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# Fiscal Research Center

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## Willing to Pay: Charter Schools' Impact on Georgia Property Values

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## **ACKNOWLEDGMENTS**

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# Introduction

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The number of public charter schools is on the rise – both in Georgia and the United States. According to the National Alliance for Public Charter Schools, there were more than 6,000 public charter schools operating in the United States during the 2012-2013 school year compared to 1,500 in 1999-2000. Georgia has followed the national trend, increasing the number of public charter schools from 18 in 1999-2000 to more than 100 in 2012-2013.<sup>1</sup> Advocates praise charter schools for providing parents with school choice and schools with flexibility. School choice proponents also argue that charter schools improve local public school performance through competition. Despite their growth, charter schools are not without their critics, who argue that public charter schools divert resources from traditional public schools without necessarily achieving better student outcomes. Opponents in Georgia challenged the 2009 creation of a state authorizing commission in the Supreme Court of Georgia and won, only to see it pass in a 2012 ballot referendum. The debate in Georgia will likely continue as advocates push for the expansion of charter school opportunities.

While there is an extensive literature on charter school achievement outcomes, relatively little is known about how the general public values these schools. Charter schools' effects on local property values can help reveal this. If households value access to charter schools, then demand for homes in locations that provide additional access to charter schools will rise. Increased demand in the area raises the price for residences in the area. Georgia presents a unique opportunity for analysis.<sup>2</sup> Unlike most charter schools in the United States that have diffuse attendance areas, 13 metro-Atlanta charter schools have priority admission zones within their designated attendance zones. This report explores this unique feature of metro-Atlanta charter schools to identify the change in single-family residential transaction values associated with conversion and start-up charter schools. The results suggest households are willing to pay a premium for the increased probability of admission to charter schools in priority one admissions zones. Estimates range from 7-13 percent, with an average increase in sales prices of approximately 10 percent.

This report begins by discussing the features and structure of charter schools in Georgia. The following section describes the priority one attendance zones in detail. The estimated difference in single-family residential transaction values on either side of priority admission zone borders are presented in the next section. The final section contains concluding remarks.

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<sup>1</sup> Counting conversion and start-up charter schools as well schools in charter systems, there were over 310 charter schools in Georgia during 2012-2013. The National Alliance for Public Charter School statistics do not include schools in a charter system as they are substantially different than the conversion and start-up charter schools generally referred to as charter schools.

<sup>2</sup> Georgia charter schools have received little rigorous study, with Henig and MacDonald's (2002) study of Georgia charter school location choices being the only published research that I could find. The literature on charter school capitalization into property values is also relatively nascent. Although Imberman, Naretta, and O'Rourke (2014) claim theirs is the first to study the issue, two other papers also consider the effect of charter schools on property values: Horowitz et al. (2009) and Shapiro and Hassett (2013). None analyze charter schools in Georgia or charter schools with well-defined priority enrollment zones.

## Charter Schools in Georgia

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Charter schools are public schools with two primary features that distinguish them from traditional public schools. The first feature is choice. Parents usually choose whether to send their student to a charter school.<sup>3</sup> The second is increased flexibility in exchange for increased accountability. Charter schools receive flexibility with regards to some federal and state regulations, allowing them both operational and programmatic flexibility. For example, charter schools may have longer school days, require summer school, or use different instructional methods than traditional public schools. Charter students must take the same standardized tests as traditional public school students. Student outcomes, finances, and operations are reviewed annually by the charter school's governing body and the authorizing agency. Charter school contracts, or charters, may be revoked if the school does not meet performance standards as determined by the authorizing agency.

According to the 2012-2013 Georgia Charter School Annual Report, there were 310 charter schools operating in Georgia during the 2012-2013 school year. These schools may be divided into three broad types (Georgia Department of Education 2013; Types of Charters):

- 1) **Conversion Charter School:** A charter school that previously existed as a local public school. The school converted to a charter after application to an authorizing agency. A majority of the faculty and instructional staff members and a majority of parents or guardians of students enrolled in the petitioning school must vote by secret ballot to apply for a charter. Conversion charter schools have an independent governing board. Generally, entrance into conversion charter schools is guaranteed for students residing within the school attendance boundaries determined by the local school board. If additional capacity remains at the school, then the charter determines the attendance zone from which students may apply for enrollment into the charter.
- 2) **Start-Up Charter School:** As the name implies, start-up charter schools are schools that did not exist prior to being authorized as a charter school. Start-up charter schools are created by a petition brought forth by individuals, private organizations, or a state or local public entity. Start-up charters have an independent governing board to which they are accountable as well as the authorizing agency. Start-up charter schools may determine the attendance areas from which the school will draw students. As discussed in more detail below, they may also outline priority attendance zones. In Georgia, start-up charters may be further divided into two types based upon the authorizing agency:
  - a) **Locally-Approved Start-Up:** A charter school whose petition was approved by a local board of education. A locally-approved start-up operates under the terms of a three-way contract – a charter among the charter petitioner, the local district, and the Georgia Board of Education.
  - b) **State Charter School:** A charter school whose petition was approved by the State Charter Schools Commission of Georgia (SCSC). Start charter schools are independent schools, or local education agencies, that operate under terms of a charter between the charter petitioner and

