Maximizing Walkability, Diversity, and Educational Equity in U.S. Schools

Introduction

With childhood obesity at an all-time high, many health advocates are calling for greater access to walkable schools as an important element of a comprehensive approach for addressing this epidemic. Children who can safely walk or bicycle to and from school can build physical activity into their daily routine. In 1969, about half (48 percent) of K-8th grade students walked or bicycled to school. By 2009, only 13 percent did so. Many factors, including schools' locations, have led to this decrease in children walking and biking to and from school.[1]

However, strategies for promoting walkable schools cannot be considered without taking into account a stark fact: high levels of neighborhood segregation in the United States leave many children from lower-income families in segregated schools, with often dire educational consequences. There have been varied approaches to increasing racial and income diversity in schools and many approaches to improving educational quality. In many cases, the strategies to increase school diversity or improve educational outcomes also increase the distance between students' homes and the schools they attend, making it more challenging to create or maintain walkability.

Schools trying to achieve both priorities face a challenging question: Are "diversity" and "walkability" compatible? This summary document, drawn from a national dialogue among leaders in health and public education, with accompanying research, answers this question in the affirmative. This document also highlights some of the key obstacles and outlines the full range of factors that determine how and where schools are built, who attends which schools, and how patterns of population and settlement continue to reproduce inequality in communities across the country. Finally, it presents a preliminary agenda for tackling the challenges, listing three action steps for promoting diverse, walkable, high-quality schools for all children.

Nashville: The Challenge of Bridging Diversity and Walkability Goals

In 2009, Nashville, Tennessee, became an unintended focal point for the question of how to balance the need for walkable schools with the need for diverse, quality schools. These issues were brought into sharp focus when the NAACP filed a federal lawsuit (*Spurlock & Fox v. School Board*) against the Metropolitan Nashville Board of Education for their proposed revisions to the school district's plan for student assignments. The plan devised a new system of "neighborhood schools," putting an end to the busing of children to schools farther from their homes to meet school racial integration targets. The lawsuit alleged, among other things, that in the new plan, students from lower-income families would be denied integrated learning environments.

At the same time, the City of Nashville had been planning numerous programs to address obesity and improve children's health. Among them was a Safe Routes to School (SRTS) program aimed at increasing physical activity through walking and bicycling to school. As local tensions rose in reaction to the lawsuit, Nashville's Safe Routes to School program was postponed, and local leaders feared that promoting walking to school could somehow be associated with the new student assignment plan and what some critics saw as the potential resegregation of Nashville's schools.

The Nashville episode, based in the painful history of racial segregation there, crystallized a broader set of questions relevant to the whole country. Since walkability requires students to live close enough to walk or bicycle to school, what are the factors that prohibit the creation of walkable schools that are racially and economically diverse? Where will community-centered schools fit into the landscape when they are countered by policies that send students well beyond their home communities?[*] And, since student diversity has been shown to contribute to academic achievement and social cohesion, how can communities strive for racially diverse school populations and provide more children with opportunities for physical activity through walking and bicycling?

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To start answering these questions, this paper next reviews why walkability is such an important component of the effort to reduce and prevent childhood obesity. Then, it examines the interconnected factors that determine where children go to school and how school enrollment patterns develop, and finally presents three action steps for creating diverse, walkable, high-quality schools for all children.

[*] The term "community-centered schools" is used instead of "neighborhood schools" because it suggests a more holistic view of the ways in which a school can be integrated into, and connected to, local resources for children and families, and it has fewer of the connotations associated with school integration battles.

Childhood Obesity, Health, and Walkability

Over the past four decades, childhood and adolescent overweight and obesity rates (and adult rates as well) have risen sharply across the country. Between 1971 and 2008, the rate of obesity among children ages 6 to 11 has more than quadrupled (from 4.2 percent to 19.6 percent).[2] In the past three decades, the obesity rate among preschool children ages 2 to 5 more than doubled (from 5 percent to 10.4 percent); and preschoolers from lower-income families fare even worse, with obesity rates as high as 15 to 20 percent.[3] Recent data show nearly one-third of all children and adolescents in the United States are overweight or obese.[4] Furthermore, children from lower-income families and children of color experience even higher overweight and obesity rates compared with white peers and peers from higher-income families. For example, more than 39 percent of Latino and African American children and adolescents ages 2 to 19 are overweight or obese, compared with 28 percent of white youths.[5]

