



Quality Schools and  
Healthy Neighborhoods:  
A Research Report

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## About This Study

The Office of the State Superintendent of Education commissioned this study in late 2006, with original impetus from a federal directive for the city to study how quality public school options can retain and attract families to live in the District of Columbia. Three DC-based organizations — 21st Century School Fund, the Brookings Institution, and the Urban Institute — collaborated to conduct the research, bringing their distinct perspectives and expertise on education, housing, and neighborhood development in the District.

Three key factors differentiate this study from past research. First, it looks at all public schools and public school students — District of Columbia Public Schools (DCPS) and public charters — as part of different education sectors, but one public education system. Second, the analysis was done using a common set of indicators, reported for all schools and students that allows for rigorous comparisons across sectors and geography. Finally, this study assesses school conditions and results in the context of housing market and neighborhood trends to better understand the interplay between the two policy domains. The analysis in this report informs a companion policy report, “Quality Schools, Healthy Neighborhoods, and the Future of DC.”

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## Overview

The research of the Quality Schools and Healthy Neighborhoods study team is intended to help the District of Columbia create a firm analytical basis for planning for quality schools to meet the needs of the city's families. It is also intended to highlight the relationship between quality schools and neighborhoods. This research provides a baseline for assessing change in the District's public schools. The research and analysis from this report were the basis for the findings and policy recommendations of an accompanying policy report entitled: ***Quality Schools, Healthy Neighborhoods and the Future of DC.***

The Office of the State Superintendent of Education (OSSE) commissioned this study with the original impetus from a federal directive to study the choices parents are making in choosing schools, the relationship between school choice and school quality, and between school choice and neighborhood development. The research is a joint effort of Brookings, the Urban Institute, and the 21st Century School Fund. Together, the three Washington, DC based organizations bring unique perspectives and expertise on education, housing, and neighborhood development in the District.

In the first chapter of the research report, we provide an overview of neighborhoods and public schools in the District of Columbia, as well as a comprehensive profile of the students attending public primary and secondary schools in the District in the 2003-04 through 2006-07 school years. We use data to analyze the full spectrum of public education options in the city: DC Public Schools (DCPS), public charter schools, and to a more limited extent, voucher-supported private schools. In this chapter we describe the great diversity of public schools in the District of Columbia and who is attending them. Using student level address data, we describe how far students travel to attend DCPS and public charter schools. Chapter One is informed by the data and analysis documented in Appendix A in Volume II of this report.

Chapter Two examines the supply of the District's public schools as of school year 2006-07. This chapter describes key attributes of both DCPS and public charter elementary and secondary schools as measured by indicators of the level of school **resources**, the extent of school **risks** as measured by student demographic and educational profiles, and the school **results** as measured by the average student scores on DCCAS. Chapter Two is informed by the data and analysis documented in Appendix B in Volume II of this report.

Chapter Three examines the demand for public schools across the city and what qualities characterize schools in high and low demand. It reports on focus groups conducted with parents around the city that shed light on factors that contribute to the choice of one type of school over another. This chapter also explores student mobility among and between DCPS and public charter schools, including whether students stay with a school through the last grade offered or exit early to another public school. Chapter Three is primarily informed by the data and analysis documented in Appendix C in Volume II of this report.

Finally, Chapter Four examines public school attributes in relationship to the housing market and neighborhood trends. It looks at how neighborhood attributes, such as changes in the housing market, relate to both the supply of and demand for public schools. Chapter Four is informed by student and school level data from Chapters One through Three, as well as data and analysis documented in Appendix D in Volume II of this report.



## **Methodology**

The study team used a multi-faceted approach to the research and analysis in this project. The study team compiled three types of quantitative data – student-level data from 2003 through 2006, school-level data from 2006, and neighborhood data from 2000 through 2006 - that enabled us to analyze school supply, enrollment patterns, and their relationships to neighborhood change.

The student-level data set contains 10 variables about the characteristics of the DCPS and public charter students for each year, including their home address, race, language proficiency, special education status, free and reduced lunch eligibility, grade, and school attended. We also collected separate student-level data on special education students and Archdiocese students (including those students receiving vouchers to attend parochial school). We relied on OSSE'S student longitudinal Multi-Year Enrollment Automated Database (MEAD) to determine student mobility between public schools.

The school-level data set includes over 120 variables for each DCPS and public charter school such as program type, teacher-student ratio, building condition, enrollment, and location. Key variables were measured and then grouped together in order to rank each public school on its level of resources, results, and risks. For the neighborhood data, we analyzed federal and local administrative data sets on population demographics, births, and housing trends. We also categorized and ranked each neighborhood's housing market, diversity, and median income level.

The student and school-level data points were compiled almost entirely from administrative data sets from a variety of sources – District of Columbia Public Schools, Public Charter School Board, OSSE, Office of the Chief Financial Officer. As with any large data systems, we realize that there are some errors and omissions in the data sets used for the research. We made every effort to use the best data available and believe this analysis is a fair representation of the public education system as a whole.

The study team also collected and used qualitative information to assist with the research and analysis. We conducted nine focus groups with parents of public school students to understand their reasons for and concerns around choosing public schools. We also conducted an on-line survey with DCPS and public charter principals to gather information about each school that was not available from administrative data sets. With OSSE, the study team met with both agency and public stakeholders to secure input on our research questions and analysis.

More detail about the methodology is included in body of the report and in the Technical Methodology section at the end of the report. Appendices A, B, C, and D in Volume II include extensive detail for individual schools and neighborhoods on the full range of indicators presented in this report.



# Chapter 1 - DC Neighborhoods and Public Schools

The District's political history, housing and population changes, and social demographics all impact today's public education system and the choices that parents make within it. Like many other Southern cities, Washington, DC operated separate schools for black and white children from the post Civil War era through the mid-20th century. After the Supreme Court's 1954 decision in *Brown v. Board of Education*, and a related District case, *Bolling v. Sharpe*, the DC Board of Education moved quickly to desegregate the schools, beginning the 1954-55 school year with integrated facilities<sup>1</sup>. However, the system struggled to provide quality education to all students, with racial tensions in the schools and wide variations in student achievement levels contributing to the challenging circumstances. In addition, demographic changes in the city as a whole were reflected in the school system. At the time of the *Brown* decision, 57 percent of public school students were black. Within a dozen years, more than 30,000 white students had left the system<sup>2</sup>, and today black students comprise over 80 percent of the public school student population, a trend towards de-facto re-segregation that is repeated in many urban areas around the country.

Despite deep segregation along racial lines at mid-century, there was a significant professional and middle-class African American population living in thriving neighborhoods.<sup>3</sup> However, like many cities, the District lost both white and African-American middle class residents to the suburbs in the post war years. This hollowing out of the middle class exacerbated the District's highly bifurcated income distribution patterns, with concentrations of residents at the top and bottom of the spectrum.

Federal public housing and urban renewal policies – in particular the clearance of the Southwest neighborhood in the 1950s and 1960s – contributed to the concentration of poverty in neighborhoods east of the Anacostia River.<sup>4</sup> In the late 1960s, the city entered a period of accelerated decline. Riots following the 1968 assassination of Martin Luther King, Jr. destroyed several commercial corridors in African-American neighborhoods, leaving a legacy of boarded-up buildings that lasted for decades. During the 1970s, the District lost over 100,000 residents, and population continued to fall throughout the 1980s and 1990s. This population decline triggered a decline in tax revenues, and the District government struggled to provide public services. The population of public school students also declined steadily, from a high of 146,000 in 1960 to 100,000 in 1970 and 80,000 in 1980.

The District's struggles during this time contrasted with economic and population growth in the surrounding region. Employment in the Washington metropolitan area grew by 63 percent between 1980 and 2000, while the number of jobs in DC grew only 7 percent.<sup>5</sup> By 1998, the District's unemployment rate was 9 percent, nearly three times higher than the average in the metro area.<sup>6</sup> The city's fortunes finally turned in the late 1990s, as jobs, employment, and population all increased.

## *Housing Changes*

Revitalization of the city's downtown and several residential neighborhoods in the early 2000s attracted an influx of higher-income residents who helped drive a turnaround in the city's housing market. However, these changes have not been equally positive for all the city's residents. Although the recent revitalization of many neighborhoods has helped attract new, more affluent residents to the District, contributing to population growth since 2000, the number of school-age children has actually declined slightly.

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<sup>1</sup> Cozzens, Lisa, "Brown v. Board of Education." African American History, <http://fledge.watson.org/~lisa/blackhistory/early-civilrights/brown.html> (25 May 1998).

<sup>2</sup> "Worn Down by Waves of Change: Bureaucracy, Politics Beat Back Succession of Superintendents and Plans," April Witt, *The Washington Post*, June 11, 2007, A01

<sup>3</sup> "Homes for an Inclusive City: A Comprehensive Housing Strategy for Washington, DC", Comprehensive Housing Strategy Task Force, Washington, DC, April 5, 2006

<sup>4</sup> "Crossing the River: Race, Geography, and the Federal Government in Anacostia," Mary Halnon, University of Virginia

<sup>5</sup> Margery A. Turner, Thomas Kingsley, Kathryn Pettit, Christopher Snow, Peter Tatian, "Housing in the Nation's Capital 2002," Fannie Mae Foundation, Washington, DC: 2002, pp. 6,8

<sup>6</sup> HNC 2002, p. 8

**Table 1-1 Change in DC's Total Population and School-Age Children (Ages 5-19)**

	2000	2006	Percent Change
Total Population	571,059	585,459	2.52%
School-age Children	102,844	100,024	-2.74%

Source: U.S. Census Bureau Population Estimates

Public school enrollment was essentially flat from 1997 to 2004, and dropped slightly in 2005 (it now appears to have leveled off at this lower amount). Housing market trends can explain some of the city's difficulty in attracting and retaining families with children. Much of the new housing being built or converted are high-density, high-cost units that are more likely to attract singles and childless couples than families. In addition, the housing boom has triggered an affordable housing crisis, with home sale prices and rents rising beyond the reach of many middle and lower-income residents, especially in gentrifying neighborhoods. As explained in the Urban Institute's report on *Housing in the Nation's Capitol 2006*, "recent home buyers in the District are less likely than existing homeowners to have a student enrolled in the public school system."<sup>7</sup> In addition, condominiums – whose residents historically have far fewer students enrolled in the public schools compared with residents of single-family owned or multi-family rentals – make up a significant and growing share of the city's housing stock.

## Race and Income in the District

In addition to a shift in household makeup, the District is also experiencing change in its racial and ethnic composition. Long a predominantly African-American city, the District lost black residents between 1990 and 2000, while its Hispanic and Asian populations grew slightly.<sup>8</sup> Between 2000 and 2006, the city experienced an additional 6 percent decrease in black residents, coupled with a 14 percent increase in non-Hispanic white residents. Demographers predict that by 2020 the District will no longer be majority black, instead resembling New York or Los Angeles, with no single racial or ethnic group in the majority.<sup>9</sup>

The city remains highly segregated along both racial and income lines. Residents living East of the Anacostia River are overwhelmingly African-American and have significantly higher poverty and unemployment rates and lower educational attainment than those living elsewhere in the city, particularly west of Rock Creek Park. In 2006, median household income for whites in DC was \$92,000, almost three times higher than the \$34,500 median household income of the city's blacks.<sup>10</sup> The gap between the District's highest and lowest-income households is greater than in every U.S. city except Atlanta and Tampa.<sup>11</sup>

According to Census data, in 2000 over 90 percent of the residents in Wards 7 and 8 were black, while 80 percent of the population in Ward 3 was white. Nearly two-thirds of the city's white population lived in Wards 2 and 3.<sup>12</sup> More current data confirm that today, the District's public school students live in neighborhoods that are highly segregated along racial and ethnic lines. Half of white public school students (51 percent) live in Ward 3, and almost none live East of the River. In contrast, over half (53 percent) of black public school students live East of the River, and less than one percent live in Ward 3. Three quarters of Hispanic public school students live in Wards 1 and 4, and very few live East of the River. Only about 1,200 (out of more than

<sup>7</sup> HNC 2006, p. 7

<sup>8</sup> "Washington, DC In Focus: A Profile from Census 2000," *Living Cities: The National Community Development Initiative*, The Brookings Institution Center on Urban and Metropolitan Policy, 2003

<sup>9</sup> "DC May Be Losing Status As a Majority-Black City," *The Washington Post*, May 17, 2007, A01

<sup>10</sup> "DC's Two Economies: Many Residents are Falling Behind," DC Fiscal Policy Institute, October 24, 2007, p. 16

<sup>11</sup> William Frey, quoted with permission in DCFPI report, "DC's Two Economies"

<sup>12</sup> Neighborhood Info DC manipulation of Census 2000 data

70,000) public school students are classified as Asian or other, and none of them live East of the River or in Ward 5.<sup>13</sup>

In addition to reflecting residential segregation patterns, the makeup of the city's public schools also reveals an overall lack of participation in public schools by whites. Although white children make up over 13 percent of the District's school-age (ages 5-18) population<sup>14</sup>, white students constitute only 5 percent of the city's total public school population. Just under one-third (3,521) of all white school-age children (11,298) attend public schools. In comparison, over 90 percent (57,706) of all black (63,861) and 88 percent (7,130) of all Hispanic (8,017) school-age children attend public schools.<sup>15</sup>

**Table 1-2: Participation in Public Schools by Race/Ethnicity, SY2006-07**

	Non-Hispanic White	Non-Hispanic Black	Hispanic	Asian/Other
Share of School-Age Population (5-18)	13%	74%	9%	4%
Share of Public School Population	5%	83%	10%	2%
Share of School-Age Population in Public Schools	31%	90%	89%	40%

Source: U.S. Census Bureau, 2006 Population Estimates, DCPS & Public Charter student enrollment data 2006-2007

## Public Schools

The complexity of school supply in the public sector cannot be overstated. There are schools that vary in governance, curriculum, pedagogy, size, location, hours, and grades served. Within each of these basic areas there can be major differences, even as some commonalities can be found within the DCPS sector and within the public charter school sector. The public schools change yearly. Both DCPS and public charter schools are changing—by opening and closing schools; changing grade configurations; adding or subtracting grades; moving locations of schools; as well as making ongoing adjustments to programs, curriculum, services, and personnel, as would be done in the normal operation of a school system or operation of a public charter school. Adding private school options through vouchers (in DC, “Opportunity Scholarships”) to this tremendous array of public school choices increases the complexity.

In order to understand the supply of public schools available to parents and students in the District of Columbia, the Study Team has created a basic framework to describe the range and diversity of public schools available. We use this framework, as well as additional analysis of enrollment patterns and focus group interviews with parents and students, to describe and analyze the choices parents and students are making.

In this section, the pre-school through 12th grade public schools are described by how they are governed and the school enrollment size. Additional information on the types of educational programs offered, the demographic composition of their enrollment, and facilities condition can be found in Chapter Two of this report.<sup>16</sup>

<sup>13</sup> Urban Institute analysis of 2006-07 student-level data from DCPS and Public Charter School Board

<sup>14</sup> U.S. Census Bureau, 2006 Population Estimates

<sup>15</sup> Brookings Institution manipulation of U.S. Census Bureau 2006 Population Estimates. The school-age population estimate for children ages 5-18 includes some 18-year-old college students, which is likely to particularly inflate the number of white students age 18. To calculate a more accurate public school participation rate, the number of white children in that age range is conservatively estimated to be the same as at the other ages. Specific calculations can be found in Appendix A: Technical Methodology

<sup>16</sup> A school is defined as an entity with separate administrative leadership and staff for a particular enrollment. We use the same definition of school for public charter schools. In the case of public charter schools, one charter entity (LEA) may operate multiple schools or may just operate one school. The 2006-2007 audited school report list formed

## Education Sectors

The public and private sectors both offer education for pre-school through 12th grade students. Private schools are available for a fee under the conditions and at the discretion of the private school operator. This study does not examine private schools in the District. However there are 162 private PS-12th grade schools in the District.<sup>17</sup> They enroll students from the District, as well as students from Virginia and Maryland. There were 1,800 students in 2006-07 who attended District of Columbia based private schools paid for by federal funds through the Opportunity Scholarship Program, commonly referred to as vouchers.<sup>18</sup>

Within the public education sector, parents and guardians of school-age children in the District have many school options. During the 2006-07 school year, there were 234 public schools serving pre-school through adults without high school diplomas. These public schools were all available free to residents of the District of Columbia. There are two types of schools in the public sector—the District of Columbia Public Schools (DCPS) schools and the public charter schools.

### ***District of Columbia Public Schools (DCPS Schools)***

DCPS schools are governed and operated by the District government (formerly by the DC Board of Education) under the control of the Mayor. DCPS is a large local education agency (LEA) and in 2006-2007, DCPS operated 162 schools.<sup>19</sup> DCPS is funded as one LEA and has a central office responsible for supporting these 162 local schools with oversight, human resources (including collective bargaining agreements), administrative data and information services, facilities management, logistical support for security and food service, as well as curriculum, standards and other academic, instructional, and evaluative support. The local schools are allotted a portion of the overall DCPS budget and are permitted some local school control over staff allocation and local school planning.

The number of public schools is not identical to the number of DCPS public school buildings and locations because DCPS has “school within schools” to create small learning communities, as well as special education centers and School To Aid Youth (STAY) programs that have separate administration and students and staff within school buildings. For example, the Spingarn building houses Spingarn SHS, Spingarn STAY, and Spingarn Special Education Center. This report defines a school as a self-contained school or program with its own administration. In addition, the DCPS Choice Program schools that operate under a single administration but are located in two different buildings, at Taft and Douglas, are counted as two separate schools. The 162 DCPS schools are in 151 different locations.<sup>20</sup>

### ***Public Charter Schools***

Public charter schools are governed and operated by private non-profit boards under the jurisdiction of the Public Charter School Board. Each charter school receives the same Uniform Per Student Funding allocation from the city as DCPS and must operate in accordance with its individual charter. The Public Charter School Board conducts annual reviews of public charter schools. Each public charter operator is its own LEA and as such is responsible for the same array of functions as the combination of DCPS central office and a local DCPS school. Some public charter LEAs operate more than one school.

When public charter schools were first introduced in the District of Columbia, the DCPS Board of Education and the Public Charter School Boards were both authorizers of public charter schools. Now, all public charter schools are under the jurisdiction of the Public Charter School Board. In school year 2006-07 there were 72

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the basis for the list of public schools. The full list is included in Appendix A, Data Table A-1 All DC Public Schools by Ward.

<sup>17</sup> DCSchoolSearch.com, list of private schools for 2004-2005 school year.

<sup>18</sup>“District of Columbia Opportunity Scholarship Program,” Government Accountability Office report, GAO-08-9, November 2007.

<sup>19</sup> This number varies from the 156 DCPS schools reported in the OSSE’s State of Education report. That report omits the 4 DC Alternative Learning Academies, Jackie Robinson Center, DC Corrections Detention, and Youth Services Center because they are not located in DCPS facilities, while those schools are included in this count. The State of Education report counts Headstart Consolidated as a school, which this report does not.

<sup>20</sup> This number varies from the 141 DCPS buildings reported in the OSSE’s State of Education report for the reasons described above. In addition, this report counts Webb, Wheatley, and Hardy as separate buildings since all three will remain open as DCPS schools once renovation construction is complete.

public charter schools,<sup>21</sup> but 55 charter school operators, or public charter LEAs. Forty-four public charter school boards operate only one public charter school and 11 operate more than one, with Friendship and Community Academy operating the most with five public charter schools each. The distribution of schools by sector and ward in 2006-2007 is summarized below in Table 1.3.

**Table 1-3: Number of DC Public Schools and Enrollment by Sector and Ward 2006-2007<sup>22</sup>**

Sector Type	Ward								Total
	1 <sup>23</sup>	2	3	4	5	6	7	8	
DCPS Schools	16	12	10	18	32	21	23	30	162
Public Charter Schools	15	5	1	11	12	11	10	6	71 <sup>24</sup>
Total Schools <sup>25</sup>	31	17	11	29	44	32	33	36	233
Total Enrollment <sup>26</sup>	9,594	4,084	5,069	8,693	10,454	9,455	11,971	12,401	71,721 <sup>27</sup>

## School Enrollment Size

Beyond differences in governance, the District’s public schools also vary significantly by enrollment size. There is a body of research on school enrollment size indicating that children, particularly those from low income families, are more likely to graduate, attend school more regularly, and achieve at higher levels in a small school than a large school.<sup>28</sup> The definitions used for determining school size rating, which are different by grade level, are in Table 1.4. The research on school size does not have a standard definition of small. However, in general schools that serve less than one class per grade at the elementary level are considered small. Schools can begin to serve two classes per grade at around 300 students in a preschool through 5th grade school. At the middle and high school levels, since they serve fewer grades, higher enrollments still constitute small schools.

The public schools in the District of Columbia are overwhelming small as measured by enrollment size. However, in many cases, particularly in the DCPS schools, the low enrollment is in a building designed to serve far more students, so the small enrollment is not an intentional program-related decision, but the result of neighborhood demographic change and loss of students to other DCPS schools and to public charter schools.

For public charter schools, in many cases there has been a desire to be small by design. However, some schools have been limited by facility constraints, as public charter schools have had limited and difficult access to excess DCPS space and so had to locate and finance school building space in an expensive and competitive real estate environment.

<sup>21</sup> This number differs from the 70 reported in the OSSE’s State of Education report because it includes both the lower and middle schools at William E. Doar PCS, as well as the Community Academy Online school.

<sup>22</sup> **Quality Schools, Healthy Neighborhoods: Research Report, Appendix A, Data Table A-1 All DC Public Schools by Ward.**

<sup>23</sup> Carlos Rosario, Education Strengthens Families, and Booker T. Washington are counted only once, but they have multiple sites where they offer afternoon or evening classes.

<sup>24</sup> Excludes Virtual Public Charter School operated by Community Academy, with enrollment of 111 students.

<sup>25</sup> Oak Hill is in Maryland.

<sup>26</sup> These enrollment totals represent the number of students attending DCPS and public charter schools in each ward, not the number of public school students who live in each ward.

<sup>27</sup> Total audited enrollment for school year 2006-07 is 72,378. There are 546 students in Pre-K incentive program, Headstart consolidated program, DC corrections treatment and Oak Hill Academy, as well as 111 students in Community Academy Public Charter School Virtual School.

<sup>28</sup> Patricia A. Wasley, Michelle Fine, Matt Gladden, Nicole E. Holland, Sherry P. King, Ester Mosak, and Linda Powell, “Small Schools, Great Strides,” 2000; also [www.smallschoolsproject.org](http://www.smallschoolsproject.org).

**Table 1-4: Number of Public Schools by School Enrollment Size by Ward<sup>29</sup>**

Enrollment Size	Wards								Total <sup>30</sup>
	1	2	3	4	5	6	7	8	
Very Small	14	10	2	9	15	9	10	5	74
Small	6	5	3	8	12	14	8	6	62
Medium	8	2	2	8	3	2	11	19	55
Large	0	0	4	2	2	3	3	0	14
Very large	0	0	0	0	0	1	1	1	3
Total	28	17	11	27	32	29	33	31	208

Over half of all public school students are attending schools that are either small or very small. Only 17 percent of all public school students attend large or very large schools. A list of all schools by ward and enrollment size is in Appendix A, Data Table A-2: Public Schools by Ward and School Enrollment Size.

### **Public School Students**

Given the array of DCPS and charter school options available in the District of Columbia, what choices are the city’s public school students making? And how do these choices vary among socio-economic groups and across the city’s eight wards? This section describes the “demand side” of the District’s public school system, describing the students and their enrollment choices. It focuses primarily on the 2006-07 school year, but also discusses significant changes from prior years.

The analysis relies primarily on student-level enrollment data obtained from DCPS, the Board of Education, and the Public Charter School Board, which identify every student, his or her basic characteristics, home address, and school attended. Complete data are available for both the 2005-06 and the 2006-07 school years, and reflect enrollment patterns at the time of the city’s official October count. (OSSE’s official audited school enrollment data was not used because it does not include students’ home addresses, a necessary variable for this study. See Technical Methodology at end for more details.) Data for DCPS enrollment are also available for two additional points in time during the 2006-07 school year, enabling the analysis to explore the extent to which DCPS students are entering and leaving DCPS schools during the year.

This section begins by describing the general student population – enrolled in pre-school through 12th grade in DCPS and charter schools.<sup>31</sup> It then examines special populations, including students enrolled in special education programs, alternative student populations, and DC students attending archdiocese schools.

<sup>29</sup>

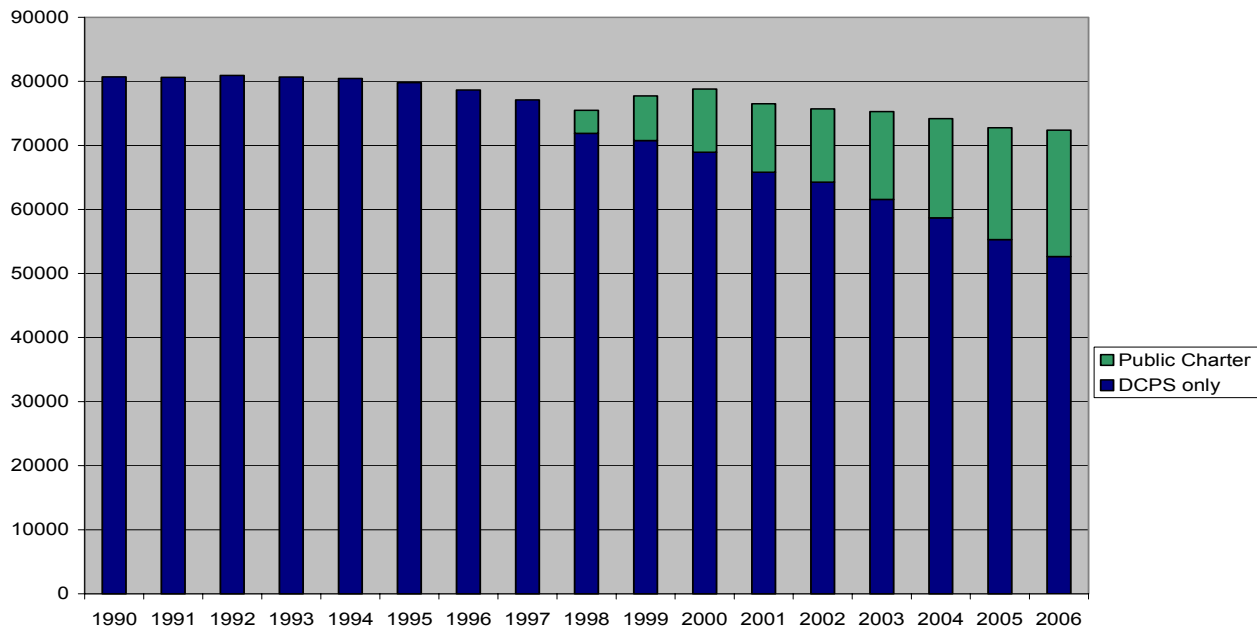
Enrollment Size	Elementary Schools	Middle/Junior High / PS-8 Schools	High Schools/ PS-12 schools
Very Small	< 200 students	<300 students	<400 students
Small	200-300 students	300-400 students	400-800 students
Medium	300-450 students	400-600 students	800-1200 students
Large	450-600 students	600-800 students	1200-1600 students
Very large	> 600 students	>800 students	>1600 students

<sup>30</sup> Special education, Alternative education, Adult education, Pre-K incentive program, Headstart consolidated program, DC correction treatment, Community Academy Public Charter School Virtual School are excluded.

## General Enrollment in Public Schools

In the 2006-07 school year, a total of 72,378 students were enrolled in DCPS and public charter schools, close to the same number as in the previous school year, but substantially below the level a decade earlier.<sup>32</sup> As Figure 1.1 illustrates, total enrollment held almost constant between 1999-00 and 2003-04, with increases in charter school enrollment making up for steady declines in DCPS enrollment. In 2004-05 and 2005-06, growth in charter school enrollment fell short of declines in DCPS enrollment, and total enrollment declined. Specifically, total enrollment in 2005-06 was down 2 percent compared to 2004-05. But in 2006-07, total enrollment was down only about 390 students (less than 1 percent) compared to 2005-06.

**Figure 1-1: Number of Public School Students Enrolled by School Sector in DC, 1990-2006<sup>33</sup>**



Source: School Year 1990-91 -- 2000-01 Kids Count Archives; School Years 2001-02 -- 2006-07 Office of State Superintendent of Education, October Audited Enrollment Data

Note: 1996-97 Public charter enrollment data not available

Since 2000, the total population of the District has increased slightly. However, the city's child population has not changed, even as the regional child population increased. In fact, the number of school-aged children living in the District has declined since 2000, offset by an increase in younger children.<sup>34</sup> Contributing to the increase in the number of young children is the increase in births in recent years, although some neighborhoods have had significant increases while others have stagnated or declined. Yet even with overall child population unchanging and school-age population (ages 5-17) in decline, the number of public schools and separately administered school programs in the District rose from 163 to 234 programs between 1997 and 2006 (Table 1.4). The city's capacity for school children also increased due to the establishment of approximately 1,800

<sup>31</sup> Several categories of public school students are omitted from the analysis of the general student population: those over age 22, wards of the state, private tuition recipients, and students in custody. Students who receive special education services at DCPS or public charter schools are included here, but also discussed in greater depth below. The number of students in our analysis of the general public student population for 2006-07 is 69,827. This number is different from OSSE's audited enrollment numbers of 72,378 students in 2006-07.

<sup>32</sup> Note that this analysis of enrollment trends over the last decade uses the city's official audited counts, provided by the Office of the State Superintendent of Education (OSSE). These counts differ from the total number of general enrollment students in our student-level data file. Specifically, the official count for 2006-07 is 2,551 higher than the number of general enrollment students for which student-level data are available.

<sup>33</sup> For specific enrollment figures, see Appendix A, Data Table A-3: Public School Enrollment, 1990-91 to 2006-07/

<sup>34</sup> The estimated number of children ages 0 to 4 increased by 9 percent between 2000 and 2006, while the population of children ages 5 to 17 decreased by 4 percent during the same time period (2000 and 2006 Population Estimates).

publicly-funded vouchers, as well as public charter schools reaching their fully authorized size and some receiving approval to move beyond their originally authorized enrollments. As of 2006, the authorized capacity of the public charter schools totaled approximately 32,000 students, even as they enrolled only 19,733 students.<sup>35</sup> DCPS, through the modernization of its first 15 schools that opened between 2001 and 2006, reduced capacity by approximately 2,000 seats. With the closing of schools in 2006 and the additional school closings planned for the 2008-09 school year, DCPS will have reduced its building capacity by another 13,000 students. Even after these closings, DCPS schools still retain capacity for about 68,000 students. Combining the capacity of these three types of publicly-supported schools, the District has capacity for approximately 100,000 students for the 2008-09 school year. The total public enrollment in 2007-08, including 49,422 DCPS students, 21,947 public charter students, 2,706 special education tuition grant and Oak Hill students, and 1,903 voucher students was 75,978 students.

**Table 1-5: Comparison of Key Population and Education Indicators 2000 and 2006**

	2000	2006	% change
Total Population	572,059	585,459	2.5%
Total Children (Ages 0-17)	114,992	114,531	-0.4%
School-Age Children (5-17)	82,456	79,018	-4.2%
Total Public School Enrollment	78,806	72,378	-8.2%
<i>DCPS Enrollment</i>	68,925	52,645	-23.6%
<i>Public Charter School Enrollment</i>	9,881	19,733	+99.7%
Number of Public Schools	189	234	23.8%
Public Education Budget (DCPS & Public Charter, Operating, Facility Allowance and Capital—Local Fund)	\$847.6M (2006\$)	\$1.35B	59.3%

Source: Census 2000; 2006 Census Bureau Population Estimates; OSSE October audited enrollment; DC Government Public Education Budget, 2000 and 2006; DCPS capital budget, 2000 and 2006

Data for the most recent school year (2007-08) show a slight increase in total enrollment to 72,490 students.<sup>36</sup> DCPS enrollment has declined by 2,375 students, nearly equal to the 2,453 student gain in the charter schools. The trend in student enrollment since the start of the decade is consistent with evidence discussed earlier that, although the District of Columbia is now gaining population and households, the number of families with children living in the city is not growing, and may in fact be declining.

Although total enrollment has declined relatively slowly since the beginning of the decade, DCPS enrollment has dropped substantially, while charter enrollment has increased. In 2006-07, DCPS enrollment totaled 52,645, down 4.8 percent from the previous year and 26.8 percent below its level in 1998, the year after public charters were first introduced in the District. In contrast, the 2006-07 charter enrollment totaled 19,733 – up 13 percent from the 2005-06 level, and an increase of approximately 450 percent since 1998-99.

In 2006-07, just over one of every four general enrollment public school students (27 percent) was officially enrolled in a charter school, up from 24 percent in the previous school year and 16 percent in 2003-04.<sup>37</sup> As Figure 1.2 illustrates, the share of students choosing charters varies substantially across the city's eight wards. The share attending charters is dramatically lower for students who live in Ward 3 (5 percent) and considerably lower in Ward 2 (15 percent) than in the rest of the city. In contrast, Ward 5 has the highest share of public

<sup>35</sup> Authorized capacity figures provided by Public Charter School Board.

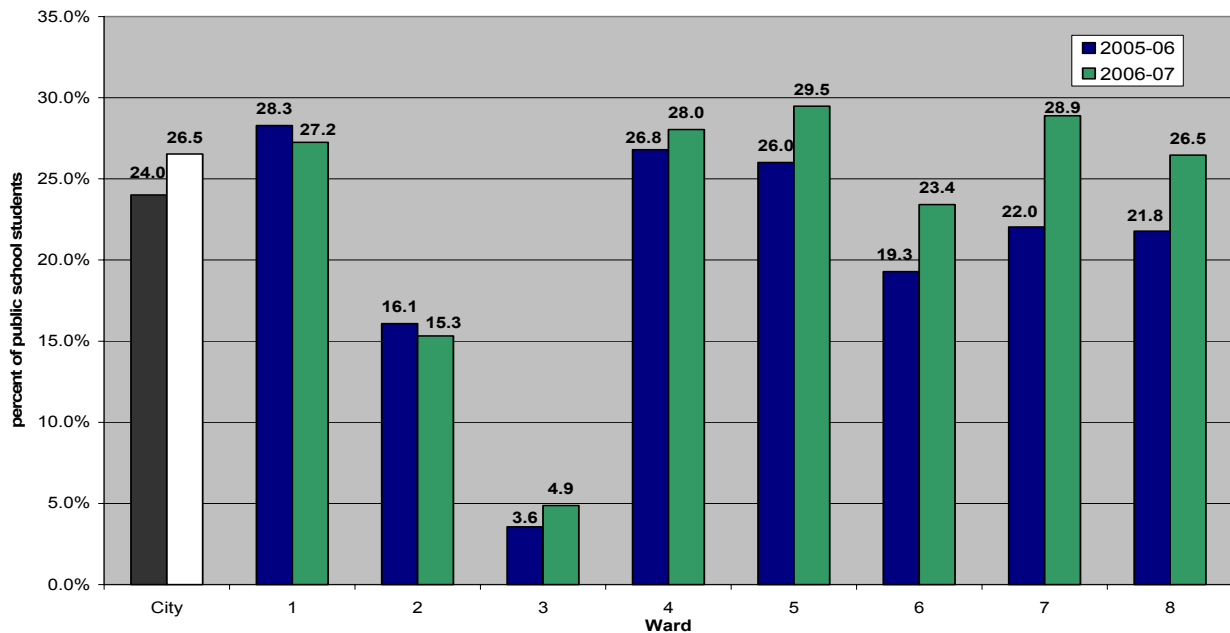
<sup>36</sup> This number is based on the October 5 enrollment count conducted at all DCPS and public charter schools. The audited numbers had not been released at the time of analysis.

<sup>37</sup> The analysis in the remainder of the *General Enrollment* section uses the student-level enrollment data (not audited data) between 2003-04 and 2006-07 totaling 73,731 students in 2003-04 and 69,601 students in 2006-07.



school students attending charters at 30 percent, followed closely by Ward 7 (29 percent), Ward 4 (28 percent), and Wards 1 and 8 (27 percent each). Between 2005-06 and 2006-07, the share of students choosing public charter schools rather than DCPS schools increased substantially between 2003-04 and 2006-07 in all eight wards, although the share of students declined slightly in Wards 1 and 2 and increased only modestly in Wards 3 and 4 for the most recent years.

