, and acceptance of housing choice vouchers by fewer landlords, many families of low and moderate income do not choose where to live on the basis of the school, where they would like to live, or the desire to minimize travel but, rather, choose where to live on the basis of where they are able to find a home that is available and affordable. As a result, they may stay in an apartment and not necessarily be connected to the neighborhood.

This lack of attachment and the inability to pick their preferred type of housing can result in frequent moves. Furthermore, at the time that the family is selecting the child's school, which is typically the spring before the next academic year, it may not be sure where it will be living that fall. In other cases, families may have intentionally moved to a neighborhood and chosen a nearby school of sufficient quality but then not receive their first choice in schools because of the lottery system. Another possibility is that after a family selects a neighborhood and school, it may be forced to move because of one or more of the housing problems mentioned above as well as personal and socioeconomic issues, such as divorce, domestic violence, physical disabilities or health issues, incarceration, job loss, or being a victim of crime. Each of these reasons was noted by one or more of the 70 families in the case study conducted for the study described here.

Nevertheless, even though school choice policies have not been fully addressed in the SR2S research, some members of the education and community development fields are slowly and cautiously, given limited funding and concerns about resegregation, beginning to rethink the school choice process (*16–18*). Although school choice has been important in many ways as a means to attempt to give all children somewhat equal access to a quality school regardless of where they live, researchers have also documented significant unintended consequences from choice policies. In response, the national community schools movement, loosely led by the Coalition for Community Schools, is partnering with states, cities, unions, and other groups to promote full-service schools that are geographically tied to a neighborhood (*19*). The neighborhood connection creates a mutually beneficial relationship between the school and the surrounding residents. In theory, if the connection is fruitful, the neighborhood may become more attractive to a more diverse set of households, thereby reducing the need for school desegregation policies.

In the case of Oakland, if the district achieves its vision to be a full-service community school district, families and students will still have the ability to choose a school outside their neighborhoods, but the district hopes that the neighborhood schools of all families will eventually be high quality and therefore each family's top choice. However, although the availability of more quality schools will help, it may not affect the proximity between home and school for some families. Families that lack affordable housing and transportation will continue to have high rates of mobility because many often choose to keep their children in one school rather than transferring them to a new school with each move. Furthermore, district policies sometimes prevent transfers in the case of a change of address. The full-service community school model also has an influence on transportation policies; for example, if the neighborhood school is beyond 1.6 km from home, which makes walking less feasible, and it is cheaper and quicker to drive three children to school than to pay for four bus fares (for one adult and three children) and wait for a bus, many parents are likely to prefer transportation by automobile, as determined previously (*20*) and from the author's interviews with caregivers.

## METHODS

### Data

The data presented here are from a mixed-method case study of 70 caregivers and their 126 school-aged children (attending kindergarten to Grade 12) in Oakland. Data were collected through two in-person interactions and the use of survey tools.

Participants were screened by e-mail or phone, after which an in-person introductory meeting (10 to 15 min) was scheduled to deliver the survey materials. Each participant completed a take-home 26-question survey on that person's demographics, housing, employment, and transportation and a 2-day time use diary and returned it by mail. On receipt of the materials, participants were interviewed for at least 90 min about their housing, travel, neighborhood, and school choices; their personal backgrounds, including where they were raised, their education and attitudes toward it, and their parents' attitudes; the mix and extent of their social network; and how and when they interact with their children and their children's school(s).

### Study Sample

To participate in the study, respondents were required to have at least one child in kindergarten to Grade 12 in a traditional public or public charter school in Oakland. Some parents did not live in Oakland but their children attended school in Oakland, for example, because of divorce or because they attended a charter school there.

Participants were recruited through flyer postings in public spaces, such as libraries, credit unions, health clinics, parent centers, and community colleges and postings to e-mail list serves through nonprofit organizations to their members or directly to neighborhood and parent groups. Several participants were recruited by referral through other participants. As the sample size grew, participants were screened by zip code to obtain an equal geographic distribution of parents. Respondents lived in 12 of the 14 zip codes in Oakland and in three other cities.