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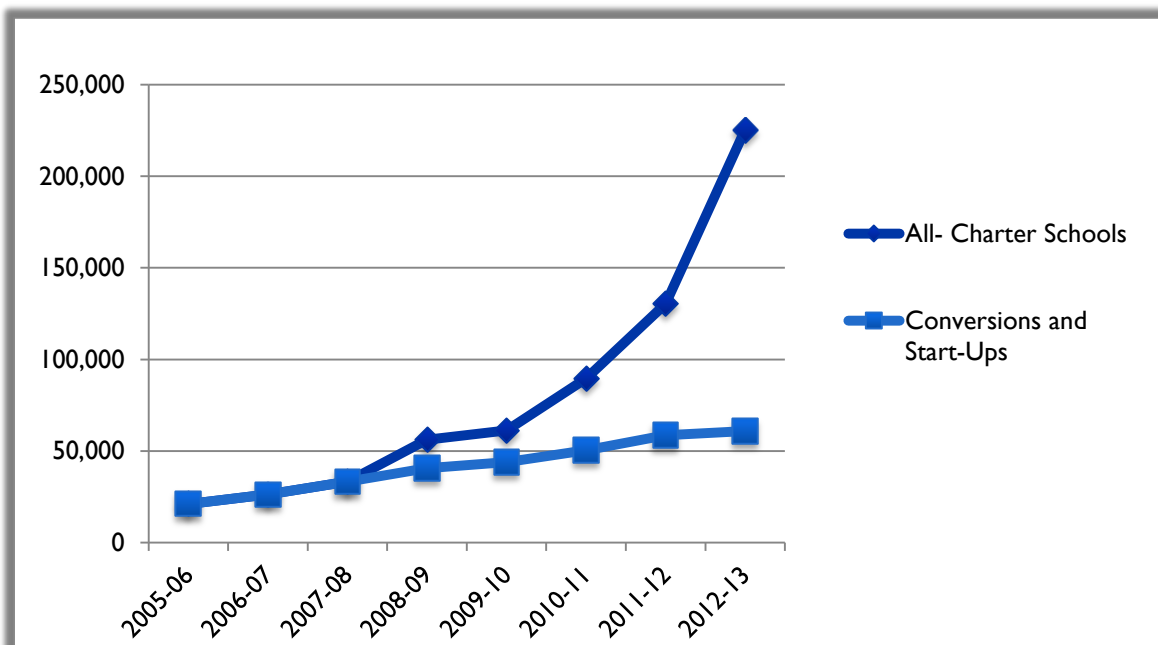
<sup>3</sup> As discussed below, conversion charters and charter systems have a different element of choice than start-up charters in which all attendees choose enrollment over their traditional public school option. Conversion charters and charter systems replace the local, traditional public school or school system.

the SCSC. The SCSC accepts applications in cases where a petition was denied by a local board of education or for schools that will draw students from five or more counties.

- 3) Charter System: A local school district that operates under a charter between the district as the charter petitioner and the Georgia Board of Education. *Schools in a charter system* are different from conversion and start-up charter schools. The district, not the school and school governing board, have the contract with the state. The locally-elected school district board retains oversight and management responsibilities, though some responsibilities may be allocated to the local schools. For example, the local board of education's responsibilities for hiring school staff and maintaining facilities continue.

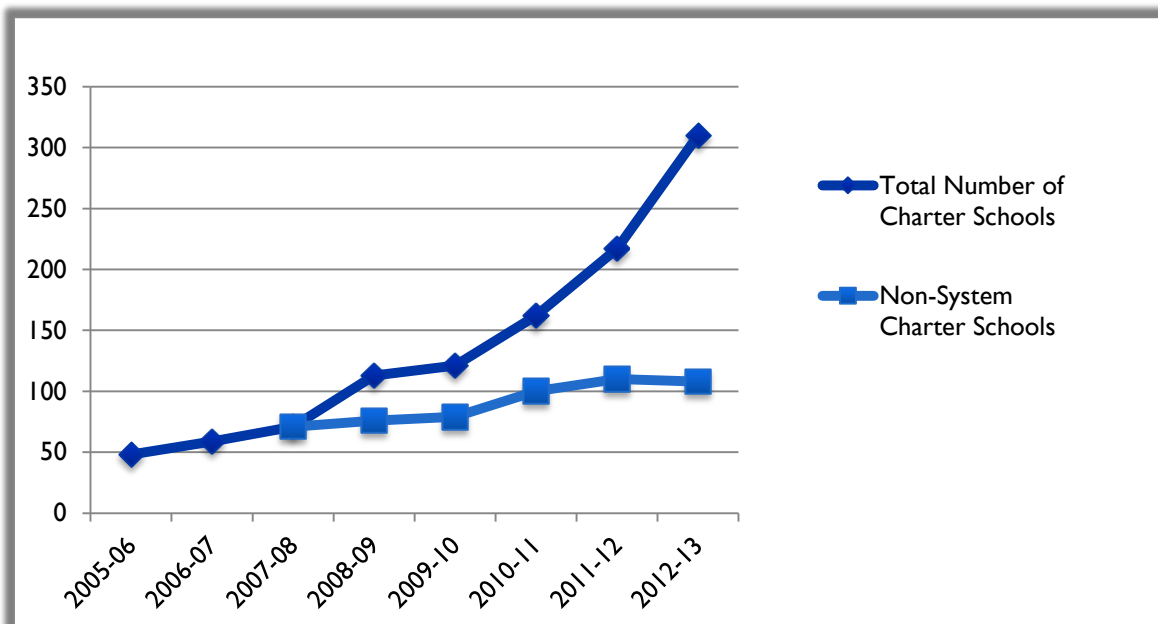
According to the Charter Schools Division of the Georgia Department of Education, charters in 2012-13 comprised 13.7 percent of all schools in Georgia, which is higher than the national average of 5.8 percent (Georgia Department of Education 2013). As shown in Figures 1 and 2, both charter school enrollment and the number of charter schools in Georgia steadily increased from 2005-2013. Reports on new charter applications indicate this trend will continue for the foreseeable future. A substantial portion of the growth is due to schools in charter systems. As noted above, schools in charter systems are quite different than conversion and start-up charter schools. Charter systems are a unique to the Georgia charter school landscape, with no other state in the nation providing a mechanism for converting a local school system into a charter system (Burge 2014).

**Figure 1: Eight-Year History of Charter School Enrollment**



Source: 2012-2013 Georgia Charter Schools Annual Report

**Figure 2: Eight-Year History of Charter Schools**



Source: 2012-2013 Georgia Charter Schools Annual Report

Contemporaneously with the growing number of charter systems in Georgia, conversion and start-up charter schools continue to increase in both number and enrollment.<sup>4</sup> Conversion and start-up charter schools set attendance zones and enrollment priorities that outline the geographic areas from which the school may draw students. Attendance zones and enrollment priorities are specified in the charter contract. In Georgia, charter schools also may define priority attendance zones within the charter's designated attendance zone. For conversion charters, the first priority attendance zone is usually the attendance boundary designated by the local school board, with the local school district comprising the attendance zone. Start-up charters have substantially more flexibility in setting attendance zones and priority zones. This relatively unique feature of the charter school landscape in Georgia confers different probabilities of gaining admittance to a charter school to different geographic areas within the schools attendance area. Currently, all charter schools with priority attendance zones are located in metro Atlanta.