**Figure 1-2: Share of Students Attending Public Charter Schools by Ward<sup>38</sup>**



Source: 2006-07 DCPS, PCSB, and BOE October student enrollment files (pre-audit)

Low-income students in the District attended public charter schools at a slightly lower rate than higher income students. Specifically, in 2006-07, 25 percent of all public school students who were eligible for free or reduced price lunch attended public charter schools, compared to 29 percent of higher income students (those not eligible for free or reduced price lunch). Between the 2004-05 school year and the 2006-07 school year, charter attendance rose by eight percentage points for low-income students and by five percentage points for higher income students.<sup>39,40</sup>

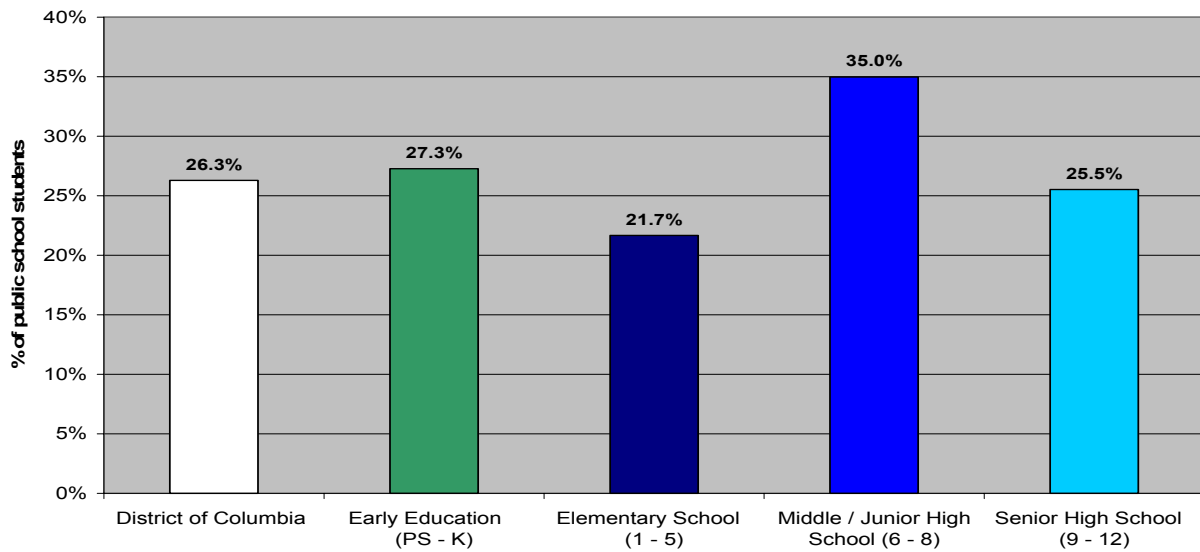
Enrollment in charters rather than DCPS schools is highest among students in the middle school grades and lowest among students in first through fifth grade. As Figure 1.3 shows, in 2006-07, more than one-third of public school students in grades 6 through 8 attended charters (35 percent), compared to only about one in five students in grades 1 through 5 (22 percent). To some extent, these differences likely reflect the availability of charter school options at each grade level – charter schools made up 39 percent of all public middle schools, but only 25 percent of all public elementary schools in 2006-07. (See Appendix A, Data Table A-1: Public Schools by Ward for list of all public schools by ward and grade level.)

<sup>38</sup> For trendline detail, see Appendix A, Data Table A-4: Ward of Student’s Household by Sector Type – 2003-04 to 2006-07 and Data Table A-5: Neighborhood Cluster of Student’s Household by Sector Type, 2003-04 to 2006-07.

<sup>39</sup> We use the 2004-05 student level data instead of the 2003-04 student level data because the 2003 data are missing eligible free and reduced lunch status.

<sup>40</sup> For additional detail on enrollment distribution of low-income students, see Appendix A, Data Table A-6: Students with Free/Reduced Lunch Eligibility by Sector Type & Ward: 2003-04 to 2006-07 and Data Table A-7: Students with Free/Reduced Lunch Eligibility by Sector Type & Neighborhood Cluster, 2003-04 to 2006-07.

**Figure 1-3: Share of Public School Students Attending Charter Schools by Grade Range, 2006-07<sup>41</sup>**



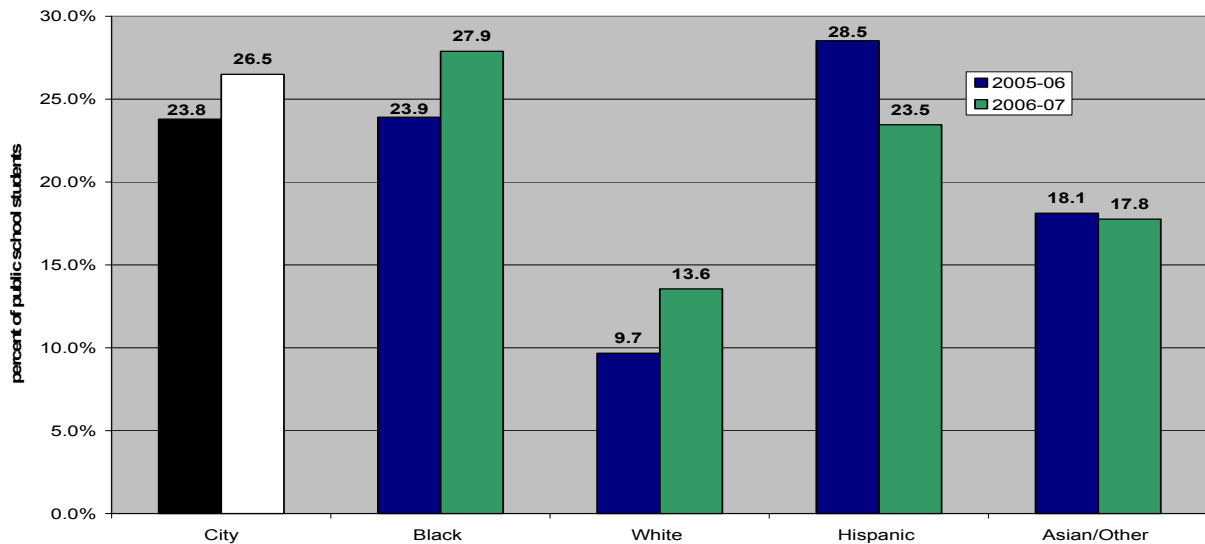
Source: 2006-07 DCPS, PCSB, and BOE October student enrollment files (pre-audit)

The share of public school students attending charters is substantially higher among African Americans and Latinos than among whites, as illustrated in Figure 1.4. Only 3,533 of the 69,800 city’s public school students are white, and only 14 percent of these white students attended charters in 2006-07 (for a total of only 479 white charter school students).<sup>42</sup> In contrast, 28 percent of black students and 24 percent of Hispanic students attended charters (16,184 black charter students and 1,675 Hispanic charter students). Compared to the 2003-04 school year, the share of students attending charters increased among both blacks and whites, while the share of Hispanic students increased between 2003-04 and 2005-06 but then declined between 2005-06 and 2006-07. Specifically, the share of black students attending charter schools rose from 17 percent to 28 percent and the share of whites climbed from 6 percent to 14 percent. The share of Hispanics increased from 15 percent in 2003-04 to 29 percent in 2005-06 but then dropped to 24 percent in 2006-07.

<sup>41</sup> For additional detail and trendlines, see Appendix A, Data Table A-8: Grade Category of Students by Sector Type, 2003-04 to 2006-07 and Data Table A-9: Grade Level of Students by Sector Type, 2003-04 to 2006-07.

<sup>42</sup> Our analysis is based on a subset of the student-level enrollment files (pre-audit). We exclude those students over age 22, wards of the state, private tuition recipients, and students in custody totaling 69,601 students in 2006-07. This number is different from OSSE’s audited 2006-07 enrollment number of 72,378 students.

**Figure 1-4: Share of Public School Students Attending Public Charter Schools by Race, Ethnicity and Grade** <sup>43</sup>



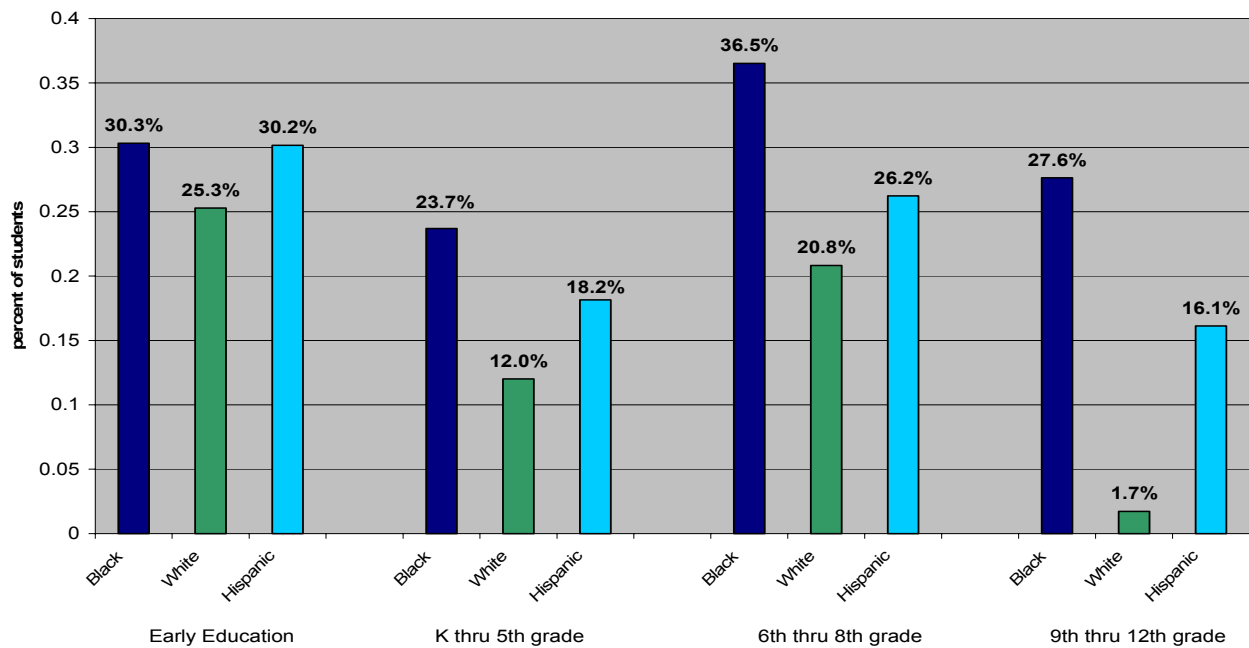
Source: 2006-07 DCPS, PCSB, and BOE October student enrollment files (pre-audit)

There are some differences in public charter participation between racial groups by grade level, although white students at every grade level are substantially less likely than either blacks or Hispanics to attend charter schools (see Figure 1.5). The share of black students attending charters ranges from a low of 24 percent at the elementary level to a high of 37 percent at the middle school level. The share of Latino students attending charters ranges from 16 percent at the high school level to 30 percent for early education, although the share of Latino middle-school students attending charters is also quite high (26 percent). Finally, the share of white students attending charters ranges from almost zero at the high school level to 21 percent at the middle-school level and 25 percent for early education.

<sup>43</sup> For additional detail on the geographic and sector distribution of public school students by race/ethnicity, see Appendix A, Data Table A-10: Race/Ethnicity of Students Enrolled by Sector Type: 2003-04 to 2006-07; Data Table A-11: Race/Ethnicity of Students Enrolled by Sector Type & School Location (PUMA): 2003-04 to 2006-07; Data Table A-12: Race/Ethnicity of Students Enrolled by Sector Type and Ward (Number): 2003-04 to 2006-07; Data Table A-13: Race/Ethnicity of Students Enrolled by Sector Type and Ward (Percent): 2003-04 to 2006-07; Data Table A-14: Race/Ethnicity of Students Enrolled by Sector Type & Neighborhood Cluster (Number): 2003-04 to 2006-07; and Data Table A-15: Race/Ethnicity of Students Enrolled by Sector Type & Neighborhood Cluster (Percent): 2003-04 to 2006-07.



**Figure 1-5: Share of Public School Students Attending Charters by Race/Ethnicity and Grade Level, 2006-07<sup>44</sup>**



Source: 2006-07 DCPS, PCSB, and BOE October student enrollment files (pre-audit)

As discussed earlier in this report, the District's neighborhoods remain quite highly segregated on the basis of race, with the majority of black students living in majority-black neighborhoods in Wards 5, 7, and 8, while most white students live in Ward 3 and most Hispanic students live in Wards 1 and 4. To a large extent, the composition of individual schools reflects this pattern of residential segregation. As Chapter 4 will discuss, most DCPS and charter schools serve predominantly black student populations, while a small number are majority white or Hispanic. Here we focus not on the racial and ethnic composition of individual schools, but on the experience of the average student from each racial and ethnic group. Specifically, we describe the extent to which the average black, Hispanic, or white student is exposed to students of the same or different racial and ethnic groups at school.<sup>45</sup>

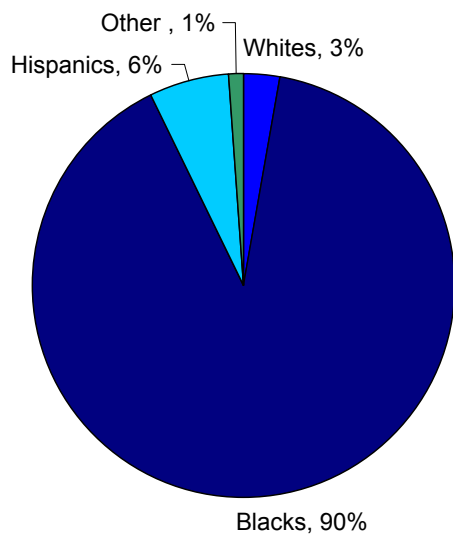
The average black student in the District of Columbia attends a school that is predominantly black (see Figure 1.6). In contrast, the average white student attends a school that is more diverse, with white, black, Latino, and other students. And the average Latino student attends a school that is majority minority – with roughly equal shares of black and Latino students, but relatively few whites. More specifically, 90 percent of school-mates for the average black student are also black; while for the average white student, 40 percent of school-mates are white, 40 percent are black and 20 percent are Latino or other; and for the average Latino student, 37 percent of school-mates are Latino, 52 percent are black and 11 percent are white or other.

<sup>44</sup> For additional detail, see Appendix A, Data Table A-16: Race of Students Enrolled by Grade Level, 2003-04 to 2006-07.

<sup>45</sup> This approach to measuring patterns of segregation is called an exposure index. It has been shown to be effective for describing how segregation is experienced, particularly in multi-ethnic contexts. See Technical Methodology for further description.

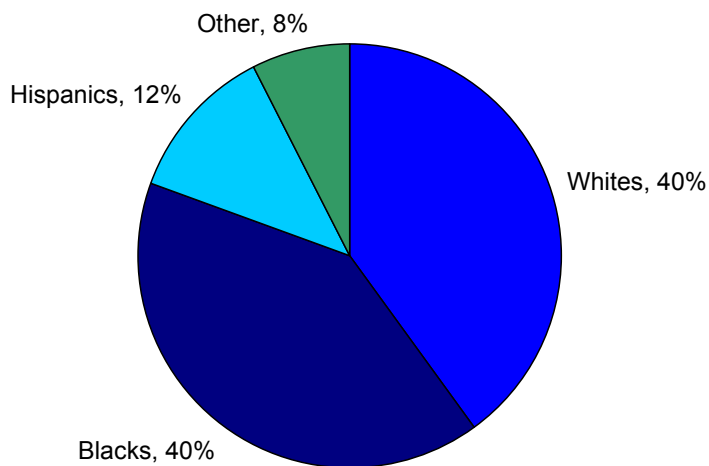
Figure 1-6: Racial Exposure Charts<sup>46</sup>

### Composition of School Attended by Average Black Student



Source: 2006-07 DCPS, PCSB, and BOE October student enrollment files (pre-audit)

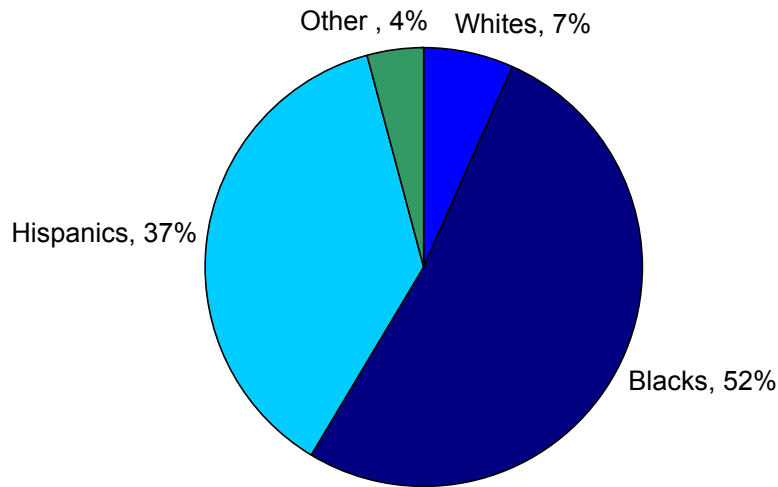
### Composition of School Attended by Average White Student



Source: 2006-07 DCPS, PCSB, and BOE October student enrollment files (pre-audit)

<sup>46</sup> For additional detail, see Appendix A, Data Table A-17: School Exposure Index by Race of Students, 2006-07; Data Table A-18: Elementary School Exposure Index by Race of Students, 2006-07; Data Table A-19: Middle School Exposure Index by Race of Students, 2006-07; and Data Table A-20: High School Exposure Index by Race of Students, 2006-07.

### Composition of School Attended by Average Hispanic Student



Source: 2006-07 DCPS, PCSB, and BOE October student enrollment files (pre-audit)

Interestingly, these average exposure patterns are very similar for DCPS and public charter students. Overall, blacks account for a larger share of public charter students than DCPS students, and this translates into greater exposure to black school-mates for all charter students, regardless of their race or ethnicity. However, in both DCPS and public charter schools, the average black student is exposed to predominantly black school-mates, while the average white student is exposed to a substantial number of white and black school-mates (but few Latinos) and the average Latino is exposed to a substantial number of Latino and black school-mates (but few whites).

Patterns of school exposure differ more dramatically by grade level. For black students, the picture remains essentially the same: at every level school-mates are overwhelmingly black. But for white and Latino students, the share of same-race school-mates is dramatically higher in the early grades and quite low by high school. This is particularly evident for students attending DCPS schools, in part because DCPS elementary schools primarily serve students in their immediate neighborhoods, while both charter schools and middle- and high-schools draw from larger geographic areas.<sup>47</sup> To illustrate, in DCPS schools the share of school-mates who are white drops from 62 percent for the average white child in pre-school or pre-kindergarten to only 22 percent for the average white high school student. In public charter schools, the share of school-mates who are white is lower at every grade level, but still declines from 34 percent for the average white child in pre-school or kindergarten to only 1 percent for the average white high school student. This reflects the significant decline in white public school students as they progress up the grade pipeline, as well as the small share of those white students attending charter high schools – fewer than 10 students in 2006-07; virtually all of the 522 white public high-school students in the District attend DCPS schools.

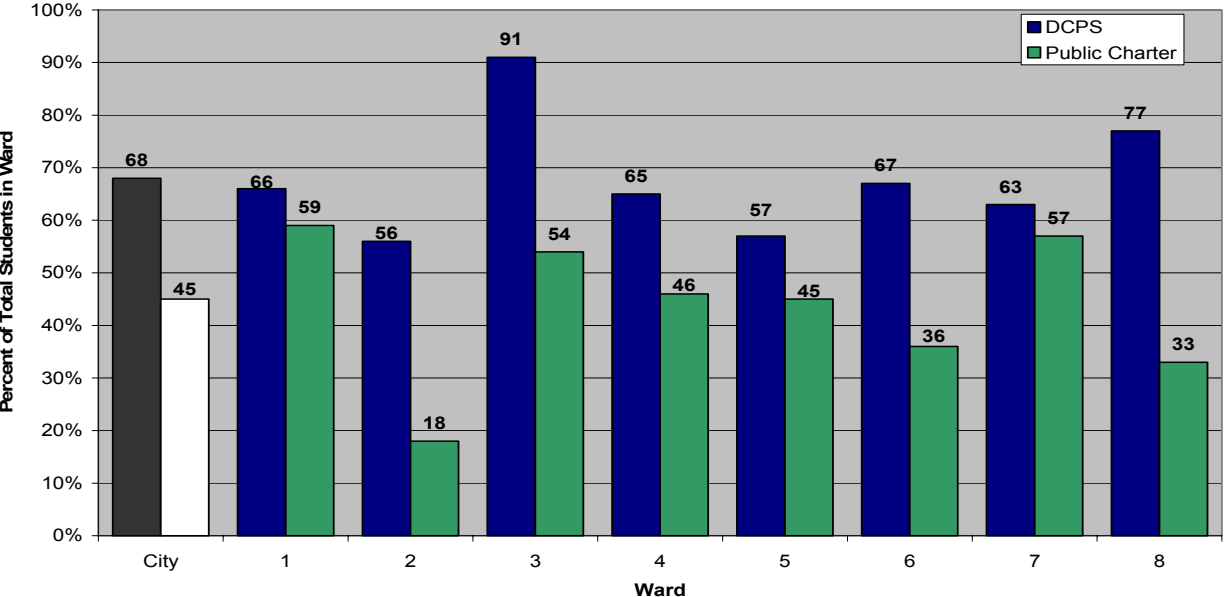
This next section describes how far public school students traveled between home and school in 2006-07. There are a variety of factors that may influence whether a student chooses to attend a school near or far from their home. Such factors include DCPS and public charter admittance policies, knowledge of available school options, the location of DCPS and public charter schools (including proximity to parents' place of work), school quality (including test scores and facility condition), neighborhood change, etc. These factors are explored in greater details in the following chapters.

<sup>47</sup> Analysis in Chapter Three also explores the patterns of mobility between schools and school types by grade level.



DCPS students are much more likely than charter school students to attend a school that is located in the same ward in which they live. Specifically, about two thirds of DCPS students (68 percent) attended a school in their own ward, compared to under half of charter students (45 percent). The shares of students attending school in the ward where they live varies quite substantially by ward, although DCPS students from every ward are more likely than charter students to attend school in the same ward. (This is not surprising since DCPS admittance policies favor children attending schools in their ward, while public charter admittance policies require a city-wide lottery for waitlisted students.) As shown in Figure 1.7, the share of DCPS students attending school in the ward where they live ranges from lows of 56 percent and 57 percent in Wards 2 and 5, respectively, to a high of 91 percent in Ward 3. The share of charter students attending school in the ward where they live ranges from a low of 18 percent in Ward 2 to highs of 57 and 59 percent in Wards 7 and 1, respectively.

**Figure 1-7: Share of Public School Students who Reside & Attend School in Same Ward by School Sector, 2006-07<sup>48</sup>**



Source: 2006-07 DCPS, PCSB, and BOE October student enrollment files (pre-audit)

Not surprisingly, therefore, charter school students typically travel farther from home to school than DCPS students (see Figure 1.8).<sup>49</sup> Among DCPS students in the 2006-07 school year, the median distance traveled was 0.57 miles, while the median for public charter students was about three times that distance (1.77 miles).<sup>50</sup>

<sup>48</sup> For additional detail, see Appendix A, Data Table A-21: Ward of Student’s Household by Ward of Student’s School (All Students), 2003-04 to 2006-07; Data Table A-22: Ward of Student’s Household by Ward of Student’s School (DCPS students), 2003-04 to 2006-07; Data Table A-23: Ward of Student’s Household by Ward of Student’s School (charter students), 2003-04 to 2006-07; and Data Table A-24: Students who Reside and Attend School in the Same Ward by Grade Level, 2003-04 to 2006-07.

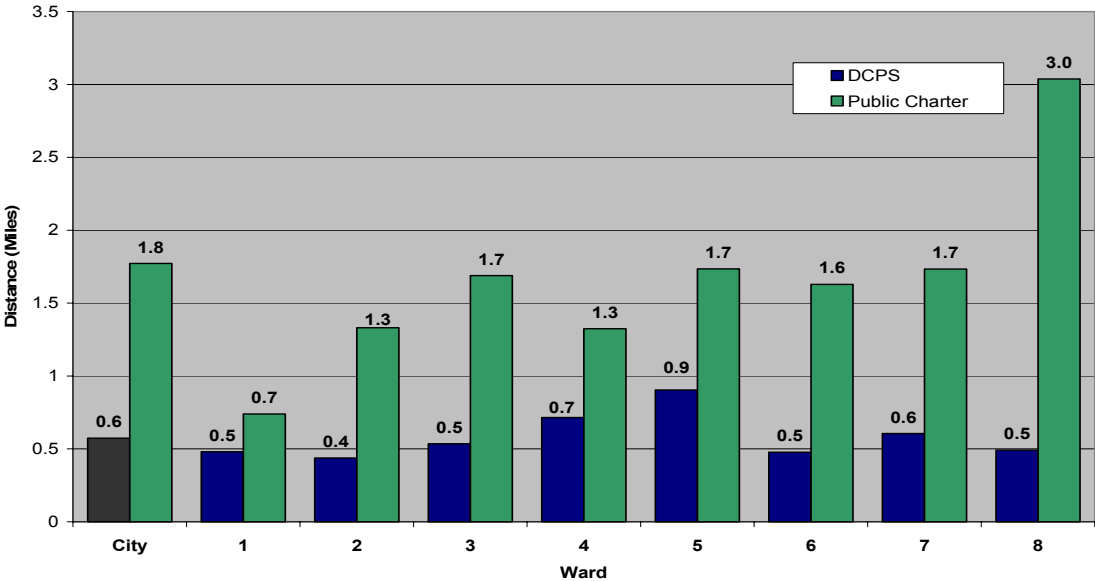
<sup>49</sup> The distance traveled between a student’s home and school was measured “as the crow flies” or the most direct route ignoring transportation patterns, geographical boundaries, etc. The number of public school students included in the distance analysis was 67,197 students. It was 2,630 students less than our general enrollment population (69,827) because we removed all students whose home address was listed as “DCPS headquarters” or 825 N. Capitol Street, NE, or who lived outside the District.

<sup>50</sup> The median distances traveled in 2006-07 decreased very slightly from the medians in 2005-06. Specifically, median distances in 2005-06 were .59 miles for DCPS students and 1.84 miles for public charter students. For additional trendline data on student travel distance, see Appendix A, Data Table A-25: Student Median Distance



The average distance between home and school varies by ward, but charter school students from every ward travel farther to school than their DCPS counterparts. The median distance traveled by DCPS students is below one mile in every ward, while the median distance traveled by charter students varies much more widely – from a low of 0.7 miles (among charter students living in Ward 1) to a high of 3.0 miles (among charter students living in Ward 8). The dramatic difference between Wards 1 and 8 reflect both the geography of the District and the wide variation in the number of charter schools located in these two wards.

**Figure 1-8: Median Distance Traveled to School**



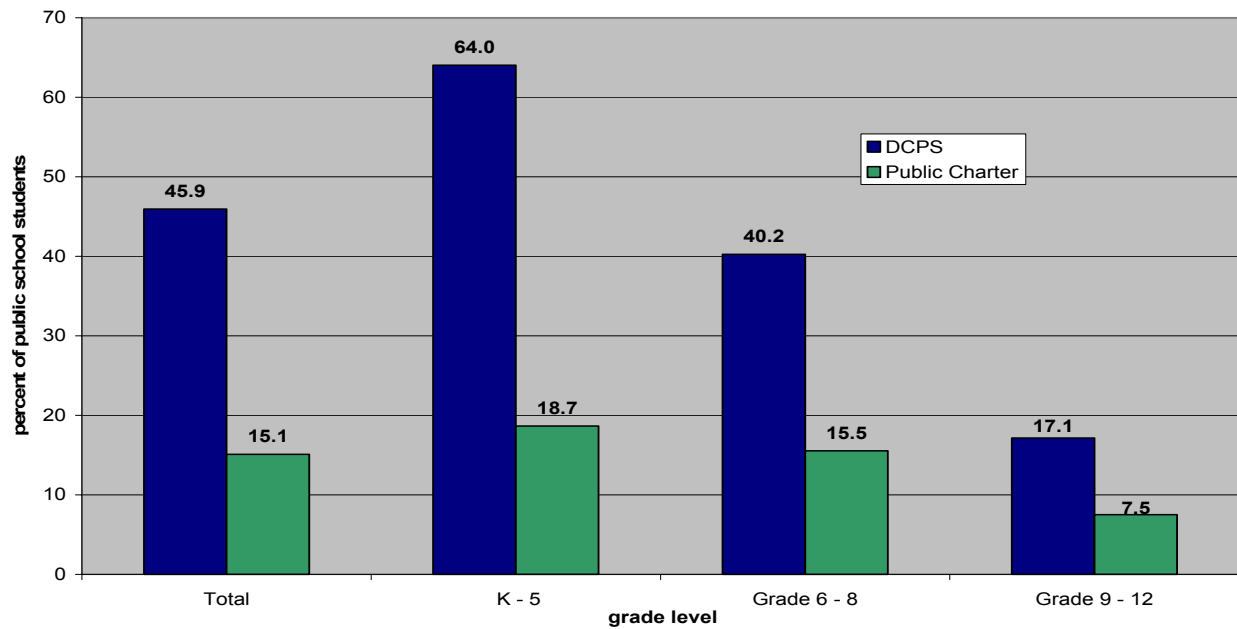
Source: 2006-07 DCPS, PCSB, and BOE October student enrollment files (pre-audit)

The share of students who live within easy walking distance of their schools (less than half a mile) is much greater among DCPS students than among charter students. Only 15 percent of all charter students travel less than half a mile to attend school compared to 46 percent of all DCPS students. As shown in Figure 1.9, the share of students attending schools within a half mile of their homes is highest among younger children regardless of school type. But at every grade level, the difference between DCPS students and charter students is substantial. The biggest gap occurs among students in kindergarten through 5th grade, with two thirds of DCPS students (64 percent) attending schools within a half mile of their homes compared to less than one in five charter students. Even among high school students, however, there is a substantial difference, with 17 percent of DCPS high-school students attending a school within a half mile of home, compared to only 8 percent of charter students.

Traveled (Miles) to School by Ward & Sector, 2003-04 to 2006-07; Data Table A-26: Student Median Distance Traveled (Miles) to School by Ward, Sector and Grade Level, 2003-04 to 2006-07; Data Table A-27: Student Median Distance Traveled (Miles) to School by Neighborhood Cluster & Sector, 2003-04 to 2006-07; Data Table A-28: Student Median Distance Traveled (Miles) to School by Neighborhood Cluster, Sector and Grade Level, 2003-04 to 2006-07; Data Table A-29: Student Mean Distance Traveled (Miles) to School by Ward & Sector, 2003-04 to 2006-07; and Data Table A-30: Student Mean Distance Traveled (Miles) to School by Neighborhood Cluster & Sector, 2003-04 to 2006-07.



**Figure 1-9: Share of Public School Students Traveling Less than Half Mile to School<sup>51</sup>**



Source: 2006-07 DCPS, PCSB, and BOE October student enrollment files (pre-audit)

## Special Populations

There are several groups of students that receive more detailed attention in the following section. While special education students represent just over 15 percent of the total student population, the cost of educating these students is disproportionate to their numbers. This is primarily the result of expensive tuition payments and transportation for students being educated in non-public schools. These high costs place spending pressures on the rest of the public school system, making it relevant to look at the enrollment choices of special education students.

The city's high drop-out rate makes it important to analyze the alternative education students in more depth. Understanding the choices that some students are making in their efforts to complete high school or obtain their GED may indicate ways the city can improve its offerings to this high-risk population.

### Special Education Students

Many of the same patterns of enrollment observed in the general student population also hold true for special education students, although some important differences exist. The trends described below are based on analysis of student-level enrollment data obtained from DCPS and the Public Charter School Board, as well as student-level transportation data obtained from the DCPS Division of Transportation (DOT). The DCPS and PCSB data are from the city's official October enrollment count, while the DOT data is from an October 2006 download of their database.

The federal Individuals with Disabilities Education Act (IDEA), reauthorized in 2004, guarantees a free appropriate public education (FAPE) for all students with disabilities. FAPE is defined as including special education and related services, provided at no cost to parents, in conformity with an individualized education program (IEP). The IEP, which describes the specific educational and other services required to meet each disabled student's needs, forms the basis for each disabled student's entitlement to an individualized and free appropriate education.

<sup>51</sup> For additional detail, see Appendix A, Data Table A-31: Students Traveling Less than ½ mile by Neighborhood Cluster, Sector, and Grade Level, 2003-04 to 2006-07.

In the District, a child may be identified by either a parent or teacher as a possible candidate for special education services. Under current practice, many DCPS schools refer students to assessment as the first option in addressing the children's needs. Once a referral takes place, the student is evaluated and an IEP is developed if deemed necessary. After eligibility for services is determined, the child may be recommended for a program anywhere in the city that meets his/her needs. Federal law requires children be placed in the least-restrictive appropriate environment. Parents may request a due process hearing as result of a complaint related to initiation or change in child's special education identification, evaluation, or educational placement.

Public special education services in the District are delivered in a variety of school settings. DCPS offers local school-based programs – educational services for students with mild to moderate disabilities, often following an inclusion model and provided by the teams of special education teachers and related service providers – at each neighborhood school. City-wide cluster programs are specialized classrooms in general education schools that offer educational services for children with similar disabilities, such as emotional disabilities, hearing impairment, or autism. DCPS also offers separate special education programs for students with severe disabilities who require specialized instruction in a restrictive environment. All charter schools offer local school-based programs, and several charter schools offer programs specifically targeted for a special education population. In this analysis, students who receive special education services through school-based or city-wide cluster programs are considered to be at “local” schools.

**Table 1-6: Public Schools by Percent Special Education Students, by Ward**

Special Education Enrollment <sup>52</sup>	Wards								Total
	1	2	3	4	5	6	7	8	
50-100% Special Ed Students	1	0	0	1	9	3	0	3	17
25-49% Special Ed Students	1	2	0	2	1	4	1	1	12
15%-24% Special Ed Students	6	2	1	3	7	6	10	12	47
10-14% Special Ed Students	10	5	0	7	9	5	11	5	52
0-9% Special Ed Students	10	8	10	15	18	12	11	14	98
<b>Total</b>	<b>28</b>	<b>17</b>	<b>11</b>	<b>28</b>	<b>44</b>	<b>30</b>	<b>33</b>	<b>35</b>	<b>226</b>

Note: Excludes, non-public

The programs and services offered in schools with special education students will vary based on the level and type of needs the students have, and are described in each student's IEP. Special education students are assigned to one of four levels, depending on the intensity and hours of services provided. Level 1 students generally have learning disabilities that can be addressed with the least program or service interventions, while students characterized in Level 4 require the most intensive interventions and hours of specialized instruction.

**Table 1-7: Special Education Students by Level and Ward**

Special Education Students	Wards								Total <sup>53</sup>
	1	2	3	4	5	6	7	8	
Level 1	233	103	171	235	289	239	263	299	1,832
Level 2	393	170	105	409	574	455	696	701	3,503

<sup>52</sup> A complete list of public schools by special education enrollment share and ward is in Appendix A, Data Table A-32: Public Schools and Special Education Enrollment, 2006-07.

<sup>53</sup> Adult education (including DCPS STAY program), private tuition, Oak Hill, DC Corrections Treatment, DC Detention Facility are not included. Data is not available for Mary McLeod Bethune public charter school and Washington Academy public charter school.

Level 3	156	94	59	128	208	183	309	321	1,458
Level 4	170	89	47	239	588	689	195	424	2,441
Total	952	456	382	1,011	1,659	1,566	1,463	1,745	9,234

Note: Excludes non-public

If a child's needs cannot be met by existing DCPS programs, he/she may be assigned – often through a settlement agreement or hearing officer decision – to a non-public program. Tuition for these private placements is paid by DCPS,<sup>54</sup> and students are monitored by DCPS specialists in the Office of Special Education's Nonpublic Unit. Although charter schools are open to all students, DCPS cannot assign students to a special education charter school.

In 2006-07, there were 10,857 public special education students in the District.<sup>55</sup> This represents just over 15 percent of all public school students. In other high-poverty urban school districts, the percentage of special education enrollment ranges between 10 percent and 15 percent of the student population, putting the District on the high end.<sup>56</sup> The range of special education services accessed by these students varies in time and intensity from a few hours of instruction each week at a student's neighborhood school to full-time enrollment in a specialized program or separate special education school.

Of the 10,857 public special education students in 2006-07, 8,892 students (82 percent) were enrolled in DCPS or charter schools. The majority of these students (7,092 students) attended a DCPS school, and almost all of them were enrolled in a local traditional elementary, middle/junior high, or senior high.<sup>57</sup> Just over 10% of DCPS students (829 students, 11.7 percent) were enrolled in separate special education schools. 1,965 students –18 percent of the total special education population – were enrolled in non-public programs (day and residential) with their tuition paid by DCPS.<sup>58</sup>

**Table 1-8: Special Education Students by Grade Level and Sector 2006-07**<sup>59</sup>

	DCPS					Public Charter	Non-Public	Total
	Elementary	Middle/Jr. High	Senior High	Separate Program	DCPS Total			
# of students	3,265	1,259	1,739	829	7,092	1,800	1,965	10,857
% of students	30.1	11.6	16.0	7.6	65.3	16.6	18.1	100

The percentage of special education students enrolled in charter schools is slightly lower than in the general student population, with 20 percent of special education students enrolled in charters, compared with over 26

<sup>54</sup> DCPS uses state funds to pay for the private placements.

<sup>55</sup> This number differs from the 11,435 reported in OSSE's State of Education report. The State of Education report uses OSSE's audited enrollment count for 2006-07, while this report uses student-level files from the October enrollment count (pre-audit). The differences are primarily a result of data entry error and under-identification of special education students (especially for those students receiving tuition grants for private special education schools) in the DC STARS system and Board of Education records.

<sup>56</sup> Special education students as % of total enrollment in other high-poverty urban districts: Baltimore (15.4%), Chicago (10.8%), Los Angeles (10.5%); American Institutes for Research, *Special Education Financing Study for the District of Columbia*, October 2007.

<sup>57</sup> Almost half of the DCPS special education students attended local elementary schools (3,265 students, 46 percent).

