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***Panel***

Housing and Neighborhoods: Place Effects on Educational Achievement  
(Community Conditions track)

***Paper Title***

The Burden of Choice:  
Assessing the Impact of Charter School Options on Household Travel Behavior in Philadelphia

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**Extended Abstract**

**Introduction: Neighborhoods, Access to Opportunity, and Transportation**

The conditions of schools largely reflect that of the neighborhoods in which they are located; for example, racially segregated neighborhoods of concentrated poverty host segregated schools of concentrated poverty. Many scholarly and policy efforts to disrupt the cycle of intergenerational poverty have centered on these neighborhood conditions, often in the form of mobility programs, which provide housing vouchers to families to move to higher opportunity, less segregated neighborhoods. For families with children, the hope is that this will also give them access to higher quality, less segregated schools.

In addition to housing policies, some education policies aim to increase access to schools outside families' neighborhood of residence. Rather than attending a school nearest her home, school choice policies enable a student's family to select a school anywhere in the school district. Advocates argue that school choice can help mitigate the negative impacts of living in neighborhoods of concentrated poverty by moving students to schools outside of these conditions. Critics argue that school choice policies contribute to school segregation, leave neighborhood public schools with fewer resources, and aggravate the problems of concentrated

poverty in neighborhoods and schools. Underlying all choice programs – whether in housing or education policy – is a focus on *access* to areas and institutions of greater opportunity.

Access to opportunity has many dimensions, but on a very practical level, the availability of public or private transportation as a central consideration in thinking about the potential and actual impacts of school choice policies (Makarewicz, 2013). The promise of school choice to build equitable access is predicated on students' ability to travel outside of their neighborhoods. Criticisms and research of school choice often identify increased travel distance as a barrier or additional burden born by the most disadvantaged families, exacerbating rather than mitigating inequality (Burdick-Will, 2015; Pattillo, 2015).

This paper takes up this issue of transportation in the context of school choice, and examines the impact of charter schools on a household's travel behavior in Philadelphia, PA. It addresses the following questions: How does school choice affect transportation choice, and by extension, the time, distance, and cost burdens associated with getting to school? How do these choices and their attendant burdens compare across students in neighborhood public schools and charter schools? For those choosing charter schools over their neighborhood public schools, what is the trade-off for their different travel burden; are they actually getting to higher quality, less segregated, and/or lower poverty schools or neighborhoods?

### **Background: School Travel and Today's Educational Landscape**

Research on school travel has largely centered on the extent to which design of the built environment fosters active travel – walking and biking – to school. This focus on active travel emphasizes the public health and environmental benefits of living and going to school in walkable and bike-able neighborhoods, rather than needing to use automobiles (see e.g., Krizek,

Wilson, Wilson, & Marshall, 2014; McDonald, 2008; McDonald & Aalborg, 2009). Research finds children who attend a neighborhood school with supportive built environment features (e.g., good sidewalks, bike lanes, and safe pedestrian crossings) are much more likely to walk there than others.

Active travel to school may not be possible many families for a host of reasons, however. Neighborhoods of concentrated poverty are places that face persistent disinvestment in public infrastructure and limited investment from the private market. Conditions are often not only pedestrian or bicycle *unfriendly*, but also may be unsafe. In other cases, students may attend schools that are further than “walking distance,” and research confirms that the odds of active travel to school decrease with increased distance (Ewing, Schroeer, & Greene, 2004; McDonald, 2008; Mitra, Buliung, & Roorda, 2010; Schlossberg, Greene, Phillips, Johnson, & Parker, 2006; Wilson, Marshall, Wilson, & Krizek, 2010).

Students attend schools outside of their residential neighborhood for a number of reasons. Many school districts – especially those that are in urban areas and serve large numbers of students living in poverty – have moved to models of school choice that allow students to attend schools outside of their residential neighborhood catchment area, as a way to increase access to higher quality schools that were previously unavailable to low-income and other marginalized families. School choice policies include magnet schools, charter schools, citywide enrollment, and voucher programs. The focus of this paper is on charter schools, which are associated with a market-based approach to equity. They are publicly-funded, privately-managed schools subject to state oversight and accountability systems. They must be open to all students, but can opt out of many state and district regulatory and administrative requirements. Charter school advocates suggest that large school districts are ineffective and that school site autonomy with greater

flexibility in hiring and firing, curriculum development, and day-to-day operations are key mechanisms to tackling persistent educational inequities. Studies have found that charter schools have similarly variable outcomes as traditional public schools, although there is great variation from state to state and city to city (Center for Research on Education Outcomes (CREDO), 2009, Center for Research on Education Outcomes (CREDO), 2015).