In addition to its serious health consequences, childhood obesity has real economic costs that affect all of us. Childhood obesity is a risk factor for many costly chronic diseases that threaten the stability of our health system. The medical cost of adult obesity is difficult to calculate, but estimates range from $147 billion to nearly $210 billion per year.[6] Childhood obesity alone carries a huge price tag—up to $14 billion per year in direct health-care costs.[7] The epidemic is also a leading cause of worker sick days and school absenteeism—trends that jeopardize our nation's economic strength.

The childhood obesity epidemic cuts across all categories of race, ethnicity, family income, and locale, but the situation is worse among lower-income communities and children of color making it a central challenge in any movement toward equity.

Many factors contribute to the high childhood obesity rates, and declines in physical activity appear to be a large part of the equation.[8] A low level of physical activity is a strong predictor of chronic disease and obesity, and establishing a physically active lifestyle at a young age is a key strategy for preventing the onset of illness, disease, and obesity.[9] The health benefits of regular physical activity for children are well documented. Regular physical activity helps "build and maintain healthy bones and muscles, reduces the risk of developing obesity and chronic diseases, reduces feelings of depression and anxiety, and promotes psychological well-being."[10] The U.S. Department of Health and Human Services and other health experts recommend at least 60 minutes of age-appropriate physical activity for children every day of the week.

Studies also have confirmed the benefits of physical activity on children's cognitive function. In numerous studies, researchers have found a positive relationship between physical activity and academic performance.[11] Put simply, healthy kids are better learners. The researchers found physical activity had a positive influence on concentration, memory, and classroom behavior. Other studies have linked high levels of physical fitness with better school attendance and fewer disciplinary problems.[12] While walking to school is not the only source of physical activity for children, an active means of getting to and from school helps to build physical activity into young people's everyday routines and can help meet the recommended levels of 60 or more minutes of moderate to vigorous physical activity on weekdays.[13]

Compared to the past, students walk and bicycle to school far less now and are also generally less physically active. Daily walking, once a traditional source of physical activity for many people, including children, has been on the decline. Even students living close to their schools are walking and biking to

school less. In 1969, 89 percent of K-8th grade students who lived within one mile of school usually walked or bicycled to school.[14] By 2009, only 35 percent of K-8th grade students who lived within a mile of school did so. [15] Today, 51 percent of students arrive at school in the family car and 36 percent arrive by school bus.[16]

To reverse this trend, a vigorous movement to increase safe walking and bicycling has emerged. Safe Routes to School (SRTS) programs have helped numerous communities and school districts create walking and bicycling infrastructure improvements, as well as programs to advocate for and educate the public and families on the many benefits of walking and bicycling to school.[17] As of summer 2012, at least 13,347 schools were participating in Safe Routes to School programs in the United States.[18]

***Framing the Issue**: How This Paper Came to Be*

In 2010, the Safe Routes to School National Partnership and the National Policy & Legal Analysis Network to Prevent Childhood Obesity (NPLAN, a project of ChangeLab Solutions) became concerned about a potential negative consequence of an emerging area of work. Both organizations were beginning to advocate for schools to be in locations close enough to children's homes to allow walking and bicycling to school and permit children to come back to school grounds to play on weekends and after school. But recognizing that high levels of neighborhood segregation in the United States could mean that this strategy had the effect of increasing racial and economic segregation in schools, the two groups reached out to PolicyLink to initiate a frank, informed, thoughtful, and respectful conversation around the benefits, tensions, and balancing of diverse and walkable schools. With support from the Robert Wood Johnson Foundation, the three organizations convened health and education advocates in New York City in September 2011 to examine the implications of advocating for diverse, racially integrated schools *and* advocating for schools to which children can safely walk and bicycle. The collaboration greatly benefited from the ideas, guidance, and writing of the leaders of the 21st Century School Fund and the Center for Cities and Schools at the University of California, Berkeley.