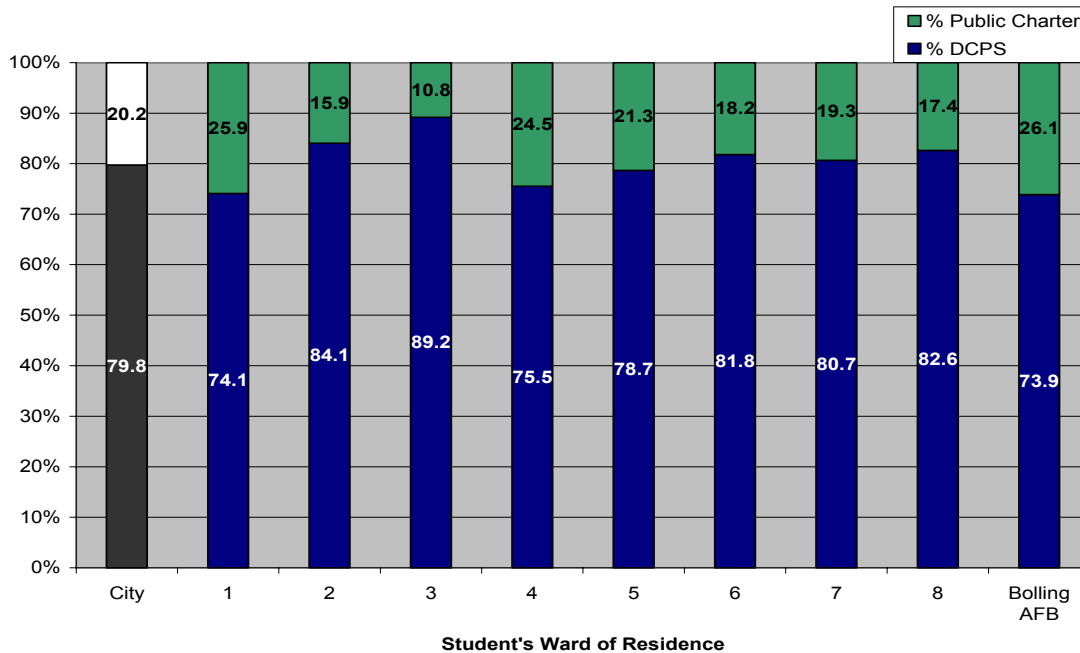
<sup>58</sup> Unless specifically noted, all subsequent discussion of the public special education students excludes those students who receive DCPS tuition to attend a non-public school.

<sup>59</sup> For additional detail, see Appendix A, Data Table A-33: Special Education Students by Program Type by Ward, 2006-07.

percent city-wide in the general student population. Special education students make up 14 percent of the total DCPS population, while only 10 percent of charter school students receive special education services.

As with the general student population, the share of charter special education students varies depending on where the student lives (see Figure 1.10). The share of special education students attending charters is lowest in Wards 2 (15.9 percent) and 3 (10.8 percent), mirroring the trend of charter enrollment in the general student body. Ward 1 has the highest share of public special education students attending a charter school (25.9 percent), followed by Ward 4 (24.5 percent).

**Figure 1-10: Special Education Students (Excluding Non-Public): School Sector by Ward of Residence<sup>60</sup>**



Source: 2006-07 DCPS, PCSB, and BOE October student enrollment files (pre-audit)

Special education students – in both DCPS and charter schools – are not distributed evenly throughout the city. Similar to their high numbers in the general public student population, special education students are concentrated east of the River. Special education students in Wards 7 and 8 account for almost half (48.9 percent) of the city’s public special education population, a figure slightly higher than the 44.1 percent of all the city’s public school students who live in those wards.

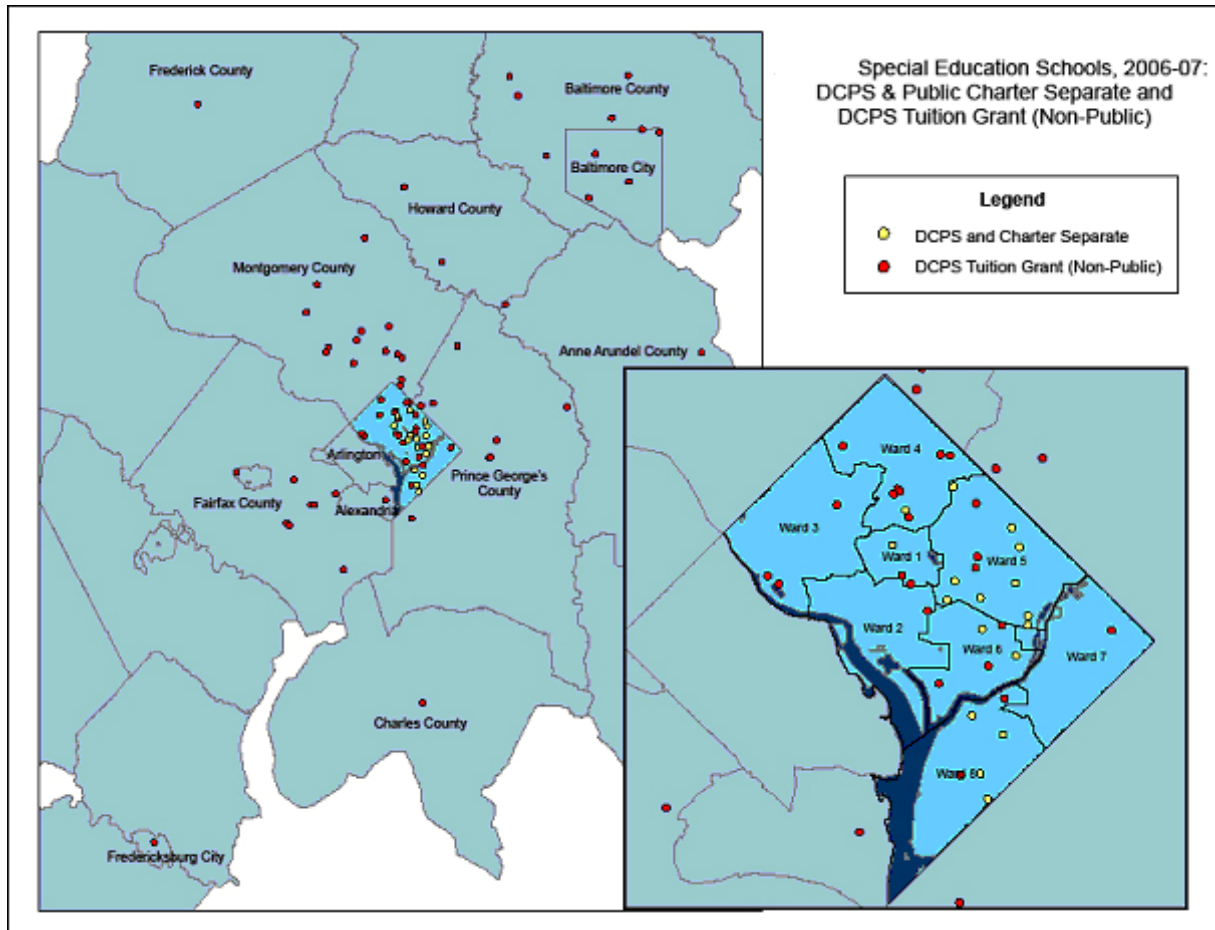
More unusual patterns occur in the enrollment of public special education students in non-public schools. Ward-by-ward comparisons reveal that almost half (45.5 percent) of all public special education students in Ward 3 attend non-public schools, compared with only 15 to 20 percent of special education students attending non-public schools in the other seven wards. This discrepancy may be a result of parents’ greater access to information about non-public school options, or greater ease in navigating the administrative and legal channels necessary to obtain such placements. Proximity to high-quality private special education schools may also be a factor in this high non-public participation rate.

<sup>60</sup> For additional detail, see Appendix A, Data Table A-34: Special Education Students by Ward & Sector, 2003-04 to 2006-07; Data Table A-35: Special Education Students by Ward & Sector (Excluding Non-Public), 2006-07; Data Table A-36: Special Education Students by Neighborhood Cluster & Sector, 2004-05 to 2006-07; and Data Table A-37: Special Education Students by Neighborhood Cluster & Sector (Excluding Non-Public), 2006-07.



Map 1.1 (below) displays the location of DCPS and public charter separate special education schools, as well as all special education schools attended by children with DCPS private tuition grants.

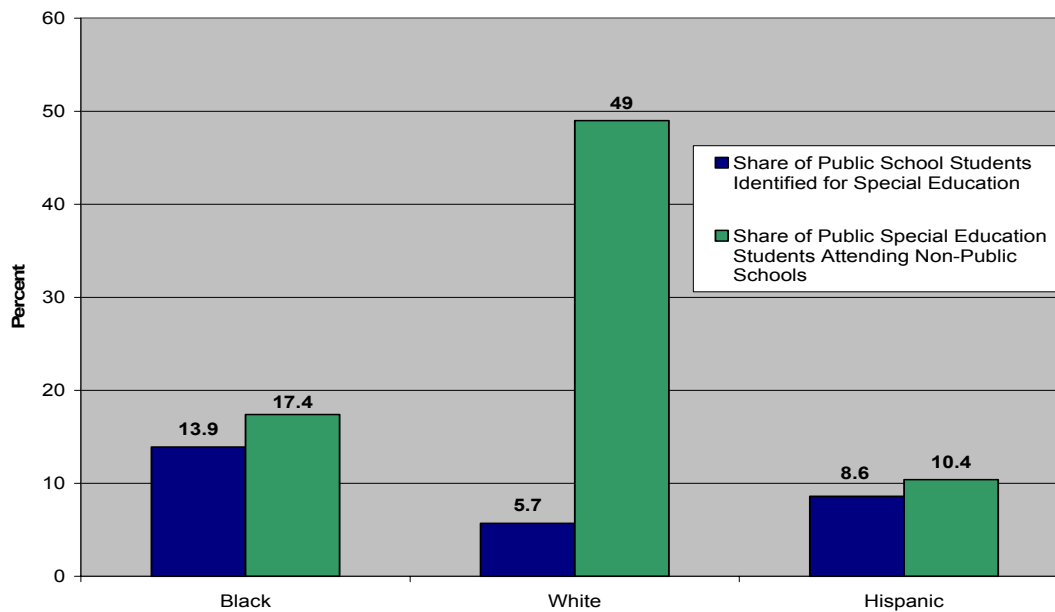
**Map 1-1: All Special Education Schools, 2006-07**



There are significant racial disparities in the special education population.<sup>61</sup> A higher share of black public school students receives special education services than white or Hispanic public school students. Close to 14 percent of black students in DCPS and charter schools are designated to receive special education, compared to 6 percent of white students and 9 percent of Hispanic students. Black students make up a larger share of the public special education population (90.4 percent) than of the general student population (82.9 percent), while the share of white special education students (2.3 percent) is less than half of the share of white students in the general population (5.1 percent), and the share of Hispanic special education students is also lower (6.9 percent) than their share of the general student population (10.2 percent). One exception to this pattern is the proportionally higher share of white students in DCPS-paid non-public schools. Nearly 10 percent of the publicly-supported private special education population is white, close to five times the share of white students in the public special education population. Put differently, almost half of all white special education students receiving public support attend non-public schools, compared with 17 percent of all black special education students and 10 percent of all Hispanic special education students (see Figure 1.11). Unlike patterns in the general student population, white special education students have the highest participation in charter schools (24.4 percent), greater than both Hispanic students (22.1 percent) and black students (19.9 percent).

<sup>61</sup> For additional detail on race and sector enrollment of special education students, see Appendix A, Data Table A-38: Special Education Students by Race & Sector Type, 2006-07 and Data Table A-39: Special Education Students by Race & Sector Type (Excluding Non-Public), 2006-07.

**Figure 1-11: Special Education Participation by Race/Ethnicity, 2006-07**



Source: 2006-07 DCPS, PCSB, and BOE October student enrollment files (pre-audit)

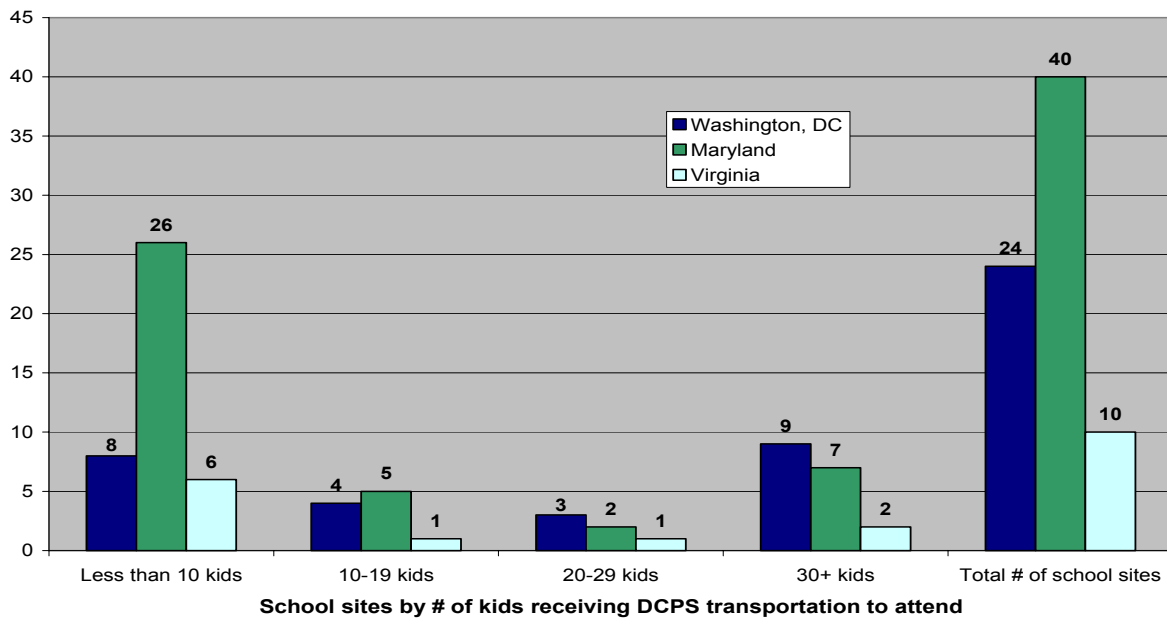
The Study Team also analyzed data on special education students by grade and grade level (see Appendix A, Data Table A-40: Special Education Students (Excluding Non-Public) by Grade and Sector Type, 2006-07 and Data Table A-41: Special Education Students by Grade Level and Sector Type, 2006-07).

Approximately 4,000 students receive daily school bus transportation to special education programs in the District and surrounding jurisdictions.<sup>62 63</sup> These students are transported to DCPS neighborhood and city-wide schools, charter schools, and non-public programs. Nearly 1,600 students receive daily transportation to non-public programs in DC, Maryland, and Virginia. Just over half these students (807 students) travel to schools within DC, with almost half again (371 students) attending one of two schools - High Roads Academy or Rock Creek Academy. Another 84 students attend Kingsbury Day School. Of those students traveling to Virginia (231 total), over 60 percent attend a single school, Accotink Academy, which is located almost 20 miles outside the District in Springfield, VA. By contrast, 26 of the 40 non-public special education schools attended by DCPS-supported students in Maryland receive 10 or less students (see Figure 1.12).

<sup>62</sup> According to DCPS Transportation Administrator David Gilmore, the number of special education students receiving transportation fluctuates somewhat throughout the year. For the past several years, the number has fluctuated between 3,800 and 4,200 students.

<sup>63</sup> For detail on program enrollment and residential location of special education students receiving transportation, see Appendix A, Data Table A-42: Special Education Students Receiving Transportation – Program Type by Ward of Residence, 2006-07.

**Figure 1-12: Special Education Students Receiving Transportation: Non-Public Schools Attended by School Location, 2006-07**

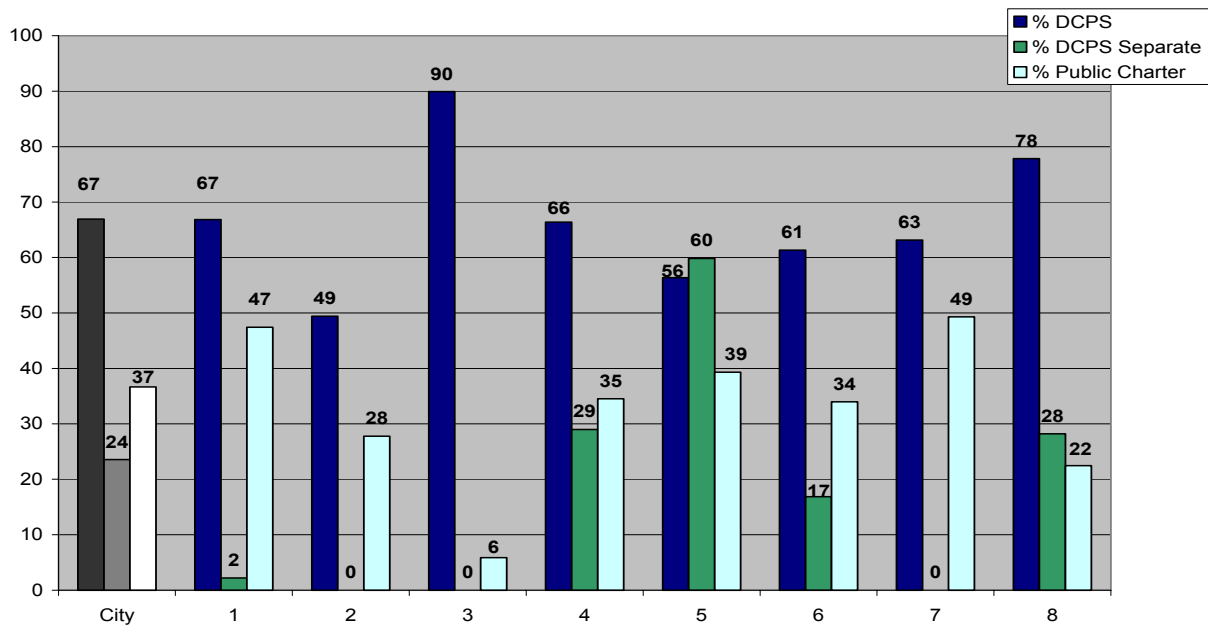


Source: 2006-07 DCPS Division of Transportation Student Files, October 2007

The following paragraphs describe how far public special education students traveled between home and school in 2006-07. As noted in the general enrollment section, there are a variety of factors that may influence whether a student chooses to attend a school near or far from their home, including DCPS and public charter admittance policies, the supply (or location) of DCPS and public charter schools, school quality, and neighborhood characteristics, and these factors may vary depending on student characteristics. These factors are explored in the next chapter.

As Figure 1.13 shows, special education students attending local DCPS schools are most likely to live and attend school in the same ward. Nearly 90 percent of local DCPS special education students who live in Ward 3 also attend school there, followed by almost 80 percent of DCPS special education students who live and attend school in Ward 8.

**Figure 1-13: Share of Public Special Education Students Attending School in their Ward of Residence, 2006-07<sup>64</sup>**



Source: 2006-07 DCPS, PCSB, and BOE October student enrollment files (pre-audit)

Students attending DCPS separate special education schools are least likely to attend school in their ward. Only in Wards 4, 5 and 8 do more than 25 percent of separate school special education students live and attend school in the same ward. None of the special education students who live in Wards 2, 3, or 7 attend separate schools in their home ward. These patterns reflect the geographic distribution of such schools in the District. Nearly half (8) of the 15 DCPS separate special education program sites are located in Ward 5, with another one-quarter (4) located in Ward 8. There are no separate programs in Wards 2, 3, or 7.<sup>65</sup> This distribution raises the question of whether there are benefits to either concentrating or decentralizing resources such as specialized programs, including whether school location is less important than quality of services for special education students who have access to DCPS-provided transportation. Special education students attending charter schools are most likely to live and attend school in the same ward in Wards 1 (47.4 percent) and 7 (49.3 percent).

Consistent with these enrollment and residential patterns, special education students attending DCPS neighborhood schools are much more likely than special education charter students to attend schools that are close to their home. The median city-wide distance traveled by special education students to a neighborhood DCPS school is 0.66 miles, compared with a median distance of 2.10 miles for charters, and 3.15 miles for DCPS separate programs. The share of students attending schools within a half mile of their homes is highest among the youngest children, but at every grade level, the difference between DCPS special education students and charter special education students is substantial. In grades K-5, almost 60 percent of DCPS

<sup>64</sup> For additional detail on special education students' residential location and school location, see Appendix A, Data Table A-43: Special Education Students (DCPS & charter) Ward of Residence by Ward of Student's School, 2006-07; Data Table A-44: Special Education Students (DCPS Local) Ward of Residence by Ward of Student's School, 2006-07; and Data Table A-45: Special Education Students (Excluding Non-Public) Attending School in their Ward of Residence, by School Type & Sector, 2006-07.

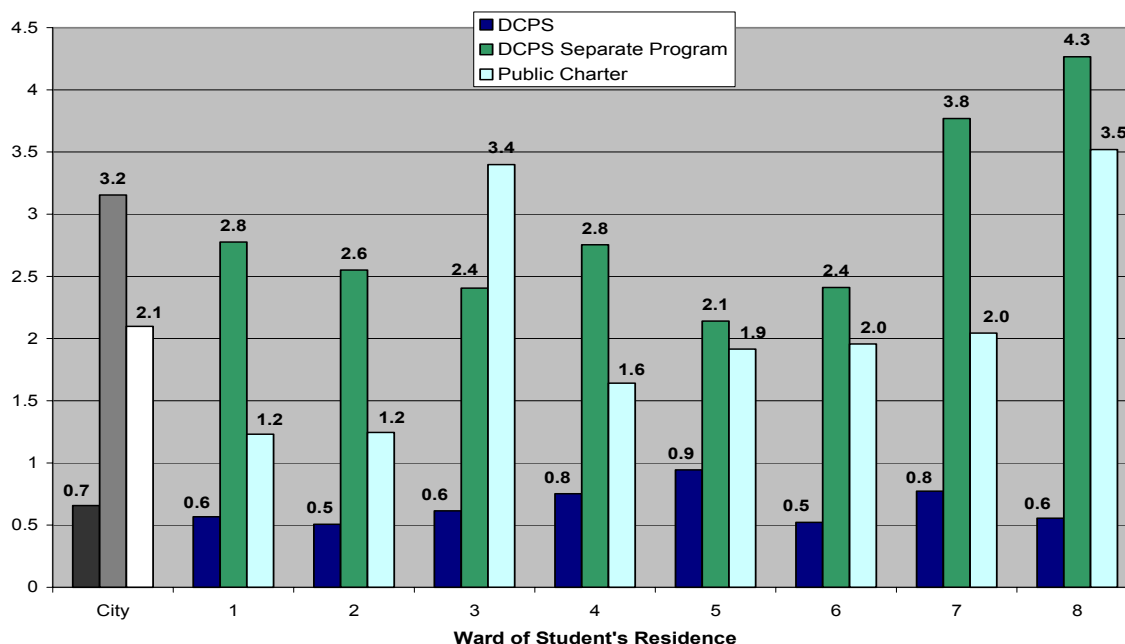
<sup>65</sup> The following schools are considered DCPS separate special education programs in this analysis: Browne Center (Ward 5), DC Alternative Learning Academy NW (Ward 1), DC ALA NE Freshman & Senior (Ward 5), DC ALA SE (Ward 8), Hamilton Center (Ward 5), Jackie Robinson School (Ward 8), Mamie D. Lee (Ward 5), MC Terrell Center (Ward 8), Moten Center (Ward 8), Prospect Learning Center (Ward 6), Sharpe Health (Ward 4), Spingarn Center (Ward 5), Taft Center (Ward 5), Washington Center (Ward 5). City Lights (Ward 5) and St. Coletta's (Ward 6) are the charter separate special education programs.



special education students attend schools within a half mile of their home, compared to only 15 percent of charter special education students.<sup>66</sup>

The median distance between home and school varies by ward, but charter school and separate DCPS special education students from every ward travel farther to school than their special education counterparts at neighborhood DCPS schools (see Figure 1.14). The median distance traveled by DCPS students to neighborhood special education programs ranges from lows of just over one-half mile (0.51 and 0.52, respectively in Wards 2 and 6) to a high of just under 1 mile (0.94 in Ward 4). Comparatively, median distance to school for charter special education students ranges from a low of over a mile (1.23 in Ward 1) to a high of 3.54 miles (in Ward 8). For students attending DCPS separate special education programs, the lowest median distance is still over 2 miles (2.14 in Ward 5) and the highest median is over 4 miles (4.27 in Ward 8).

**Figure 1-14: Special Education Students Median Distance (Miles) Traveled to School by Ward of Residence, 2006-07<sup>67</sup>**



Source: 2006-07 DCPS, PCSB, and BOE October student enrollment files (pre-audit)

### **Students Attending Alternative and Adult Education Schools**

Slightly more than 3,700 public school students (3,742), or 5 percent of all public school students, attended an alternative or adult education school in the 2006-07 school year. In this section of the report, we use a broad definition of alternative education – that is, those schools and programs geared towards students at risk of education failure – similar to the National Center for Education Statistics’s (NCES) definition. We also included

<sup>66</sup> For additional detail, see Appendix A, Data Table A-46: Special Education Students (Excluding Non-Public) Traveling Under ½ mile to School by Neighborhood Cluster & Program Type, 2006-07 and Data Table A-47: Special Education Students (Excluding Non-Public) Traveling Under ½ mile to School by Neighborhood Cluster & Grade Level, 2006-07.

<sup>67</sup> For additional detail on distance traveled to school, see Appendix A, Data Table A-48: Special Education Students (Excluding Non-Public) Median Distance Traveled to School (Miles) by Program Type and Ward, 2006-07; Data Table A-49: Special Education Students (Excluding Non-Public) Median Distance Traveled to School (Miles) by Program Type and Neighborhood Cluster, 2006-07; Data Table A-50: Special Education Students (Excluding Non-Public) Median Distance Traveled to School (Miles) by Program Type, Neighborhood Cluster and Grade Level, 2006-07.

schools and programs geared towards adult education or for those adult students who had previously dropped out of high school and not received a high school or GED equivalency. The 15 DCPS and public charter alternative and adult education schools included in this analysis primarily enroll students with behavior problems, students at risk of not graduating from or already dropped out of a traditional high school, or adults who wish to finish their high school education.<sup>68</sup> Therefore, the data in this section include students of all ages.<sup>69</sup> However, this analysis does not include students who participated in in-school suspension programs at their local high schools, were wards of the state (foster children), private tuition recipients (voucher students), or students who were being detained in the DC Jail, DC Detention Facility, or other facilities for adjudicated youth (these students are included in a separate analysis below).

The District offers relatively few public alternative education schools or programs. DCPS offers STAY (Schools to Aid Youth) at three senior high schools (Ballou Senior High, Spingarn Senior High, and Roosevelt Senior High) enrolling a total of 1,231 students in 2006-07. STAY classes are typically held at night and are intended for students over age 16 who have dropped out of school and need a school environment different from a traditional high school program. Students can graduate with a high school diploma or General Educational Development (GED) certificate from a STAY school. Luke Moore Academy is another DCPS alternative senior high school for students aged 16 to 23 who transferred from another school or who had previously dropped out. Luke Moore offers counseling and mentoring services, and students can graduate with a high school degree or GED. In 2006-07, 383 students were enrolled at Luke Moore. DCPS also offers CHOICE (Choosing Higher Options for Individually Centered Education) Academy at two school campuses, Taft and Douglas. CHOICE is a learning site for students who have been suspended for at least 25 days or expelled from a DCPS school. CHOICE provides students with academic support and behavior intervention, and students are required to attend CHOICE until their suspension time is completed and then they return to their previous school. In 2006-07, 26 students were enrolled at CHOICE.

Six public charter schools offer adult education programs. The Booker T. Washington PCS trains its students in the construction and building trades using hands-on, real experience learning. Booker T. Washington's student body consists of mainly adults, high school dropouts, and the welfare-to-work population, and in 2006-07 the school enrolled 218 students. The Carlos Rosario International Public Charter School offers basic adult education geared to international students, including English as a Second Language (ESL) classes, GED classes, and citizenship training; workforce development classes; and supportive services such as bilingual counseling, college preparation, and scholarships. In 2006-07, the Carlos Rosario school enrolled 1,389 students at multiple campuses, making it the largest of the city's alternative schools. Education Strengthens Families (ESF) Public Charter School offers English language instruction, computer literacy, and other adult classes, as well as pre-school classes for the adult student's children aged 3 to 4. Parents and children can attend classes simultaneously. ESF enrolled 125 students in 2006-07 at two campuses. The Latin American Youth Center's YouthBuild Public Charter School enrolls students between the ages of 16 and 24 who had previously dropped out of high school. In 2006-07, 65 students attended YouthBuild. YouthBuild's curriculum combines academics with vocational training, workforce skill building, and community service to help students prepare for college or the workplace. The Next Step/EI Proximo Paso PCS is geared towards teen parents and youth who have dropped out of school or recently immigrated to the District. It provides comprehensive instruction as well as English as a Second Language classes, case management, and counseling. In 2006-07, Next Step enrolled 79 students. The Maya Angelou PCS, operating on two campuses, targets students who have not succeeded in traditional schools. The two campuses are open year round and students can train in either the catering or technology fields. In 2006-07, 447 students were enrolled on the two campuses.

The vast majority of students attending alternative education schools in the 2006-07 school year were adults over the age of 22. Approximately half (1,944) were 23 years old or older. More than half of the alternative education students attended public charter schools (58 percent) and the remaining students attended DCPS schools (42 percent). This is in stark contrast to the overall public school population, where 74 percent of all public school students attended a DCPS school and 26 percent attended a public charter school. The high share of alternative education students attending public charters reflects the fact that a little more than one-third of all alternative education students in the District attended Carlos Rosario, a public charter school.

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<sup>68</sup> The 15 schools and campuses included in this analysis are Ballou STAY, Booker T. Washington PCS (day and evening), CHOICE Academy @ Taft, CHOICE Academy @ Douglas, Carlos Rosario PCS, ESF Bancroft, ESF Mary Center, LAYC, Luke C. Moore, Maya Angelou (Evans), Maya Angelou (Shaw), Next Step PCS, Roosevelt STAY, and Spingarn STAY.

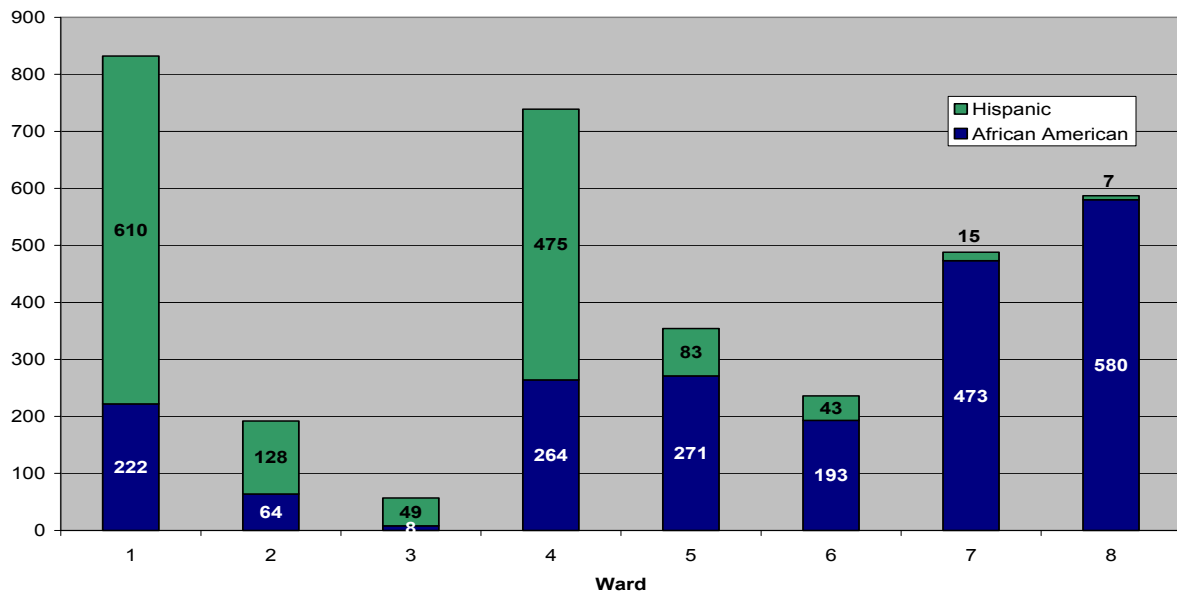
<sup>69</sup> Fifty-two percent (or 1,944) of the alternative education students were over the age of 22.

A greater share of alternative education students are Hispanic compared to the overall public school population. Little more than one-third of the alternative education students (38 percent) in school year 2006-07 were Hispanic compared to only 10 percent of the overall student population. Little more than half of the alternative education students were African American (59 percent) in SY2006-07, significantly less than the 83 percent of African American students in the total public school population.

Black alternative education students were more likely to attend DCPS schools, while Hispanic alternative education students were more likely to attend public charter schools. Six out of 10 African American alternative education students attended DCPS schools and almost 9 out of 10 Hispanic students attended public charter alternative education schools. While the number of white students attending alternative education schools was very small (only 23 students), almost all of these students went to public charter schools.

Roughly two-thirds of all the alternative education students lived in Wards 1, 4, 7, and 8 during the 2006-07 school year (see Figure 1.15). Ward 1 was home to the greatest number of alternative education students (855 students), and most of these students were Hispanic (71 percent or 610 students). The majority of Ward 1 alternative education students (66 percent) attended Carlos Rosario public charter school. Approximately one-fifth of alternative education students (or 747 students) lived in Ward 4. Again, most of these students were Hispanic (64 percent or 475 students) and a little more than half (57 percent) attended Carlos Rosario public charter, while one-fifth attended Roosevelt STAY. Finally, 16 percent (or 580 alternative education students) lived in Ward 8. Almost all of these students were African American and two-thirds (68 percent) attended STAY at Ballou Senior High School.

**Figure 1-15: Alternative Education Students by Race/Ethnicity & Ward, 2006-07<sup>70</sup>**



Source: 2006-07 DCPS, PCSB, and BOE October student enrollment files (pre-audit)

As Map 1.2 shows, almost all of the public charter alternative education schools are located in Ward 1, while the DCPS alternative education schools are located in Wards 4, 5, and 8.

<sup>70</sup> For additional detail, see Appendix A, Data Table A-51: Alternative Education Ward of Student's Residence by Sector Type, 2006-07; Data Table A-52: Alternative Education Race of Students Enrolled by Sector Type, 2006-07; and Data Table A-53: Alternative Education Race of Students Enrolled by Sector Type and Ward, 2006-07.

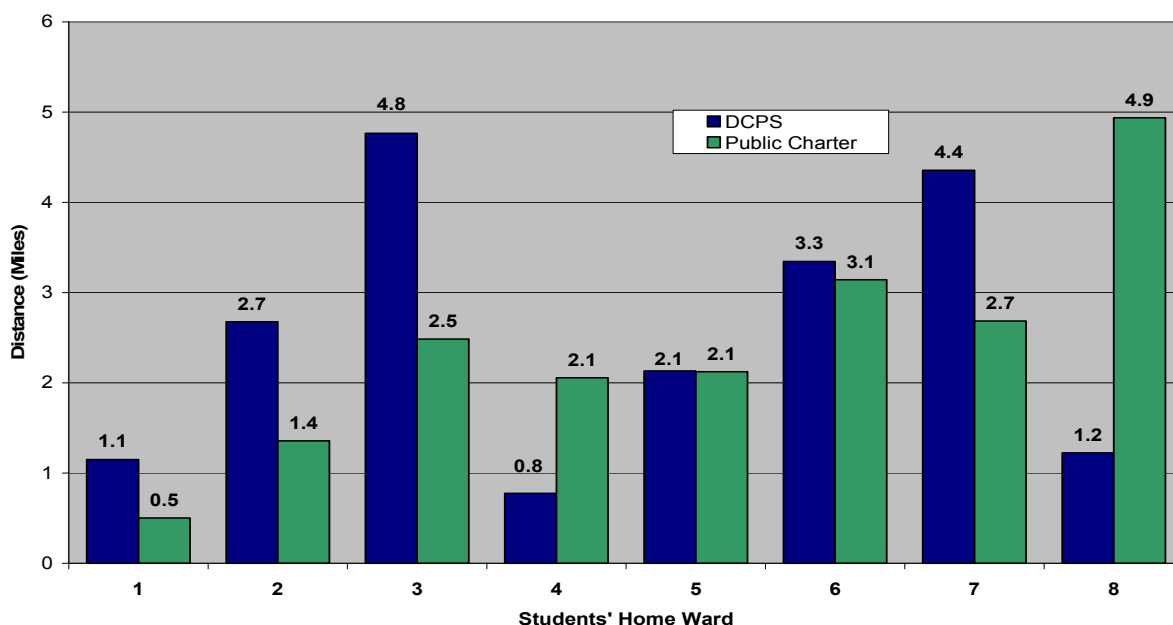
Map 1-2: Location of Public Alternative & Adult Education Schools, 2006-07



Source: District of Columbia Public Schools, the Public Charter School Board, the Board of Education, Office of the State Superintendent of Education, the 21st Century School Fund, and the Urban Institute

Therefore it is not surprising that alternative education students who lived in those wards traveled a shorter distance to school than students living in wards without alternative schools (Figure 1.16). For example, in Ward 8, the median distance traveled for DCPS students was only 1.2 miles (because these students primarily travel to nearby Ballou) while public charter students in Ward 8 traveled a median distance of 4.9 miles (because the only charter alternative education schools were in Ward 1). Alternative education students living in Ward 1 – whether they attended DCPS or public charter schools – also traveled short distances to school, due to the concentration of alternative schools nearby, and Ward 4 DCPS alternative students traveled a median distance of only .8 miles. However, of the DCPS students living in the remaining five wards, all traveled a median distance greater than the overall senior high DCPS median distance of 1.47 miles. The alternative education public charter students living in Wards 6, 7 and 8 also traveled a greater distance than the overall public charter median distance for senior high school students of 2.46 miles.