The goal was to obtain a sample whose demographics were a hybrid of the demographics of both the city and the school district. The sample had a slightly higher percentage of African-American and mixed-race parents and a lower percentage of Hispanic or Latino and Asian parents than the percentages in both the city and the school district. The percentage of white parents in the study was between the percentage in the city and the school district. It was difficult to compare the three groups by income because of data limitations, but the income distribution for the sample more closely represented that for the population of the school district. Participants were a mix of single never married, single divorced, and married or partnered parents as well as other caregivers, including aunts, uncles, and grandmothers. Their ages ranged from 23 to 60 years. Family sizes ranged from one to eight children.

### Case Study Site

The city of Oakland is a central city of 56 $mi^2$ in the San Francisco Bay Area. The 2010 census indicated that Oakland had a population of 390,725 people, a 2.2% drop from that in the 2000 census. The city has historically had a large African-American population, especially in comparison with the rest of the state: in 2010, 28% in Oakland and 6% in the state of California. In recent decades, the African-American population has been in steady decline as African-Americans have moved to other suburbs or other states. At the same time, the population of individuals of Hispanic or Latino origin has increased to 25% in Oakland but lags behind the state's share at 38%.

The land use is a mix of urban and suburban style developments, reflecting its major development period largely in the early part of the 20th century as a second-tier industrial city with a strong street grid, rail system, and growing port. It was incorporated as Oakland in 1852 but experienced the largest population surge after the 1906 San Francisco earthquake and fire, when many San Franciscans moved across the Bay and built homes through the 1910s and 1920s. However, through the 1950s and 1960s, the city was substantially reengineered because of the construction of the region's Interstate highways and the Bay Area Rapid Transit rail system, both of which were centered on Oakland. Today, all areas of Oakland are disrupted by freeways; but the west, north, and downtown parts of Oakland are dense and walkable and are served by transit. East Oakland, however, retains a grid; but the wide arterial streets, larger housing lots, and numerous freeway ramps reflect a postwar suburban design.

Because of crime, city finances, state takeovers of the school district, extreme economic and racial residential segregation between the portions of Oakland in the hills and flatlands, and persistent high unemployment, the city has a negative reputation both locally and nationally. Although parts of the city have attracted young urban professionals, creative entrepreneurs, and top chefs, the city's problems have prompted many residents to move to other cities.

When low-income African-American parents and caregivers in this study were asked in which Oakland neighborhood they would live if they had a choice, they often responded with the names of the surrounding suburbs. For many of these parents, all of Oakland is a dangerous, gang-ridden ghetto with drugs and violence. Many are eager to move away so their children will no longer be exposed to crime and violence. When they were then asked how their children would get to school if they moved to an auto-oriented suburb, they were not concerned about the loss of transit or sidewalks. Their greater concern was finding a calmer place to live. For higher-income families, Oakland was perceived to be the convenient, affordable, and sunnier alternative to San Francisco.

The regional planning agency recognizes both views of Oakland but has identified the view of Oakland as an alternative to San Francisco to present a major opportunity to address the region's housing shortage, given Oakland's transportation infrastructure, moderate density, and extensive property disinvestment. Such qualities make it a target for thousands of infill housing units. However, the regional planning agency is also aware that poor school quality and high crime rates will make it difficult to attract family households to Oakland.

The city's school district currently enrolls approximately 36,262 students in about 131 traditional schools plus 34 charter schools. Approximately 120 of the schools receive Title I funds, 89% of the students are members of minority groups, and 71% are eligible for free meals. The school district is in the process of rightsizing the system because of annual declining enrollment. Nevertheless, the district has been the most improved system in the state for the last 5 years. It is also worth noting that because of rising transit costs and increasing distances to school, students, parents, and community groups recently waged a campaign for low-cost or free transit for students in San Francisco and Alameda County, which includes Oakland. In July 2012, the metropolitan planning organization voted against the free student passes.

## RESULTS

Overall, the 130 students in the sample have a high rate of active travel: 37% walk or bike and 35% use public transit. Only 28% of the children are driven to school on a regular basis. These rates of ATS far surpass the national rate of ATS of 14% (*21*). This sample also has other major differences from the national sample, such as opposite trends for income, vehicle ownership, and work status.

**TABLE 1 Differences in Commute Mode to School, by Household Characteristics**

| Family Characteristic | For Students Who Walked, Biked, or Took Public Transit | For Students Who Were Driven | *p*-Value |
|---|---|---|---|
| Distance from home to schools[a] | 5.3 km | 8.5 km | .0239 |
| Income | $39,650 | $31,875 | .1937 |
| Caregiver's age | 41 | 39 | .2411 |
| Number of school-aged children in household | 1.8 | 2.0 | .2169 |

[a]For families with children at multiple schools, the school the farthest distance from the family's home was used.