The New York gathering and subsequent conversations and interviews involved participants representing very different fields and included groups such as the National Coalition on School Diversity, the Local Government Commission, the National Trust for Historic Preservation, the Central California Regional Obesity Prevention Program, MALDEF, and many more. Out of these discussions and accompanying research, the convening organizations developed a draft framing paper, as well as this summary, to identify the issues, document the findings, and propose follow-up questions, research topics, and action steps. The intent is to start a national conversation about walkable schools and diversity.

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The original framing paper was written by Jeffrey Vincent and Deborah McKoy of the Center for Cities and Schools at the University of California, Berkeley and Mary Filardo of the 21St Century School Fund. Victor Rubin of PolicyLink compiled this summary based on that paper and the additional input of project partners. Other reviewers and contributors from the convening organizations included Erin Hagan, Heather Tamir, Chione Flegal, Leslie Yang, Deb Hubsmith, and Quang Dang.

How and Why American Children Go to School Where They Do: The Implications for Walkability and Diversity

The viability of walking and bicycling to school and the racial diversity of schools both depend on the relationship of schools to homes. That relationship is subject to many influences, seven of which are described below.

1. ***Residential patterns still reflect significant degrees of isolation by race and income.*** More than a half century after the *Brown v. Board of Education* U.S. Supreme Court decision ended *de jure* (explicit, legally mandated) segregation of schools, and after almost as many decades of laws prohibiting racial discrimination in housing, America's schools still reflect contemporary residential patterns marked by race and income. *Brown* found that schools separated by race were inherently unequal and unconstitutional. However, not all of the remedies for segregated schools have been supported by the court. Most notably, in *Milliken v. Bradley,* a 1974 case, busing from one school district or city to another for racial integration was largely disallowed, since the regional pattern of racial segregation was not shown to be the result of deliberate racist intent.[19] Metropolitan areas today still reflect a high degree of racial isolation and lack of income diversity at the neighborhood level. This residential isolation has helped maintain, if not increase, the wide gaps in academic achievement that tend to exist between schools serving children from lower-income families and schools in more affluent neighborhoods. Such inequity, it is argued, could be countered by the development of truly integrated neighborhoods with walkable schools.

   Brown, in fact, did help to increase the numbers of students attending racially integrated schools. By 1980, more than a third of black students attended schools where white students made up more than half of the student body. Unfortunately, these trends have been reversing. By 2006, both black and Latino students were attending schools that were almost three-fourths people of color on average, and about 40 percent were in intensely segregated schools.[20]

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   Students of color tend to be concentrated not just racially, but also socioeconomically. In 2008-2009, in the 100 largest metropolitan areas, 43 percent of black and Hispanic students attended schools with poverty rates over 80 percent, compared to just 4 percent of whites.[21] The physical isolation of students of color from lower-income families is not benign—children in segregated high-poverty schools and neighborhoods are often excluded from important social and educational opportunities that exist within and outside of schools. A strong body of research demonstrates the academic and social challenges facing students who attend racially isolated, high-poverty schools.[22] A comparably strong body of research demonstrates positive academic and social outcomes for students who are educated in more racially and socioeconomically integrated settings. An integrated school also can contribute to social cohesion, not only of the students within the school, but also of the local community. Strategies for overcoming *de facto* segregation have included

busing for integration; more recently, other approaches include magnet schools that draw diverse student bodies from throughout a district, and the creation of mixed-income housing opportunities. Such policies have usually had both racial justice and educational quality objectives.

The historic moral and legal reasons for addressing racial disparities in education are being made even more pressing by the national transition underway to a population of students who are predominantly people of color. The 2010 census data show that nearly half of recent births in the United States are non-white.[23] The projected child population points to a trend of greater overall racial/ethnic diversity: by 2050, the U.S. child population is projected to be 42 percent white (non-Hispanic), 35 percent Hispanic, 12 percent black, 5 percent Asian/Pacific Islander, and 5 percent of more than one race.[24] [25] This transition might have great consequences for public education: the societal needs for increased investment in schools will be strong, since a vibrant, competitive economy will depend on the skills of this diverse new labor force. The older, more predominantly white population will need to invest in a system serving mostly people who do not look like them.

There are many reasons for the persistence of segregation and inequality in public schools, as well as for the dominance of auto and bus transport to schools. In order to understand the relationship between diversity and walkability, it is necessary to appreciate several more specific dimensions of metropolitan development and educational practice.