**Figure 1-16: Median Distance (Miles) Traveled by Alternative Education Students by Sector 2006-07<sup>71</sup>**



Source: 2006-07 DCPS, PCSB, and BOE October student enrollment files (pre-audit)

### ***Students detained in the DC Juvenile Justice System***

DCPS provides educational services for youth while they are detained by the juvenile justice system.<sup>72</sup> In 2006-07, 133 students (less than 1 percent of the total student population) were enrolled in either Oak Hill Academy, Youth Services Center, or identified simply as students in a DC detention facility. More than half of all the detained students (69 students) were enrolled in Oak Hill Academy, a part of the District of Columbia juvenile justice system; 33 students were enrolled at the Youth Services Center, an alternative school within a youth correctional facility for males and females grades 7 through 12; and 31 students were enrolled more generally at a DC detention facility. Three-fourths of the students lived in Wards 5, 6, 7 and 8, and almost all of the detained students were black (94 percent).

### ***Archdiocese Students***

Students receiving vouchers for private school tuition represent the final segment of the publicly-supported student population in the District. The study team's efforts to acquire data from the Washington Scholarship Fund, which manages the voucher program, were unsuccessful. The next best available measure is the city's Catholic schools, which enroll a significant share of all voucher students in the District. The analysis below describes students at the 21 K-8 schools run by the Archdiocese of Washington. Although there are other Catholic schools run by individual parishes for which we do not have data, the schools included here account for almost one-half of the students receiving Opportunity Scholarships in 2006-07.<sup>73</sup>

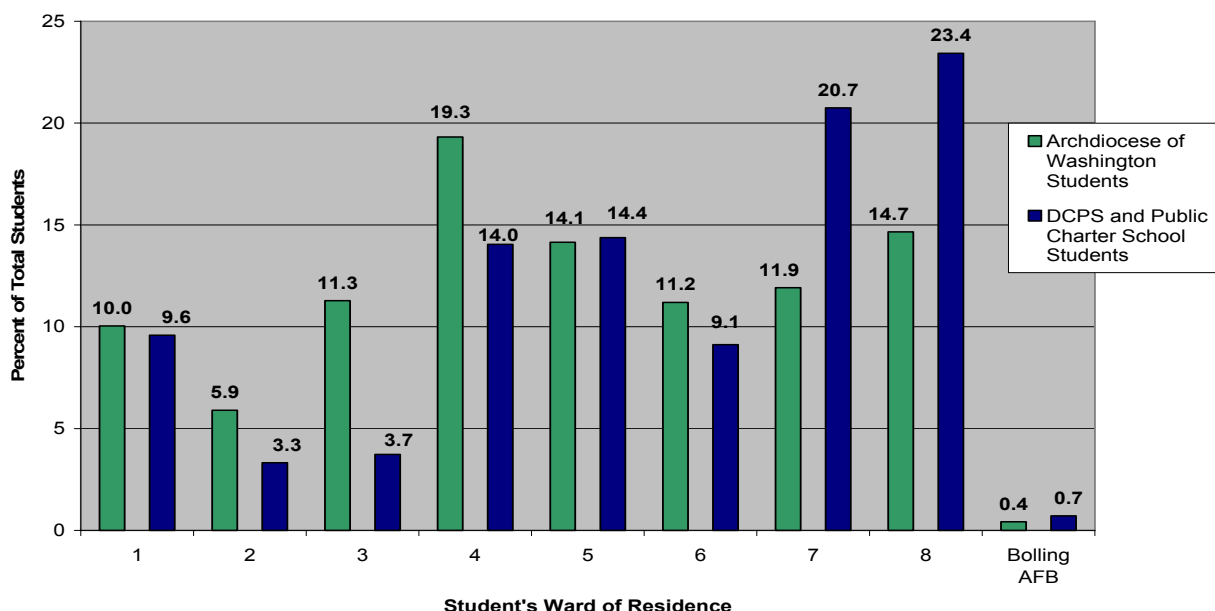
<sup>71</sup> For additional detail, see Appendix A, Data Table A-54: Alternative Education Student Median Distance Traveled (Miles) to School by Ward and Sector Type, 2006-07.

<sup>72</sup> In July 2007, See Forever Foundation, a nonprofit that also runs the Maya Angelou Charter Schools, assumed management of the school at Oak Hill.

<sup>73</sup> There are 961 students in the analyzed data set who received Opportunity Scholarships in 2006-07. The program awarded a total of 1,746 Opportunity Scholarships. Data limitations prevent a separate analysis of the Opportunity Scholarship students at the Archdiocese schools; however, we know that these students represent over 40 percent of the population being analyzed.

There were 2,340 children living in DC enrolled in the 21 kindergarten to 8th grade Archdiocese of Washington Catholic schools in May 2007.<sup>74</sup> The residential geographic distribution of these students differs somewhat from that of the public school population. The greatest share of Archdiocese students live in Ward 4 (almost one-fifth of all Archdiocese students in this sample), and about one-quarter live East of the River; this compares with only 13.6 percent of the public school population living in Ward 4, and close to one half (43.7 percent) living East of the River. The lowest share of Archdiocese students live in Ward 2 (5.9 percent), which is similar to Ward 2's share of public school students (3.4 percent). However, while Ward 3 accounts for only 3.7 percent of public school students, it accounts for 11.3 percent of Archdiocese students (see Figure 1.17).<sup>75</sup>

**Figure 1-17: Share of Students by Ward of Residence in Archdiocese or in Public Schools 2006-07**



Source: Archdiocese of Washington Catholic Schools Office, Student Enrollment Data, May 2007; 2006-07 DCPS, PCSB, and BOE October student enrollment files (pre-audit)


The majority of Archdiocese students are black but the percentage of white students is much higher than in the public schools. Approximately half (55.1 percent) of Archdiocese students are black, compared with 82.9 percent of the public school population. By contrast, white students make up 15.3 percent of the Archdiocese student body, compared with only 5.1 percent of the public school population. Hispanic students comprise 7.5 percent of Archdiocese students, compared with just over 10 percent of the public school population. There is some uncertainty in these figures, however, as nearly 20 percent of Archdiocese students did not have race identified in the records that were analyzed.<sup>76</sup>

Over half of all Archdiocese students attend school in the same ward where they live. The highest proportion is in Ward 3, where almost three-quarters of Archdiocese students who live there also attend school there. The

<sup>74</sup> In November 2007, the Archdiocese of Washington announced its intention to convert seven of its Catholic schools to charter schools. Three of these schools are located in NW, two in NE, and two in SE DC. The Archdiocese reached agreement with Center City Public Charter Schools, a District-based charter operator to manage the converted schools. The Public Charter School Board approved CCPCS' application in spring 2008, and the seven schools are opening as charter schools in August 2008.

<sup>75</sup> For additional detail, see Appendix A, Data Table A-55: Archdiocese Students by Ward of Residence, 2006-07; Data Table A-56: Archdiocese Students by Neighborhood Cluster of Residence, 2006-07; and Data Table A-57: Archdiocese Students Grade by Ward of Residence, 2006-07.

<sup>76</sup> For additional detail, see Appendix A, Data Table A-58: Archdiocese Students Race/Ethnicity by Ward, 2006-07.



lowest proportion is in Ward 4, with just over one-third of students living there attending school in their home ward.

On average, students attending Archdiocese schools travel farther to school than their DCPS counterparts, but not as far as public charter students. The median distance traveled by Archdiocese students is 1.07 miles, compared with DCPS median of only 0.57 miles and a public charter median of 1.77 miles. As with the public schools, the median distance traveled by Archdiocese students differs across the city, ranging from a low of 0.62 miles in Ward 2 to a high of 2.44 miles in Ward 7. DCPS students living in Ward 2 also have the lowest median distance (0.44 miles), while the highest median distance for DCPS students is still under one mile (0.90 in Ward 5).<sup>77</sup>

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<sup>77</sup> For additional detail, see Appendix A, Data Table A-59: Archdiocese Students Median Distance Traveled to School (Miles) by Ward, 2006-07.

## Chapter 2 - The Supply of Public Schools

This chapter looks at three sets of factors – made up of a total of 13 different variables – associated with school quality: school resources—key educational, financial and facility indicators of a school; student risk—student characteristics that may undermine performance outcomes or require supplemental school resources; and results—school academic achievement as measured by student performance on standardized tests. All public schools are divided into elementary or secondary for purposes of comparison. The elementary school analysis includes all schools that start at pre-school or pre-kindergarten and can go as high as 8th grade.<sup>78</sup> The secondary schools include middle schools and multi-grade schools starting at grade 5 or above. Every school was assigned a composite score for each of the three factors, and the schools were ranked within the elementary or secondary groups by their scores allowing us to easily compare them. (See Appendix B, Data Table B-1: All Schools, Quality Attributes, 2006-07 for a listing of each school's composite score and ranking.)

The indicators for each factor (resources, risks, and results) were selected in part based on educational research which has linked them to school quality. They were also selected to align to issues identified by public school parents in a series of focus groups we conducted to learn more about factors relevant to school selection (see Chapter 3 for further description of the focus groups). The indicators we were able to use within each factor were limited by the administrative data available for both DCPS and public charter schools, particularly since public charter schools do not have an extensive centralized data collection system like the DCPS schools. We had hoped to supplement the official administrative data with survey data and administered a survey electronically to all DCPS and public charter principals in March 2008. However, since survey response rates were 50% for DCPS schools and 40% for public charter schools, and we had nearly 100% of the schools for all other school quality indicators, we used the survey data to help us understand why we might be seeing some of the variation among schools, but did not include survey responses in our school quality factor analysis.<sup>79</sup> We hope to expand our indices of school attributes to include local school leadership and student supports when these data are uniformly available for DCPS and public charter schools.

Identifying and measuring key components of school quality is the subject of extensive study and debate among researchers, educators, parents and communities. So it is not without some trepidation that the study team identified and quantified the relative strength of these school quality attributes or indicators. We are reluctant to take the leap that schools with the highest composite scores are the “best” schools and those with low scores are the “worst” schools, but since we have carefully applied the same measures to each of the public schools within the study, we are comfortable that with respect to the limited measures we have utilized the relative standings are an honest reflection of our findings and a reflection of the experience of parents as they explore and exercise choice for public school options in the District of Columbia.

In studying the attributes of the supply of public schools, the great variety in the District's public schools is striking. They vary in the resources they have available, in the character of their student populations and in the performance that results from the combination of what the schools offer and what the children bring. There are public schools in the District of Columbia where nearly every child is scoring at proficient or advanced and also schools where most children are scoring at basic or below. There are schools where resources are high—in terms of funding per student, low student teacher ratio, high proportion of highly qualified teachers, a special instructional or pedagogical approach and an excellent facility. There are also public schools that struggle to meet high standards with few of these advantages. There are public schools in the District where nearly every child who attends the school lives in high poverty census tracts and where every child is eligible for free lunch and then there are public schools in the District where very few children suffer from the disadvantages of poverty and many enjoy the privileges of being in some of the wealthiest families in the country.

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<sup>78</sup> Early education schools (those that do not offer grades higher than kindergarten), special education centers, and adult education schools were excluded from this analysis. Hyde Leadership, which offers grades K-12, and Ideal Academy, which offers grades PS-10, are included in the elementary analysis. See Appendix B, Data Table B-1: Public Schools Quality Attributes, Elementary & Secondary: 2006-07 for complete list of schools included.

<sup>79</sup> A copy of the principal survey can be found in the Technical Methodology at the end of this report.



## Resources

For purposes of this study, we tried to isolate resources as the indicators of what is controlled by the city, school district, or public charter operator in the school. In other words, what does a local school have to work with when the children enter the schoolhouse door? Resources are measured using five indicators:

1. **Educational Programs**, measured by whether there is a school-wide curriculum or instructional approach around which the school is organized.
2. **High Quality Teachers**, measured as the share of classroom teachers who are highly qualified as defined under No Child Left Behind.
3. **Student-Teacher Ratio**, measured by the number of teachers in the school divided by the enrollment (not the same as class size).
4. **Funding (\$) Per Student**, measured as dollars available per student from local sources at the school level.
5. **Facility Condition** –measured by the Facility Condition Index from 2006 Master Facilities Plan for DCPS schools, and the qualitative assessment by Building Hope<sup>80</sup> and our study's principal survey for public charter schools.

Schools were ranked in quartiles on each resource indicator; these five ranks were then averaged to determine an overall resource score. The possible range of resource scores was divided into quartiles, with schools in the top scoring quartile assigned as high resource, those in the middle two quartiles assigned as moderate resource, and those with scores in the bottom quartile assigned as low resource.

The story of resources in the District's public schools is that despite tremendous efforts to create equity in the funding of public schools through a uniform per student funding formula, equity is a difficult objective to reach. Overall, when comparing sectors, public charter schools have greater resources available for educational programs and services. The disparity in resources was greatest at the senior high school level.

In this next section, we describe each of the indicators that make up the composite resource score.

### Educational Programs

When parents in the focus groups described what they valued in school, the most frequently cited priority was for high quality and diverse programs and curriculum. Some parents praised the strength and quality of these elements at their child's school, while others expressed frustration with the lack of quality academic curriculum or range of program offerings. One parent in the Ward 7 DCPS focus group described her concern about the long-term impacts of children being short-changed in school, saying that "I know the statistics on how many scientists, mathematicians, and teachers in general are coming from our wards... *It speaks for itself what our children are being offered and what the outcome is* (emphasis added)."

To analyze a school's educational program, we created an indicator that characterized whether a school had a basic or specialized program. A basic educational program is one that is defined by a traditional grade level classroom curriculum and instructional model. A basic high school is defined here as a comprehensive high school that is primarily organized around subject area departments rather than thematic academies. Schools with special programs are characterized by a theme, special focus, and/or alternative pedagogy.


We have identified six distinct types of educational programs provided in the city's public schools. These program varieties distinguish schools from one another. Most schools are basic education schools, established as an elementary, middle/junior, or senior high school with students divided into grade levels roughly by age, and with a classroom teacher for each grade in the elementary schools and subject area teachers in the secondary schools. However, DCPS and public charter schools also operate specialized grade level schools and career and technical schools, as well as special, alternative and adult education schools.

#### 1. Basic Education School

A school with a basic educational program is one that is defined by a traditional grade level classroom curriculum and instruction model. This designation is almost derived in the negative, i.e. there are no special

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<sup>80</sup> Building Hope is a nonprofit organization that supports public charter schools in Washington, DC and other US cities by providing technical and financial assistance for educational facilities.



programs that define the school. There are 140 public schools that use a traditional curriculum and pedagogy. A basic high school is defined here as a comprehensive high school which is primarily organized around subject area departments.

## **2. Themed or Specialized School**

There are 59 schools characterized by a theme, special focus, and/or alternative pedagogy. A school with a themed educational program is a school which is structured around a particular curriculum or content area—for example, McKinley HS of Science and Technology, Ellington HS for the Performing Arts, and Washington Math, Science and Technology Public Charter School. Other schools are identified as specialized because of their use of a particular pedagogy. These schools teach a basic curriculum but do it using alternative pedagogies. For example, the Latin American Montessori Bilingual PCS uses the Montessori pedagogy to emphasize student-centered learning methods but the content of what is taught is the same as a basic elementary school. Only 8 of the city's 59 themed or specialized schools are located East of the River.<sup>81</sup>

## **3. Career Technical Education School**

There are five career technical education public schools in the District. Four are public charter schools and one is a DCPS school. Within the comprehensive DCPS high schools are programs with a career and technical focus, such as the Cardozo Construction Academy. However, only the M.M. Washington High School identifies itself as a Career and Technical School. The four charter schools with a career focus – Latin American Youth Center, Young America Works, Hospitality, and IDEA PCS – offer construction, hospitality, and internship-based career education.

## **4. Special Education School**

There are 19 public schools and School-Within-a-School centers that serve only students with special learning, emotional, and physical needs. Fourteen of these schools or centers are operated by DCPS and 4 are operated by public charter schools. Most of the special education students are educated as part of the regular public schools.

## **5. Alternative School**

There are 10 alternative education public schools to which students are assigned or enroll because of a history of difficulties with traditional schools. The alternative schools often work with students who have had chronic behavioral problems. These may operate on a full time or part time basis and include Oak Hill under the District's authority and Maya Angelou, a public charter school.

## **6. Adult Education School**

The District also offers five public adult education schools. Three are DCPS-operated STAY programs for adults. There are two adult education programs operated by the public charter schools—by far the largest is Carlos Rosario, which educates students at its main building and at five different locations, mostly in Ward 1. Other than Ballou STAY, there is no adult education public school east of the River. The adult education programs in the District provide classes primarily for adults who are getting their high school diploma or GED. High school students who have failed a course can also use the STAY programs to make up a course in order to graduate.

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<sup>81</sup> Burrville ES (Montessori), Woodson Business & Finance Academy, Nalle ES (Montessori), Cesar Chavez Public Charter High School (Public Policy), SEED PCS (Residential), and Septima Clark PCS (All-Boys) in Ward 7; Early Childhood Academy PCS (Core Knowledge Curriculum) and Thurgood Marshall Academy PCS (Law & Justice) in Ward 8.

**Table 2-1: Number of Public Schools (DCPS and Charter) by Educational Program and Ward**

School Program Type <sup>82</sup>	Ward								Total
	1	2	3	4	5	6	7	8	
Basic	11	8	7	20	21	19	25	29	140
Themed Academic <sup>83</sup>	17	7	4	5	9	9	6	2	59
Career Technical	1	0	0	1	1	1	1	0	5
Special Education	1	2	0	2	9	2	0	3	19
Alternative Education <sup>84</sup>	3	0	0	0	3	1	1	1	9
Adult Education	2	0	0	1	1	0	0	1	5
<b>Total Schools</b>	<b>36</b>	<b>19</b>	<b>14</b>	<b>33</b>	<b>49</b>	<b>38</b>	<b>40</b>	<b>44</b>	<b>237</b>

For the resource indicator, themed, specialized and career technical schools are all considered to have specialized programs, while special education, alternative, and adult education schools are omitted from the analysis.

Educators in both DCPS and the public charter schools have introduced variations on the basic educational program into the public schools. However, there are more thematic or specialized schools among public charter schools than in DCPS schools.

This is particularly pronounced at the middle grades level, where DCPS had no thematic middle schools among its middle and junior high schools in 2006-2007 (Jefferson JHS, with its science partnerships is a partial exception to this and Hardy MS is exploring a themed arts focus). In contrast, every public charter middle school offered some theme or specialized focus.

The situation at the senior high level is different. In DCPS, 9 of 19 senior high schools operate as magnet schools, either on their own, or as schools within schools such as at Dunbar and Woodson. Within the other ten comprehensive high schools, the schools have developed academies and other foci around various career and academic curriculum. Of the 11 public charter high schools (public charter high schools serving grades 6, 7, or 9-12) most are specialized or themed. However, Friendship, which is by far the largest charter high school (2006-07 enrollment of 1213 students), has a traditional high school program more like the DCPS comprehensive high schools.

At the elementary level, of the 101 DCPS public elementary schools operating in 2006-2007, only 14 had clearly defined specialized programs or themes (excluding special education schools). Among the 23 public charter schools serving grades PS through 8th grade, 13 had a special theme or approach to instruction that defined their school identity. For example, E.L. Haynes is a year-round expeditionary learning public charter school which served preschool through 4th grade students in 2006-2007, while DC Bilingual, Elsie Whitlow Stokes, LAMB, and ABC all utilize bilingual instruction models. There are some notable, and even nationally regarded, innovative public schools in DCPS, such as the Oyster Bilingual Elementary School and the Emilia Reggio-based early education School-Within-School program at Peabody, but most DCPS elementary schools are organized around a basic program.

<sup>82</sup> A complete list of public schools by program type and ward can be found in Appendix B, Data Table B-2: Public Schools by Ward and Program Type, 2006-07.

<sup>83</sup> The Community Academy, Virtual Academy, is a distance learning school without a ward location.

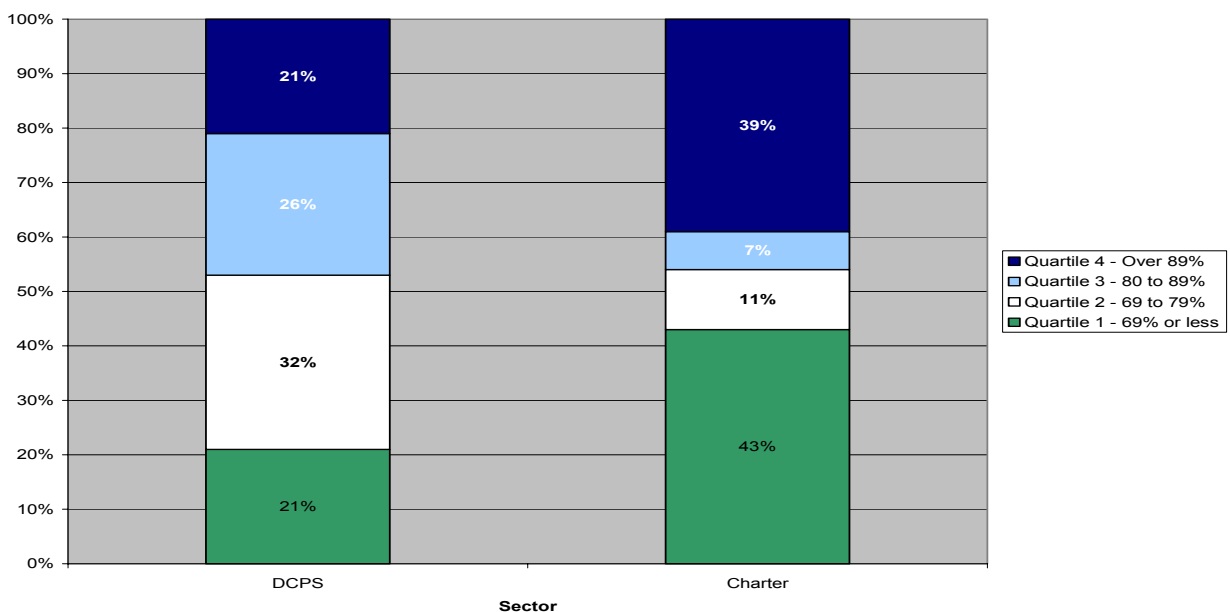
<sup>84</sup> The three alternative educational schools for adjudicated youth are omitted from this table.

## Highly Qualified Teachers

A critical factor affecting the quality and character of a school is the staff, particularly the principal and teachers. In the study's focus groups, parents emphasized the importance of quality teachers – those who knew their subject area and created an encouraging climate for children to learn. This echoes the requirement by the U.S. Department of Education that all teachers of core academic subjects (English, reading or language arts, mathematics, science, foreign languages, civics and government, economics, arts, history and geography) be highly qualified by 2005-06. A "highly qualified teacher" is one with full certification, a bachelor's degree and demonstrated competence in subject knowledge and teaching.<sup>85</sup>

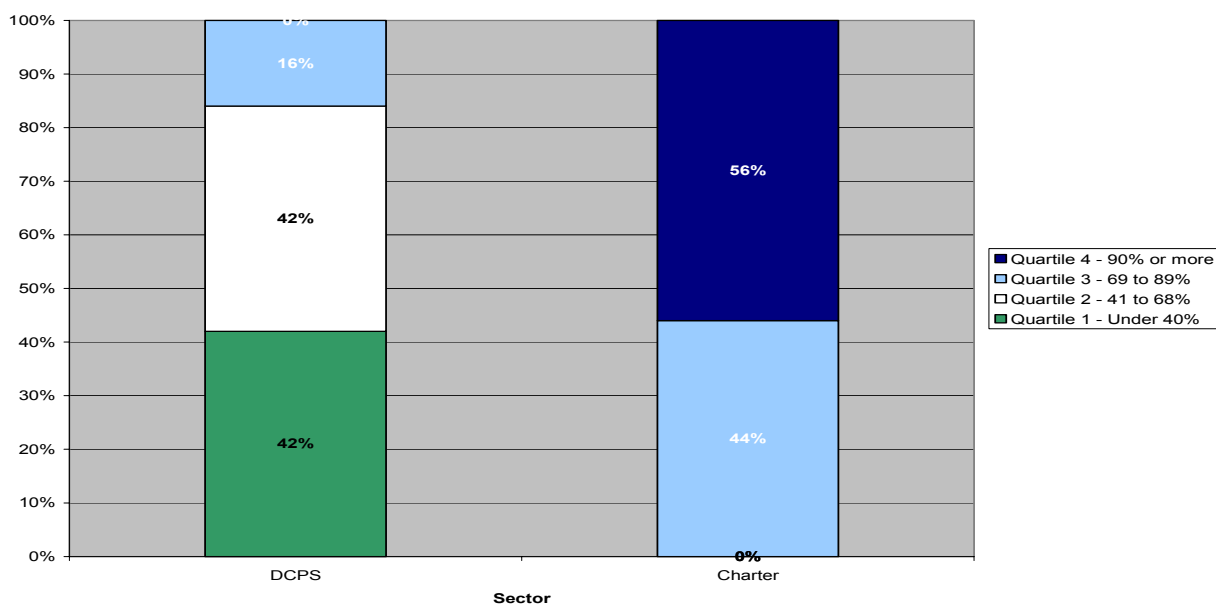
The team used the Office of the State Superintendent of Education (OSSE) data on "highly qualified teachers" for public charter schools and DCPS schools. In general, public charter school teachers are more likely to meet the definition of "highly qualified." However, we found from the principal survey that DCPS teachers have taught at their schools much longer on average than public charter school teachers. In DCPS, 37 percent of teachers have over 10 years of experience in their current school, while 78 percent of charter school teachers have 3 or less years of experience in their current school. Charter schools have double the rate of first-year teachers (34 percent compared with 16 percent). Figures 2.1 and 2.2 show the distribution of HQT by elementary and secondary schools in DCPS and among the public charter schools.

**Figure 2-1: Distribution of Highly Qualified Teachers in DCPS and Public Charter Elementary Schools (2006-2007)**



<sup>85</sup> US Department of Education regulations require that states must establish annual, measurable objectives for each local school district and school to ensure that they meet the "highly qualified" requirement. The state must give parents information as to (a) whether the teacher is state-certified; (b) whether a teacher is teaching under emergency or other provisional status; and (c) the baccalaureate degree major of the teacher and any other graduate degree major or certification.

**Figure 2-2: Distribution of Highly Qualified Teachers in DCPS and Public Charter Secondary Schools (2006-2007)**



## Student-to-Teacher Ratio

It is not only the quality of the teacher that matters but also how many teachers there are in a school to deliver instruction. While a student-to-teacher ratio is not the same as class size, without sufficient teachers, class sizes will necessarily be large. The most extensive study on class size was done in Tennessee over the course of four years with two follow-up phases, and is referred to as the Student/Teacher Achievement Ratio Study (STARS). This longitudinal experimental study found that reduced class size strongly correlates with higher student achievement in reading and math in the early primary grades, especially for low-income students.<sup>86</sup> Students in smaller classes scored higher on norm-referenced tests than those in larger classes, and teachers reported that the smaller classes helped them to better identify student needs, provide more individualized instruction, and effectively cover more material. Follow-up studies found that these enhanced outcomes lasted well beyond the experimental period, with small-class-size students outperforming their regular-class-size peers through the eighth grade. Additional findings suggested that small-class students had fewer special education identifications, fewer discipline problems, lower dropout rates, and lower grade retention rates than their regular class size peers.

We used the total number of teachers in each school as reported in the count of highly qualified teachers to calculate a student/teacher ratio.<sup>87</sup> In this analysis, schools with high percentages of special education students or English Language Learners score high in the student-to-teacher ratio, a fact that is reflected in the high resource scores for schools like SAIL and Options.

We found that half of all charter elementary schools scored in the top quartile of all elementary schools. These schools have some of the city's lowest (and therefore more ideal) student/teacher ratios, ranging from 5 to 9 students per teacher.<sup>88</sup> More than half of these charter schools (9 of 16) are very small, with enrollments under

<sup>86</sup> Word et al, *Student/Teacher Achievement Ratio (STAR): Tennessee's K-3 Class-Size Study*, Nashville, Tennessee Department of Education

<sup>87</sup> The number of all students enrolled in a school is divided by the total number of teachers (highly qualified and not) to determine the student/teacher ratio. The definition of teacher used includes grade-level, special subject, librarians, and special education teachers.

<sup>88</sup> Class sizes, especially at the secondary level, are likely to be much higher than the student/teacher ratios measured, as the teacher definition includes librarians and special education teachers, in addition to classroom teachers.

200 students. In contrast, only 19 percent of DCPS elementary schools scored in the top quartile. The ratios in the bottom quartile range from 13 students per teacher to as high as 16 students or more (in five schools). Nearly one quarter of the elementary schools in the bottom quartile (8 of 33) are large, with over 450 students enrolled. Even more pronounced sector differences are found at the secondary level. Over 40 percent of the charter secondary schools scored in the top quartile on student/teacher ratio, ranging from 5 to 9 students per teacher. Only 8 percent of DCPS secondary schools rank in the top quartile, while 37 percent ranked in the bottom quartile, with student/teacher ratios ranging from 14 to 20 students per teacher.

## Funding (Dollars) per Student

DCPS schools and public charter schools are both funded according to the Uniform per Student Funding Formula (UPSFF) in order to ensure parity between sectors. To create a comparison at the school level among DCPS and public charter schools that fairly evaluated the resources available in the local school, we had to look at more than just Uniform per Student Funding Formula allocations. For DCPS, the funding amount was established by starting with the Weighted Student Formula allocation for 2006-2007. We then allocated the additional DCPS local dollars to the local school. The local dollars added to the Weighted Student Formula were:

- The individual school share of facility utilities, maintenance and the cost of the central office lease at 825 North Capitol Street—this was allocated based on the actual square footage of each DCPS school.
- The cost of DCPS central administration was allocated to each school on a per pupil basis using its audited enrollment for 2006-2007.
- State level costs for special education transportation and private tuition was excluded (still in the 2006-2007 DCPS budget).
- Federal funds and capital funds were also excluded.

For public charter schools, we used the UPSFF allotment by school – as reported from the Chief Financial Officer's office – and excluded the \$3,100 per student facility allowance, excluded federal funds, and excluded the cost of the Public Charter School Board and administration.

Using this formulation to determine funds to and in support of the local school, we have tried to use comparable measures for both sectors that accurately reflect funding available at the local schools. Since the facility allowance can be used for educational programs and since the Public Charter School Board has some function comparable to the DCPS central office, it could be argued that these costs too should be incorporated into the public charter funds per student. We opted to be conservative about the comparisons.

We found that the median funding per elementary school student in both DCPS and public charter schools was about \$9,750 per student. Within DCPS elementary schools it ranged from a low of \$7,077 per student at Burrville Elementary School to a high of \$15,367 per student at Draper.<sup>89</sup>

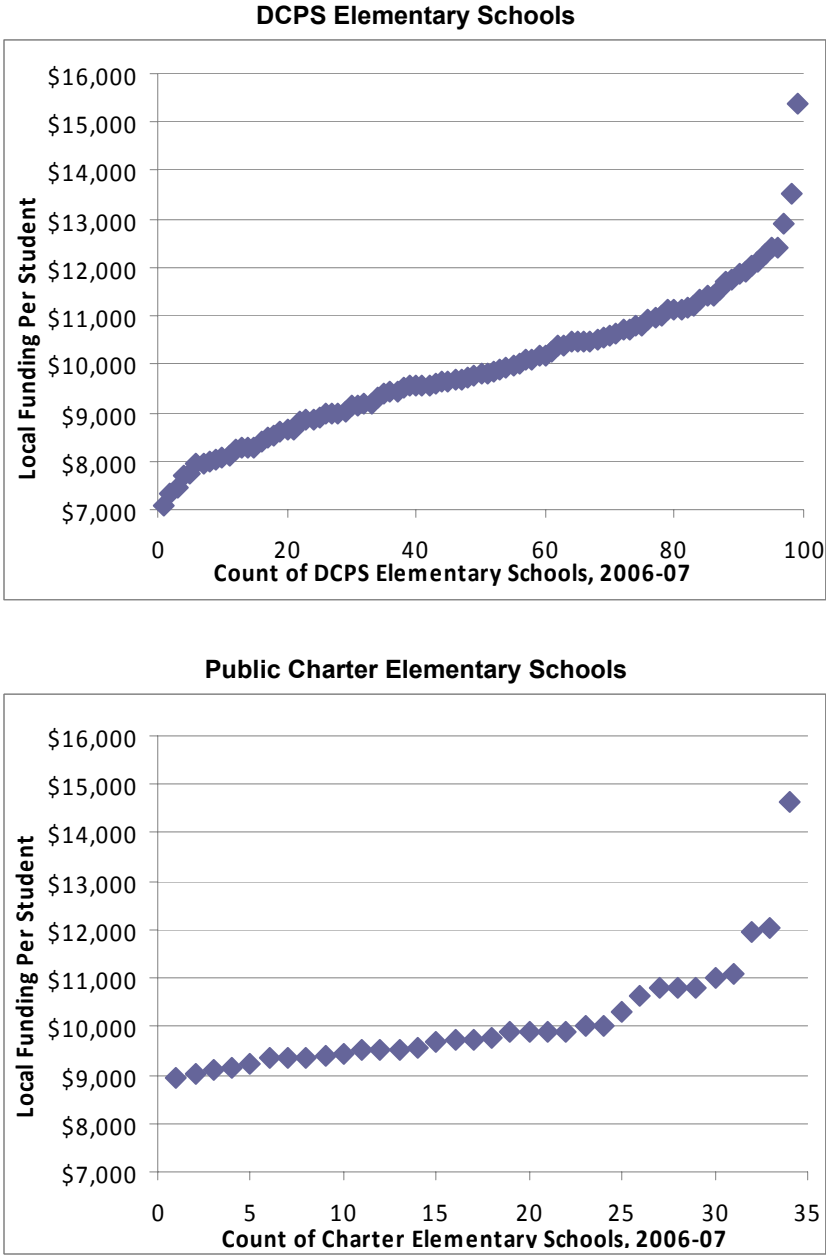
The range of funding in the public charter elementary schools was from \$8,924 per student at Howard Road Academy to \$14,646 per student at School for Arts in Learning, which has approximately 50 percent of its students eligible for special education services. Figure 2.3 shows the distribution of DCPS and PCS elementary schools by per student funding in 2006-2007.

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<sup>89</sup> We excluded Wheatley Elementary School from the range because at \$24,096 per student it was such an outlier. Its high cost per student is a function of moving to swing space and losing enrollment, but the school district continuing to fund it as though it had the same enrollment when it moved to temporary accommodations.



**Figure 2-3: Allocation of Local Per Pupil Elementary School Funding, 2006-2007**

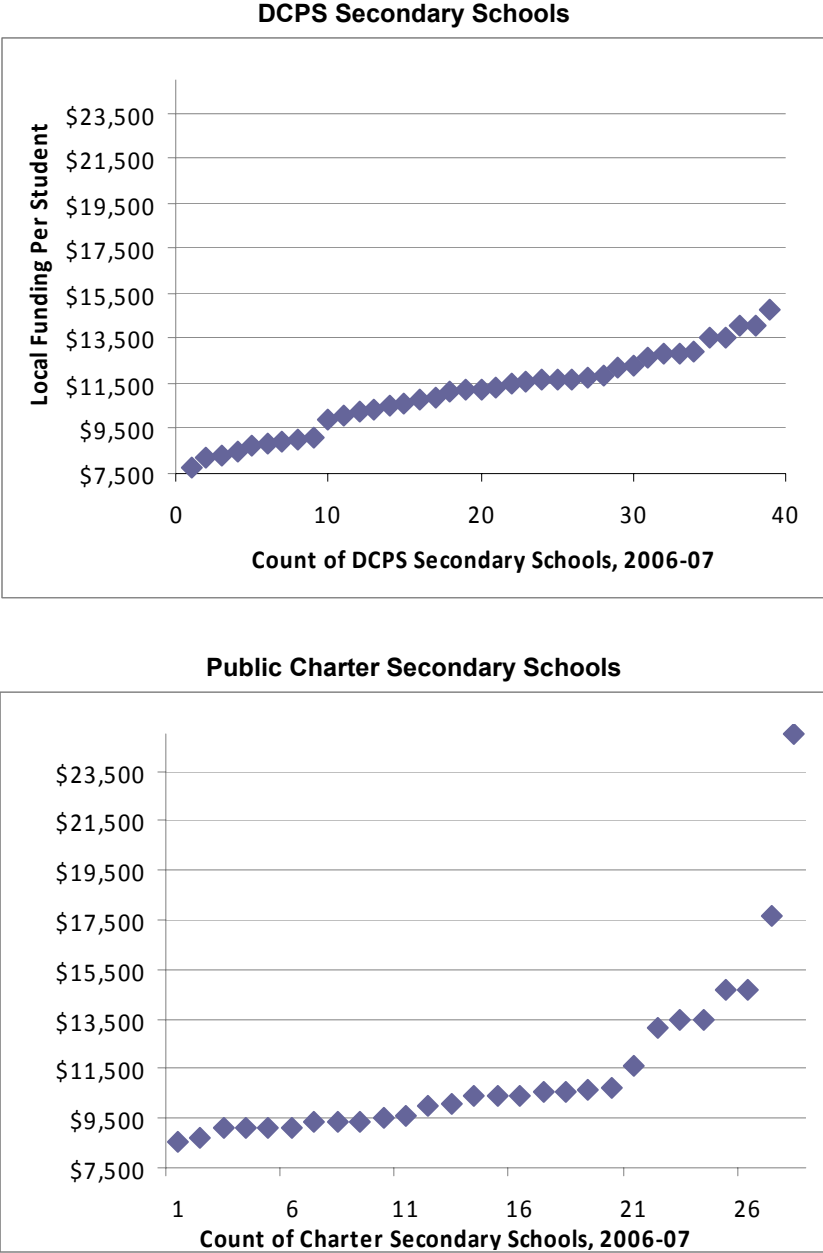


At the secondary level, DCPS per student funding ranges from a low of \$8,241 per student at Wilson Senior High School to the highest funding of \$14,821 per student at Ellington High School of the Performing Arts.<sup>90</sup> In the public charter secondary schools, Washington Math, Science and Technology has the lowest funding per student at \$8,583 and SEED, a residential school, has the highest funding at \$24,976 per student. If you omit SEED, the next highest spending secondary school is Options, which serves a high special education enrollment, at \$17,633 per student.