To test the assertion of this study, that school choice, housing policies, and transportation costs contribute to school commute mode choice by creating longer distances from home to school, group comparisons were conducted on the basis of four factors: distance from home to school, household income, the caregiver's age, and the number of school-aged children in the household. Table 1 displays the results of the *t*-tests for significance in the difference in the means between students who participate in ATS and students who are driven. Only distance to school had a significant effect on whether children were more likely to use an active mode; that is, the greater that the distance was, the more likely it was that the children were driven.

However, although distance has a significant role, information gathered through the in-depth interviews indicated that other factors also mattered, and these factors sometimes even influenced distance. Table 2 presents the characteristics of families whose children are driven to school.

## Employment Status

As shown in other studies, employment status plays a role in whether children use an active mode to school. For instance, several parents pursuing additional education had moved into temporary housing situations to afford both school and rent, and therefore, their children attended schools in the neighborhoods of their previous homes. In these cases, some children were driven and others rode the bus with their mother. The number of hours of employment per week also had various influences on the mode choice. Some single parents in the study could take only jobs that offered less than 20 h of work per week so that they could take their children to and from school. Single caregivers who worked full time were more likely to drive their children to school since they did not have time to arrange separate bus trips and they often needed their car for work. Children with two caregivers were more likely to use active modes. These families made this mode choice for a number of reasons: families with two caregivers typically earned more money and therefore could afford housing near a better school, caregivers took turns taking the children to school, or one caregiver worked and the other one took care of the household and took the children to school.

## Race and Ethnicity

White students had the highest share of walking to school in this sample because their families were most able to choose a neighborhood

**TABLE 2 Percentages of Students Driven to School, by Household Characteristics**

| Family Characteristic | Percentage of Families Whose Children Are Driven to School |
|---|---|
| Employment status of caregiver(s) | |
| Unemployed or laid off | 0 |
| 1 part-time caregiver (<20 h per week) | 0 |
| 1 part-time caregiver (20–35 h per week) | 67 |
| 1 part-time, 2 caregivers (<20 h per week) | 67 |
| 1 part-time, 2 caregivers (20–35 h per week) | 100 |
| 1 full-time caregiver | 60 |
| 1 full-time, 2 caregivers | 29 |
| 2 full-time caregivers | 33 |
| 1 full-time caregiver and 1 part-time caregiver | 29 |
| 2 part-time caregivers | 60 |
| Race or ethnicity of caregivers | |
| African-American | 22 |
| American Indian | 0 |
| Asian or Pacific Islander | 33 |
| Hispanic or Latino | 39 |
| White | 25 |
| Mixed-race individuals and couples | 38 |
| Family structure | |
| Nonparent caregiver (aunt, uncle, grandparent) | 17 |
| Married parents | 26 |
| Unmarried partners | 20 |
| Single mom | 17 |
| Single dad | 0 |
| Divorced or separated mom | 54 |
| Divorced or separated dad | 67 |
| Vehicle ownership | |
| 0 | 0 |
| 1 | 44 |
| 2 or more | 36 |
| Access to 1 (borrows a relative's car) | 50 |
| Housing tenure–choice | |
| Rent | 24 |
| Rent voucher | 32 |
| Transitional | 20 |
| Own | 17 |
| Own with (or owned by) other relatives | 80 |
| School type | |
| Traditional public | 25 |
| Charter public | 40 |

for housing, school quality, and walkability. Many were environmentally conscious and preferred active travel. They were also close with their neighbors and had created walking pools to save each other time taking their children to school. The Hispanic or Latino parents and some of the African-American parents in the study had chosen schools distant from their homes for quality, culture, and ethnic and racial diversity greater than that in their neighborhoods. Whether the parents used a car or public transit was related to a variety of different factors other than race or ethnicity, including vehicle ownership, work status and commute, marital status, transportation costs, and their children's age and gender. Except for help from relatives who sometimes drove or chaperoned their children to school, none of the Latino or Hispanic parents or African-American parents had relationships with neighbors to share the school commute responsibility. Although some parents casually knew their neighbors, few trusted them, and because of the high share of students attending schools out of the neighborhood, it was unlikely that the neighbor children attended the same school.