## **Data and Methods**

We rely on data from a number of secondary data sources:

- **Delaware Valley Regional Planning Commission (DVRPC)’s 2012 household travel survey:** As a federally designated Metropolitan Planning Organization (MPO), DVRPC conducts a household travel survey approximately every 10 years. The 2012 survey used a stratified address-based sample and collected travel information from 9,235 households using a 1-day paper travel diary in the 9-county region. We focus our analysis on the 1,977 Philadelphia households included in the sample. The public-use dataset include the census tract of origin and destination for each trip. We also obtained confidential data files of the school names as submitted by respondents in both survey years and joined them to the trip database. For the purposes of this analysis, school trips are defined as trips for people enrolled in K-12 school for which the destination was a school and for which the activity was “Attended classes.”
- **National Center for Education Statistics (NCES) Common Core of Data Public Elementary/Secondary School Universe Survey (CCD):** The NCES CCD provides school characteristics for public and charter-run schools. School districts and state departments of education submit this data to the Department of Education/NCES

annually. This analysis uses variables including: school name, address, type, latitude and longitude, grade configuration, counts of free and reduced-price lunch eligible students (a proxy for low-income or poverty status), and counts of students by race/ethnicity.

- **Commonwealth of Pennsylvania Department of Education Pennsylvania System of School Assessment (PSSA):** We use school-level data on reading and math proficiency. Although test scores do not capture many factors that contribute to high quality education, they are an acceptable proxy for school quality (Ellen & Horn, 2011).
- **American Community Survey (ACS) five-year estimates:** To understand some characteristics of home and school neighborhood conditions, we identify poverty level and educational attainment of each home and school neighborhood at the census tract level.
- **Philadelphia Police Department Crime Statistics (via Open Data Philly):** The Philadelphia open data portal makes local level data readily available, and so we were able to include crime data from the Philadelphia Police Department. We ranked census tracts by terciles based on the number of Uniform Crime Reporting Part 1 crimes (homicide, rape, robbery, aggravated assault, burglary, theft, and vehicle theft) from 2010 to 2012.

Our final dataset includes 241 schools and 173 K-12 school trips. We conducted bivariate analyses of school trip characteristics. We compared differences in travel distance and cost by school type, and differences in school and neighborhood characteristics for public and charter schools.

## **Select Findings**

In Philadelphia, charter school students travel further distances and for longer time than their public school counterparts. They are more likely to drive or take transit to school, potentially missing out on public health benefits of walking or biking to school. Our data suggest that low-income families have a higher cost burden for travel to school, as compared to middle- and high-income families. Charter school students attend schools about on par with their public school counterparts in the sample. Compared with the neighborhood public schools they would have otherwise attended, charter school students are not accessing lower-poverty or less segregated schools or neighborhoods. However, these charter schools are in lower crime neighborhoods and they perform better in math and reading proficiency than students' assigned neighborhood public schools they would have otherwise attended.

## **Implications**

This paper complements other scholarship on place effects, by addressing not only conditions in a family's residential neighborhood, but also about their travel across and between neighborhoods, and role of transportation systems in equitable access to opportunity. The findings suggest that for some students access to charter schools may be an important avenue for improving educational opportunity. However, these students – particularly those that come from low-income families – may face additional burdens in travel time, distance, and cost. At the same time, they do not necessarily gain access to lower poverty or less segregated schools and neighborhoods.

This study and its limitations have important implications for research and policy. First, the sample of school trips was very small and not representative of students in the Philadelphia

School District. Considering the difficulty in obtaining and sensitivity of student-level school district data, household travel survey data could be a useful tool to answer questions at the nexus of transportation and education equity at the local level and for national comparisons across cities. However, we need data that are representative of the school district (whose demographic make-up may or may not mirror its city or region) and that are large enough to conduct not only bivariate but also multivariate analyses. This challenges metropolitan planning organizations to reconsider their data collection and sampling techniques and to better incorporate questions of school travel and equity.

Second, this study complicates approaches to managing access to opportunity. It points to the need for a multi-sectoral analysis when considering the implementation and efficacy of different kinds of mobility programs. For example, by choosing charter schools, students miss out on benefits of active travel: are they trading off health benefits for educational benefits? The findings prompt questions about how policymakers prioritize and balance investments in housing mobility, neighborhood revitalization, and school choice and how these investments relate to existing and future transportation systems operations and access.

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