<sup>90</sup> Woodson Business and Finance has \$7,758 per student, but does not have responsibility for its facility with these funds, as they are allocated into H.D. Woodson's funds.



**Figure 2-4: Allocation of Local Per Pupil Secondary School Funding 2006-2007**



While the differences in spending from the low spending schools to the higher spending schools may not seem significant, even an additional \$1,000 per student translates into significant benefits for students, particularly in the larger schools.

We believe the differences in spending between DCPS and public charter schools are understated since private funding and the facility allowance is omitted from the analysis. Results from the principal survey found that nearly 90 percent of DCPS schools raised under \$25,000 from outside sources—particularly from school events or parents. However, over 60 percent of charter schools raised at least \$25,000 from these sources, including almost one-quarter of charter schools raising over \$250,000 in 2006-2007 from foundations or government grants (excluding Title I and Title II funding). Most public charter schools were not using the entire facility allowance on lease payments, acquisition, debt or capital improvements. Unlike DCPS, which may not save funds from year to year, public charter schools may be saving facility allowance funds for projects in the future or to create some equity for a building purchase in the future; thus, it is not possible to attribute the funds not spent on occupancy cost to program.



## Facility Condition

The condition of public school facilities has been shown to impact teaching and to affect teacher retention.<sup>91</sup> We also know that parents are making choices based on facilities. In a DCPS survey of parents applying for out-of-boundary placement, 36 percent listed facility condition as the reason they were applying for out-of-boundary placement.<sup>92</sup> The new or fully modernized DCPS schools saw enrollment increases of 35 percent over the same five years that overall DCPS enrollment declined by 21 percent. Concerns about facility conditions, particularly cleanliness and safety of school buildings and grounds, were expressed in nearly every focus group.<sup>93</sup> As one parent in the Southeast elementary group put it, “good education can exist no matter what – it can be in a cardboard box – but ugly pictured walls, peeling paint, bathroom smells like no one cleaned it in a week, all of those things really do contribute to them [students] being just depressed.”

The adequacy of public school facilities has been an issue for both the DCPS schools and the public charter schools, although the reasons have been somewhat different. In DCPS, the problems have been largely related to building condition and to some extent how well the design of the school supports the educational program. However, in the public charter schools the issues have been primarily about access to sufficient space and the common issue of whether the space is designed to support educational programming and services. In the case of the public charter schools, the design issues have been more acute, as churches, warehouses and other spaces never designed for schools have been converted into school spaces. In DCPS, the primary design issue is one of obsolete space that can more easily be retrofitted to serve other educational purposes – such as conversion to early childhood or special education classrooms, or providing space to public charter schools.

The District has a range of public buildings constructed from the turn of the 19th century to its most recent entirely new public school, the Columbia Heights Education Center (Bell Senior High and Lincoln Middle School). Many of the existing DCPS schools have multiple additions that have been added over the decades, which have created a tangle of design and conditions. Nearly 9,000 public charter school students are in former DCPS buildings. Public charter schools are also located in churches (some in church schools), in repurposed commercial and industrial space, and in entirely new buildings developed by the school.

There are approximately 17.3 million gross square feet of public school space in the District – in DCPS buildings as well as space in use by public charter schools. This number is based on actual building level data for all DCPS schools and for 52 of the 72 public charter schools. Since there is no database of public charter school facilities information, the 21st Century School Fund contacted each public charter school for information on their building size. The 20 schools that did not respond to the inquiry, or that did not know how much space they used, served approximately 3,400 students in 2006-2007.<sup>94</sup> If an estimate of 100 gross square feet per student is applied to these students, then the total estimated gross square footage in both DCPS and public charter schools would be about 17.3 million gross square feet of space. Approximately 16 million square feet of this space is under the control of DCPS, with 15 million in use for DCPS schools operating in 2006-2007. (Additional detail on school building size and utilization, for both DCPS and PCS, can be found in Appendix B, Data Table B-3: Public School Facilities by Ward and Size, Capacity, and Utilization: 2006-07.)

In 2006, as part of the DCPS Master Facility Plan, the school district developed detailed building assessments for each DCPS school building. As part of this assessment, a “facility condition index” was developed to rank the condition of basic school building components and systems. Approximately half of the DCPS schools (103) were ranked in poor condition. Since there are no centralized data on the condition of public charter school facilities, each public charter school was rated subjectively based on team and outside knowledge of condition.<sup>95</sup> In contrast to DCPS facilities, only a very small number of charter school buildings – 6 out of 59 assessed – were rated in poor condition.

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<sup>91</sup> Buckley, J and Schneider, M, “The Effects of School Facility Quality on Teacher Retention in Urban School Districts”, 2004, Ford Foundation and BEST - Building Educational Success Together

<sup>92</sup> DCPS Office of Student Services, SY2005-06

<sup>93</sup> Only the parents in focus groups at Bell Multicultural High School and Thurgood Marshall Academy PCHS, which both have new buildings, mentioned facilities as positive attributes of their child’s school.

<sup>94</sup> Public charter school data was collected through a phone survey in the fall of 2007; 20 schools are missing from this survey.

<sup>95</sup> Supplemental data on the DCPS FCI can be found in Appendix B, Data Table B-3: Public School Facilities by Ward and Size, Capacity, and Utilization: 2006-07. Charter school building conditions were determined using responses from the principal survey as well as an assessment by Building Hope.

Although the public charter school principals who responded to the survey identified their schools overall as in good condition, there is great disparity in the adequacy of specialized spaces, such as libraries and technology labs, as well as civic or community spaces such as auditoria or gymnasias. These specialized spaces all contribute to a child's well-rounded education and physical health. Half of all charter school principals rated their outdoor athletic and/or play space as poor or not present. This was in contrast to half of DCPS principals who rate this space as good or excellent at their school.

## Distribution of Resources in Public Schools

In this section, we compare the composite resource scores (consisting of the five factors listed above) for DCPS and public charter schools. There is a range of resources available to public schools in the District, with quite different distributions at the elementary and secondary level. The citywide median resource score for elementary schools was 2.4 and the citywide secondary resource score was 2.6. At both levels, the median school resource score is higher for charter schools than for DCPS. As Figure 2.5 (below) shows, 87 percent of DCPS elementary schools (87 of 100 schools) have moderate resources, most likely reflecting DCPS's strong efforts for equity between schools. In contrast, 22 percent of charter elementary schools (7 of 32 schools) have high resources, although they serve only 14 percent of all charter students.

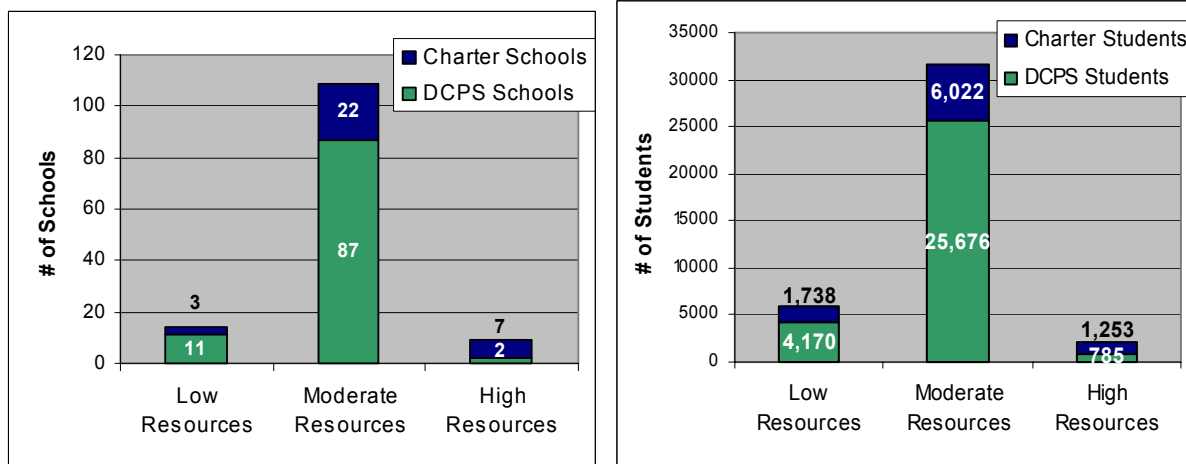
Comparing across wards, the lowest median elementary resource scores are found in Wards 7 and 8 (2.2 out of 4), and the highest median score in Ward 1 (3 out of 4). The concentration of charter schools and English language learners (who receive supplemental dollars through the funding formula) in Ward 1 likely drives this finding.

**Table 2-2: Distribution of Resource Levels for Public Elementary Schools by Ward, 2006-2007<sup>96</sup>**

ELEMENTARY RESOURCES		Wards																
	Citywide		1		2		3		4		5		6		7		8	
<b>Median Score</b>	<b>2.4</b>		<b>3</b>		<b>2.6</b>		<b>2.3</b>		<b>2.4</b>		<b>2.8</b>		<b>2.5</b>		<b>2.2</b>		<b>2.2</b>	
Low Score	14	11%	0	0%	0	0%	2	25%	1	6%	0	0%	2	13%	3	16%	6	26%
Moderate Score	109	83%	12	71%	8	89%	6	75%	16	89%	21	95%	13	81%	16	84%	17	74%
High Score	9	7%	5	29%	1	11%	0	0%	1	6%	1	5%	1	6%	0	0%	0	0%
All Schools	132	100%	17	13%	9	7%	8	6%	18	14%	22	17%	16	12%	19	14%	23	17%
All Students	39,644		4,452		2,054		2,720		5,309		6,021		5,063		6,255		7,770	

<sup>96</sup> For a complete list of school resource indicators and rankings, see Appendix B, Data Table B-4: Public School Resources, Elementary, 2006-07.

**Figure 2-5: Distribution of Resource Levels by Elementary Schools and Students by Sector**



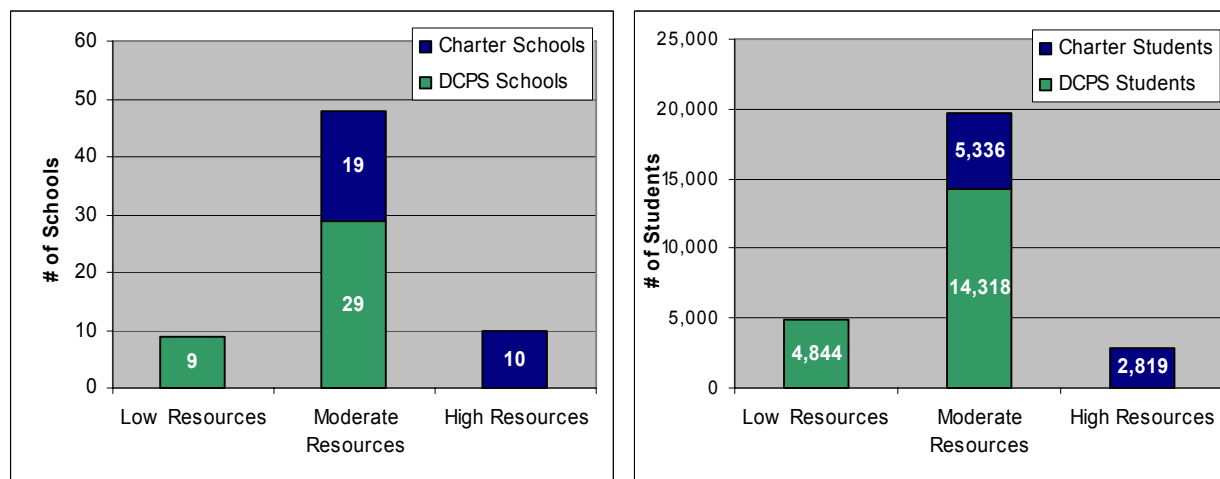
The findings reveal inequities at the secondary level, with a significant disparity between charter secondary and DCPS secondary schools. In part, this is because although the city provides more funding per high school student than per elementary student (in the Uniform Per Student Funding Formula), the DCPS Weighted Student Formula does not carry through this higher level of funding to its high schools. The disparity between DCPS and public charter secondary schools is compounded by significant levels of funding to the DCPS specialty high schools, which tend to be much smaller, on average than the DCPS comprehensive high schools.

**Table 2-3: Distribution of Resource Levels for Public Secondary Schools by Ward, 2006-2007<sup>97</sup>**

SECONDARY RESOURCES	Wards																	
	Citywide		1		2		3		4		5		6		7		8	
<b>Median Score</b>	2.6		2.8		2.9		2.2		2.6		2.6		2.8		2.3		2.2	
Low Score	9	13%	1	9%	0	0%	1	33%	0	0%	1	10%	2	22%	2	17%	2	29%
Moderate Score	48	72%	8	73%	7	88%	2	67%	6	86%	9	90%	5	56%	6	50%	5	71%
High Score	10	15%	2	18%	1	12%	0	0%	1	14%	0	0%	2	22%	4	33%	0	0%
All Schools	67	100%	11	16%	8	12%	3	4%	7	10%	10	15%	9	13%	12	18%	7	10%
All Students	27,317		3,649		2,030		2,349		2,735		3,734		3,483		5,614		3,723	

<sup>97</sup> For a complete list of school resource indicators and rankings, see Appendix B, Data Table B-5: Public School Resources, Secondary, 2006-07.

**Figure 2-6: Distribution of Resource Levels by Secondary Schools and Schools and by Sector**



The impact of the funding formula disparity helps explain the low resource scores in Wards 3 and 8, where the largest DCPS high schools are located (see Table 2.3 above). This lack of resources appropriate for secondary education is likely to be a factor in why it is almost entirely secondary schools that are in restructuring. The relative success of the elementary schools may have been secured at the cost of educational quality for our older students.

It is important to remember that the composite resource score is calculated using several indicators, of which dollars per students is only one. One element that may be driving higher resource scores in the charter sector is the high number of new teachers, as seen in the principal survey results. Charter schools may be hiring new teachers at lower salaries than DCPS is paying to its veteran teaching staff, therefore paying less to get more instructional staff. Although having qualified teachers and smaller class sizes are both important to student outcomes, there is some disconnect between these two attributes, as well as between these attributes and dollars per student from local funds. Notably, several of the city’s highest performing public schools, Janney and Murch elementary schools and Deal Junior High School, all score well on share of highly qualified teachers but score poorly on teacher/student ratio and resources per student. This is a result of their large student bodies and the bias in the DCPS Weighted Student Formula from the small school subsidy.

## Risks

The adequate supply and quality of resources—teachers, funding, facility, and program—should generate positive student results. But as students do not arrive at a school with the same academic, social, and emotional levels of preparation for learning, these resources work differently depending upon the child. Extensive research correlates family characteristics to student academic outcomes, with children from families with low socio-economic status having low academic outcomes and vice versa.<sup>98</sup> This section examines which schools have students enrolled who are at greater risk for meeting the District’s standards for performance on the DC-CAS.

We created a risk index for each DCPS and public charter school using the following indicators:

1. Share of students living in high poverty neighborhoods, defined as census tracts where 30 percent or more of residents live in poverty<sup>99</sup>
2. Share of students eligible for free or reduced price lunch (for elementary schools only)<sup>100</sup>

<sup>98</sup> See Education Trust, “The Funding Gap: Low-Income and Minority Students Receive Fewer Dollars,” 2002; Lee and Burkam, “Inequality at the Starting Gate: Social Background Differences in Achievement as Children Begin School,” Economic Policy Institute, 2002; National Black Caucus of State Legislators, “Closing the Achievement Gap,” 2001.

<sup>99</sup> Poverty rates are calculated using Census 2000 figures. This is the most recent information at the tract level. This factor was double-weighted in our analysis.

3. Share of special education students
4. Share of English Language Learners

Schools were ranked on the three (four for elementary) risk indicators; these ranks were then averaged to determine an overall risk score for each school. The range of possible risk scores was divided into quartiles, with schools assigned as high, moderately high, moderately low, or low risk based on the quartile of their score.

By applying a risk index, we obtain a more complete picture of school attributes and achievement than by comparing student test results alone. The risk index allows us to more accurately acknowledge schools that are doing better than their peers with the same type of students and at the same time not to over applaud schools which appear to be doing well but in fact may be average schools that do not have to address significant challenges in their student bodies.

## Family Income or Residence in High Poverty Census Tracts

Children from low income households, particularly from minority families, have more barriers to academic success than children from more affluent households. These impediments are endemic to poverty and racism, as Richard Rothstein has explained to educators, some of whom who are inclined to think of poverty and racism as “excuses” rather than as real life constraints.<sup>101</sup><sup>102</sup> Rothstein describes the multitude of ways that poverty inhibits academic success for students, including poor access or use of primary health care, more health problems on the part of their parents, housing instability, and having only one adult in their household—who in low-income families is often unemployed or under-employed.<sup>103</sup> Parents from low-income households are less likely to have finished high school. Families in poverty often have no car, have older children providing child care to younger children, and experience a host of other challenges which make it difficult for students and parents to make homework, attendance, parent/teacher conferences, and other school-related activities priorities.

We included two different measures of student poverty in our risk index: the commonly-used measure of free or reduced-price lunch eligibility, as well as the share of students within a school who lived in a census tract where more than 30 percent of the population was living below the federal poverty level as of the 2000 Census. There are two reasons for this expanded examination. First, the number of free and reduced-price lunch students is significantly underreported at the secondary level, making it an unreliable indicator and thus used only at the elementary level in our analysis. Second, since the income cut-off for free and reduced-price lunch, which varies by family size, rises to nearly 200 percent of the poverty line for reduced price qualifiers, it masks concentrations of severe poverty.<sup>104</sup> There is significant research on the detrimental effects of living in concentrated poverty, including lower school readiness (both social and academic) and higher dropout rates; thus schools with high shares of students from the city’s very poorest neighborhoods have the greatest challenges when educating students and the free and reduced-price lunch measure does not sufficiently differentiate at these low income levels.

The District’s public schools primarily serve students from families that are eligible for free or reduced-price lunch, although the geographic distribution of these students varies across the city. Table 2.4 shows the geographic distribution for all schools. In Ward 3, nearly three-quarters of all schools have less than 20 percent of students eligible for free or reduced-price lunch; in contrast, 25 percent of schools in Ward 7 and 40 percent of schools in Ward 8 have 80 percent or more of their students eligible for free or reduced-price lunch. As described above, the risk indicator only includes share of students eligible for free or reduced-price lunch at the elementary level.

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<sup>100</sup> Because F/R lunch is significantly underreported at the high school level, this indicator was only used for elementary schools.

<sup>101</sup> Richard Rothstein, *Class and Schools: Using Social, Economic, and Educational Reform to Close the Black-White Achievement Gap*, May 2004, Teacher’s College Press

<sup>102</sup> Chester Finn, March of the pessimists, *The Education Gadfly A Weekly Bulletin of News and Analysis* from the Thomas B. Fordham Foundation, August 17, 2006, Volume 6, Number 31

<sup>103</sup> The term “underemployment” is used here to describe individuals who are working but cannot find full-time employment.

<sup>104</sup> In 2006-07, students in a family of four with annual income under \$35,798 qualified for free or reduced price lunch. The U.S. Census Bureau’s Weighted Average Poverty Threshold for a family of four in 2006 was \$20,614.

**Table 2-4: Number of Schools by Percent of Students Eligible for Subsidized or Free Lunch by Ward<sup>105</sup>**

School Income Level (by Free/Reduced Price Lunch Eligibility) <sup>106</sup>	Wards								
	1	2	3	4	5	6	7	8	Total
Very low income: > 80%	11	3	0	4	13	6	7	14	58
Low income: 60-80%	7	7	0	12	14	11	17	18	86
Moderate income: 40-59%	6	2	0	7	11	4	5	2	37
Middle income: 20-39%	1	3	3	2	1	2	0	1	13
High income: <20%	-	2	8	1	0	0	0	0	11
Total <sup>107</sup>	25	17	11	26	39	23	29	35	205

City-wide, over one-third of public school students live in high-poverty neighborhoods. At the elementary level, there are two noticeable extremes. There is a sizable group of schools – 22 percent or 28 schools – with very little student poverty (5 percent or less of students living in high poverty neighborhoods), as well as 17 schools where 75 percent or more of students lived in high poverty neighborhoods. At the secondary level, the concentration of poverty is not quite as high, most likely because the schools draw students from a larger geographic area. Nonetheless, in nearly a quarter of secondary schools (24 percent, or 16 schools) half or more of the students live in high poverty neighborhoods, and only two schools (less than 3 percent of all secondary schools) have the low rates seen at the elementary level.

## Special Education

Ensuring that special education students – defined here as any student with an Individualized Education Plan – can succeed demands careful attention and additional resources from schools. Schools must ensure that appropriate supports and learning environments are in place to help students whose needs range from a few hours each week for additional tutoring to overcome a minor learning disability to full-time educational and physical assistance. D.C. characterizes special education students from Level 1 through Level 4, based on the number of hours of specialized learning students receive each week. The majority of special education students in D.C. are Level 1 or 2. Students at all four levels are included in our analysis.

The median share of special education students in elementary schools is 9 percent, although the distribution of special education students reveals significant concentrations in some schools. At the elementary level, 21 of 130 schools have 15 percent or more of their student body as special education students. Half (11) of these 21 schools with high shares of special education students are located in Wards 7 or 8, and five of them have 20 percent or more of their students in special education. On the other end of the distribution, there are 25 schools with 5 percent or less of their students in special education.

The median share of special education students in secondary schools is higher than in elementary schools, at 15 percent. The distribution at the secondary level is more startling, with half of all schools (34 of 67 schools) having 15 percent or more special education students and nearly one-third (21 schools) – including every DCPS middle and high school in Wards 7 and 8 – having 20 percent or greater. Ten secondary schools have 5

<sup>105</sup> For additional detail, see Appendix B, Data Table B-6: Public Schools by Ward and Free/Reduced Price Lunch Eligibility: 2006-07.

<sup>106</sup> Free or reduced price lunch data is from student level data. There are 28 schools which either combine data with another school, such as Wheatley and Webb or for which there is no student level data.

<sup>107</sup> Adult education (including DCPS STAY program), private tuition, Oak Hill, DC Corrections Treatment, DC Detention Facility are not included. Data is not available for Mary McLeod Bethune public charter school and Washington Academy public charter school.

percent or less of their students in special education, which includes the six DCPS selective admissions schools and programs.<sup>108</sup>

## English Language Learners

Students with limited or no English proficiency need educational supports – including qualified and knowledgeable teachers and specialized educational materials, resources and learning environments – to help them succeed in mastering both language proficiency and content standards. Nationally, English Language Learners perform at lower levels and are at higher risk of dropping out than their native English-speaking peers.<sup>109</sup> In D.C., the majority – 70 percent – of English Language Learners are Spanish-speaking, although English Language Learners speak a total of 137 languages and come from 149 different countries.<sup>110</sup>

The distribution of Limited English Proficient/No English Proficient (LEP/NEP) students is more concentrated than the distribution of special education students at the elementary level. Large numbers of schools have few to no LEP/NEP students, while those schools that do have LEP/NEP students often have high shares. This reflects the residential segregation of the District. Almost three-fourths of all Hispanic children live in either Wards 1, 2, or 4.<sup>111</sup>

Nearly half (56 of 133) of all elementary schools have no LEP/NEP students and two-thirds (85) have 5 percent or less. Twenty-one schools have 20 percent or more LEP/NEP students, and at 13 schools – all but two in Wards 1 or 4 – over one-third of the students are LEP/NEP. In contrast to the distribution of special education students, which was higher at the secondary level, the share of LEP/NEP students is lower. Similar to elementary, over half (36 of 68) of secondary schools have no LEP/NEP students. However, a full three-fourths of secondary schools have less than 5 percent, and only six schools – all in Wards 1 and 4 – have over 20 percent of their students LEP/NEP. Table 2.5 shows the geographic distribution of schools where at least 10 percent of the student body are LEP/NEP students. It includes the adult and alternative education schools, which especially in Ward 1 have high numbers of LEP/NEP students.

**Table 2-5: Number of Schools with Over 10% English Language Learners (ELL) and Number of ELL Students in Those Schools<sup>112</sup>**

English Language Learners (ELL)	Wards								Total
	1	2	3	4	5	6	7	8	
10-25% Students	8	2	4	9	1	0	0	0	24
25-50% Students	9	4	1	3	1	0	0	0	18
>50% Students	4	0	0	3	0	0	0	0	7
Total Schools	21	6	5	15	2	0	0	0	49
# of Students	2,184	412	296	1,143	70	0	0	0	4,105

<sup>108</sup> Banneker, Ellington, McKinley, School Without Walls, Dunbar Pre-Engineering, Woodson Business & Finance

<sup>109</sup> Nationally, only 4 percent of ELLs 8<sup>th</sup> grade students scored proficient or advanced in reading, compared with 32 percent of non-ELLs, according to the 2005 National Assessment of Educational Progress.

<sup>110</sup> DCPS Office for Civil Rights Compliance and Multicultural Affairs, “Plan to Provide Services for English Language Learner Students,” December 2003

<sup>111</sup> The share and location of Hispanic children were determined using averaged 2005 and 2006 American Community Survey Micro-Level PUMS data. More than three-fourths (77 percent) of Hispanic children lived in PUMAs 00102 and 00105, which correspond approximately with Wards 1, 2 and 4.

<sup>112</sup> For additional detail, see Appendix B, Data Table B-7: Public Schools by Number and Percent of Limited English Proficient and No English Proficient Students: 2006-07.

## Distribution of Risk in Student Populations

As Tables 2.6 and 2.7 illustrate, there are significant geographic differences in the distribution of risk in schools' student populations. At both the elementary and secondary levels, Ward 3 schools have the lowest median risk scores (2.0 and 1.7, respectively) and Ward 8 schools have the highest median risk scores (4.0 and 4.7, respectively). At the elementary level, three-quarters of Ward 3 schools and half of Ward 4 schools have low-risk student populations; in comparison, no elementary schools in Wards 7 or 8 have low-risk populations and 41 percent of Ward 8 schools have high-risk populations.

**Table 2-6: Distribution of Elementary Schools by Risk Levels and by Ward<sup>113</sup>**

ELEMENTARY RISK			Wards															
	Citywide		1		2		3		4		5		6		7		8	
Median Score	3.0		3.8		2.8		2.0		2.3		2.7		3.1		3.5		4.0	
Low Score	23	18%	1	6%	2	22%	6	75%	9	50%	3	14%	2	13%	0	0%	0	0%
Moderately Low Score	52	40%	4	24%	4	44%	2	25%	8	44%	16	73%	6	40%	7	37%	5	22%
Moderately High Score	39	30%	7	41%	2	22%	0	0%	1	6%	2	9%	4	27%	12	63%	11	28%
High Score	17	13%	5	29%	1	11%	0	0%	0	0%	1	5%	3	20%	0	0%	7	41%
All Schools	131	100%	17	13%	9	7%	8	6%	18	14%	22	17%	15	11%	19	15%	23	18%
# of Students	39,468		4,452		2,054		2,720		5,309		6,021		4,887		6,255		7,770	

**Table 2-7: Distribution of Secondary Schools by Risk Levels and by Ward<sup>114</sup>**

SECONDARY RISK			Wards															
	Citywide		1		2		3		4		5		6		7		8	
Median Score	3.0		3.0		2.0		1.7		2.7		3.0		3.7		4.0		4.7	
Low Score	20	30%	3	27%	7	88%	3	100%	3	43%	3	30%	1	11%	0	0%	0	0%
Moderately Low Score	20	30%	6	55%	0	0%	0	0%	3	43%	5	50%	3	33%	3	25%	0	0%
Moderately High Score	22	33%	2	18%	1	13%	0	0%	1	14%	2	20%	5	56%	8	67%	3	43%
High Score	5	7%	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	1	8%	4	57%
All Schools	67	100%	11	16%	8	12%	3	4%	7	10%	10	15%	9	13%	12	18%	7	10%
All Students	27,317		3,649		2,030		2,349		2,735		3,734		3,483		5,614		3,723	

The average level of risk for DCPS schools and public charter schools is nearly the same. The median elementary score for DCPS schools was 3.0 compared to 3.1 for public charters, and the median score was slightly higher for DCPS schools at the secondary level compared to public charters (3.3 versus 3.0,

<sup>113</sup> For a complete list of school risk indicators and rankings, see Appendix B, Data Table B-8: Public School Risks, Elementary, 2006-07.

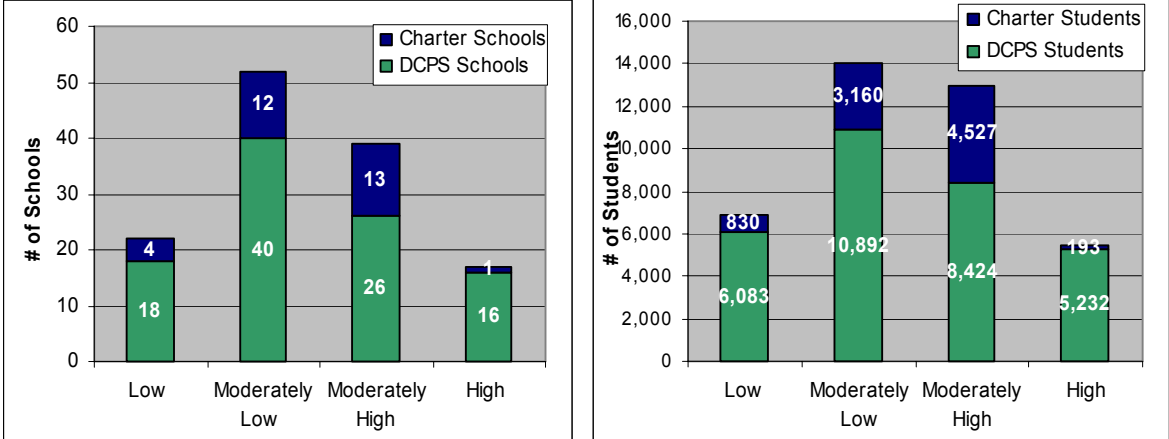
<sup>114</sup> For a complete list of school risk indicators and rankings, see Appendix B, Data Table B-9: Public School Resources, Secondary, 2006-07.



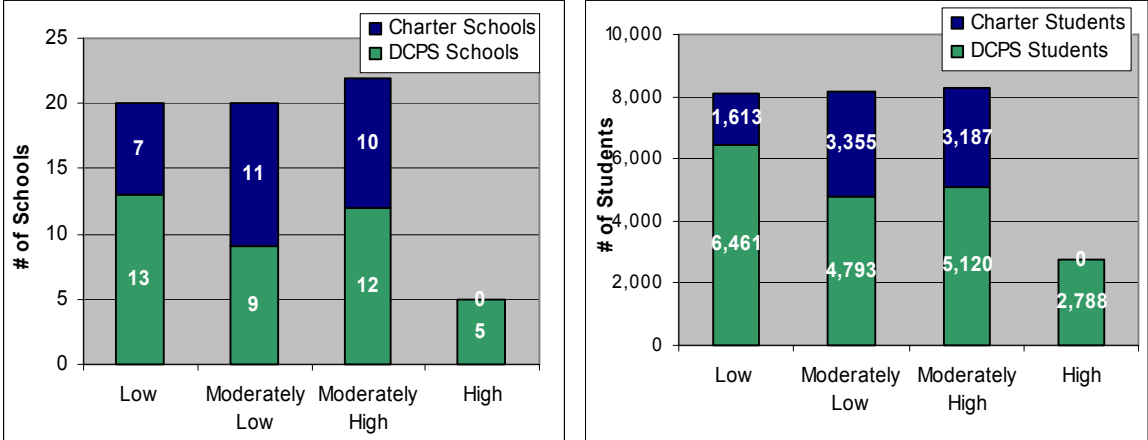


respectively). These results suggest that both sectors serve challenging populations. However, the averages mask important differences. As Figures 2.7 and 2.8 illustrate, DCPS has a substantial number of schools with low risk populations — over 12,000 students attend low risk schools at the elementary and secondary levels combined. Many of these schools are located in the affluent neighborhoods of Ward 3 and 4, or are selective admissions high schools. In comparison, less than 2,500 public charter students attend low risk schools. DCPS also has far more of the high risk schools and a much larger proportion of the total population of very high risk students than PCS. Over 8,000 DCPS students attend 21 schools with the highest risk populations. In comparison, there is only one public charter school with the highest risk population, serving 193 students. Overall, the public charter schools serve neither the lowest risk nor the highest risk students, while DCPS has significant numbers of both types of schools and students.

**Figure 2-7: Distribution of Elementary Schools and Students by Risk Levels and by Sector**



**Figure 2-8: Distribution of Secondary Schools and Students by Risk Levels and by Sector**



**Results**

The final factor that we analyzed was the schools’ results. Administrative student outcome data for both DCPS and public charter schools are limited. The only administrative data available for both DCPS and public charter schools are results of the DC-CAS standardized test. We would have liked to include graduation rates and promotion rates but they were not available for the public charter schools.

Therefore, academic results were measured using the following indicators:

1. Students READING at basic & above
2. Students READING at proficient & advanced
3. Students doing MATH at basic & above

#### 4. Students doing MATH at proficient & advanced

Schools were ranked by their relative student performance on reading and math and results scores were based on an aggregate of these rankings.<sup>115</sup> As with resources and risks, the range of possible results scores was divided into quartiles – schools with results scores in the top quartile were assigned as high results, those with scores in the middle two quartiles as moderate results, and those with scores in the bottom quartile as low results. Because the scores are based on rankings of relative, not absolute, performance, using this approach some schools that did not meet Adequate Yearly Progress (AYP) may nonetheless be characterized as high results.

The school results index was calculated on a school level basis. However, since there is wide variation in enrollment between DCPS and public charter schools, we also report how many students tested at the different relative rankings. This is particularly pronounced at the secondary level, where DCPS schools represent 57 percent of all public secondary schools but DCPS students represent 70 percent of all public secondary students.

### **Students Reading at Basic and Above**

At most elementary schools (63 percent), 80 percent or more of students scored basic and above in reading on the DC-CAS. However, there are wide variations in performance at both ends. At over one-quarter (26 percent) of all elementary schools, 90 percent or more of students scored basic and above. However, there are a handful of poor-performing outliers – at nine schools (7 percent), 30 percent of students scored below basic on reading, and at three schools, over 40 percent scored below basic. While the majority of secondary schools (53 percent) have 80 percent or more of their students scoring basic and above on reading, the distribution is more concentrated at either end. Thirty-four percent of secondary schools have 90 percent or more of their students scoring basic and above, while 19 percent have 30 percent or more of students scoring below basic, and at seven schools (11 percent), more than half of students scored below basic.

### **Students Reading at Proficient and Advanced**

The federal No Child Left Behind law aims to have all children performing at proficient or advanced by the 2013-2014 school year. However, only one-quarter of elementary schools had more than half of their students scoring proficient or advanced in reading. A handful of schools (7 schools, or 5 percent) had at least three-quarters of their students scoring proficient or advanced, and one elementary school had nearly all (96 percent) of its students scoring proficient or advanced in reading. Twenty percent of elementary schools had less than one-quarter of their students scoring proficient or advanced. Secondary schools had a similar distribution to elementary schools at the higher end with 25 percent having more than half of their students scoring proficient or advanced and 5 percent (3 schools) with at least three-quarters of their students scoring proficient or advanced. However, many more secondary schools fell at the lower end, with almost half of all schools (47 percent) having less than one-quarter of their students scoring proficient or advanced, and 9 percent of schools (6 schools) having less than 10 percent at proficient or advanced in reading.

### **Students with Math Skills at Basic and Above**

Performance in math was lower than in reading at both the elementary and secondary level. Only 36 percent of elementary schools had 80 percent or more of their students performing math at basic and above (compared with 63 percent in reading) and 13 percent of schools had 90 percent or more of their students performing math at basic and above (compared with 26 percent in reading). Over one-third of schools (38 percent) had 30 percent or more students at below basic, while six elementary schools had more than half their students at below basic. At the secondary level, only 38 percent of schools had 80 percent or more of their students performing math at basic and above (compared with 53 percent in reading) and 20 percent of schools had 90 percent had 90 percent of students performing math at basic and above (compared with 34 percent in reading). Nearly half of secondary schools had 30 percent or more of their students performing math below basic, and 15 percent (10 schools) had more than half their students performing below basic.

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<sup>115</sup> The dual indicators – proficient & advanced, as well as basic & above – allowed us a more nuanced understanding of performance results. Proficient and above is the goal established under No Child Left Behind. However there is also a noticeable difference between students at basic and those scoring below basic, who are often significantly behind their peers at grade-level.

## Students with Math Skills at Proficient and Advanced

Significant progress is also needed in math to reach the No Child Left Behind threshold of all children proficient or advanced. At the elementary level, 17 percent of schools had more than half their students performing proficient or advanced, with 5 schools (4 percent) having three-quarters of their students at proficient or advanced. Almost half of all elementary schools (46 percent) had less than one-quarter of their students at proficient or advanced, with a small group of these (8 schools, or 6 percent) having less than 10 percent of their students at proficient or advanced. Math performance was similar at the secondary level, although with slightly larger concentrations at the highest and lowest performing schools. Twenty-two percent of schools had more than half their students performing proficient or advanced, with 4 schools (6 percent) having three-quarters of their students at proficient or advanced, one of these at over 90 percent proficient or advanced. Just over half of all secondary schools (52 percent) had less than one-quarter of their students at proficient or advanced in math, and 14 percent (9 schools) had less than 10 percent of their students at proficient or advanced.