<sup>4</sup> The growth of charter systems may limit opportunities for conversion charter schools, although the implications are not entirely clear yet. As discussed in the next section, North Spring Charter High School in the Fulton County School System operated as a conversion charter starting in 2007. Fulton County became a charter system in 2012, and North Springs is currently in the process of converting to a charter system school. According to its website, North Springs now only accepts students from outside the system-designated attendance zone that have been admitted to one of its magnet programs.

## Metro-Atlanta Charter School Priority Attendance Zones

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Table 1 provides details on the 13 metro-Atlanta charter schools with priority attendance zones, including the school district in which their attendance zone(s) lie, year opened, grades served, and priority attendance zones. The schools are all located within one of three metro-Atlanta school districts – Atlanta Public Schools, Fulton County School System, or DeKalb County School District. Two are conversion charter schools whose priority one zones are the local school board designated attendance areas – Kingsley Charter Elementary School and North Springs Charter High School.<sup>5</sup> Parents and teachers at these conversion charters petitioned for charter status. The remaining charter schools are start-ups whose petitioners set the attendance zone and priority zones during the charter application process. The Atlanta Neighborhood Charter Schools, Charles R. Drew Charter School, and The Museum School of Avondale Estates were created through local parent-driven initiatives. KIPP is a nationwide charter school organization that worked with local parents to petition for its metro-Atlanta charters.

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<sup>5</sup> There are number of other conversion charter schools in the metro-Atlanta area. These other conversion charters are not included here because their charters do not designate priority enrollment zones within their designated attendance areas.



**Table I: Metropolitan Atlanta Charter School Priority Attendance Zones**

CHARTER SCHOOL NAME	COUNTY/DISTRICT	YEAR OPENED	GRADES	PRIORITY ZONE ONE	PRIORITY ZONE TWO	PRIORITY ZONE THREE
Atlanta Neighborhood Charter School – Elementary Campus	Atlanta Public Schools	2001	K-5	Grant Park and Ormewood Park neighborhoods	Other NPU-W <sup>i</sup> neighborhoods	Other APS neighborhoods
Atlanta Neighborhood Charter School – Middle Campus	Atlanta Public Schools	2005	6-8	NPU-W <sup>i</sup>	APS district outside of NPU-W	
Charles R. Drew Charter School	Atlanta Public School	2000	PK-12	Villages of East Lake	East Lake and Kirkwood neighborhoods	APS attendance zones outside priority zones one and two
DeKalb PATH Academy	DeKalb County	2002	5-8	Buford Highway corridor <sup>ii</sup>	Clarkston, Stone Mountain, Lithonia zip codes - 30021, 30032, 30034, 30035, 30083, 30088	DeKalb County School District outside priority zones one and two
Kingsley Charter Elementary School <sup>iii</sup>	DeKalb County	1998 (1970)	PK-5	Kingsley attendance zone	DeKalb County School District attendance zones outside of priority zone one	
KIPP South Fulton Academy	Fulton County	2003	5-8	Conley Hills, Holmes, Hapeville, Mt. Olive, Oak Knoll, Park Lane, Harriet Tubman, and Brookview elementary school attendance zones	Seaborn Lee, Heritage, Feldwood, Bethune, Gullatt, Love Nolan, and St. Lewis elementary school attendance zones	Fulton County School System (FCS) attendance zone
KIPP STRIVE Academy	Atlanta Public Schools	2009	5-8	30310 zip code	30311 zip code	APS attendance zone outside priority zones 1 and 2
KIPP STRIVE Primary	Atlanta Public Schools	2012	K-3 <sup>iv</sup>	30310 zip code	30311 zip code	APS attendance zone outside priority zones 1 and 2
KIPP VISION Academy	Atlanta Public Schools	2010	5-8	30315 zip code	30354 zip code	APS attendance zone outside priority zones 1 and 2

CHARTER SCHOOL NAME	COUNTY/DISTRICT	YEAR OPENED	GRADES	PRIORITY ZONE ONE	PRIORITY ZONE TWO	PRIORITY ZONE THREE
KIPP VISION Primary	Atlanta Public Schools	2013	K-2 <sup>v</sup>	30315 zip code	30354 zip code	APS attendance zone outside priority zones 1 and 2
KIPP West Atlanta Young Scholars (WAYS) Academy	Atlanta Public Schools	2003	5-8	30314 zip code	30318 zip code	APS attendance zone outside priority zones 1 and 2
North Springs Charter High School <sup>vi</sup>	Fulton County	2007 (1963)	9-12	FCS designated North Springs attendance zone	FCS district	Outside the Fulton County School System
The Museum School of Avondale Estates	DeKalb County	2010	K-8	Avondale, Knollwood and Midway elementary school attendance zones	DeKalb County School District attendance zones outside of priority zone one	

Notes: Data compiled directly from charters on file with the Georgia Department of Education, with supplemental information provided by Georgia Department of Education annual reports, school websites and contacts.

- i. Neighborhood Planning Unit W (NPU-W) includes the neighborhoods of Benteen, Boulevard Heights, Custer/McDonough/Guice, East Atlanta, Grant Park, Ormewood Park, North Ormewood Park, and Woodland Hills.
- ii. The Buford Highway Corridor is defined by Interstate 85 as the southeast boundary, the Fulton-DeKalb county line as the west boundary, the Gwinnett-DeKalb county line as the north boundary, and a line one-half mile to the northwest and parallel to Peachtree Street/Peachtree Industrial Boulevard as the northwest boundary.
- iii. Kingsley Elementary Charter School is a conversion charter – the only type of charter school in Georgia initially allowed in Georgia. The conversion occurred in August 1998.
- iv. KIPP STRIVE Primary opened in July 2012 with 100 kindergarten students and will grow a grade per year until serving grades K-4. The school serves grades K-3 for 2015-2016 school year.
- v. KIPP Vision Primary opened in July 2013 with a 100 kindergarten students and will add one grade annually to reach full elementary school capacity in July of 2017. KIPP Vision Primary will serve students in grades K-2 during the 2015-16 school year. Additional grades will be added each year until the school serves grades K-4.
- vi. North Springs Charter High School is a conversion charter school, with conversion occurring in 2007. Fulton County became a charter system in 2012. North Springs Charter High School began transitioning into the Fulton County Charter System in the 2014-2015 school year as part of Cohort 3. The charter sunsets June 2015, at which time governance transitions to the School Governance Council and the Fulton County Charter System. North Springs will continue to operate its two magnet programs, accepting students from outside the designated attendance zone based upon admissions criteria.