2. ***The geographic pattern of poverty is changing.*** When schools are located in the center of communities of lower-income residents and draw primarily from their neighborhood, they will have high concentrations of children from lower-income families unless offset by school assignment policies that enroll students from different neighborhoods. New analyses of 2010 census data find that concentrated poverty has risen substantially since 2000 (reversing trends of the 1990s) and non-Hispanic whites are substantially less likely to live in high-poverty neighborhoods.[26] The clustering of lower-income families is taking on a new dimension: many people in poverty are dispersing beyond central cities and then re-concentrating in certain inner-ring suburbs. Half of the lower-income population of metropolitan areas now resides outside the central cities.[27] As the number of families in poverty continues to rise, disproportionately affecting children of color, many suburban as well as urban school systems are faced with the educational challenges that accompany poverty.[28]

3. ***Schools are larger, making them farther from the homes of more students than in the past.*** Beginning in the 1930s, the number of schools declined substantially and their size increased. The advent of widespread bus transportation was a factor, but so was a belief in educational planning circles that larger schools were more efficient and able to offer more varied curriculum, facilities, and services. The average 1930s enrollment of a U.S. public school was about 100; by 2008–2009, the average enrollment was about 500 students per school. In 1969, about 45 percent of elementary school students lived one mile or less from school;[29] by 2001, only 24 percent of elementary school students (and 18 percent of all students) lived within one mile of school.[30]

When new schools are being planned, land prices, state-required minimum acreage policies, and cost disincentives for reusing existing sites encourage districts to site schools far from where students live, with little consideration for maximizing the number of students who can walk or bike to school.[31] [32] Developers sometimes donate or are required to set aside land for schools near new locations on the outskirts of metropolitan areas to support new housing developments. More generally, sprawling development patterns spread schools, homes, and other elements of

community life farther apart, especially in newer communities. Often, new schools replace older ones or are built to consolidate several schools or even several smaller districts. In affluent districts, the new construction is often to allow for state-of-the-art facilities.[33] In many communities, it has become common practice for children to spend an hour or more on a school bus twice a day. This amount of bus transportation is not only a barrier to time which children could spend engaged in healthy playing, studying, or physical activity, it is increasingly hard for districts to afford.[34]

Educators organize schools based on an age and grade level model that favors large enrollments to secure logistical efficiencies, leverage economies of scale, and implement increased curriculum and activity options. However, there has been a strong debate over the past decade about what the optimal enrollment sizes are for various grade levels and the downsides of large schools, which can foster less intimate and individualized learning experiences. Findings indicate that student attendance, graduation rates, and disciplinary incidences all improve with smaller, more intimate learning environments that allow more individualized attention from teachers.[35] These benefits of smaller schools might be more pronounced for disadvantaged students.[36] Still more recent studies have found mixed outcome results for small schools, particularly on standardized test score performance.[37] Resolving the debate about the educational efficacy of small schools is beyond the scope of this paper, but it is worth recognizing that a small schools strategy can facilitate walkability for more students, but only where those students are drawn from the surrounding neighborhood.

4. ***Walking and bicycling to school face both practical and perceived barriers.*** Parents cite the distance between home and school as the biggest barrier, and traffic concerns and perceptions of "stranger danger" also rank as significant impediments to walking and bicycling to school.[38] The problems are exacerbated by inadequate pedestrian infrastructure, including lack of sidewalks, crosswalks, and signal lights in many communities. Students in areas of high levels of violence and street crime may not feel secure in walking or, indeed, in playing or otherwise being outside at all. Students and families may also lack good public transit options that can be combined in a trip with walking/bicycling on either end. Without safe walking, bicycling, and/or transit options, some parents see the only choice they have is to drive their children to school.

5. ***The distribution of children across the population has changed, and varies greatly across cities.*** Coping with continual changes in enrollment is part of the accepted complexity of school facilities management, but some of the fundamental demographic assumptions of the field have been upended in recent years. Although there are far more children than in 1970, the distribution of households with children is more varied, with some communities having very low proportions of school-age children and others having a much higher proportion. In 1970, 45 percent of households in the United States had children less than 18 years of age; by 2009, the share dropped to 30 percent. Some urban school districts, and even entire counties in metropolitan areas, have recently lost large proportions of their school-age children and public school enrollments relatively quickly, even while their overall population is growing.[39] Parts of those same cities can still face overcrowding, especially in immigrant gateway neighborhoods. As the number of households with children in a given community declines, the school in that neighborhood may need to close or enroll students from a wider area, putting a greater proportion of students beyond walking and bicycling range.