### Family Structure

Family structure has a major influence on whether the students in the sample were able to walk, as noted in the section on employment status. The highest share of walkers was in families in which the caregivers were a married couple. Among higher-income families, walking to school was possible because the family could afford to live in the desired neighborhood, which was a walkable neighborhood where the children could walk to school. For lower-income couples, walking was a less expensive mode and one of the partners needed the car for work. For two of the single dads and several single mothers, students were unable to walk because the parents selected schools according to their quality rather than distance from home. In other cases, students attended the school near where the family lived before the parents separated. Others sent children to a school near grandparents, who assisted with care before and after school while the parent worked. Parents with multiple children tended to walk their younger children and the older students used public transit. In some cases, the mother drove all the children to their separate schools because she was already driving the younger children who were too young to take transit to the non–neighborhood school. The nonparent caregivers (aunts, uncles, grandparents, and foster parents) in the sample were more likely to be older, and their dependent children had a high rate of transit use. Only one nonparent caregiver drove the children to school; others did not own cars because of low incomes, and others were less willing or able to arrange work or personal schedules to take the student to school.

### Vehicle Ownership

Unlike the findings of other studies, greater vehicle ownership did not decrease active travel. The caregivers in only 36% of households with two or more cars drove their children to school. In some cases, these families had higher incomes and a preference for walkability and therefore purchased homes within walking distance to good schools. In other cases, parents or older siblings used the cars for work and the students were old enough to use transit or another parent walked them to school. However, for lower-income parents with a car, both income and vehicle ownership determined mode. Because the parents were able to purchase cars for as little as $900, it made more economic sense to them for their children to drive than to pay for transit. To cover driving costs, they also used strategies that were not available to pay for transit fare, such as foregoing insurance, repairs, or inspections; having friends provide gas money; and sharing the car with a relative or sibling. For some, the car was an easier and cheaper alternative to spending $12 or more per day for several round-trip bus fares. Driving also allowed some caregivers to sleep later than they could have if they were to use the bus to take their children to school. Because in many of the families a parent and a child or several children shared a bedroom, sleep was difficult, so extra time was preferred.

### Housing

Of the caregiver who rented with or without a voucher, 56% drove their children to school. Renters with vouchers were slightly more likely to drive than renters without vouchers. Parents who rented were more likely to be mobile, with some changing housing every year because of bad landlords, unsafe neighborhoods, or poor housing conditions. Instead of switching schools with each move, some parents had their students remain in the school near their prior home. Housing choices are becoming more difficult for families of all incomes in Oakland. Even parents with graduate degrees and incomes above the median are receiving help from families to purchase, rent, or share housing. These housing choices did not align with their school choice in most cases, necessitating nonactive travel.

### School Choice

Some principals of the small schools and charters have actively recruited students to their schools by soliciting parents in the district office during the enrollment period. One of the schools has numerous devoted, low-income parents who drive or take the bus with their children 10 mi each way. Of the students who attended charter schools, 40% were driven to school; this number is 1.6 times the percentage of students who attend a traditional public school.

## CONCLUSION

This research shows that how children travel to school is often not a direct decision but an indirect consequence of limited housing choices because of family structure and incomes and transportation decisions for all travel, which are based on time, convenience, and daily cash outlay. School choices are also a major factor; and although parents technically have a choice of the schools where they send their children, the choice is also limited by school district assignment policies, seat availability, and the ability to submit their choices on time. As a result of these three disparate factors, many families of moderate and low income in Oakland are living greater distances from their children's school. Not only does this prevent their children from walking to school, but it also creates higher transportation costs for the families, as well as opportunity costs when children's school travel schedules prohibit parents from working more hours or from using the money that they spend on transport to pay for other things.

Nevertheless, the large share of students in this sample who were not driven to school in Oakland is promising. For some parents, ATS is by choice for a certain lifestyle, although for others it is an

economic necessity or the easiest mode, given their current living situation. Because school options processes are not going away and housing choices are not getting easier, SR2S programs should include additional outreach strategies to address the transportation mode for students in schools that are increasingly not in the neighborhood and farther away. First, SR2S programs should include safe routes to affordable transit as part of their programs. All transit rides begin and end with a walk trip, and if transit has high ridership, auto trips are reduced and walk trips increase. Second, SR2S programs can also help parents to arrange carpools, walk pools, and transit pools. This assistance would help parents who do not know other parents reduce their transportation costs and time and potentially reduce the number of parents driving their children. The school districts know where children live and go to school and could help to provide SR2S program coordinators with these data to arrange these various types of travel pools. Without this expansion of SR2S programs, as school distances continue to increase, if low-income parents can more affordably drive three students to one or more schools, given increasing transit fares and low auto costs, the auto share of the commute to school will likely increase.