## Distribution of School Results

In terms of performance, the typical or moderate results elementary schools have a median of 36 percent of their students scoring at proficient or advanced in reading, with a lower share (median of 26 percent) scoring proficient or advanced in math. In contrast, the median high results elementary school has 60 percent of its students scoring at proficient or advanced in reading and 54 percent in math, and a handful of schools have over 80 percent of students scoring proficient or advanced in reading and math. At many of the low results schools, less than 20 percent of students score proficient or advanced, and at five schools, the share of students scoring proficient or advanced in math is in the single digits. A total of 17,946 students attended moderate results public elementary schools; 9,516 students attended low results schools; and 11,655 attended high results schools in 2006-07. Ward 3 elementary schools, which are all DCPS schools, significantly outperform schools in the rest of the city, with a median results score of 4 (out of 4). In contrast, the elementary schools in Wards 7 and 8 have median scores of 1.8 and 1.5, respectively (see Table 2.8).

**Table 2-8: Distribution of Elementary Results Levels by Ward<sup>116</sup>**

ELEMENTARY RESULTS		Wards																
	Citywide		1		2		3		4		5		6		7		8	
<b>Median Score</b>	<b>2.3</b>		<b>2.6</b>		<b>3.0</b>		<b>4.0</b>		<b>3.0</b>		<b>2.5</b>		<b>2.3</b>		<b>1.8</b>		<b>1.5</b>	
Low Score	32	25%	2	13%	1	11%	0	0%	0	0%	4	20%	3	20%	8	42%	14	61%
Moderate Score	60	47%	9	56%	4	44%	0	0%	12	67%	9	45%	8	53%	11	58%	7	30%
High Score	36	28%	5	31%	4	44%	8	100%	6	33%	7	35%	4	27%	0	0%	2	7%
All Schools	128	100%	16	13%	9	7%	8	6%	18	13%	20	16%	15	12%	19	14%	23	17%
All Students	39,644		4,452		2,054		2,720		5,309		6,021		5,063		6,255		7,770	

The results at the secondary level are similarly distributed, although the median scores are slightly lower for low and moderate results schools. At the moderate results secondary schools, the median scores are lower than at the elementary level (median of 27 percent of students score proficient or advanced in reading and 23 percent in math). The median at the high results schools are 61 percent reading proficient and advanced and 57 percent math proficient and advanced, slightly higher than the median for high results elementary schools. There are also more secondary schools with very low shares of students at proficient or advanced (almost one-quarter of all secondary schools have less than 15 percent of students testing proficient or advanced). The distribution of students across the three results levels is more even than at the elementary level, with

<sup>116</sup> For a complete list of school results indicators and rankings, see Appendix B, Data Table B-10: Public School Results, Elementary, 2006-07.

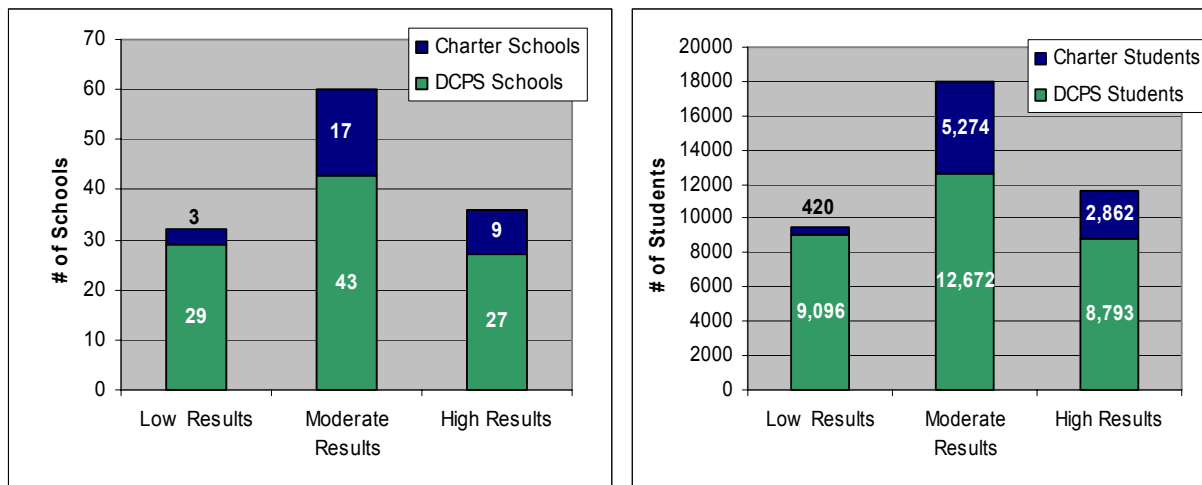
approximately 2,000 more students attending moderate results schools compared with high or low results schools. As Table 2.9 shows, similar to the elementary level, Ward 3 schools outperform those in the rest of the city, with a median results score of 4.0. The lowest performing secondary schools are located in Wards 1 and 8, with median scores of 1.8 and 1.3, respectively.

**Table 2-9: Distribution of Secondary Results Levels by Ward<sup>117</sup>**

SECONDARY RESULTS		Wards																	
	Citywide		1		2		3		4		5		6		7		8		
<b>Median Score</b>	<b>2.5</b>		<b>1.75</b>		<b>3.375</b>		<b>4</b>		<b>2.25</b>		<b>2</b>		<b>2.5</b>		<b>2.5</b>		<b>1.25</b>		
Low Score	18	28%	2	20%	0	0%	0	0%	1	14%	4	44%	2	22%	4	36%	5	71%	
Moderate Score	27	42%	6	60%	4	50%	0	0%	5	71%	2	22%	5	55%	5	45%	0	0%	
High Score	19	30%	2	20%	4	50%	3	100%	1	14%	3	33%	2	22%	2	18%	2	29%	
All Schools	64	100%	10	16%	8	13%	3	5%	7	11%	9	14%	9	14%	11	17%	7	11%	
All Students	27,317		3,649		2,030		2,349		2,735		3,734		3,483		5,614		3,723		

Public charters outperform DCPS schools at both the elementary and secondary levels, with median scores of 3.0 at both levels, compared to 2.3 elementary and 2.0 secondary for DCPS schools.

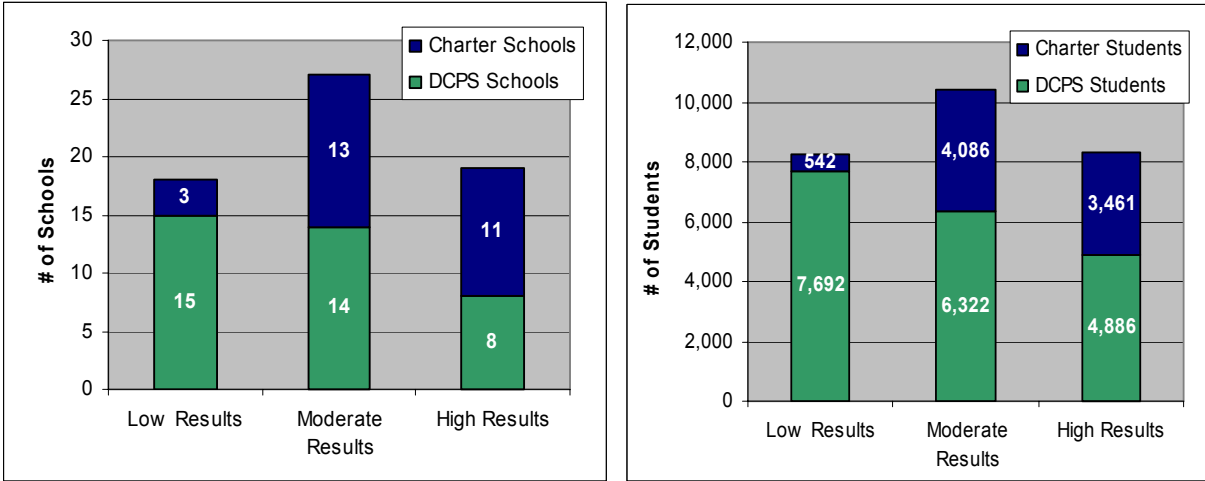
**Figure 2-9: Distribution of Elementary School and Student Results by Levels and Sector**



<sup>117</sup> For a complete list of school results indicators and rankings, see Appendix B, Data Table B-11: Public School Results, Secondary, 2006-07.



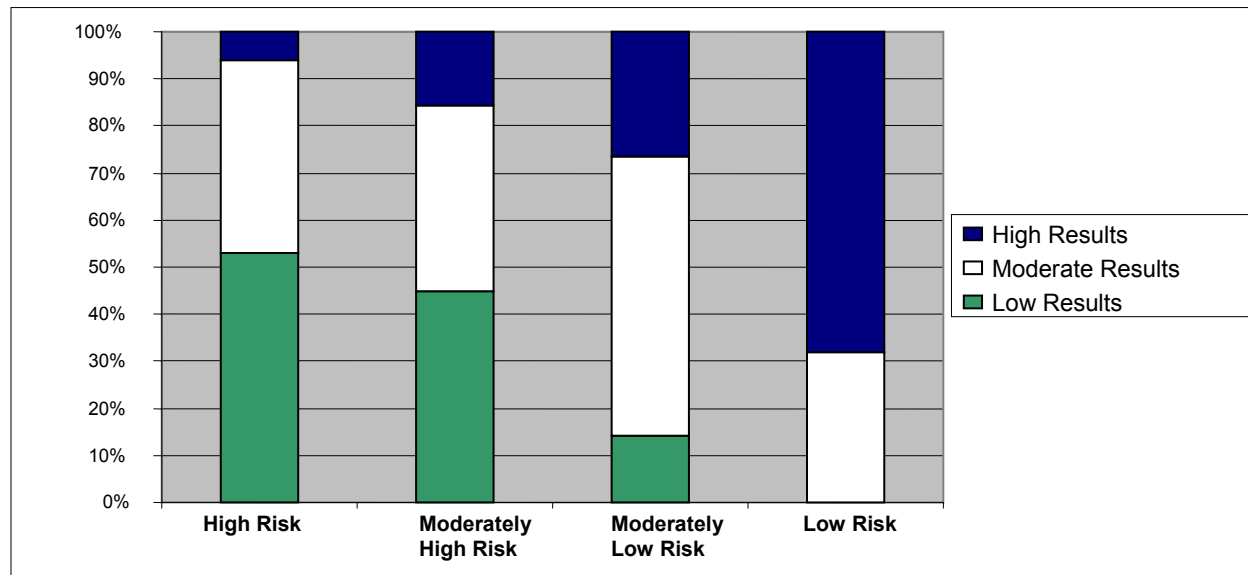
**Figure 2-10: Distribution of Secondary Schools and Student Results Levels by Sector**



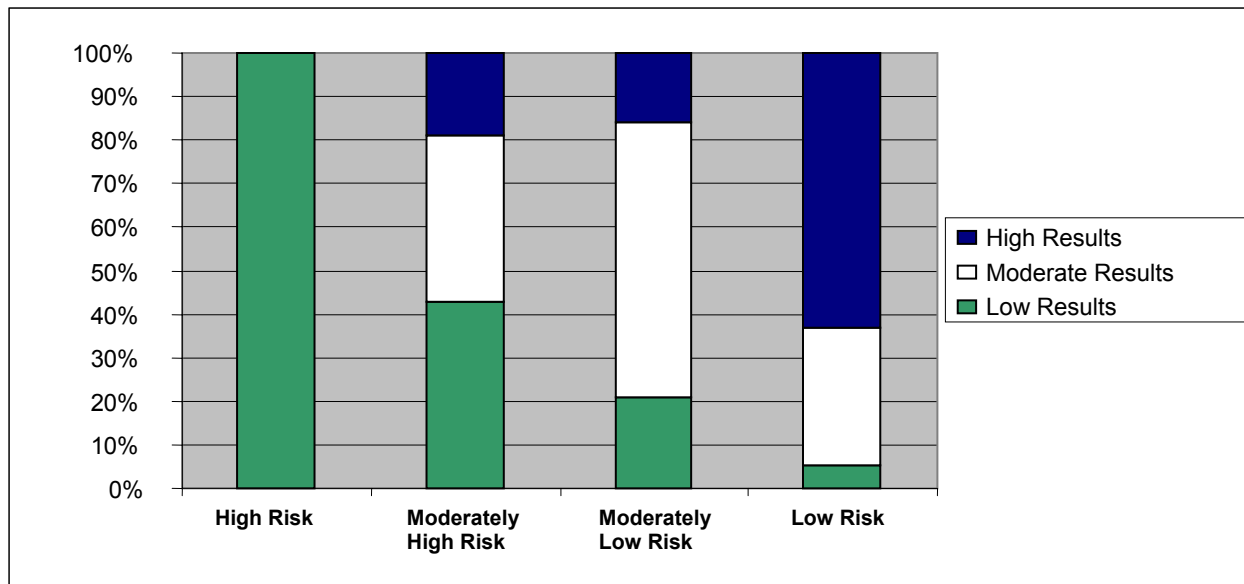
However, the school level analysis masks the complete story somewhat. When comparing sectors by individual student performance (rather than aggregate school performance) the differences are minimized at the elementary level, where 39 percent of DCPS students score at proficient or advanced in reading compared with 40 percent of PCS students. In math, 31 percent of DCPS students score proficient or advanced, compared with 35 percent of charter students. At the secondary level (including both middle and high schools), public charter students significantly outperform their DCPS peers. Of DCPS secondary students, only 30 percent in reading and 27 percent in math score proficient or advanced, compared with 43 percent in reading and 41 percent in math of public charter students.

There are several possible explanations for the variety in student performance – why certain schools perform better than others. Most notably, there is a strong relationship between results and risk – the low risk schools mostly have high results; while schools with high risk student bodies mostly have the lowest results scores. This is true at both the elementary and secondary levels. At the elementary level, nearly 70 percent of the low risk schools have high results, and only one high risk school – Cleveland ES – also has high results. Conversely, less than 10 percent of high risk schools have high results, and over half have low results. The distribution is equally striking at the secondary level, where over 60 percent of the low risk schools have high results and all of the high risk schools have low results.

**Figure 2-11: Share of Elementary Schools by Levels of Risks & Results<sup>118</sup>**



**Figure 2-12: Share of Secondary Schools by Levels of Risks & Results<sup>119</sup>**



Results may also be driven by a school's selectivity, with the expectation that more selective schools would have higher results. This is the case for secondary schools: all of the DCPS and public charter selective secondary schools performed at high levels.<sup>120</sup>

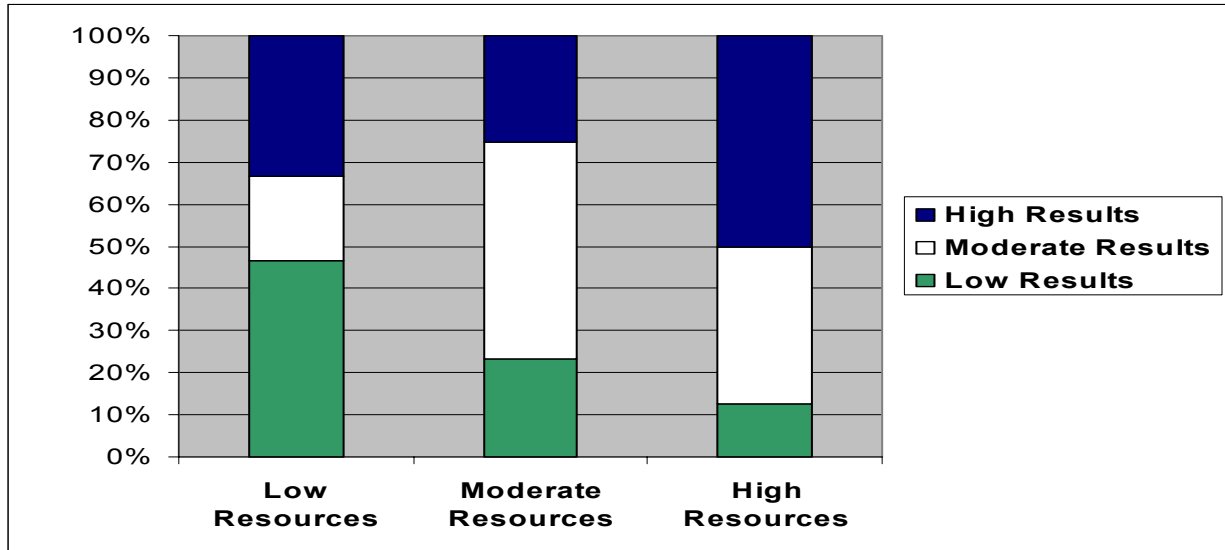
<sup>118</sup> For a complete list of school compared by risks and results, see Appendix B, Data Table B-12: School Risks & Results, Elementary & Secondary, 2006-07.

<sup>119</sup> For a complete list of school compared by risks and results, see Appendix B, Data Table B-12: School Risks & Results, Elementary & Secondary, 2006-07.

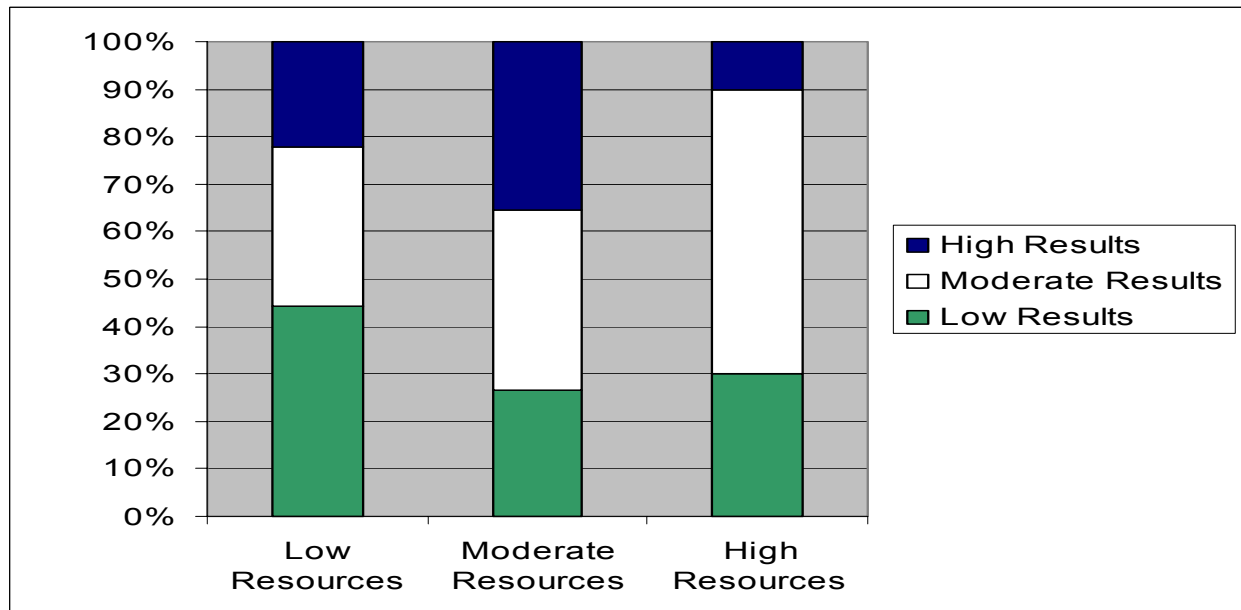
<sup>120</sup> DCPS secondary selective admission schools include Banneker, Ellington, McKinley, and School Without Walls, as well as Dunbar Pre-Engineering and Woodson Business and Finance Academies. Selective public charter schools are defined as having strict academic or behavioral standards that students must meet in order to remain enrolled. These include Paul, SEED, and Thurgood Marshall Academy.

There also appears to be a relationship between resources and results, although it is not as clear as between risks and results. In part, this weaker relationship may result from the fact that several of the high results schools are very crowded, which as observed earlier leads to lower resources (an outcome of the DCPS funding formula and their large student bodies, which often increase student/teacher ratios). In addition, students from higher income families are likely receiving greater support at home, which may overcome any shortage of resources at their school.

**Figure 2-13: Share of Elementary Schools by Levels of Resources & Results<sup>121</sup>**



**Figure 2-14: Share of Secondary Schools by Levels of Resources & Results<sup>122</sup>**



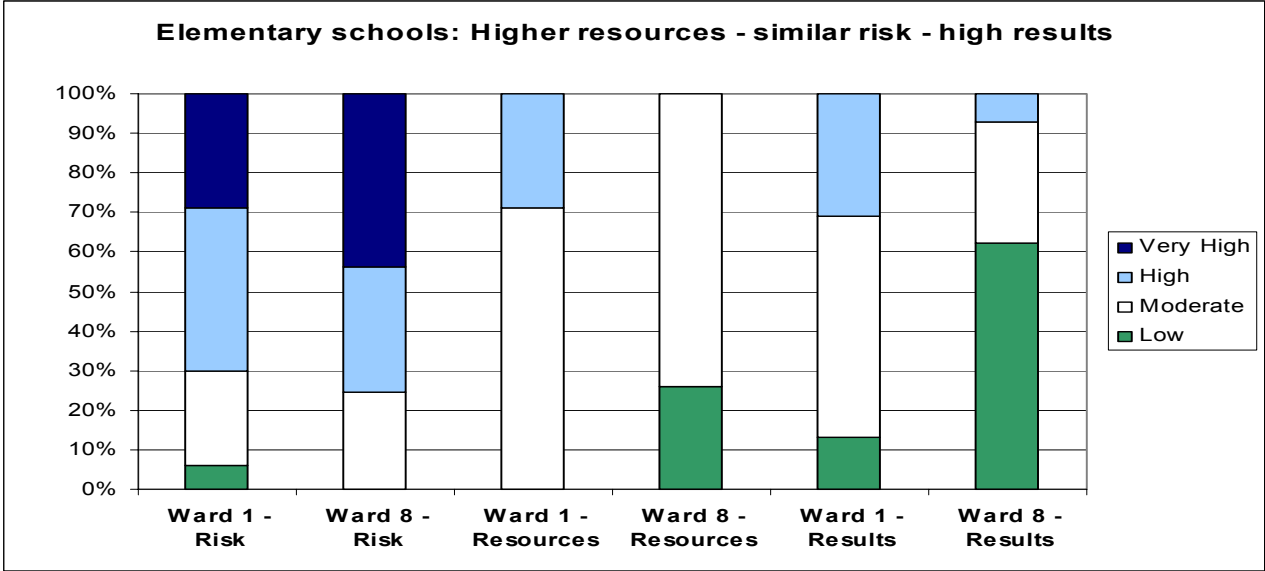
<sup>121</sup> For a complete list of school compared by resource and results, see Appendix B, Data Table B-13: School Resources & Results, Elementary & Secondary, 2006-07.

<sup>122</sup> For a complete list of school compared by resources and results, see Appendix B, Data Table B-13: School Resources & Results, Elementary & Secondary, 2006-07.



When schools with similar risk levels are compared, the relationship between resources and results appears stronger, especially at the elementary level, where the concentration of poverty in the highest risk schools was most intense. This suggests that resources are more important to results where students have higher risk levels.

**Figure 2-15: Share of Elementary Schools by Levels of Risks, Resources & Results – A Comparison of Ward 1 and Ward 8**

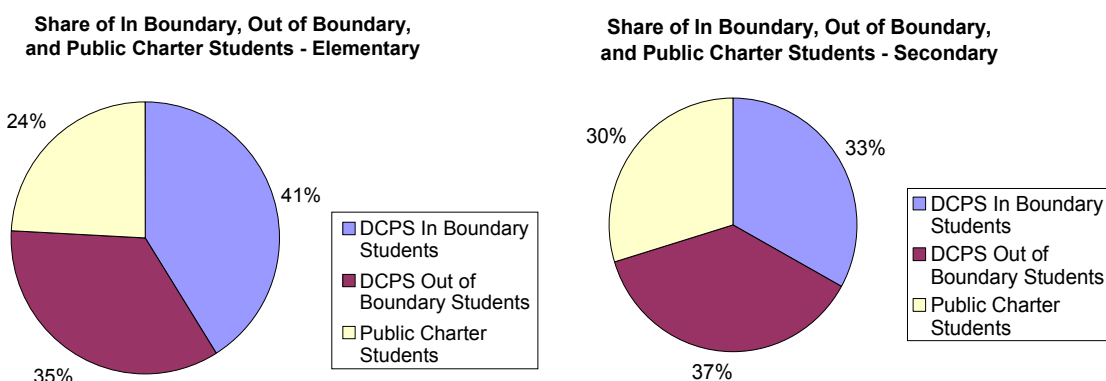




## Chapter 3 - Parental Demand for Public Schools

Parents have taken advantage of the extensive supply of public schools, enrolling their children at in-boundary DCPS schools, out-of-boundary DCPS schools, or public charter schools.<sup>123</sup> The District's school system offers families a wide array of choices through a complex set of policies governing access to public schools. Students can attend their assigned neighborhood DCPS school, apply to another DCPS school through an out-of-boundary process, apply to a city-wide magnet high school or academy through a select admissions process, enter a lottery to attend a public charter school, or apply for a publicly financed scholarship to a private school (vouchers).

**Figure 3-1: Share of Students Attending DCPS In-Boundary, DCPS Out-of-Boundary, Charter Schools, 2006-07**



These enrollment decisions play out in varying ways across the city. In Ward 1, where Bruce-Monroe Elementary School (DCPS) is located, there are a large number of DCPS and public charter schools within a relatively small geographic area, and enrollment patterns are complex. Table 3.1 shows where the elementary-age students who live within one half mile of Bruce-Monroe Elementary School attend school. As we can see, only 18 percent of the 1,125 PS-5th grade students in this near-by area attended Bruce Monroe in 2006-07, and the remaining students enrolled in 23 other public schools—some because students within a half mile of Bruce Monroe are assigned to Tubman, Park View or Meyer, others attended other schools because they opted to go to a school other than their assigned school.

**Table 3-1: Enrollment Patterns of Students Living Within a Half Mile of Bruce-Monroe<sup>124</sup>**

School Name	Students	School Name	Students
1. Bruce-Monroe ES	201	14. HD Cooke ES	10
2. Tubman ES	146	<b>Total Other DCPS</b>	<b>660</b>
3. Park View ES	121	15. Meridian PCS	39
4. Meyer ES	102	16. DC Bilingual PCS	27
5. Raymond ES	48	17. EL Haynes PCS	27
6. Marie Reed Learning Center	28	18. Capital City PCS	24
7. Bancroft ES	26	19. Hope PCS	18
8. Adams ES	18	20. Alta PCS	15
9. Oyster ES	14	21. Ideal Academy PCS	15
10. Eaton ES	13	22. Children's Studio PCS	14
11. Garrison ES	12	23. Elsie Whitlow Stokes	14
12. Ross ES	12	24. Friendship Woodridge	11
13. Cleveland ES	10	<b>Total Charter</b>	<b>264</b>

<sup>123</sup> Families in the District can also apply for federally-funded vouchers for private school tuition (District of Columbia Opportunity Scholarship Program); however, we do not include these students in this portion of the study. See Chapter I for more detail about voucher students.

<sup>124</sup> DCPS schools with less than 10 students or PCS with less than 11 students living within ½ mile from Bruce-Monroe were not listed in the table

In principle, choice can give families access to academic programs and school settings that best meet their children's needs. School choice is also promoted as a way to bring market-like accountability to schools—forcing schools to improve in order to attract and retain students. However, despite the large number of options available in the District, parents express frustration with their choices.

## **Parental Focus Groups**

To better understand students' patterns of enrollment, the study team held nine focus groups to gather information directly from parents about their school enrollment choices (see Technical Methodology for a complete description of methodology). We targeted populations in an effort to speak with parents representing a range of perspectives – geographic, racial, grade level (elementary, middle & high school), and sector (DCPS and charter).<sup>125</sup> One focus group was conducted in Spanish and another focus group targeted students who had dropped out of high school. A total of 72 people participated in the focus groups.<sup>126</sup> During the focus groups, we asked questions about school choice. For instance, what factors did parents consider important when enrolling their children in school? How did parents learn about the available public schools? How did parents perceive the quality of their school options, and how many different schools have their children attended so far and why?

Parents indicated that curriculum and programs were their top priority when choosing their children's schools. School safety (defined by order and control), the location of the school, and the quality of the teachers were the next set of important factors. Only a very small number of parents mentioned test scores as an important factor in their enrollment decision.

Parental involvement was also cited in most groups as an important factor, although several lamented the fact that more parents were not involved in their schools (most groups had significant numbers of parent leaders) and some observed that many schools were not welcoming to parental involvement. The importance of the school's demographics also came up in most groups. At Bell SHS, parents expressed satisfaction with the school's welcoming atmosphere for multi-cultural students. Parents on Capitol Hill, at the Southeast elementary schools, and EL Haynes all described exposure to a diverse student body as a desirable attribute of a school.

When asked about the public schools available to parents, whether they be in-boundary DCPS, out-of-boundary DCPS or public charters, most parents said they have few good choices. This sentiment was shared by parents in almost every group. Parents in the Ward 7 DCPS group voiced the opinion that there were no desirable choices available to them at all. As one parent put it, in a statement that was echoed by others, "Do we have a choice for what we want? No. Do we have a choice for better schools? No. Do we have a choice for the same old thing? Yes. That's all." Other parents observed that while there are good schools in the public system, it is very difficult to access them. One elementary school parent observed that:


"If your child is not satisfied with [the] neighborhood school, you don't have too many options as far as public schools are concerned; I mean, because there are a lot of public schools that I would actually send my daughter to, but **it's a matter of whether or not you get in there. Most of those schools that are really high in academics, they're full and overcrowded** (emphasis added), and they don't allow any more students to come in."

In all four groups conducted with parents East of the Anacostia River, parents frequently expressed that the school choices available today are worse than in the past, specifically noting a decline in the variety of program offerings since the time they themselves attended DC public schools. In contrast, some of the parents in the

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<sup>125</sup> While the focus group participants were not a randomly drawn sample and were not intended to represent all of the city, the focus groups provided insights and understandings to supplement the analytic research on enrollment patterns.

<sup>126</sup> Focus groups were conducted with parents at: Bell SHS (Ward 1, conducted in Spanish); EL Haynes PCS (Ward 1); Southeast elementary schools (Wards 7 & 8); Southeast high schools – Thurgood Marshall Academy, Anacostia, Ballou (Ward 8); HS dropouts (citywide); Capitol Hill parents of young children from DCPS and public charter schools (Ward 6); Bunker Hill ES (Ward 5); DCPS Ward 7 secondary schools; Friendship Collegiate PCS (Ward 7). Complete focus group methodology can be found in the Technical Methodology section at the end of this report.



Capitol Hill group – many who are relatively new to the District – described recent improvement in school offerings, expressing the belief that there are better neighborhood choices than even several years ago.

## ***Measures of Demand***

In this next section, we quantitatively measure student demand for DCPS and public charter schools in each ward. Our analysis substantiates the perceptions of East of the River parents' that we heard in our focus groups – there is low demand for schools in Wards 7 and 8 – especially in comparison to DCPS schools in Ward 3, where there is far greater demand for schools than supply.

We measure the demand of DCPS and public charter schools over time looking at the following five indicators:

1. Change in enrollment between 2004 and 2006, with an adjustment made for schools that were increasing enrollment because they were adding grades.
2. Student mobility and early exits—measured by the percent of students who change to another public school (DCPS or charter) before the terminal grade of the school was reached.
3. Neighborhood capture rates—whether students living nearby a public school attend that public school.
4. Distance traveled—median distance the school's students travel, as the crow flies, from their home address to the school where they are enrolled in October 2006.
5. School building utilization—a measure of whether the school building has capacity for more students, is full or overcrowded.

Schools were ranked in quartiles on each of the above indicators, and these five rankings were then averaged to determine an overall demand score for each school. The range of possible scores was divided into quartiles – schools with scores in the top quartile were assigned as high demand, those with scores in the middle two quartiles as moderate demand, and those with scores in the bottom quartile as low demand.

Next, we describe each of the five indicators in detail.

## **Enrollment Change**


We measured the change in enrollment between 2004-05 and 2006-07 for DCPS and public charter schools two ways. First, we calculated the percent change in total student enrollment for each school between 2004-05 and 2006-07. To account for the fact that many public charters added additional grades over time and consequently increased their enrollment, we created a second enrollment change factor to adjust for these schools. We took the average number of students per grades offered for both 2004 and 2006 and then calculated the difference in the average between the two years.

Citywide, enrollment declined at DCPS schools by 10 percent and increased at public charter schools by 27 percent during this period.

## **Student Mobility**

The second factor in the demand indices was student mobility or “early exits”—measured by the percent of students who changed to another public school (DCPS or charter) before the terminal grade of the school was reached. It is not sufficient to simply measure demand by increases in enrollment because some schools may maintain, or even increase, enrollment with a revolving door of students (where some students leave the school while new students enroll). We know that the current enrollment policies (out-of-boundary DCPS policy and public charter enrollment policies) allow for relatively easy exit and entrances to schools.

Therefore, we constructed a measure of student mobility, which is determined by identifying the number and percent of students who are enrolled in a school one year but leave the school the following year, before they have completed the last grade offered in that school. In some cases, we expect students to enroll in a different school because they have attended the highest grade available in their current school (as when fifth grade students in an elementary school enroll in a middle school starting in sixth grade) – what we call a natural grade progression switch. However, we also find that students switch schools part way through their



progression through a school, even when there is a next grade to attend – what we call an early exit switch. The early exit switches are a measure of student loyalty, where low rates of switches indicate greater strength of the students' connection to a school.

A number of the parents in our focus groups said that their children had attended more than one public school at the same grade level, especially at the elementary school level. Parents said their reasons for early switches included wanting a more welcoming school atmosphere, higher quality academics, better leadership stability, or to get away from a situation that was not working for the student (often behavioral or emotional challenges). Several parents also reported that they switched their child's school because the family moved to a different residence. Other parents – most notably with children at EL Haynes, Bell, and Thurgood Marshall Academy – explicitly mentioned that their child would remain at the school until its highest grade. Several parents at the focus groups mentioned participating in the out-of-boundary process; for some, it was an annual, and often unsuccessful, activity.

Here we analyze the shares of public school students who have switched schools over time, the shares of students who switched between types of schools (from DCPS to public charter schools and vice versa), and the shares of students who switched due to grade promotion versus those students who left their school prematurely. The data and methods we used are described in the Technical Methodology section.

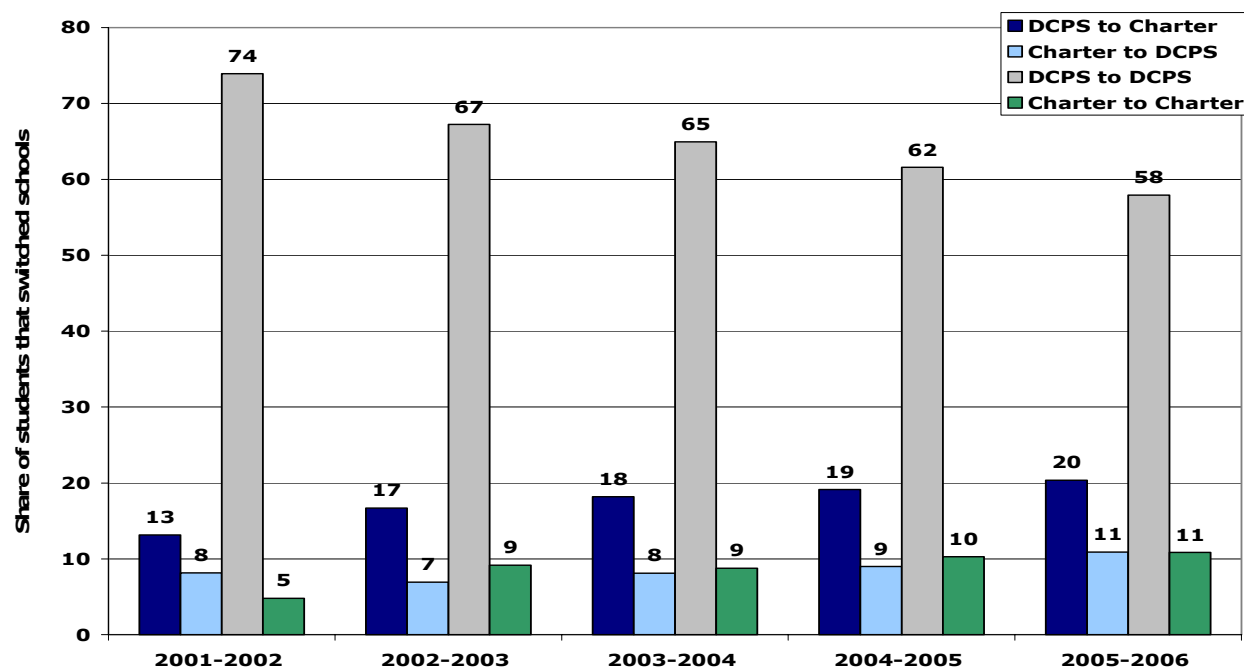
The share of public school students who have switched schools has increased slightly over time, reaching almost one-third of all students by 2005 and 2006. Between 2001 and 2002, 26 percent of all public school students switched schools, while 30 percent of all public school students did the same between 2005 and 2006.<sup>127</sup>

The majority of students who switched schools within a two-year period started at a DCPS school and switched to attend a different DCPS school (see Figure 3.2). This finding is expected since the majority of public school students are DCPS students. However, the share of students switching within the DCPS system has declined over time. Almost three-fourths (74 percent) of all switching students who were enrolled in a DCPS school in 2001 switched to other DCPS schools in 2002. That share fell to 58 percent between 2005 and 2006.

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<sup>127</sup> For additional detail, see Appendix C, Data Table C-1: Public School Students who Switched Schools from One Year to the Next, 2001-02 to 2006-07.