Although there is variation between schools, these charter schools generally follow a similar admissions process. As charters, these schools may set enrollment caps that dictate the maximum number of students per grade level. Returning students, siblings of returning students, children of full-time employees, and children of governing board members receive first priority in allocating available slots in each grade. Remaining slots are filled by priority one attendance zone applicants, priority zone two applicants, and so on. If at any point in the process there are more applicants than available slots, then a random lottery determines which applicants receive offers of admission. The following summarizes how priority zones and lotteries typically interact:

- 1) If priority zone one applications exceed available slots, then a random lottery selects applicants from priority zone one only. All priority two zone applicants are waitlisted, with waitlist order determined by random lottery.
- 2) If priority zone one applicants do not exceed available slots but the combined number of priority zone one and two applicants does exceed available slots, then
  - a) Priority zone one applicants receive offers of admission and a lottery determines admission offers and waitlist order for priority zone two applicants; or,
  - b) Priority zone one and two applicants are pooled in the lottery to determine admission offers and waitlist order.
- 3) If priority zone one and two applicants do not exceed available slots but the total number of applicants from the designated attendance area exceeds available slots, then priority zone one and two applicants receive offers of admission. A random lottery determines admission offers and waitlist priorities for remaining applicants.

Living within the priority one attendance zone confers a different probability of admission depending on the school. As conversion charters, Kingsley Charter Elementary School and North Springs Charter High School priority one attendance zone students gain automatic admittance. If the schools are below their enrollment caps, then priority zone two applicants receive admissions offers through a lottery.<sup>6</sup> Similarly, the small number of households in Charles R. Drew Charter School priority one zone relative to the average number of available slots implies a probability of one for zone one applicants. Drew priority zone two residents, therefore, have a positive probability of obtaining admittance. The probability for zone two residents appears to vary from year to year, with Drew reporting no lottery for the 2009-2010 school year (implying a probability of one) and lotteries in subsequent years (implying a probability of less than one).<sup>7</sup>

Atlanta Neighborhood Charter Schools (ANCS), on the other hand, report receiving more applicants from priority zone one than available slots in some grade-years. The admissions probability for zone one applicants is therefore less than one (for those grades in those years) and zero for priority zone two applicants. In other grade-years, ANCS has not received more applicants from zone one than available slots. In this case, all zone one and two applicants are pooled in the lottery, with equal probability of

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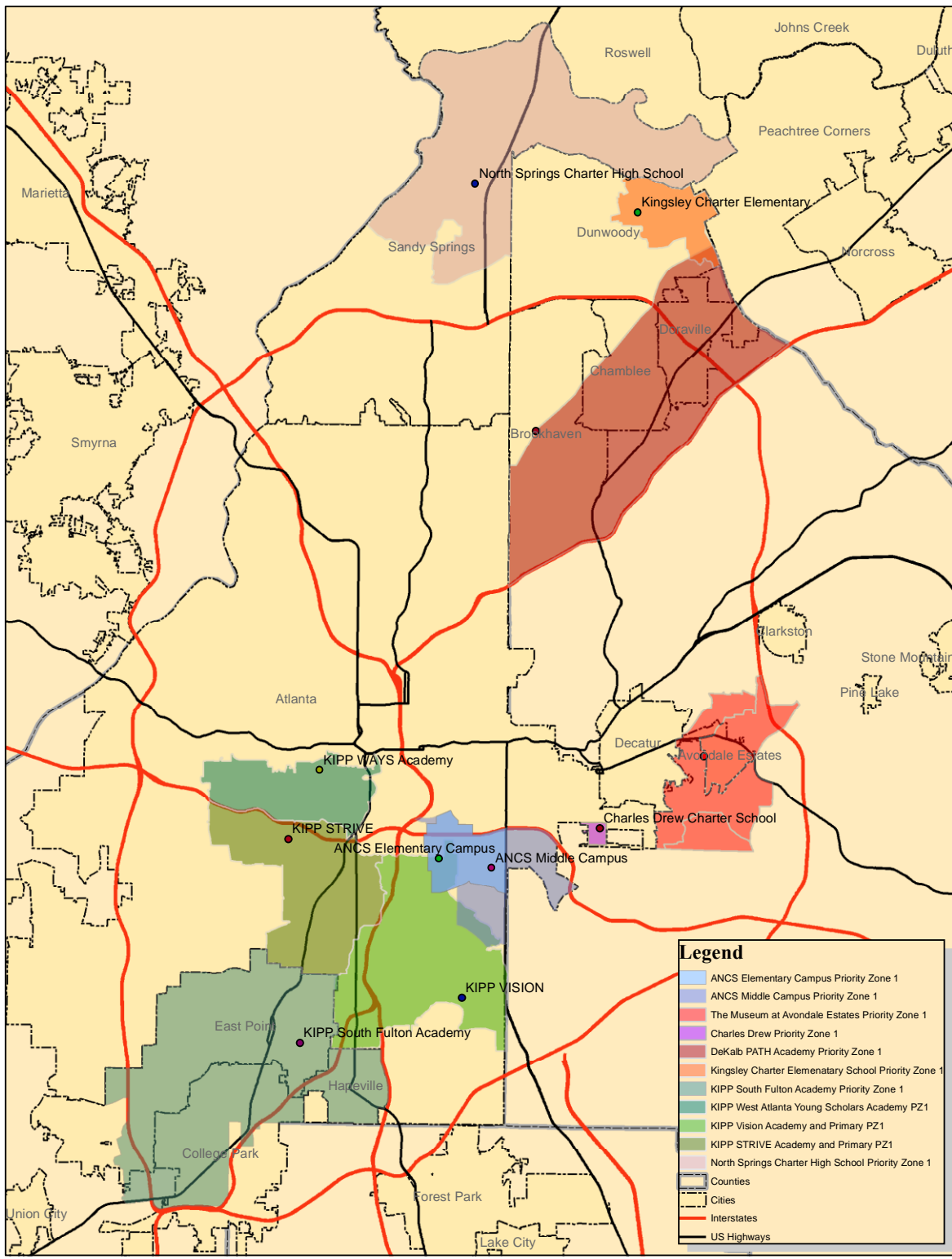
<sup>6</sup> According to information provided by the school, Kingsley has not had available lottery slots for zone two applicants in recent years. The conversion of North Springs Charter High School to a school in a charter system (from a conversion charter school) that began last year eliminates zone two effective probabilities of admission outside the magnet programs.