In the longer term, distance should be addressed through collaborative partnerships between school districts, city planning departments, transit agencies, housing agencies, and other government agencies affecting family decisions and costs of living. As McDonald succinctly states: "If policymakers want to increase walking rates . . . current policies, such as Safe Routes to School, which do not affect the spatial distribution of schools and residences, will not be enough to change travel behavior" (*4*).

SR2S programs could be the convener for some of this work by inviting education agencies to join non–education agencies to create full-service community or neighborhood schools that can be accessed by active modes. This collaboration is important, because even if the services at a school are improved, if the neighborhood has high crime, poor housing stock that does not meet the approval of the U.S. Department of Housing and Urban Development for voucher use, a lack of quality day care, and few jobs, parents may continue to choose to send their children to schools outside the neighborhood where they live. They may also move to other neighborhoods or cities. Thus, to promote schools that are higher quality according to student achievement and allow sustainable travel, policies need to address housing, schools, transportation, recreation, child care, neighborhood retail, social capital, crime, and jobs.

Charter schools should also be addressed because in most school districts they open and operate their facilities in unplanned locations and non–school buildings. Land use planners and departments that oversee city zoning and subarea plans and that issue building permits should try to bring together the charter school operators, the school district facilities team, and transit operators to identify appropriate locations for charter schools, including sites that are accessible by transit, walking, and biking and in spaces that are conducive to learning. They should also be near other locations that serve the needs of families, such as after-school programs, parks, and day care facilities, to minimize the distances between locations to which parents must make daily trips. Planners should also encourage them to locate in areas that lack schools within walking distance of most residences. In Oakland and other cities, charter schools have located near existing schools, which creates an abundance of schools in one area but a lack schools in other areas. In Washington, D.C., charter schools have moved into empty downtown office space and schools in neighborhoods have been converted to condominiums.

In several large cities, crime is also a major issue affecting families and student travel to school. In this study, several participants lived in a new affordable housing development with quality and attractive units, supportive services, a community center, a large park, a nearby elementary school, and convenient access to a Bay Area Rapid Transit station but were seeking to move elsewhere. The beautiful complex had been plagued with shootings in the park and the school. Although the parents were fond of the school and its proximity, they would prefer to live in a safer neighborhood and change schools. Several other parents in the study were also seeking to move to suburban areas to leave behind the high crime in their neighborhoods.

In this era of privatization and individual choice as policy (*22, 23*), planners need to forget their standard assumptions about urban economics. Municipalities do not provide as many bundles of services. Transit is not always the affordable option because of the availability of cheap used cars, the predominance of the auto infrastructure, and cuts to public transit service. Where schools are built or already exist does not determine where kids go to school, as school districts and charter schools promote choice, entrepreneurialism, and options. Housing choices in accessible locations are limited for families of low and moderate income, and even dual-income couples with college and graduate degrees have trouble affording homes in the neighborhoods that they desire.

This study shows the value of in-depth interviews with caregivers of different backgrounds and circumstances with different housing and school choices living in different neighborhoods. The information allows a better understanding of the multiple reasons why parents select their children's travel mode to school. Without the qualitative data, attempts to explain the variation in travel mode among caregivers of similar socioeconomics would be difficult.

## ACKNOWLEDGMENTS

This research was funded in part by a doctoral dissertation research grant from the U.S. Department of Housing and Urban Development and a Dwight D. Eisenhower Transportation Fellowship.

