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

Ariel H. Bierbaum, MCP, PhD* | University of Maryland
Jesus M. Barajas, PhD | University of California-Berkeley

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

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*presenting author
The next 12-15 minutes…

- Nexus: Neighborhoods and household travel
- Gap: New conditions, new questions
- Evidence from Philadelphia
- Implications
How does choosing a charter school affect transportation choice, and 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, what is the trade-off for their different travel burden vis-a-vis school and neighborhood characteristics?
Data and Methods
HHTS sample is not reflective of Philadelphia’s school-aged or school district population.

Sources: DVRPC, U.S. Census, School District of Philadelphia
*City Under 18 and School data from 2014-2015
Charter school students drive less, use public and district transportation more than public school students.

Mode choice by school type (2012)

- **Auto**
  - Public: 26%
  - Charter: 58%

- **Walk**
  - Public: 24%
  - Charter: 3%

- **Public Transit**
  - Public: 12%
  - Charter: 31%

- **School Bus**
  - Public: 5%
  - Charter: 31%

- **Bike**
  - Public: 2%
  - Charter: 0%

- **Other**
  - Public: 0%
  - Charter: 8%

Source: DVRPC
Charter school students travel for longer time and further distance than public school students.

Travel distance and time by school type (2012)

- Distance (miles):
  - Public: 3.4 miles
  - Charter: 4.4 miles

- Time (minutes):
  - Public: 19 minutes
  - Charter: 27.3 minutes

Source: DVRPC
Low-income families sending children to charter or public schools face the highest cost burden of any income group.
Fewer charter school students live in and attend schools in low crime neighborhoods.

### Proportion of census tracts in each tercile of crime

<table>
<thead>
<tr>
<th></th>
<th>Home tract</th>
<th></th>
<th>School tract</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Public</td>
<td>Charter</td>
<td>Public</td>
<td>Charter</td>
</tr>
<tr>
<td>Low Crime</td>
<td>33%</td>
<td>10%</td>
<td>29%</td>
<td>6%</td>
</tr>
<tr>
<td>Medium Crime</td>
<td>49%</td>
<td>45%</td>
<td>38%</td>
<td>58%</td>
</tr>
<tr>
<td>High Crime</td>
<td>18%</td>
<td>45%</td>
<td>32%</td>
<td>35%</td>
</tr>
</tbody>
</table>

Significant differences between public and charter schools in both home tracts ($p = 0.004$) and school tracts ($p = 0.02$), Fisher's exact test.

Includes Part I crimes: homicide, rape, robbery, aggravated assault, and property crimes of burglary, theft and vehicle theft.

Source: Philadelphia Police Department via Open Data Philly
What do charter school students gain or lose by choosing to leave their neighborhood?
More charter school students attend schools in safer neighborhoods than their assigned public schools.

<table>
<thead>
<tr>
<th>Crime Level</th>
<th>Charter tract</th>
<th>Assigned public school tract</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low Crime</td>
<td>21%</td>
<td>5%</td>
</tr>
<tr>
<td>Medium Crime</td>
<td>33%</td>
<td>60%</td>
</tr>
<tr>
<td>High Crime</td>
<td>47%</td>
<td>35%</td>
</tr>
</tbody>
</table>

Fisher’s exact test of proportions (p = 0.015)
Includes Part I crimes: homicide, rape, robbery, aggravated assault, and property crimes of burglary, theft and vehicle theft.

Source: Philadelphia Police Department via Open Data Philly
On average, charter school students attend schools that are higher performing than their assigned public school.

Math (proficient or higher) + 17 percentage points

Reading (proficient or higher) + 19 percentage points
Implications
THANK YOU!
Ariel Bierbaum | bierbaum@umd.edu