<sup>7</sup> For example, the 2014-2015 Pre-K lottery admitted 108 applicants and waitlisted 168, implying an acceptance probability of 0.39.

being chosen. Parents cannot know a priori whether there will be more applicants for their student's grade level from zone one than available slots. Thus, the expected probability of admission for ANCS zone one applicants is higher than zone two, but still less than one.

Table I reveals that start-up charter priority attendance zones do not necessarily align with local school attendance boundaries. For example, the neighborhoods of Grant Park and Ormewood Park comprise the highest priority zone for the Atlanta Neighborhood Charter School Elementary Campus, while the 30310 zip code is the priority one zone for KIPP STRIVE Academy. Figure 3 maps priority one attendance zones for each of the charter schools listed in Table I.

Figure 3: Metro-Atlanta Charter School Priority I Attendance Zones



It should be clear from Table 1 and Figure 3 that charter schools do not locate at random in the metro area. Schools with priority attendance zone are all located in either Fulton or DeKalb counties. As noted above, they are also located within one of three local public school districts - Atlanta Public Schools, Fulton County School System, or DeKalb County School District. Charter schools vary in their mission, governance structure and target populations. Location choice and priority attendance areas reflect this variation. The KIPP schools, for example, are clustered near one another, both because of economies of scale in management from the national organization and because target populations are clustered in that area. The non-random nature of priority attendance zones creates a challenge for identifying the effects of these zones on property values.

Figure 4 depicts the trends in housing values for each priority one zone, as well as the three local public school districts in which the zones are located. Specifically, Figure 4 plots the average transaction value for arm's length single family residential housing sales in each geographic area from 2004 through the first quarter of 2013.<sup>8</sup> The sample is limited to arm's length transactions, or transactions in which the buyer and seller are unrelated and neither is acting under duress, in order to ensure the data reflects the fair market value of the property. With the exception of North Springs Charter High School, single-family residences sold for less in priority one zones than in the Atlanta and Fulton County school districts on average. Approximately half the priority one zone average single family residences sales prices were less than those in the DeKalb County School District. This naïve evaluation suggests a discount is required to induce households into most priority zone one attendance zones. However, comparing only average transaction values fails to account for the non-random nature of priority attendance zone location and important characteristics of the properties.

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<sup>8</sup> Averages are calculated after removing all distressed transactions from the data. Distress transactions include foreclosures, short sales, and other transactions associated with loan delinquencies and default. Charles Drew priority zone one and two transactions are pooled in the chart due to the limited number of housing transactions in Charles Drew priority zone one.