6. ***There are serious budgetary and policy-driven pressures for consolidation and closing schools.*** State and school district budget shortfalls are adding to the pressures to close and consolidate schools, especially when their enrollment is dropping. The consolidation of rural and

small districts means that there may be increased opportunities for enrollment diversity, but even fewer opportunities for walkability, as schools previously in the center of a small town move to a location more central to two distinct communities.[40]

School closings and consolidations are now also being driven by federal (and some state-level) education policy, which incentivizes closing underperforming traditional public schools while at the same time encouraging more autonomous charter schools. These new trends appear to be affecting both diversity and walkability, particularly in urban school districts. There is a danger that the pressure to close schools due to underutilization and low academic indicators will result in schools in low-income communities, attended by concentrations of children from very low-income families, disproportionately targeted with closure. The challenges of longer travel will be borne disproportionally by low-income families. In the case of Chicago, where 49 schools were recently slated for closure, parents protesting the closures argued that it will be dangerous for their children to have to walk farther, through unfamiliar neighborhoods.[41] In this new environment, the absence of neighborhood attendance boundaries presents challenges for families of all incomes. When a community-centered school closes, the neighborhood loses access to a walkable school. The community also loses a physical and social asset, and it becomes harder for parents to participate in school activities and volunteer. This can be especially problematic for schools in lower-income communities.

7. ***Various models of choice in urban public education have decreased the connection between home and school, as children travel across the city to their parents' preferred alternative schools.*** Many of the current policy responses to inadequate public education, such as choice systems and charters, have important implications for walkability and diversity. While the efficacy of these strategies is not being analyzed here, it is important to note their key place in the educational equity debate and identify the ways in which they influence whether or not children attend school near their homes.

   Frustration with "failing" schools, largely found in low-income neighborhoods and communities of color, has motivated interest in a market model for public education.[42] Support for educational choice strategies has also come from more ideological advocacy for private sector alternatives to government. In the market model, families are supposed to interact with both public and private providers of schools to increase the variety and quality of their options. The family chooses the service provider, but can "exit" to another provider or school if unsatisfied with it. At least five opportunities for choice are in common use: an "out of boundary" school within the same district; a higher performing school as defined in the federal No Child Left Behind transfer right; a magnet school; a public charter school; or a private school for which tuition is covered by a publicly funded voucher.

   Choice strategies can theoretically provide parents of every income level with a comparable set of schooling options, but that theory is often far from realized in practice, and the broad impacts of choice on educational achievement, equity, and diversity are far from settled. Regardless of their educational outcomes, these new approaches usually loosen or eliminate the connection between families and the schools in their home communities. The student may travel a long distance and, combined in many cases with a longer school day, have much less time in their home neighborhood. Because of the distance, walking or bicycling to school becomes difficult or infeasible for this growing proportion of students.

The Start of an Action Agenda to Promote Diverse, Walkable, Quality Schools for All Children

The achievement of more widespread walkability is inextricably tied to the challenges facing public education. In Nashville, the goal of racial diversity was, for a time, perceived as being at odds with a push for walkable schools, but that was indicative of a more complex relationship between diversity and walkability. Having drawn out many of the factors in that relationship, the following issues are offered as key areas for action:

- Quality public education for all children.
- Community planning that prioritizes walkable environments.
- Strategies that help to create and maintain diverse neighborhoods.

Taking action in these three areas will bring the nation closer to the following vision for uniting walkability and diversity as core elements of educational equity:

All children should have access to high-quality, diverse, and walkable public schools within their neighborhoods, no matter their race, ethnicity, or income, and these schools should promote superior academic outcomes, enhance the relationship between schools and the community, support active and healthy lifestyles, and support the economic and cultural well-being and social cohesion of communities. Every student, no matter where they live or attend school, should have access to safe streets for walking and bicycling and access to the kinds of physical activity that will be effective at preventing obesity and chronic diseases and promoting a healthy life.