Figure 3-2: School Switches by Sector<sup>128</sup>



The decline in the DCPS-to-DCPS school switches can mostly be attributed to increasing shares of students switching to public charter schools. This pattern is similar to the overall increasing enrollment of public charter students over time. Thirteen percent of all students who switched schools between 2001 and 2002 started at a DCPS school and enrolled the next year at a public charter school; this share grew to 20 percent between 2005 and 2006. Charter students switching to other charter schools increased by 6 percentage points over the time period, reaching 11 percent between 2005 and 2006.

Looking at charter students and DCPS students separately, we find that charter students who switched schools between 2005 and 2006 were almost as likely to next attend a DCPS school as they were another charter school. The share of charter student switchers attending DCPS schools has declined, as almost two-thirds (63 percent) of the charter students who switched schools between 2001 and 2002 enrolled in a DCPS school. Between 2005 and 2006, half of all public charter students enrolled in a different public charter and the other half at a DCPS school.<sup>129</sup>

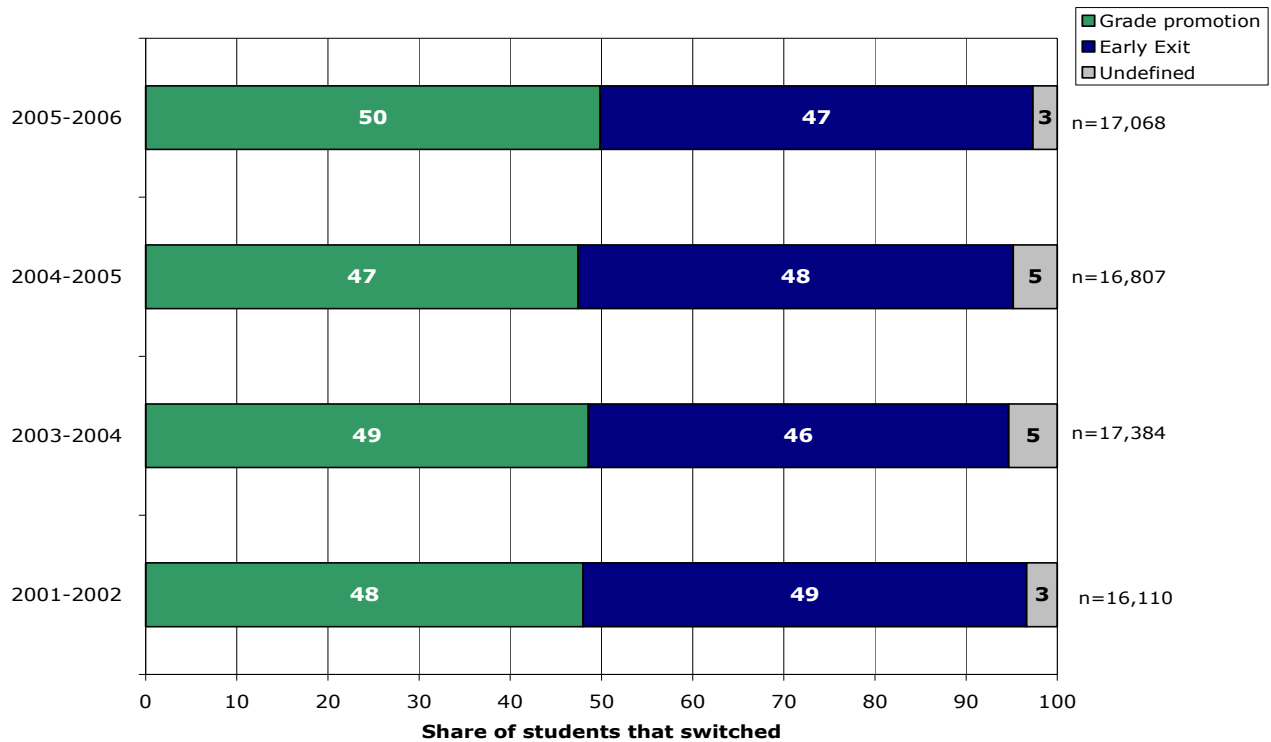
DCPS students were more likely to continue attending a DCPS school, however. In 2001, 85 percent of all former DCPS students attended a different DCPS school in 2002. By 2005 – while the share decreased to 74 percent – still the vast majority of former DCPS students stayed within the DCPS system.

We wanted to know whether the students who were switching schools (whether they were within the same school type or different) were doing so because they had progressed to the next grade level, grade promotion switches, or whether students were leaving their school before they reached their maximum grade level at the school, early exit switches. We found that the types of switches were almost evenly divided and did not change significantly over time (see Figure 3.3). Between 2001 and 2002, 49 percent of all students who switched schools made early exit switches; between 2005 and 2006, 47 percent of all students switched before reaching their maximum grade at their school.

<sup>128</sup> For additional detail, see Appendix C, Data Table C-2: Switches by Grade Progression and Sector Type, 2001—2 to 2006-07.

<sup>129</sup> There were significantly more charter schools in operation in 2006 than in 2001, which may partially explain the growing share of charter-to-charter switches.

**Figure 3-3: Grade Promotion & Early Exit Switches<sup>130</sup>**



Note: Analysis of switches between 2002 and 2003 is missing because 2003 data are missing students' grade levels.


Finally, we analyzed the student mobility data at the grade level by the two types of switches between 2005 and 2006. We found that former DCPS elementary students were more likely to switch to public charters as compared to the other grade levels. As with the overall population of switches, the greatest shares of all switches within grades regardless of type occur between DCPS and DCPS schools. For instance, 57 percent of all elementary and middle school early exits switches occur between DCPS schools.<sup>131</sup> A greater share of elementary school students compared to the other grade levels started at DCPS schools but switched to public charters, regardless of type of switch (27 percent for grade promotion and early exit). The next greatest share were middle school students (23 percent) who made early exit switches from public charters to DCPS schools.<sup>132</sup>

Not only do students change schools from one school year to the next, but substantial numbers also change schools during the school year. Although data on this are not available for all schools, 10 percent of students enrolled in a DCPS or Board of Education charter school in October 2006 left that school by April 2007. Rates of departure from these schools were highest in Ward 8 (12 percent) and lowest in Ward 3 (5 percent). High

<sup>130</sup> For additional detail, see Appendix C, Data Table C-3: Switches by Grade Progression Type, 2001-02 to 2006-07.

<sup>131</sup> The one exception to this was high school grade promotion switches. Only 15 percent of these types of switches occurred between DCPS schools, and instead 54 percent switched from a public charter to a DCPS school. However, the majority (81 percent) of high school grade promotions switches occurred because the New School for Enterprise and Development, a public charter high school, closed in 2006 forcing students to attend another high school.

<sup>132</sup> For additional detail on school switches by grade level and ward, see Appendix C, Data Table C-4: Public School Students by Grade Level, Switch Status, and Sector Type, 2005-06 to 2006-07; Data Table C-5: Switches by Grade Progression Type and Grade Level, 2005-06 to 2006-07; Data Table C-6: Switches by Grade Level and Sector Type, 2005-06 to 2006-07; Data Table C-7: Switches by Grade Progression, Sector Type, and Grade Level, 2005-06 to 2006-07; Data Table C-8: Public School Students by Switch Status, Ward, and Sector Type, 2005-06 and 2006-07; Data Table C-9: Switches by Grade Progression Type and Ward of (originating) School, 2005-06 to 2006-07; and Data Table C-10: Switches by Grade Progression Type, Sector Type, and Ward of (Originating) School, 2005-06 to 2006-07.



school students, especially African American and Hispanic students, had some of the highest rates of withdrawal, reaching nearly 17 percent for 9<sup>th</sup> graders. In addition, students who traveled further to attend school were more likely to withdraw after January. Students who remained in the same school throughout the year traveled on average one-half mile to school, compared to students who withdrew after January and traveled over double that distance.

There are several probable causes that help explain why parents enroll their children in different schools over time. One of the most important factors is students' residential mobility; other research shows that between 60 and 70 percent of school changes are associated with residential changes (Kerbow, 1996; Rumberger et al., 1999).<sup>133</sup> Other reasons for early exit switches include problems with the original school such as students' discipline problems or because they are looking for a school of higher quality. The high rates of early exits at some socially and academically demanding schools, such as SEED and Thurgood Marshall Academy, suggest that some students are having difficulty meeting the standards and are leaving to attend other public schools.<sup>134</sup>

Another possible factor is that some public schools in the District have changed locations, prompting some share of students to leave for a closer school. Many public charter schools lease temporary space from private owners, in part because of the difficulty securing excess DCPS space. A number of the public charter schools have been in temporary locations while they purchased and improved new space. Between the years 2003-2004 and 2005-2006, 16 public charter schools changed their locations. During that same period 12 DCPS schools occupied temporary "swing" space (while renovation or new construction was underway) or moved into new facilities. Moreover, declining enrollment in DCPS schools has resulted in school closings; between 2003-04 and 2006-07, 7 DCPS schools were closed and their students were consolidated into other schools. For the 2008-2009 school year, another 23 DCPS schools will be closed.

Although the exact reasons for switching cannot be determined, it is apparent that in some public schools students are leaving their current school and enrolling in another at extremely high rates and in others the rates are extremely low. Rates of early exits vary significantly by ward. In three of the eight wards, the share of students exiting early exceeded 14 percent (the overall city average), with the highest early exit rate in Ward 5 (18 percent) followed closely by Wards 7 and 8 (17 percent each). Ward 3 had the lowest early exit rate of only 5 percent.

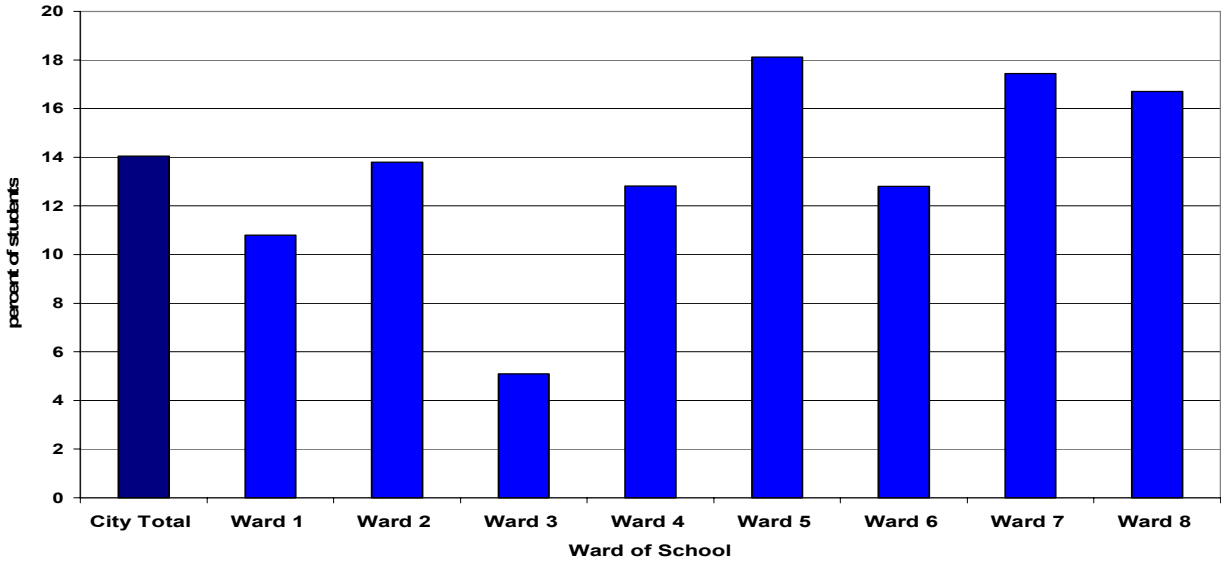
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<sup>133</sup> The research team intends to explore the relationship between residential and school mobility in future analysis.

<sup>134</sup> The three-year average early exit rate (2004-2006) was 21.5% at SEED and 18.2% at Thurgood Marshall Academy. DCPS schools with rigorous social and academic demands, such as Banneker and Ellington, have much lower early exit rates (6.2% and 9.5%, respectively), likely because selection happens up front, through an admissions process that allows the schools to select students who demonstrate an ability to meet the school's standards.



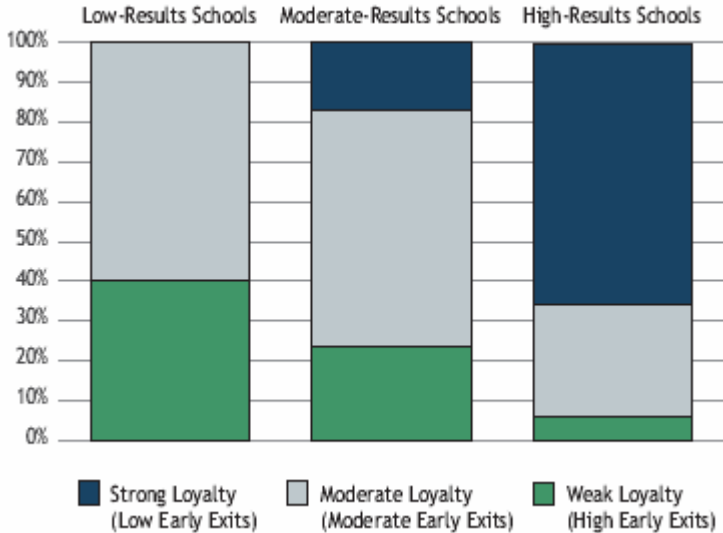
**Figure 3-4: Early Exits by Ward**



Source: OSSE MEAD Database, 2005 and 2006; Locations of Public Schools Compiled by 21 Century School Fund

The analysis also reveals that there is a strong correlation between strong test scores and a stable or “loyal” school population.<sup>135</sup> Nearly 70 percent of high results elementary schools and 80 percent of high results secondary schools have high loyalty, compared with no low results elementary schools and less than 10 percent of low results secondary schools.

**Figure 3-5: Elementary Results & Early Exits<sup>136</sup>**

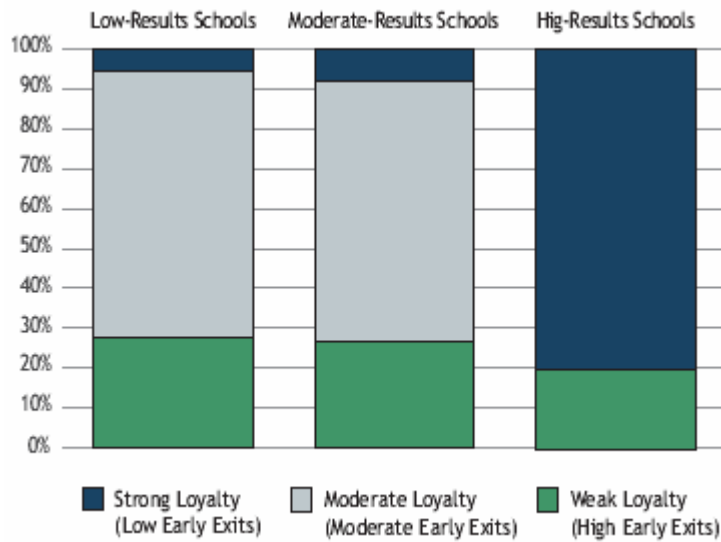


<sup>135</sup> Dropouts are not captured in this analysis. We only look at students who were in one DC public school and then enroll in another DC public school.

<sup>136</sup> For a list of all public schools by results and early exits, see Appendix C, Data Table C-11: Public School Results & Early Exits, Elementary and Secondary, 2006-07.



**Figure 3-6: Secondary Results & Early Exits** <sup>137</sup>



### **Feeder Patterns**

The broad exercise of choice and high mobility between schools are reflected in the lack of coherent feeder patterns from elementary to middle schools and from middle schools to high schools.<sup>138</sup> Sensible and easy to understand feeder patterns can help families plan for students’ educational progress from their entrance into the public schools, allow schools to teach students with common educational experiences and expectations, and enable schools to form relationships across grade levels to more systematically deliver programs and services. Strengthening feeder patterns could also increase stability by providing students with a consistently progressing educational program and allowing students to remain with their cohort of friends. However, student enrollment transitions in the District vary widely and few established feeder patterns exist.

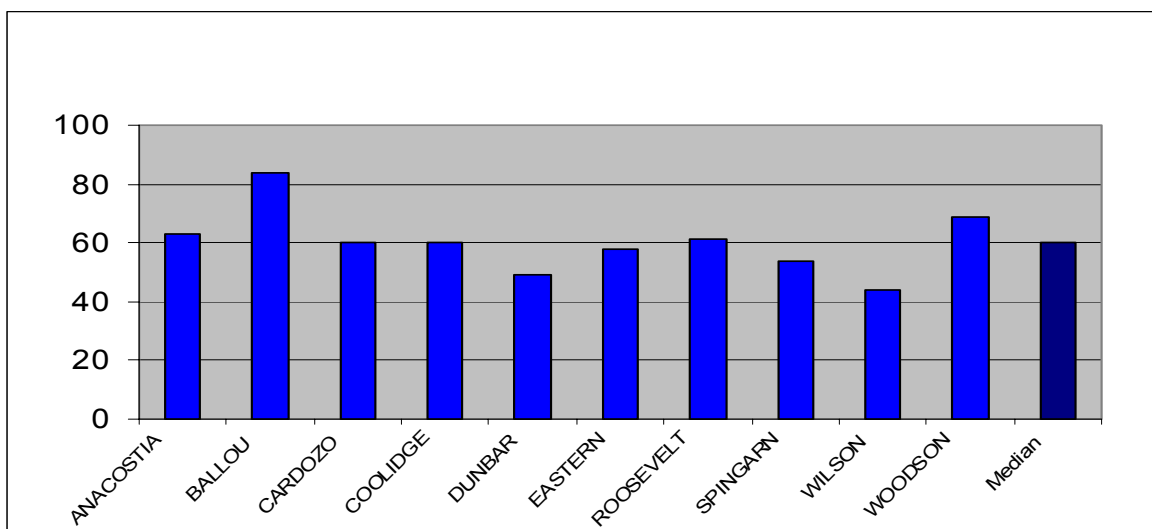
In 2006-07, the median number of elementary schools feeding into a DCPS comprehensive high school was 60, confronting most high schools with the challenge of educating students with a huge range of experience, including different curricula and behavioral expectations.<sup>139</sup>

<sup>137</sup> For a list of all public schools by results and early exits, see Appendix C, Data Table C-11: Public School Results & Early Exits, Elementary and Secondary, 2006-07.

<sup>138</sup> Chaotic feeder patterns – and resulting lack of consistency in educational experiences for students and schools – are a major challenge with significant policy implications for the District. More in-depth analysis of this issue was conducted separately by the Study Team.

<sup>139</sup> Because of students being held back a grade, there may be a handful of middle schools included in these numbers.

**Figure 3-7: Number of Schools Attended in 8<sup>th</sup> Grade by 2006-2007 10<sup>th</sup> Graders in DCPS Comprehensive High Schools**



Even transitions from elementary to middle school or middle to senior high school – where one might anticipate a clearer pattern given the direct grade transitions that occur – reflect a wide array of enrollment choices. The median number of elementary schools feeding into a middle or junior high school was 41, and Jefferson, Kelly Miller and Deal had 62, 61, and 59 elementary schools, respectively, feeding into them. Only three middle schools – Lincoln, Stuart-Hobson, and Johnson – had even 60 percent of their students coming from their top five feeder elementary schools. Stuart-Hobson MS, part of the Capitol Hill Cluster School, is the only middle school in the city with over half its students (56%) from a single elementary school.<sup>140</sup> This is almost three times the highest single school share at any other middle school (the next highest share was 19 percent of the 8th grade class at Backus previously attended Lasalle ES). This suggests that the cluster model is effective at establishing strong relationships between schools. The median number of middle schools feeding into the senior high schools is 29, and only three senior high schools – Ballou, School Without Walls, and Wilson – had over 60 percent of their 10th grade class composed of students from three middle schools.<sup>141</sup>

## Neighborhood Capture Rates

Another measure of school demand is whether age-appropriate students living in a school's boundary (for DCPS schools) or near a school (for public charters) attend the school. We know from the focus groups that many parents liked having their children's school near their home, although some parents mentioned avoiding certain schools because of their unsafe location even though it was near their home.

We constructed a neighborhood capture rate for each individual DCPS and public charter school. For DCPS schools, the neighborhood capture rate was defined by the share of public school students who live within the school's boundary and attend the school. For public charter schools (that have no in-boundary policy), the capture rate was defined by the share of students that live within a specific distance to the school and attend the school. The distance applied to public charter elementary schools was a half mile; for middle schools, the neighborhood capture rate includes all those students living within one mile of the school. For public charter high schools, the capture rate includes all those students living within two miles of the school.

The average neighborhood capture rate of DCPS elementary schools was 44 percent for the 2006-07SY. This means that for the average DCPS elementary school, less than half (44 percent) of the public students living in their boundary attend their school. The shares are much lower for public charter elementary school students,

<sup>140</sup> The Capitol Hill Cluster School – Peabody, Watkins, and Stuart-Hobson – is currently the only formalized feeder pattern in the District from early childhood through middle school.

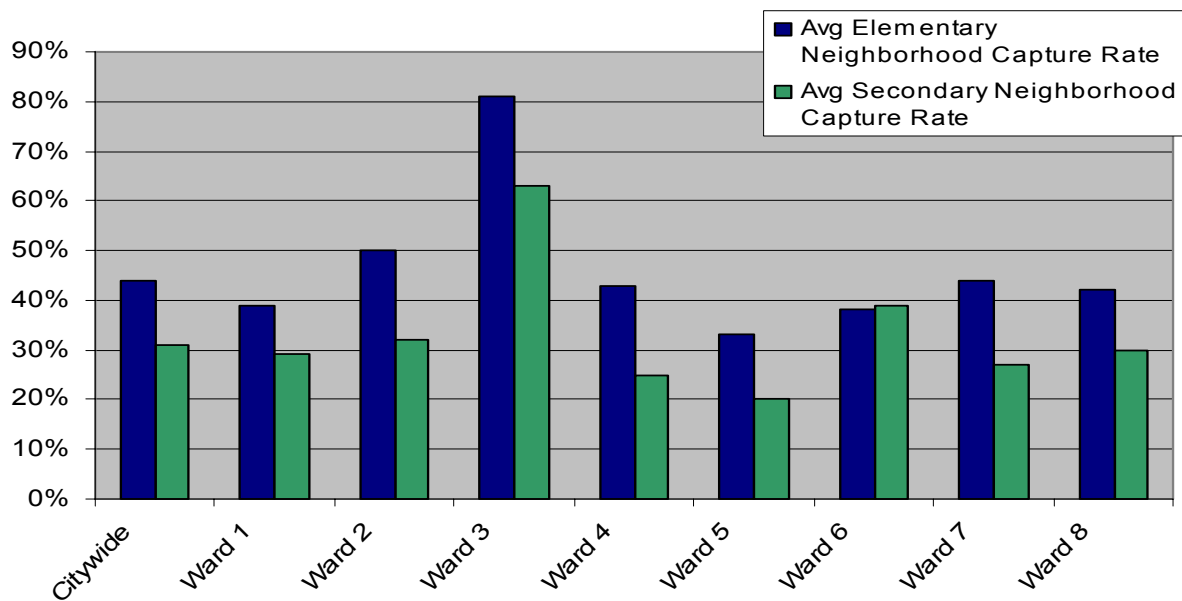
<sup>141</sup> This figure includes charter middle schools whose students subsequently attended DCPS senior high schools.

which is not surprising considering the far distances these students travel, the lack of neighborhood preference, and the citywide lottery process of the charter admissions. The average public charter elementary school attracts only 7 percent of its student body from within a half mile.

The average neighborhood capture rates are slightly lower for secondary schools (which includes middle/junior high schools and senior high schools). The average DCPS secondary school has only 31 percent of its student body coming from within boundary. In comparison, the average public charter secondary school has only 4 percent of its student body coming from nearby (either 1 mile or 2 miles depending on the type of school).

Capture rates also varied at the ward level. More public school students living in Ward 3 attended their nearby DCPS school (or were “captured”) compared to the other wards. Ward 5 DCPS schools were the least likely to attract students living nearby, as shown by their low capture rate.

**Figure 3-8: DCPS Capture Rates - Elementary & Secondary**



### Distance Traveled

We included the distance students travel to attend school as another measure of demand for a school. Schools with a high median student travel distance are also considered in demand, as students demonstrate students’ willingness to undertake a longer commute. Because of the different policies governing their admissions, one expects that DCPS schools will have higher neighborhood capture rates and charter schools will have higher travel distances, which is what the analysis reveals. As shown in Chapter One, charter school students typically travel farther from home to school than DCPS students.<sup>142</sup> Among DCPS students in the 2006-07 school year, the median distance traveled was 0.57 miles, while the median for public charter students was about three times that distance (1.77 miles).<sup>143</sup> The average distance between home and school varies by ward, but charter school students from every ward travel farther to school than their DCPS counterparts. (More detail about distances traveled to each DCPS and public charter school can be found in Appendix C, Data Table C-12: Public Schools by Ward, Mean, and Median Distance Students Travel to School, 2006-07.)

<sup>142</sup> The distance traveled between a student’s home and school was measured “as the crow flies” or the most direct route ignoring transportation patterns, geographical boundaries, etc.

<sup>143</sup> The median distances traveled in 2006-07 decreased very slightly from the medians in 2005-06. Specifically, median distances in 2005-06 were .54 miles for DCPS students and 1.84 miles for public charter students.

## School Building Utilization

The final indicator included in the school demand index was school building utilization, which is measured by the density factor, a ratio which describes how close the school building utilization is to the DCPS standard gross square feet per student of 140 feet per ES, 170 per MS and 200 per SHS. In this ratio, the standard gross square feet per student is divided by the actual gross square feet per student for the 2006-2007 school year. This method enables us to standardize DCPS and public charter schools, but does not work for the 12 charter schools for which we do not have gross square footage. In these cases, where possible an assessment was made as to whether a school was “crowded”, “OK” or had “room to grow.” School building utilization helps describe demand since some enrollments may not be able to continue to grow because schools are already full; in some schools enrollments may have declined from 2004 to 2006, but that is a function of the school being at capacity and fully utilized, or even crowded in 2004; or a school may have a stable or even increasing enrollment, but still have far more capacity than students and so while “in demand” by our other indicators, still not in as much demand as schools that have entirely reached their building capacity.

## Distribution of Public Schools by Level of Demand

The level of demand for public schools varied by ward. As Tables 3.2 and 3.3 show, the public schools located in Ward 3 – all but one of which are DCPS – were in the greatest demand at both the elementary and secondary levels, with a median demand score of 3.7 (out of 4) for elementary schools and 3.1 (out of 4) for secondary. In fact, a disproportionate number of the city’s high demand schools, at both the elementary and secondary level, are located in Ward 3. Nearly one-quarter (24 percent) of the high demand elementary schools are in Ward 3, although Ward 3 only has 6 percent of all elementary schools. The elementary schools located in Ward 8, which are a mix of DCPS and PCS schools, have the lowest demand, with a median demand score of 2.0, while the schools in Ward 4, again a mix of DCPS and charter, have the lowest demand at the secondary level, with a median score of 2.2. A table of all schools’ demand scores (including individual indicators) can be found in Appendix C, Data Table C-13: Public School Demand, Elementary, 2006-07 and Data Table C-14: Public School Demand, Secondary, 2006-07.

**Table 3-2: Distribution of Elementary School Levels of Demand by Ward**

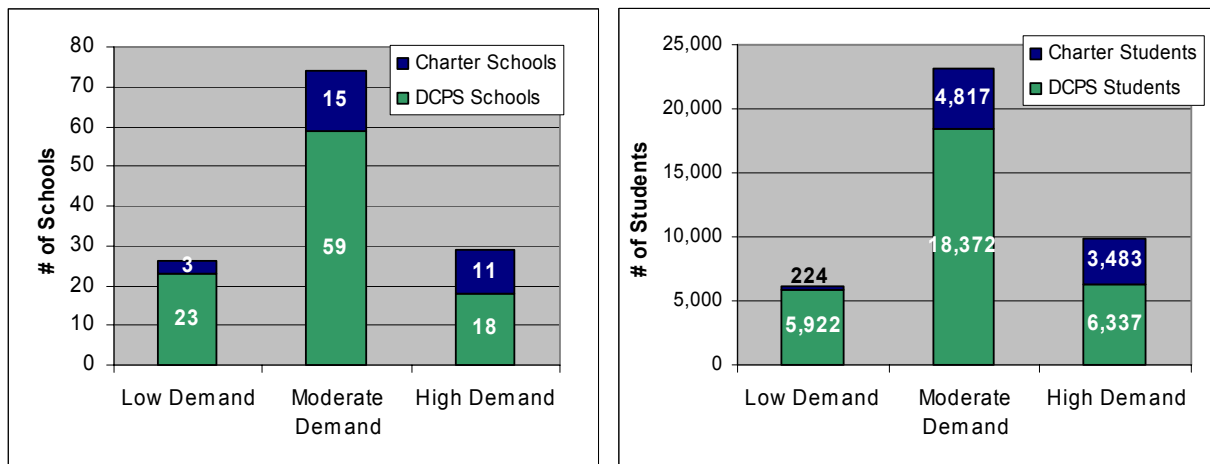
ELEMENTARY DEMAND			Ward															
			Citywide		1		2		3		4		5		6		7	
<b>Median Score</b>	<b>2.5</b>		<b>2.7</b>		<b>2.7</b>		<b>3.7</b>		<b>2.5</b>		<b>2.6</b>		<b>2.3</b>		<b>2.7</b>		<b>2.0</b>	
Low Score	26	20%	4	23%	1	11%	0	0%	3	17%	6	27%	1	7%	3	16%	8	36%
Moderate Score	74	57%	11	65%	4	44%	1	13%	9	50%	12	55%	10	71%	14	74%	13	59%
High Score	29	22%	2	12%	4	44%	7	87%	6	33%	4	18%	3	21%	2	10%	1	5%
All Schools	129	100%	17	13%	9	7%	8	6%	18	14%	22	17%	14	11%	19	15%	22	17%
All Students	39,644		4,452		2,054		2,720		5,309		6,021		5,063		6,255		7,770	

**Table 3-3: Distribution of Secondary School Levels of Demand by Ward**

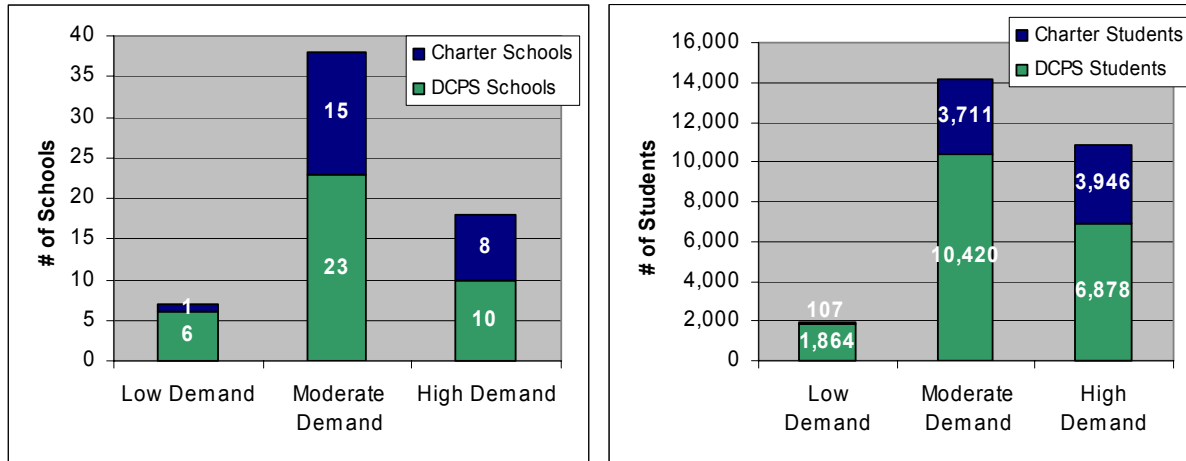
SECONDARY DEMAND		Ward																
	Citywide		1		2		3		4		5		6		7		8	
Median Score	2.6		2.7		2.7		3.1		2.2		2.4		2.7		2.5		2.7	
Low Score	7	11%	0	0%	1	17%	0	0%	2	29%	1	11%	0	0%	2	17%	1	14%
Moderate Score	39	62%	8	73%	3	50%	0	0%	4	57%	5	56%	7	78%	7	58%	4	57%
High Score	17	27%	3	27%	2	33%	2	100%	1	14%	3	33%	2	22%	3	25%	2	29%
All Schools	63	100%	11	17%	6	9%	2	3%	7	11%	9	14%	9	14%	12	19%	7	11%
All Students	26,926		3,649		1,889		2,171		2,735		3,662		3,483		5,614		3,723	

On average, public charter schools are in greater demand than DCPS schools. Thirty-eight percent of charter elementary schools are in high demand, more than double the share of DCPS elementary schools in high demand (18 percent). At the secondary level, 33 percent of charter schools are in high demand, compared with only 25 percent of DCPS schools. Information from the principal survey confirms this as on average charter schools had more children on waiting lists than DCPS schools. Almost half of the 72 DCPS schools that responded to the principal survey had zero students on a waiting list, and almost three-quarters of schools had 10 or less students on their wait lists. In contrast, less than one quarter of charter schools had zero students on a waiting list. Nearly one-quarter (23%) of charter schools had 50 or more students on a waiting list, more than double the share of DCPS schools (9%) with comparably sized lists. Figures 3.9 and 3.10 show the distribution of demand by sector.

**Figure 3-9: Distribution of Schools and Students by Elementary School Levels of Demand by Sector**



**Figure 3-10: Distribution of Schools and Students by Secondary School Levels of Demand by Sector**



### Public School Supply and Demand

In this section, we compare the relationship between the components of school supply—school resources, student body risk, and test results—to school demand. We used cross tabulations to examine the relationships between these school attributes or qualities and our set of demand factors.

**Table 3-4: Distribution of Median Elementary School Levels of Demand, Resources, Results & Risks by Wards**

Elementary Schools	Citywide	Charter	DCPS	1	2	3	4	5	6	7	8
# Students	39,644	9,013	30,631	4,452	2,054	2,720	5,309	6,021	5,063	6,255	7,770
<b>Median Scores of All Elementary and PS-8<sup>th</sup> Grade Schools</b>											
Demand	2.5	3	2.4	2.7	2.7	3.7	2.5	2.6	2.3	2.7	2
Resources	2.4	3	2.4	3	2.6	2.3	2.4	2.8	2.5	2.2	2.2
Results	2.3	3	2.3	2.6	3	4	3	2.5	2.3	1.8	1.5
Risks	3	3.1	3	3.8	2.8	2	2.3	2.7	3.1	3.5	4

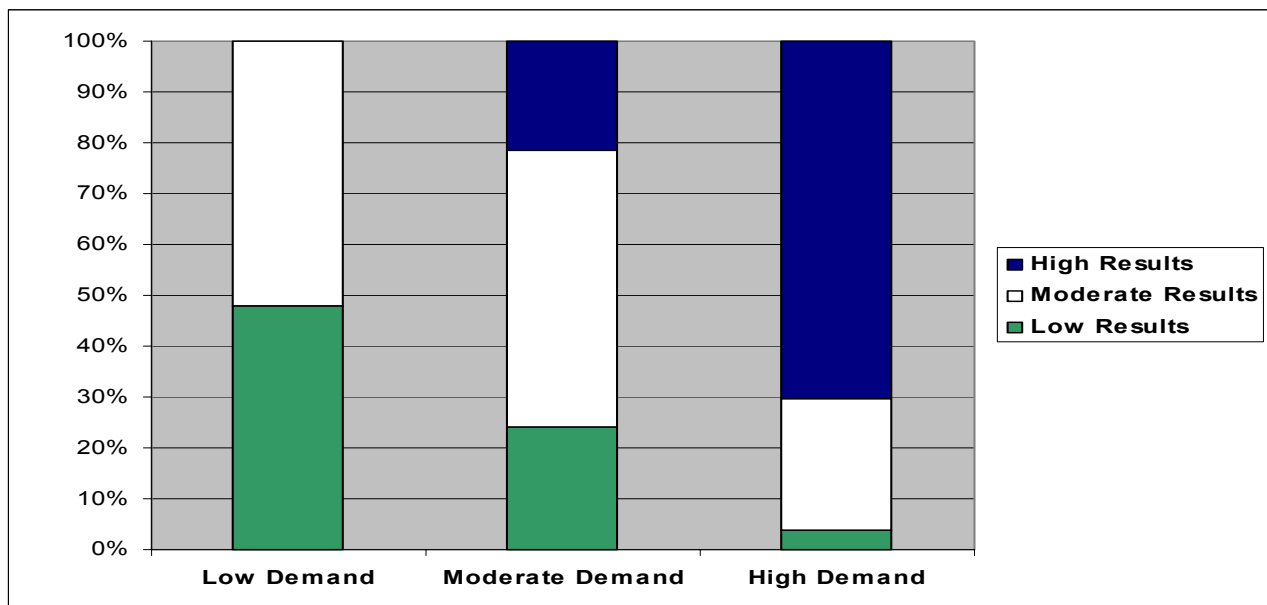
**Table 3-5: Distribution of Median Secondary School Levels of Demand, Resources, Results & Risks by Wards**

Secondary Schools	Citywide	Charter	DCPS	1	2	3	4	5	6	7	8
# Students	27,317	8,155	19,162	3,649	2,030	2,349	2,735	3,734	3,483	5,614	3,723
<b>Median Scores of All Public Secondary Schools</b>											
Demand	2.5	2.7	2.3	2.7	2.7	3.1	2.2	2.4	2.7	2.5	2.7
Resources	2.5	3.2	2.2	2.8	2.9	2.2	2.6	2.6	2.8	2.3	2.2
Results	2.5	3	2	1.8	3.4	4	2.3	2	2.5	2.5	1.3
Risks	3.2	3	3.3	3	2	1.7	2.7	3	3.7	4	4.7

## Public School Demand and Results

There is a strong relationship between high-demand and high-results schools at both the elementary and secondary levels. The public schools in highest demand are those with the highest performing students. Seventy percent of the high-demand elementary schools have high results and the only low-results/high-demand school is SAIL, which offers a specialty program for special education students. Similarly, more than half of the high-results schools are in high demand, and none are in low demand. None of the low demand schools have high results, and half are in the lowest results group. A similar pattern can be seen at the secondary level, where the majority of high demand schools are also high results schools. However, there are some important exceptions, as four of the high demand schools (one quarter) are low results high schools – Anacostia, Ballou, Luke Moore, and Young America Works. The high demand for Anacostia and Ballou High Schools may reflect the lack of alternatives east of the Anacostia River and problems with transportation to higher-performing schools. Luke Moore and Young America Works serve over-age and under-credited youth in alternative education programs, which are in short supply in DC.