**Figure 4: Average Arm’s Length Single-Family Residential Housing Transaction Values by School Attendance Zone**

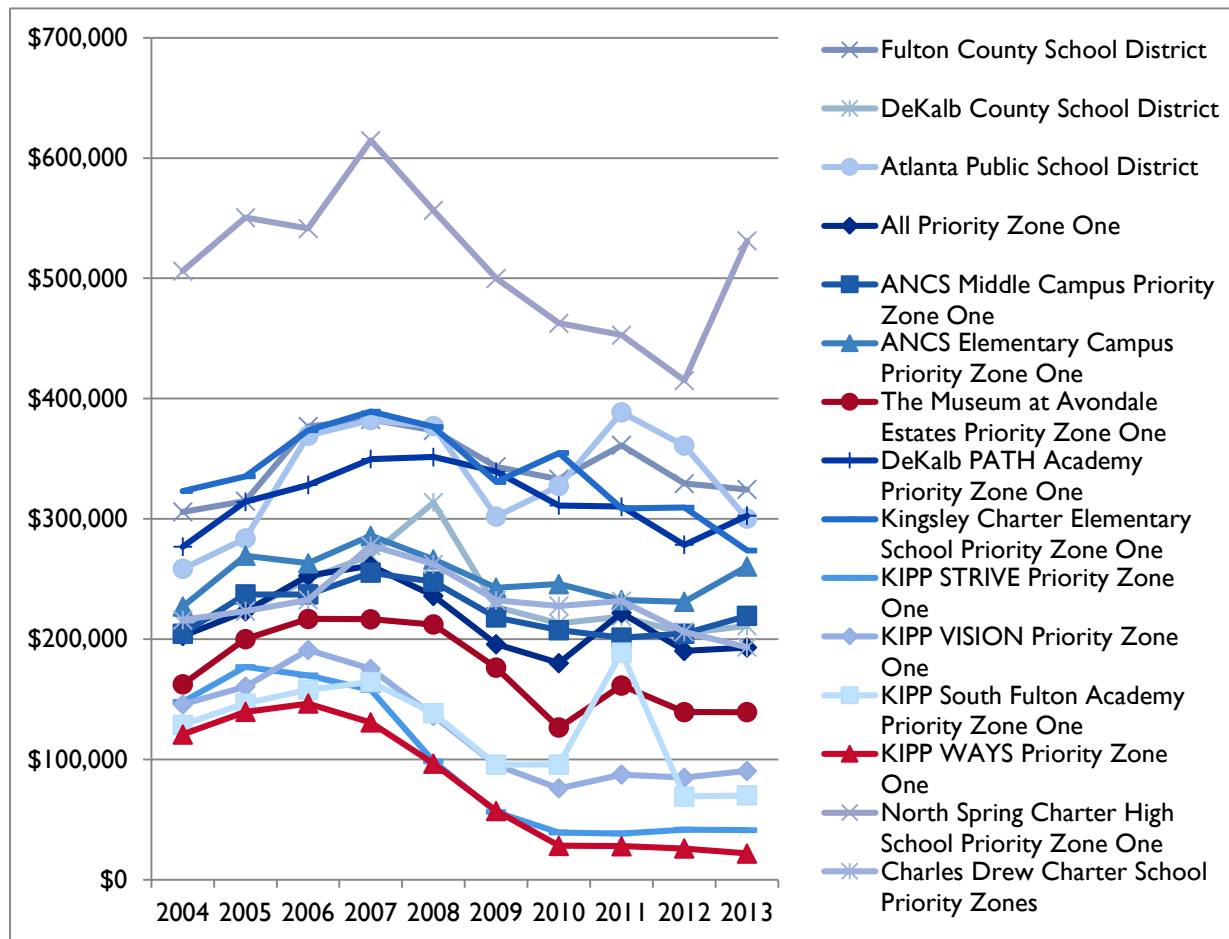


Table 2 reveals that at least part of the trends observed in Figure 4 are due to different average housing stocks in the priority one zones. Table 2 compares mean housing characteristics for all single family residential parcels in priority one zones to those of Fulton and DeKalb counties single-family residential parcels. Except for Kingsley and North Springs, priority one zone residences tend to have fewer square feet, smaller lots, fewer bathrooms, fewer bedrooms, and tend to be older than those in Fulton and DeKalb counties average. ANCS Elementary, Kingsley, and North Springs priority one zone homes are less likely to be in below average condition; otherwise, priority one zone residences are more likely to be in below-average condition. Interestingly, priority one zone houses are generally more likely to have had a permitted renovation in the past 10 years.

**Table 2: Average Housing Characteristics for Single Family Residential Parcels**

	ALL FULTON AND DEKALB	ANCS MIDDLE	ANCS ELEMENTARY	AVONDALE	DEKALB PATH	KINGSLEY	KIPP STRIVE	KIPP VISION	KIPP S. FULTON	KIPP WAYS	NORTH SPRINGS
Finished Sq. Ft.	2,104	1,510	1,629	1,479	1,679	2,498	1,387	1,290	1,500	1,322	3,362
	<i>1,081</i>	<i>586</i>	<i>652</i>	<i>536</i>	<i>764</i>	<i>634</i>	<i>454</i>	<i>475</i>	<i>581</i>	<i>468</i>	<i>1,275</i>
Basement (unfin. sq. ft.)	579	731	1,079	148	177	428	1,123	920	1,165	1,027	1,152
	<i>700</i>	<i>632</i>	<i>549</i>	<i>385</i>	<i>400</i>	<i>568</i>	<i>472</i>	<i>476</i>	<i>498</i>	<i>458</i>	<i>797</i>
Lot Size (sq. ft.)	28,808	6,664	8,228	4,067	8,444	1,480,702	8,807	11,002	15,864	8,296	34,394
	<i>1,319,435</i>	<i>7,838</i>	<i>5,901</i>	<i>47,672</i>	<i>117,509</i>	<i>16,800,000</i>	<i>5,229</i>	<i>12,961</i>	<i>15,228</i>	<i>9,648</i>	<i>31,601</i>
Bathrooms	2.48	1.70	1.88	1.71	2.09	2.71	1.42	1.55	1.77	1.57	3.83
	<i>1.15</i>	<i>0.86</i>	<i>0.94</i>	<i>0.76</i>	<i>0.94</i>	<i>0.69</i>	<i>0.65</i>	<i>0.79</i>	<i>0.82</i>	<i>0.79</i>	<i>1.22</i>
Bedrooms	3.27	2.73	2.79	2.87	2.83	3.54	2.73	2.79	2.82	2.77	4.02
	<i>0.94</i>	<i>0.76</i>	<i>0.82</i>	<i>0.73</i>	<i>0.88</i>	<i>0.75</i>	<i>0.78</i>	<i>0.72</i>	<i>0.80</i>	<i>0.89</i>	<i>0.83</i>
Year Built	1975	1948	1944	1963	1972	1978	1944	1958	1954	1950	1980
	<i>24</i>	<i>29</i>	<i>31</i>	<i>22</i>	<i>22</i>	<i>13</i>	<i>24</i>	<i>27</i>	<i>20</i>	<i>23</i>	<i>13</i>
Last Imp. Permit(i)	1982	1975	1973	2004	2003	2000	1974	1979	1975	1982	1989
	<i>15</i>	<i>13</i>	<i>12</i>	<i>8</i>	<i>10</i>	<i>4</i>	<i>15</i>	<i>14</i>	<i>14</i>	<i>12</i>	<i>8</i>
Bel. Av. Cond. (ii)	0.017	0.037	0.015	0.057	0.021	0.003	0.050	0.028	0.016	0.036	0.017
	<i>0.131</i>	<i>0.189</i>	<i>0.120</i>	<i>0.231</i>	<i>0.144</i>	<i>0.050</i>	<i>0.218</i>	<i>0.166</i>	<i>0.126</i>	<i>0.186</i>	<i>0.127</i>
Abv. Av. Cond.(iii)	0.073	0.140	0.050	0.134	0.122	0.088	0.026	0.047	0.015	0.083	0.065
	<i>0.260</i>	<i>0.347</i>	<i>0.217</i>	<i>0.341</i>	<i>0.327</i>	<i>0.283</i>	<i>0.161</i>	<i>0.211</i>	<i>0.120</i>	<i>0.275</i>	<i>0.246</i>
Fireplace	0.80	0.69	0.59	0.96	0.92	0.99	0.39	0.21	0.37	0.33	0.94
	<i>0.40</i>	<i>0.46</i>	<i>0.49</i>	<i>0.19</i>	<i>0.27</i>	<i>0.09</i>	<i>0.49</i>	<i>0.40</i>	<i>0.48</i>	<i>0.47</i>	<i>0.24</i>
Garage	0.56	0.19	0.17	0.35	0.41	0.89	0.21	0.23	0.45	0.19	0.65
	<i>0.50</i>	<i>0.39</i>	<i>0.38</i>	<i>0.48</i>	<i>0.49</i>	<i>0.31</i>	<i>0.41</i>	<i>0.42</i>	<i>0.50</i>	<i>0.39</i>	<i>0.48</i>
Recently Ren.(iv)	0.012	0.018	0.018	0.012	0.031	0.005	0.020	0.029	0.006	0.031	0.004
	<i>0.108</i>	<i>0.132</i>	<i>0.133</i>	<i>0.107</i>	<i>0.175</i>	<i>0.071</i>	<i>0.141</i>	<i>0.167</i>	<i>0.077</i>	<i>0.174</i>	<i>0.064</i>
N	402,089	6,628	3,330	7,502	13,984	2,371	8,805	7,868	12,376	5,293	6,783

Notes: The table reports mean housing characteristics for all single family residential parcels in each area. Standard deviation reported below. Drew is not shown due to the small number of parcels in the priority one zone. (i) Year of the last permitted improvement. (ii) Below average condition. (iii) Above average condition. (iv) Recently renovated, permitted improvement within the past 10 years.