## REFERENCES

1. Tiebout, C. M. A Pure Theory of Local Expenditures. *Journal of Political Economy,* Vol. 64, No. 5, 1956, pp. 416–424.
2. Alonso, W. *Location and Land Use.* Harvard University Press, Cambridge, Mass., 1964.
3. Henderson, A. T., K. L. Mapp, V. R. Johnson, and D. Davies. *Beyond the Bake Sale: The Essential Guide to Family–School Partnerships.* New Press, New York, 2007.
4. McDonald, N. C. Children's Mode Choice for the School Trip: The Role of Distance and School Location in Walking to School. *Transportation,* Vol. 35, 2008, pp. 23–35.
5. Wilson, E. J., J. Marshall, R. Wilson, and K. J. Krizek. By Foot, Bus or Car: Children's School Travel and School Choice Policy. *Environment and Planning A,* Vol. 42, No. 9, 2010, pp. 2168–2185.
6. Dryfoos, J. G. Full-Service Community Schools: A Strategy—Not a Program. *New Directions for Youth Development,* Vol. 107, 2005, pp. 7–14.
7. *Enrollment Options: 2012–2013 Elementary School.* Student Assignment and Bilingual Testing Office, Oakland Unified School District, Oakland, Calif., 2011.
8. Sable, J., and B. Young. *Characteristics of the 100 Largest Public Elementary and Secondary School Districts in the United States: 2001–02.* Education Statistics Services Institute, National Center for Education Statistics, Institute of Education Sciences, U.S. Department of Education, 2003.

9. Stewart, O. Findings from Research on Active Transportation to School and Implications for Safe Routes to School Programs. *Journal of Planning Literature,* Vol. 26, No. 2, 2011, pp. 127–150.
10. McMillan, T. E. Urban Form and a Child's Trip to School: The Current Literature and a Framework for Future Research. *Journal of Planning Literature,* Vol. 19, No. 4, 2005, pp. 440–456.
11. McDonald, N. C. Active Transportation to School: Trends Among U.S. Schoolchildren, 1969–2001. *American Journal of Preventive Medicine,* Vol. 32, No. 6, 2007, pp. 509–516.
12. Jarvis, H. Dispelling the Myth That Preference Makes Practice in Residential Location and Transport Behaviour. *Housing Studies,* Vol. 18, No. 4, 2003, pp. 587–606.
13. McDonald, N. C. Household Interactions and Children's School Travel: The Effect of Parental Work Patterns on Walking and Biking to School. *Journal of Transport Geography,* Vol. 16, 2008, pp. 324–331.
14. Boarnet, M. G., C. L. Anderson, K. Day, T. McMillan, and M. Alfonzo. Evaluation of the California Safe Routes to School Legislation: Urban Form Changes and Children's Active Transportation to School. *American Journal of Preventive Medicine,* Vol. 28, No. 2, 2005, pp. 134–140.
15. Ewing, R., W. Schroeer, and W. Greene. School Location and Student Travel: Analysis of Factors Affecting Mode Choice. In *Transportation Research Record: Journal of the Transportation Research Board, No. 1895,* Transportation Research Board of the National Academies, Washington, D.C., 2004, pp. 55–63.
16. Fuller, B., R. F. Elmore, and W. G. Orfield (eds.). *Who Chooses? Who Loses? Culture, Institutions, and the Unequal Effects of School Choice.* Teachers College Press, New York, 1996.
17. Bifulco, R., and H. F. Ladd. School Choice, Racial Segregation, and Test-Score Gaps: Evidence from North Carolina's Charter School Program. *Journal of Policy Analysis and Management,* Vol. 26, No. 1, 2007, pp. 31–56.
18. Saporito, S. Private Choices, Public Consequences: Magnet School Choice and Segregation by Race and Poverty. *Social Problems,* Vol. 50, No. 2, 2003, pp. 181–203.
19. Blank, M. J., A. Melaville, and B. P. Shah. *Making the Difference: Research and Practice in Community Schools.* Coalition for Community Schools, Washington, D.C., 2003.
20. McDonald, N., S. Librera, and E. Deakin. Free Transit for Low-Income Youth: Experience in San Francisco Bay Area, California. In *Transportation Research Record: Journal of the Transportation Research Board, No. 1887,* Transportation Research Board of the National Academies, Washington, D.C., 2004, pp. 153–160.
21. McDonald, N. C. Active Transportation to School: Trends Among US Schoolchildren, 1969–2001. *American Journal of Preventive Medicine,* Vol. 32, No. 6, 2007, pp. 509–516.
22. Jarvis, H. Home Truths About Careless Competitiveness. *International Journal of Urban and Regional Research,* Vol. 31, No. 1, 2007, pp. 207–214.
23. Ristell, J. A., M. Quddus, M. Enoch, C. Wang, and P. Hardy. Quantifying the Transport-Related Impacts of Parental School Choice in England. *Transportation,* Vol. 40, No. 1, 2013, p. 69.

*The Transportation Safety Management Committee peer-reviewed this paper.*