To pursue this course, the following policy agenda is recommended:

Invest in Public Education and in Civic Empowerment to Ensure High-Quality Schools for All Communities. The agenda here is vast, but is characterized by long-term investments in adequate teachers, educational programming and student services, supplies, technology, and facilities. These investments will require not only resources but also the civic participation of families and communities in public education governance, management, and accountability. These investments and inputs cannot depend on the income level of the community. They must be available in ALL communities, no matter the income scale.

Plan More Effectively at the Local Level for Health and Walkability. Cities and counties need to work with school districts, and community and parent stakeholders to align land use and transportation proposals to the community's interest in diverse and walkable public schools. The goals would be to make areas surrounding schools safe and accessible for walking and bicycling; incorporate student safety into more comprehensive community-building efforts; and site and reinvest in schools to maximize walking, bicycling, and transit for the neighborhoods that the schools will serve.

Integrate Neighborhoods Economically and Racially by Diversifying Housing Options for Families. Creating and maintaining integrated neighborhoods is the key to more opportunities for achieving diversity and walkability. This can be encouraged through mixed-income housing and a variety of housing types that attract and accommodate a wider variety of families. Neighborhood change can be better managed for the benefit of lower-income families, to prevent displacement and maintain

affordability when services and amenities are improved. A range of federal, state, and local housing and transportation policies that can affect the concentration of poverty and the diversity of schools can be tested.

The aspirations articulated here will not come about under the current system: the barriers are too embedded in lingering racial prejudice, private interest, and public policy and practice. School districts, municipalities, states, and even the federal government can change but it will take a great public will and a new, enhanced capacity for comprehensive, integrated planning and policymaking. Perhaps the coming demographic shift will help give impetus to a systems change in how educational equity is achieved, and how communities are planned for greater diversity, safety, and sustainability. Hopefully, the dialogue started with this convening and report can be a basis for constructive next steps in this regard.

NOTES

[1] National Center for Safe Routes to School, "How Children Get to School: School Travel Patterns from 1969 to 2009," November 2011; X. Zhu and C. Lee, "Correlates of Walking to School and Implications for Public Policies: Survey Results from Parents of Elementary School Children in Austin, Texas," *Journal of Public Health Policy* 30(S1) (2009): S177-S202.
[2] C.L. Ogden, M.D. Carroll, L.R. Curtin, M.M. Lamb, and K.M. Flegal, "Prevalence of High Body Mass Index in US Children and Adolescents, 2007-2008." *JAMA* 303(3) (2010): 242-249.
[3] Centers for Disease Control and Prevention, *Obesity among Low-Income Preschool Children. A Fact Sheet*, 2009.
[4] C.L. Ogden, M.D. Carroll, L.R. Curtin, M.M. Lamb, and K.M. Flegal, "Prevalence of High Body Mass Index in US Children and Adolescents, 2007-2008."*JAMA* 303(3) (2010): 242-249.
[5] Ibid.
[6] R.A. Hammond and R. Levine, "The Economic Impact of Obesity in the United States," *Diabetes, Metabolic Syndrome and Obesity: Targets and Therapy 3 (* 2010): 285-295.
[7] J. Cawley, "The Economics of Childhood Obesity," *Health Affairs* 29(3) (2010):364-371.
[8] For example, see: http://www.nih.gov/news/pr/jul2005/nhlbi-13.htm.
[9] Manfred J. Muller, Inga Koertzinger, Mareike Mast, Kristina Langnäse and Andreas Grund, "Physical Activity and Diet in 5-to 7-Year-Old Children," *Public Health Nutrition* 1999(2): 443-444.
[10] Safe Routes to School and Health, National Center for Safe Routes to School, September 2010. p 6.
[11] William B. Strong et al., "Evidence Based Physical Activity for School-age Youth," *Journal of Pediatrics* (June 2005) http://www.healthysd.gov/Documents/Youth%20PA%20recs.pdf. Eleven studies are cited in Stewart Trost, *Research Summary: Active Education: Physical Education, Physical Activity, and Academic Performance,* 2009, Active Living Research, http://activelivingresearch.org/files/ALR_Brief_ActiveEducation_Summer2009.pdf.
[12] S. Trost, *Research Summary: Active Education: Physical Education, Physical Activity, and Academic Performance,* 2009, http://activelivingresearch.org/files/ALR_Brief_ActiveEducation_Summer2009.pdf.
[13] Leslie M. Alexander et al, "The Broader Impact of Walking to School Among Adolescents: Seven Day Accelerometry Based Study," *British Medical Journal* 331 (2005): 1061-1062.
[14] National Center for Safe Routes to School, "How Children Get to School: School Travel Patterns from 1969 to 2009," November 2011.
[15] Ibid.
[16] Centers for Disease Control and Prevention, "2006 analysis of 2001 National Travel Household Survey," 2001.
[17] See the National Center for Safe Routes to School: http://www.saferoutesinfo.org/.