In order to identify the effect of priority attendance zones on residential property values, estimates need to control for the observable differences in single-family residences described above. However, it is likely that the characteristics in Table 2 do not capture all important features affecting property values. There are likely important unobservable neighborhood characteristics that also influence sales prices during the period (e.g., access to amenities and jobs, style of housing, number of foreclosures in the areas, etc.). The estimates in the next section control for these unobservables by exploiting the sharp change in admission probability created by priority attendance zones boundaries. Specifically, the estimated effects are obtained by limiting the sample to sales within close proximity to the border between priority one and two attendance zones. Residences close to the border should be similar in observable and unobservable ways, reducing the potential for biased estimates.

## Valuing Priority One Attendance Zones

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The difference in household willingness-to-pay for single-family residences in charter school priority enrollment zones provides an estimate of how much households value access to charter schools. Willingness-to-pay is the dollar value households place upon the access to charter schools conferred by priority enrollment zones. If households value access to charter schools, then demand for homes in locations with priority enrollment will rise. Although households with children may be the driving force behind increased demand in these areas, families must compete with other households in the market. Increased demand in the area raises property values as reflected in sales prices. Households will not pay more for a home in priority enrollment zones unless the difference in price is less than or equal to their dollar valuation of the characteristics of those locations.

As demonstrated above, simply comparing average transaction values in priority one zones with county or school district averages does not reveal what, if any, price differences exist because of differences in the housing stock and neighborhoods that also affect property values. In order to estimate the effect of location in the priority one attendance zone, the value of sales transactions in the zone must be compared with transactions for similar houses in similar neighborhoods. Including observable property characteristics in regression analysis provides estimates of differences in transaction values holding constant those attributes for which data is available.

However, it is unlikely that data may be obtained for all property and neighborhood characteristics influencing housing values. Residences located close to one another are likely to be similar with respect to many important factors for which data is either difficult or impossible to obtain. For example, homes located within 0.2 miles of each other will have very similar access to employment opportunities, transportation networks, parks, shopping and dining. The neighbors with whom residents interact will also be similar, and it is likely that household willingness-to-pay also reflects how much they value living near particular types of people (where type is unquantifiable). The estimates in the following sections, therefore, compare transaction values for priority zone one residences with priority zone two sales that occur within very close proximity.

Table 3 reports the difference in the log transaction value controlling for observable property characteristics, the specific border area in the property is located, the date that the transaction occurred, and whether the property is located in priority zone one. The variable of interest is the priority zone one variable, which estimates the effect of being on the priority one side of the border

between priority zones one and two. The inclusion of variables indicating the border areas in which the property is located controls for unobservable characteristics unique to a particular charter school, but common across areas within close proximity to the border (e.g. access, neighbors, etc.). This ensures that the effect of being located in priority zone one is estimated by comparing the sale price for residences within the same border area. Including control variables for the transaction date accounts for fluctuations in housing prices over time. With the other controls, this means that the priority zone one variable captures differences in transaction values for similar houses within the same border area that sold at approximately the same time. The sample is limited to arm's length, single-family residential transactions, ensuring that prices reflect fair market value. Table 3 presents results for three samples "close" to the border – 0.1 miles, 0.3 miles, and 0.5 miles.

**Table 3: Border Area Hedonic Single Family Housing Transaction Value Estimates**

VARIABLES	(1) 0.1 MILES	(2) 0.3 MILES	(3) 0.5 MILES
Priority Zone One	<b>0.0681**</b> (0.0305)	<b>0.0812***</b> (0.0164)	<b>0.0692***</b> (0.0122)
Finished Square Feet	0.000276*** (2.86e-05)	0.000279*** (1.49e-05)	0.000283*** (1.11e-05)
Lot Size (sq. ft.)	1.98e-06* (1.17e-06)	8.89e-07 (6.52e-07)	7.26e-07 (4.80e-07)
Bathrooms	0.0433* (0.0237)	0.0630*** (0.0127)	0.0728*** (0.00967)
Bedrooms	0.0204 (0.0192)	0.00915 (0.0111)	-0.0129 (0.00832)
Basement (unfin. sq. ft.)	-1.86e-05 (3.19e-05)	4.87e-05*** (1.68e-05)	6.18e-05*** (1.21e-05)
Year Built	-0.00126* (0.000700)	-0.00137*** (0.000390)	-0.000670** (0.000290)
Below Avg. Condition	-0.230*** (0.0804)	-0.110** (0.0432)	-0.0832** (0.0327)
Above Avg. Condition	0.105*** (0.0397)	0.139*** (0.0222)	0.134*** (0.0165)
Fireplace	0.157*** (0.0346)	0.126*** (0.0191)	0.135*** (0.0146)
Garage	0.0941*** (0.0350)	0.0935*** (0.0188)	0.103*** (0.0136)
Recent Renovation	0.0804 (0.0681)	-0.0820** (0.0411)	-0.122*** (0.0311)
Constant	13.55*** (1.381)	13.42*** (0.762)	12.03*** (0.569)
Border Fixed Effects	Y	Y	Y
Time Fixed Effects	Y	Y	Y
Observations	3,654	11,764	19,279
R-squared	0.454	0.460	0.462

Standard errors in parentheses

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

Table 3 indicates that single-family residences in priority one attendance zone sold for an average 7-8 percent more than similar houses located in priority two zones between 2004 and 2013. These results suggest that households value the choice, flexibility, and accountability that characterize charter schools.

The fact that households on either side of the priority zone border have access to the charter schools with different probabilities also indicates that households value the increased probability of admission to charter schools associated with the being located in priority one zones.

Tables 4-6 present results by elementary grades, middle grades, and high school charters, respectively. Table 4 suggests a 9-13 percent premium for being located in a priority one zone for a charter serving elementary grades. Table 5 indicates a slightly lower willingness-to-pay for middle-grade charter priority zone one admission probabilities, with priority one zone single family residential transaction values 8.5-10.5 percent higher than priority two zone values. Households pay an average of 10 percent more for similar houses in high school charter school priority one zones according to Table 6. These results suggest households place a slightly higher value on elementary school priority enrollment, although this may be due in part to the longer operation periods for elementary schools in the sample.