[18] National Center for Safe Routes to School - Summer 2012 Quarterly Tracking Report, http://www.saferoutesinfo.org/sites/default/files/page/Summer_2012.pdf.
[19] See "On This Day: Milliken v. Bradley," Publishing the Long Civil Rights Movement website, University of North Carolina, https://lcrm.lib.unc.edu/blog/index.php/2012/07/25/on-this-day-milliken-v-bradley/. Also see David R. James, "City Limits on Racial Equality: The Effects of City-Suburb Boundaries on Public-School Desegregation, 1968-1976," *American Sociological Review* 54 (December 1989) (6).
[20] Gary Orfield, *Reviving the Goal of an Integrated Society: A 21st Century Challenge* (Los Angeles: Civil Rights Project/Proyecto Derechos Civiles at UCLA, 2009).
[21] The data cited in this paragraph are in Dolores Acevedo-Garcia and Theresa L. Osypuk, "Impacts of Housing and Neighborhoods on Health: Pathways, Racial/Ethnic Disparities, and Policy Directions," in *Segregation: The Rising Costs for America*, eds. James H. Carr and Nandinee K. Kutty (New York: Routledge, 2008).
[22] Pedro Noguera, *City Schools and the American Dream: Reclaiming the Promise of Public Education, (*New York: Teachers College Press, 2003); and Richard Rothstein, *Class and Schools: Using Social, Economic and Educational Reform to Close the Black-White Achievement Gap* (New York: Teachers College Press and Economic Policy Institute, 2004).
[23] William H. Frey, *America Reaches Its Demographic Tipping Point* (Washington, DC: The Brookings Institution, 2011), http://www.brookings.edu/opinions/2011/0826_census_race_frey.aspx.
[24] U.S. Census Bureau estimates and projections. Projections use Constant Net International Migration Series. Hispanics may be of any race. Racial groups include only non-Hispanic members. Multirace data is not available before 2000.
[25] Adapted from analysis by D. Acevedo-Garcia, L.E. Rosenfeld, N. McArdle, and T.L. Osypuk, "The Geography of Opportunity: A Framework for Child Development," in *Changing Places: How Communities Will Improve the Health of Boys of Color*, eds. Christopher Edley, Jr. and Jorge Ruiz de Velasco (Berkeley, CA: University of California Press, 2010), p. 358-406.
[26] Rolf Pendall, Elizabeth Davies, Lesley Freiman, and Rob Pitingolo, *A Lost Decade: Neighborhood Poverty and the Urban Crisis of the 2000s (*Washington, DC: Joint Center for Political and Economic Studies, 2011).
[27] Elizabeth Kneebone and Alan Berube, *Confronting Suburban Poverty in America*. (Washington, DC, Brookings Institution Press, 2013.)
[28] Twenty-two percent of all children under 18 lived in poverty by official Census definition in 2010, including 38.2 percent of black children and 35.0 percent of Hispanic children: National Poverty Center, University of Michigan, "Poverty in the United States: Frequently Asked Question," http://www.npc.umich.edu/poverty/#5. Also, "The percentage of children living in low-income families (both poor and near poor) has been on the rise—increasing from 40 percent in 2005 to 44 percent in 2010. During this time period, the overall number of children of all ages increased by nearly two percent, while the numbers who were low-income and poor increased by 11 percent and 17 percent, respectively." National Center for Children in Poverty, Basic Facts about Children in Poverty, 2010, http://www.nccp.org/publications/pub_1049.html.
[29] N. C. McDonald, "Children's Travel: Patterns and Influences" (unpublished Ph.D. dissertation), 2005, www.uctc.net/research/diss118.pdf.
[30] U.S. Department of Health and Human Services, Centers for Disease Control and Prevention. *KidsWalk: Then and Now – Barriers and Solutions.* 2008, http://www.cdc.gov/nccdphp/dnpa/kidswalk/then_and_now.htm. See also N. C. McDonald, "Children's Travel: Patterns and Influences" (unpublished Ph.D. dissertation), 2005, http://www.uctc.net/research/diss118.pdf.
[31] Constance Beaumont, *Why Johnny Can't Walk to School*, (Washington, DC: National Trust for Historic Preservation, 2002).
[32] U.S. Environmental Protection Agency, *Travel and Environmental Implications of School Siting* (Washington, DC: EPA, 2003); Christopher Kouri, *Wait for the Bus: How Lowcountry School Site Selection and Design Deter*

Walking to School and Contribute to Urban Sprawl (Charleston: South Carolina Coastal Conservation League, 1999); and Mac McClelland, and Keith Schneider, *Hard Lessons: Causes and Consequences of Michigan's School Construction Boom* (Beulah, MI: Michigan Land Use Institute, 2004).

[33] Renee Kuhlman, *Helping Johnny Walk to School* (Washington, DC: National Trust for Historic Preservation, 2010).

[34] For example, see Eleanor Yang Su, "School Bus Service Vanishing Amid Cuts," *California Watch*, September 2, 2011, http://californiawatch.org/dailyreport/school-bus-service-vanishing-amid-cuts-12438.

[35] For example, see K. Cotton, *School Size, School Climate, and Student Performance*, Northwest Regional Educational Laboratory, 1996, http://educationnorthwest.org/webfm_send/513; and K. Cotton, *New Small Learning Communities: Findings from Recent Literature*, Northwest Regional Educational Laboratory, 2001, http://www.evsd.org/documents/hs_revision_info/new_small_learning_communities__findings_from_recent_literature_by_kathleen_cotton.pdf.

[36] C. Howley, M. Strange, and R. Bickel. *Research about School Size and School Performance in Impoverished Communities*, (Report No. EDO-RC-00-01), 2000.

[37] Abt Associates, Inc., *National Evaluation of Smaller Learning Communities: Literature Review* (Cambridge, MA: Abt Associates, Inc., 2002), http://www.abtassociates.com/reports/SMALLER.pdf. Some of the leading philanthropic supporters of small school strategies, such as the Bill and Melinda Gates Foundation, have recently pulled back from this commitment.

[38] Active Living Research, *Walking and Biking to School, Physical Activity and Health Outcomes* (San Diego, CA: Active Living Research San Diego State University, 2009), http://www.activelivingresearch.org/files/ALR_Brief_ActiveTransport_0.pdf.

[39] For example, San Francisco's public school enrollment dropped by 5,100 students (61,621 in 1991 to 56,518 in 2011) during a period in which the city's overall population grew by 90,000 persons, according to an article in the *Wall Street Journal* Bay Area online edition by Vauhini Vara, June 27, 2012, "Challenges Await San Francisco Schools Chief;" and http://quickfacts.census.gov/qfd/states/06/06075.html. Also, Dowell Myers and Linda Lou, *Census Brief: Aging in California and Los Angeles County*, describe the decline in the five- to-nine-year-old cohort in several California counties whose overall population is growing, http://www.usc.edu/schools/price/research/popdynamics/pdf/2011_Myers-Lou_Census-Brief_Aging.pdf.

[40] See Constance C. Beaumont, *State Policies and School Facilities: How States Can Support or Undermine Neighborhood Schools and Community Preservation* (Washington, DC: National Trust for Historic Preservation, 2003).

[41] Kim Geiger, "Protesters: Route to New School a 'Danger Zone,'" *Chicago Tribune*, May 20, 2013, http://www.chicagotribune.com/news/local/breaking/chi-chicago-school-closings-protests,0,202861.story.

[42] One of the most influential writings on this subject was by J. E. Chubb and T. M. Moe in *Politics, Markets, and America's Schools* (Washington, DC: Brookings Institution Press, 1990).

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