The estimated premiums by grade levels in Tables 4-6 are higher than those estimated in Table 3 when all priority zones are pooled. This is likely due to areas with overlapping charter school priority one zones that do not identify the estimates in Table 3 but do when the estimates are broken out by grade level. For example, consider the area where the priority one zones for ANCS Elementary Campus and KIPP VISION Academy overlap in Figure 3. The estimates in Table 3 do not use the transaction values on either side of the ANCS Elementary Campus border that lie completely within the KIPP VISION Academy priority one zone to identify prices differences associated with priority one zones; however, the estimates in Table 4 do use these transactions. It is also possible that the higher premiums estimated in Tables 4-6 indicate unobserved neighborhood characteristics driving grade selection.

**Table 4: Elementary Charter School Border Area Hedonic Single Family Housing Transaction Value Estimates**

VARIABLES	(1) 0.1 MILES	(2) 0.3 MILES	(3) 0.5 MILES
Priority Zone One	<b>0.0921**</b> (0.0369)	<b>0.123***</b> (0.0206)	<b>0.132***</b> (0.0152)
Housing Characteristics	Y	Y	Y
Border Fixed Effects	Y	Y	Y
Time Fixed Effects	Y	Y	Y
Observations	1,762	5,582	9,429
R-squared	0.449	0.418	0.419

Standard errors in parentheses

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

**Table 5: Middle Grades Charter School Border Area Hedonic Single Family Housing Transaction Value Estimates**

VARIABLES	(1) 0.1 MILES	(2) 0.3 MILES	(3) 0.5 MILES
Priority Zone One	<b>0.0850**</b> (0.0355)	<b>0.0999***</b> (0.0199)	<b>0.105***</b> (0.0148)
Housing Characteristics	Y	Y	Y
Border Fixed Effects	Y	Y	Y
Time Fixed Effects	Y	Y	Y
Observations	2,798	8,922	14,745
R-squared	0.361	0.341	0.334

Standard errors in parentheses

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

**Table 6: Charter High School Border Area Hedonic Single Family Housing Transaction Value Estimates**

VARIABLES	(1) 0.1 MILES	(2) 0.3 MILES	(3) 0.5 MILES
Priority Zone One	0.109 (0.0775)	<b>0.106***</b> (0.0306)	<b>0.101***</b> (0.0205)
Housing Characteristics	Y	Y	Y
Border Fixed Effects	Y	Y	Y
Time Fixed Effects	Y	Y	Y
Observations	425	1,738	3,220
R-squared	0.464	0.453	0.480

Standard errors in parentheses

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

Taken together, the estimates in Tables 3-6 indicate that households value charter school priority zone one admission probabilities and are willing to pay a premium for housing located within these zones. As Bayer et al. (2007) discuss, it is possible that households sort along these priority attendance zone boundaries. Households on either side of the boundary are, therefore, unobservably different and part of the estimated effect is households' willingness-to-pay for neighbors. If that is the case, then the estimates are the combined premium for increased charter school admission probabilities and the type of neighbors that value them. Further research is needed to identify the causal effects of charter school admission priority zones.

## Conclusions

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The number of charter schools, and students enrolled in charter schools, has steadily increased in Georgia over the past decade. The trend is likely to continue into the foreseeable future. The charter school landscape in Georgia mirrors the national landscape in many important ways, but it also has unique features – charter systems and priority admission zones within designated attendance areas. This report exploits the latter feature to estimate households' willingness-to-pay for increased probability of admission to charter schools. The results indicate a significant premium associated with being located in priority one zones compared to similar single-family residences in priority two zones. This suggests households value access to charter schools and the type of neighbors located in priority one attendance zones. Traditional public schools also rely on property tax revenue for funding. These results, therefore, suggest another channel (besides competition) through which charter schools may help improve traditional public schools – increased revenue.

The estimated premiums are associated with start-up and conversion charter school priority attendance zones only, with the majority of the sample consisting of start-up charters. These estimates, therefore, do not indicate anything about how households value the other unique feature of the charter landscape in Georgia – charter systems. Schools in a charter system differ substantially from conversion and start-up charter schools along a number of important dimensions. The growth of charter systems may also limit opportunities for conversion charters. Having established that households do value priority one attendance zone, future research should investigate changes in property values associated with schools in charter systems. Unfortunately, the Fulton and DeKalb county charter systems efforts are too nascent to identify what, if any, affect they may have.

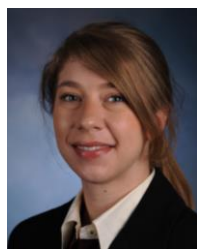
## References

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- Bayer, Patrick F. Ferreira, R. McMillan. 2007. A Unified Framework for Measuring Preferences for Schools and Neighborhoods. *Journal of Political Economy* 115(4): 558-638.
- Burge, John D. 2014. "Georgia Charter Schools and Charter Systems Annual Report, 2012-2013." Presentation to the Charter Committee of the State Board of Education, January 14. Last accessed June 30, 2015, <http://www.pathacademy.org/wp-content/uploads/2014/01/4-2012-13-Annual-Report-PPT-2014-01-14.pdf>.
- Georgia Charter School Association. 2015. "Types of Charters | Georgia Charter Schools Association." Georgia Charter Schools Association. Last accessed June 30, 2015, <http://www.gacharters.org/schools/types-of-charters/>.
- Georgia Department of Education. 2013. "Chartering in Georgia: The Charter School Division Annual Report for 2012-2013."
- Henig, Jeffrey R. and Lori L. Taylor. 1996. "Locational Decisions of Charter Schools: Probing the Market Metaphor," *Social Science Quarterly* 84: 962-980.
- Horowitz, John, Stanley Keil and Lee Spector. 2009. "Do Charter School Affect Property Values?" *The Review of Regional Studies* 39(3): 297-316.
- Imberman, Scott, Michael Naretta, and Margaret O'Rourke. 2014. "The Value of Charter Schools: Evidence from Housing Prices," working paper.
- National Alliance for Public Charter Schools, 2012-2013 U.S. estimates, <http://dashboard.publiccharters.org/dashboard/schools/page/overview/year/2013>.

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