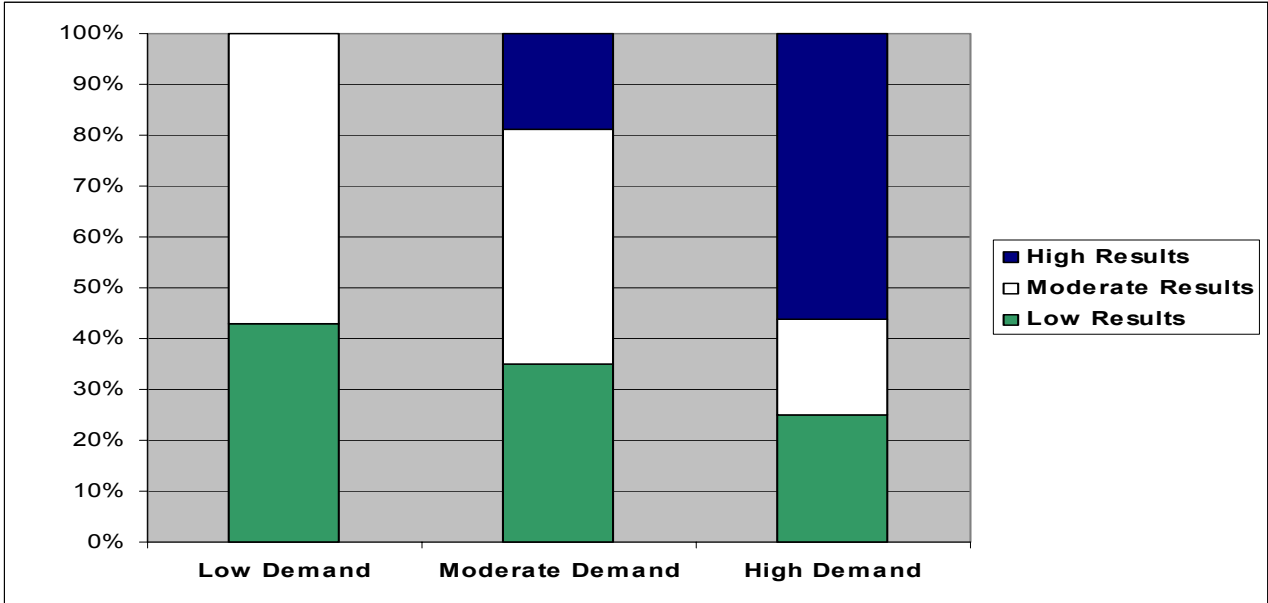
**Figure 3-11: Share of Elementary School Levels of Demand & Results<sup>144</sup>**



<sup>144</sup> For a list of all public schools by demand and results, see Appendix C, Data Table C-15: Public School Demand & Results, Elementary & Secondary, 2006-07.



**Figure 3-12: Share of Secondary School Levels of Demand & Results<sup>145</sup>**



**Public School Demand and Risk**

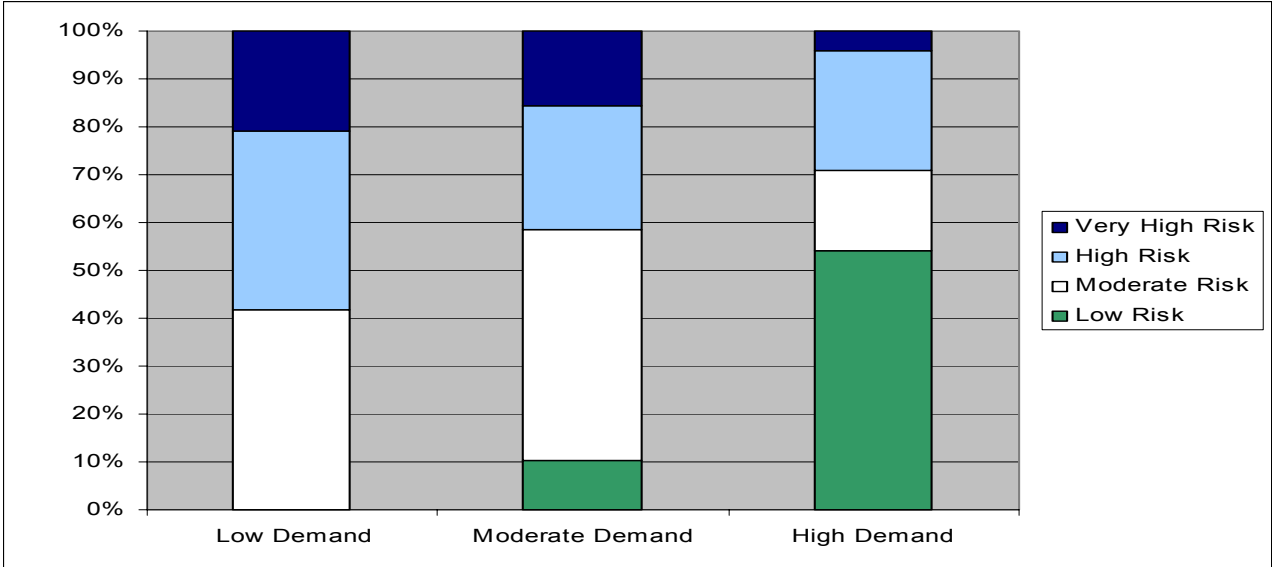
There is a strong negative relationship between demand and risk – the higher demand schools are primarily those with lower risk student bodies. This is particularly true at the elementary level, where over 70 percent of high demand schools have low or moderately low risk population, and over half of the low demand schools have moderately high or high risk populations. There are twice as many moderately high or high risk elementary schools in low demand than in high demand.

<sup>145</sup> For a list of all public schools by demand and results, see Appendix C, Data Table C-15: Public School Demand & Results, Elementary & Secondary, 2006-07.

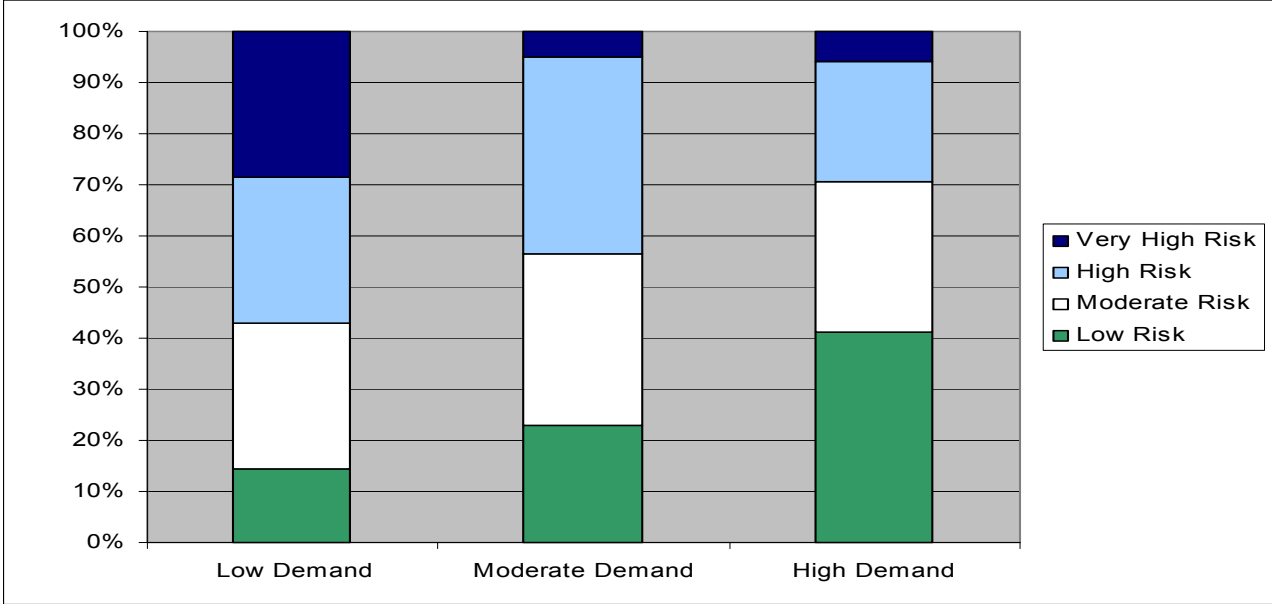




**Figure 3-13: Share of Elementary School Levels of Demand & Risk** <sup>146</sup>



**Figure 3-14: Share of Secondary School Levels of Demand & Risk** <sup>147</sup>

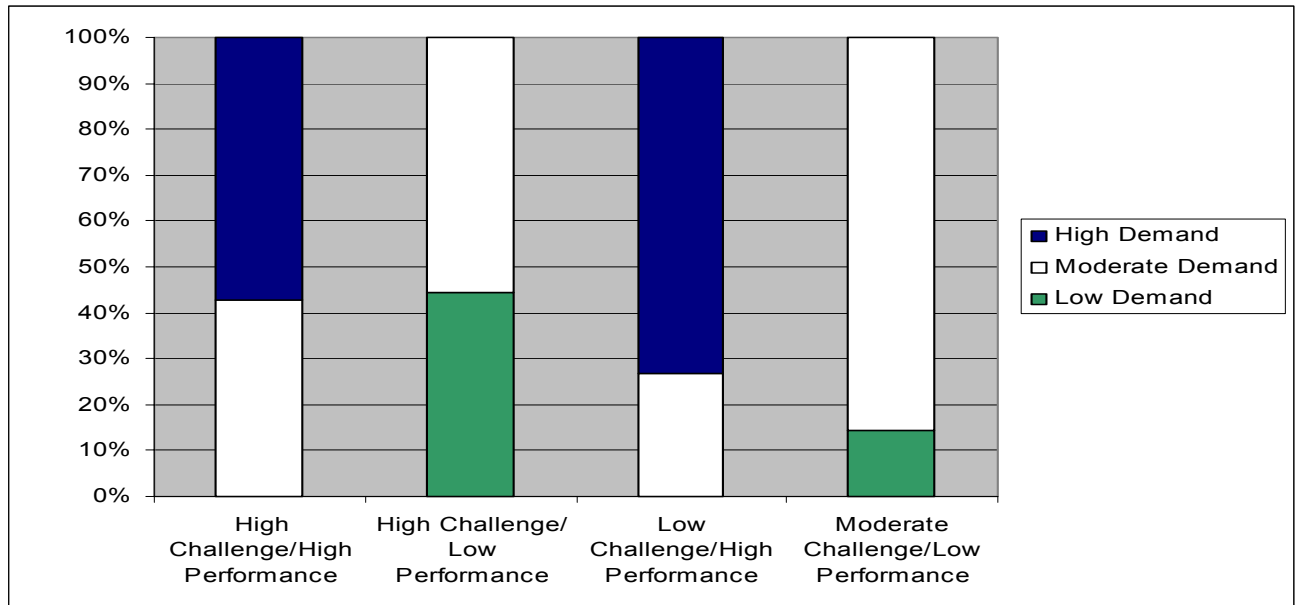


Combining the risk and results rankings together and then comparing them with demand reveals a more nuanced picture. All seven of the high risk/high results elementary schools are in high or moderate demand, while none of the nine high risk/low results schools are in high demand, suggesting that results may be a stronger draw than risk is a deterrent.

<sup>146</sup> For a list of all public schools by demand and risk, see Appendix C, Data Table C-16: Public School Demand & Results, Elementary & Secondary, 2006-07.

<sup>147</sup> For a list of all public schools by demand and results, see Appendix C, Data Table C-16: Public School Demand & Risk, Elementary & Secondary, 2006-07.

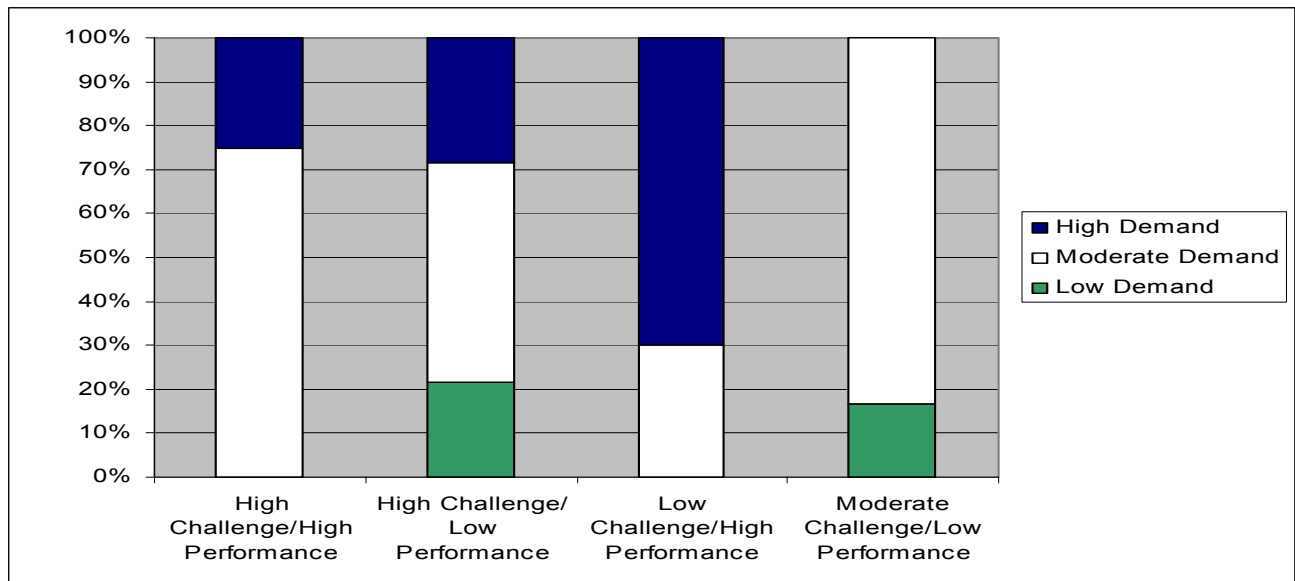
**Figure 3-15: Share of Elementary School Levels of Demand by Results & Risks<sup>148</sup>**



The relationship between demand and risk is not as strong at the high school level mainly because of differences between middle and senior high schools. Although 67 percent of high demand secondary schools have low or moderately low risk populations, nearly identical to the share at the elementary level, there is a larger share of high or moderately high risk schools in moderate demand and the low demand schools have equal distributions of high and low risk student bodies. Seven of the 10 high results/low risk secondary schools are in high demand, and most of these have restricted admissions, either as DCPS special admissions schools or because of waiting lists. In contrast to the distribution at the elementary level, there are nearly an equal number of high risk secondary schools in low and high demand. This bifurcation reflects the high risk/high demand senior high schools in Wards 7 and 8, while all of the high risk/low demand secondary schools are middle schools.

<sup>148</sup> For additional detail on specific schools by demand, risks, and results, see Appendix C, Data Table C-17: Public School Demand, Risks & Results, Elementary & Secondary, 2006-07.

**Figure 3-16: Share of Secondary School Levels of Demand by Results & Risks <sup>149</sup>**



### Public School Demand and Resources

High demand schools do not necessarily have high resources. There is not a strong relationship between demand and resources at the elementary school level. The relationship between demand and resources is more pronounced at the secondary level, although still far weaker than the relationships observed between demand and risk and demand and results. The primary examples of this are the high results, high demand and low resources schools in Ward 3.<sup>150</sup>

School characteristics tend to match neighborhood characteristics. For instance, most of the schools with the highest results and in greatest demand are located in the most affluent neighborhood clusters. The lowest results schools and those with the higher risk student populations are in the lowest income communities. The school resources, which are controlled entirely by policy, tend to be more evenly distributed than risk or results. However, the lowest income communities<sup>151</sup> have the lowest resources, even though the schools in these neighborhoods are serving high risk student populations.

<sup>149</sup> For additional detail on specific schools by demand, risks, and results, see Appendix C, Data Table C-17: Public School Demand, Risks & Results, Elementary & Secondary, 2006-07.

<sup>150</sup> For a list of all public schools by demand and resources, see Appendix C, Data Table C-18: Public School Demand & Resources, Elementary & Secondary, 2006-07.

<sup>151</sup> Ward 3 schools also had low resources, but much lower risk student populations.

## Chapter 4 - Neighborhoods and Public School Supply and Demand

The quality of public schools and the choices families make about their children's schools are closely linked to neighborhood conditions and housing market trends. Neighborhood conditions, characteristics of the housing stock, changes in housing demand, and the affordability of home prices and rents all affect the number of families with children who live in a neighborhood and hence, demand for public schools there. But causality runs in the other direction as well. The quality of a neighborhood's public schools can play a major role in either attracting or deterring housing demand, housing affordability, and neighborhood composition. In this section, we explore these relationships in the District of Columbia, where housing demand has increased dramatically in recent years, where the quality of both DCPS and charter schools varies widely, and where families can choose between neighborhood schools and an array of citywide schools. We rely on the school quality and demand indicators developed earlier, as well as new neighborhood-level indicators of housing market conditions and trends to explore the linkages between schools and neighborhoods in the District of Columbia.

### *Neighborhood Composition*

For most families with children in the U.S., decisions about where to live are intimately connected with decisions about where to send their children to school. The quality and performance of schools in a community – and in the immediate neighborhoods – are often major factors in determining where to buy or rent. And communities with the reputation for high-quality schools often enjoy higher housing demand and residential real estate values as a result. In recent years, demand for housing in many parts of the District has increased significantly, with population growth, increased sales, and rapidly rising house prices. The following sections explore the extent to which quality schools are found in neighborhoods with high or rising housing demand, as well as the relationship between neighborhoods' racial composition and availability of quality schools.<sup>152</sup>

### **Resources, Risks, and Results by Neighborhood**

Here we explore whether high-quality schools are assets that help make DC neighborhoods more attractive places to live. To explore this question, we classify the District's 39 neighborhood clusters into four housing market types, based on two factors: recent growth in the volume of home sales and average home sales prices.<sup>153</sup> More specifically, we grouped clusters into two basic categories based on the total increase in annual home sales volumes between 2000 and 2006. We used the absolute increase rather than the percentage increase to reflect the change in home sales volumes, rather than changes in rates, because a cluster with small numbers of owner occupied units could experience a large percentage increase even though the total volume of market activity is small. Next, we subdivided both the "high growth" and the "low growth" categories based on the average sales price of single-family homes in 2006 to differentiate "high price" clusters from those with more moderate house prices. The resulting four cluster types are defined as<sup>154</sup>:

- Type I, Hot Market Clusters: High growth in sales volume and high prices (11 clusters)
- Type II, Growth Clusters: High growth in sales but moderate prices (10 clusters)
- Type III, Historically High Price Clusters: Low growth in sales but high prices (7 clusters)
- Type IV, Weak Market Clusters: Low growth in sales and moderate prices (11 clusters)

According to the most recent census estimates, approximately two-thirds of households with school-age children in the District are renters (2006 American Community Survey). Unfortunately, current data on rents and vacancies are not available at the cluster level, so our market indicators focus only on sales market trends. Moreover, these indicators do not reflect the extent to which growth was targeted to or suitable for families with children. But because rental market trends often correspond to trends in the sales market, the housing market

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<sup>152</sup> See Appendix D, Data Table D-1: Neighborhood Cluster Typology Scores.

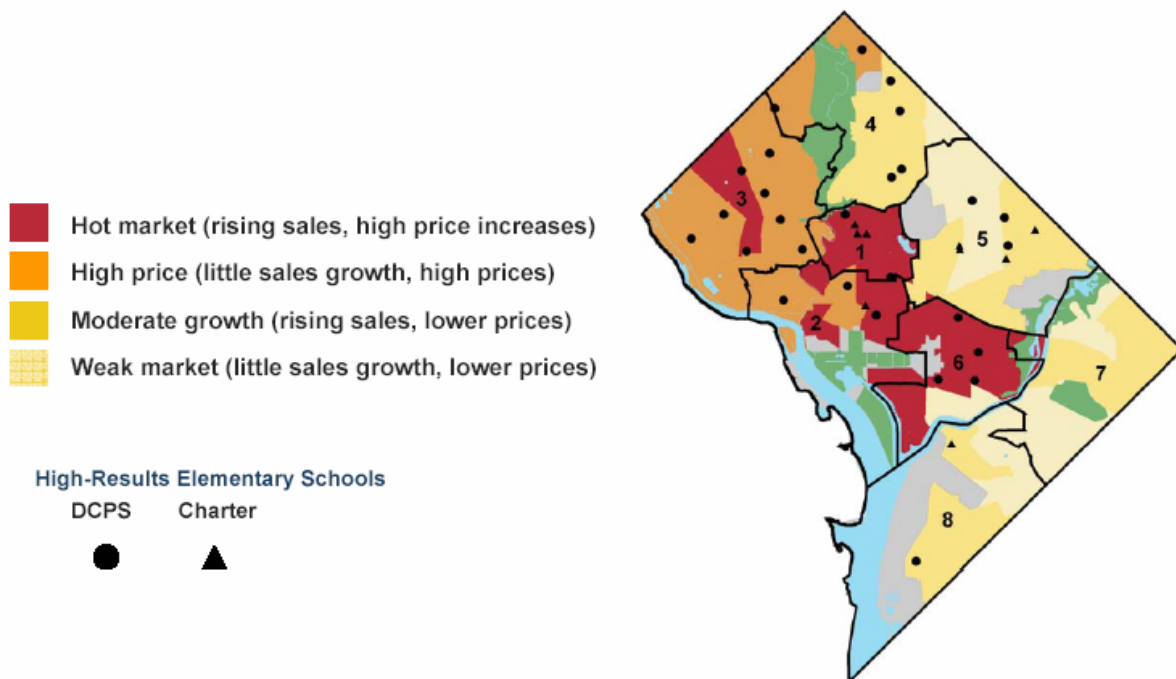
<sup>153</sup> The D.C. Department of Planning developed the 39 neighborhood clusters, each consisting of three to five neighborhoods.

<sup>154</sup> See Appendix D, Data Table D-2: Neighborhood Housing Market Typology and Data Table D-3: Raw Neighborhood Housing Market Typology Variables to see how neighborhood classifications were made.

typology used here provides a reasonable picture of housing market trends at the neighborhood level during the first half of this decade.

The share of elementary schools that appear to be high quality (based on both resources and results) is higher in neighborhood clusters with strong housing demand than in clusters with weak housing demand (see Appendix D, Data Table D-4: School Characteristics by Neighborhood Housing Market Trends for more detail). More specifically, in hot market clusters (type I), 15 percent of elementary schools have high resources and 38 percent have high results, compared to only 7 percent and 29 percent of all elementary schools citywide. Charter elementary schools in these neighborhoods have particularly high resources and results, but the share of DCPS schools with high results (34 percent) is also above the average for the city as a whole. In the city's more moderately price growth clusters (type II), results scores for charter elementary schools exceed city averages, but otherwise the performance of elementary schools in these neighborhoods appears quite typical of the city as a whole.

**Map 4-1: Housing Market Type & High Results Public Elementary Schools**



Although these data do suggest that high quality schools may be a factor in neighborhoods with rising demand for housing, it is in the city's historically high priced clusters (type III) that the largest share of elementary schools are high quality. These are the city's most affluent neighborhoods; they are not attracting a lot of new housing demand but their prices remain very high. Only one charter school has located in clusters of this type.<sup>155</sup> All of the DCPS schools have either moderate or high resources, and all of these schools have either moderate or high results. Even though these schools have low resources, the results are so high that the DCPS elementary schools, in particular, are likely to contribute to housing demand and upward pressure on prices. Also, since these neighborhoods have children from affluent, well-educated families, who have high expectations for the school and their children, such schools would typically perform well.<sup>156</sup>

Finally, elementary schools in weak market clusters (type IV) exhibit relatively low resources and results. For example, only 4 percent of the elementary schools have high resources and only 4 percent have high results,

<sup>155</sup> The one public charter in the high-priced (type III) clusters was Washington Latin Public Charter School, a college preparatory school for grades 5 through 12.

<sup>156</sup> Indeed, risk scores are very low among elementary schools in these clusters. Almost two thirds (64 percent) of the schools have low risk scores, compared to only 17 percent of all elementary schools citywide.

compared to 7 percent and 29 percent for the city as a whole. The poor quality of schools in these clusters could be contributing to weak housing market demand, but it is probably also a reflection of other problems (such as poverty, segregation, and crime) that undermine both school performance and housing demand.

## The Relationship Between Neighborhood and School Diversity

The District of Columbia's neighborhoods are highly segregated along both racial and income lines. And to the extent that students attend schools close to home, the city's residential segregation is likely to translate into high levels of school segregation. In fact, the racial homogeneity of the District of Columbia's public schools is striking: 207 of the 234 public schools in the District of Columbia are over 90 percent African American and 108 of these 207 schools are 98 percent or more African American. There are six schools that are majority white, but none over 90 percent white. The schools in Wards 3 and 6 are the most racially diverse, but most of the public schools in the District of Columbia are not racially diverse.

**Table 4-1: Number of Public Schools by Racial Composition by Ward** <sup>157</sup>

Minority Composition	Wards								Total
	1	2	3	4	5	6	7	8	
<b>Predominantly Minority:</b> <i>&lt;10% Non-Hispanic White</i>	29	12	0	28	43	27	33	36	208
<b>Majority Minority:</b> <i>10 to 50% Non-Hispanic White</i>	3	5	6	0	1	4	0	0	19
<b>Majority White:</b> <i>50 to 90% Non-Hispanic White</i>	0	0	5	1	0	1	0	0	7
<b>Total</b>	32	17	11	29	44	32	33	36	234

In recent years, however, some city neighborhoods have become more racially diverse, with increasing numbers of white and Hispanic residents. Moreover, as will be discussed later in this chapter, some families seem to be separating their housing choices from their school choices, potentially breaking the link between the racial composition of neighborhoods and the racial composition of schools in those neighborhoods. Here we explore how the racial composition of DCPS and charter schools relate to the racial composition of the clusters within which they are located and the extent to which school quality varies with the composition of the surrounding community.

We classify neighborhood clusters into four categories that reflect both the extent of racial and economic segregation and recent trends in neighborhood diversity. We begin by using information on the race of recent homebuyers (2001 to 2006) to identify:

- Racially Changing Clusters: With increasing numbers of white homebuyers (10 clusters)

Then we use 2000 census data on the racial composition of census tracts to identify:

- Predominantly White Clusters: More than 88 percent white in 2000 (9 clusters)

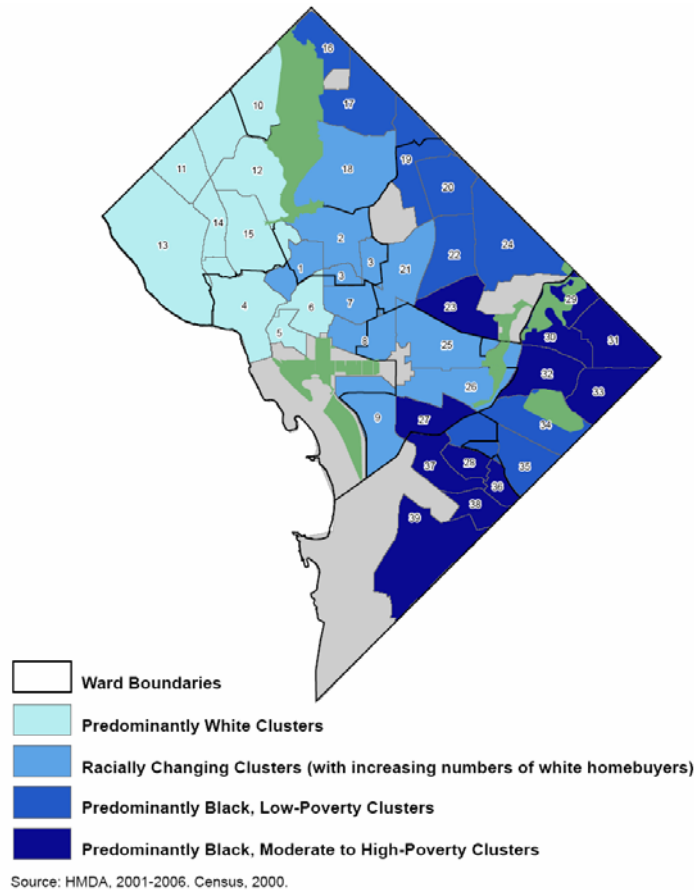
And finally, we use 2000 census data on tract-level poverty rates to differentiate:

- Predominantly Black, Low-Poverty Clusters: More than 73 percent black and less than 22 percent poor in 2000 (8 clusters)
- Predominantly Black, High-Poverty Clusters: More than 89 percent black and more than 26 percent poor in 2000 (12 clusters)

<sup>157</sup> Data Table D-5: Public Schools by Ward and Students' Race/Ethnicity—this includes ALL public schools, not just those in the supply analysis.

Map 4.2 illustrates the geographic distribution of racial and economic segregation in recent home sales and Appendix D, Data Table D-6: Neighborhood Diversity Typology lists this same information by cluster.


**Map 4-2: Racial Composition of Neighborhood Clusters**



The 53 elementary schools located in racially changing clusters have lower black enrollment and higher Hispanic enrollment than the citywide average, but not higher white enrollment. The DCPS elementary schools in these neighborhoods have higher risk scores and lower results scores than the average for elementary schools citywide. Charter elementary schools, on the other hand, have higher resource scores and higher results scores. More specifically, 31 percent of these charters have high resources and 46 percent have high results, compared to only 7 percent and 29 percent for all elementary schools. In other words, the charter elementary schools in these racially changing neighborhoods are not only somewhat diverse racially, but are also high quality.

The 13 elementary schools located in predominantly white clusters are the city’s most racially mixed. All but one of these are DCPS schools and their students are 41 percent white, 37 percent black, and 13 percent Hispanic. These are also among the city’s highest performing schools: 69 percent have low risk scores and 85 percent have high results scores, compared to only 17 percent and 29 percent of elementary schools citywide.

The 24 elementary schools located in predominantly black, low-poverty clusters are attended primarily by African American students. But these schools also have relatively low risk scores and high results scores. Specifically, 38 percent of the DCPS elementary schools in these neighborhoods have low risk scores and 38 percent have high results, while 25 percent of the charter schools have low risk scores and 33 percent have high results.



Finally, the 42 elementary schools located in predominantly black, high-poverty clusters serve almost exclusively African American students. Both DCPS and charter schools in these neighborhoods have high risks, low resources, and low results. Specifically, among DCPS schools, none have low risks, none have high resources, and 3 percent have high results. The picture is equally dismal for charter schools located in these neighborhoods: none have low risks, none have high resources, and only 14 percent have high results. In other words, the persistence of both racial and economic segregation in DC neighborhoods appears to be reflected in both the composition and quality of public schools, with the city's poorest and most vulnerable neighborhoods served by the lowest quality schools.<sup>158</sup>

## ***Neighborhood-School Ties***

Strong ties between public schools and the neighborhoods within which they are located can be important assets for both the schools and the neighborhoods. Schools can benefit from broad and sustained parental involvement and potentially from investments and engagement from other community institutions. And neighborhoods can benefit from a sense of a shared community institution and from educational and recreational facilities that can serve all residents. However, many District families take advantage of the wide variety of public school options to gain access to academic programs and school settings that best meet their children's needs. In addition, the choice system may be allowing some families to stay in or move to neighborhoods that are affordable but have low-quality public schools by sending their children out of their neighborhoods to attend school.

## **Neighborhood Ties and Quality Public Schools**

Given the benefits of strong neighborhood-school ties for both schools and neighborhoods, one would expect that the schools with the strongest neighborhood ties would be relatively high performing, and when schools are poor performing, ties to the neighborhood would be weaker.


To explore this potential linkage, we classify schools into three groups (strongest link, intermediate link, weakest link) based on the share of their students living within boundary (for DCPS schools) or within a half mile radius (charter schools). The first group consists of 31 elementary schools and 13 secondary schools in which most students live either within boundary or nearby. All of these are DCPS schools, and we classify them as having the strongest links to their neighborhoods. The second group – with an intermediate share of students living in boundary or nearby – consists of 59 elementary schools and 25 secondary schools. Eight of the secondary schools in this group are charters. Finally, the third group consists of 33 elementary schools (10 DCPS schools and 23 charters) and 13 secondary schools (all of which are charters). We classify these as having the weakest links to their neighborhoods. Unfortunately, no citywide data on indicators that might reflect other dimensions of the linkage between schools and their neighborhoods are available, such as parental involvement or engagement and investment by neighborhood institutions in school facilities and activities. Nonetheless, our simple grouping of schools based on their enrollment provides a useful indicator of the extent to which they are “neighborhood schools.”

Elementary schools with the strongest links to their neighborhoods have low risk scores and high results scores compared to citywide averages. Specifically, 32 percent of these schools have low risk scores and 45 percent have high results scores, compared to only 18 percent and 28 percent citywide. The neighborhood clusters in which these schools are located are substantially more racially diverse than the rest of the District, and have lower poverty rates (as of 2000) and lower crime rates. However, the recent homebuyers with children in elementary school in these neighborhoods have a lower average income than recent homebuyers in neighborhoods with schools with weaker ties. Elementary schools with strong neighborhood ties do appear to be high quality. However, it is hard to know which way the causality goes. Strong neighborhood ties may strengthen schools, but in addition, when families live in neighborhoods with high-quality schools they do not have to make alternative choices, so neighborhood ties are strengthened by school quality. Moreover, these schools face lower challenges than others in the city, in part because of the neighborhoods in which they are located.

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<sup>158</sup> See Appendix D, Data Table D-7: School Characteristics by Neighborhood Diversity and Data Table D-8: School Diversity by Neighborhood Diversity.





In contrast, elementary schools with the weakest links to their neighborhoods have higher risk scores, higher resource scores, and moderate results scores. The neighborhoods in which these schools are located are more predominantly black and Hispanic, and have lower poverty rates and higher crime rates than the neighborhoods surrounding schools with strong ties. Interestingly, elementary schools with weak neighborhood ties are less likely than schools with strong ties to have high results, but they are also less likely to have low results. In other words, most of the schools with weak ties have moderate results, while those with strong ties reflect more of a mix of results scores. This pattern is true for both DCPS and charter elementary schools. Thus, it is schools with moderate ties to their neighborhoods that exhibit the lowest results scores. This suggests that the schools with the weakest neighborhood ties may actually be attracting students from other neighborhoods because their results are reasonably good despite the challenges they face.<sup>159</sup>

## **Families Who Choose Schools Outside Their Neighborhood**

Our findings thus far suggest that although there are important connections between school quality and neighborhood trends, many DC families seem to be separating their housing location choices from their school location choices. Therefore, we next focus on the choices of students who leave their neighborhood schools (either DCPS or charter) for more distant schools, exploring the characteristics of the schools they are choosing and of the neighborhoods in which these schools are located.<sup>160</sup> More specifically, we classify students based on the distance they travel from home to school. Those who attend their in-boundary DCPS school or another DCPS or charter school within a half mile of home are classified as attending nearby schools. Those who do not attend their in-boundary DCPS school and travel more than half a mile from home to school are classified as attending distant schools. Almost half of all elementary school students (41 percent) attend distant schools; this represents 30 percent of DCPS elementary students and 79 percent of charter elementary students.

Students who travel far to attend either DCPS or charter elementary schools appear to attend higher quality schools than those who attend nearby schools. A little more than one quarter of the DCPS students who travel far attend schools with low risk scores and 38 percent attend schools with high results scores, compared to only 18 percent and 30 percent of all elementary school students citywide. Students who travel far to attend charter elementary schools attend schools with higher than average risk scores, but high resources and high results. Specifically, 14 percent of these students attend schools with high resources and 35 percent attend schools with high results, compared to only 5 percent and 30 percent of all elementary students citywide. All of these schools (both DCPS and charter) are located in neighborhoods that are essentially the same as the citywide average, except the share of black residents is higher.<sup>161</sup>

## ***Housing Market Changes and School Enrollment Patterns***

While the number of school-age children is declining in the District overall, the changes in household composition are not happening equally throughout the city. Birth rates vary significantly in different communities, as do changes in housing market composition that may impact the abilities of families to stay or move into certain neighborhoods.

## **Neighborhood Effects on Public School Demand**

In this section, we examine whether schools in low demand are located in neighborhoods that have experienced slow growth or declining births and whether schools with high levels of early exit are located in neighborhoods experiencing rapid housing market change.

In a city where neighborhood schools have been the norm, one explanation of low demand for schools may be that the composition of households in the neighborhoods is changing. Neighborhood housing market conditions may help explain why some schools experience low demand. Schools located in neighborhoods

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<sup>159</sup> For additional detail on school and neighborhood characteristics by school and neighborhood link, see Appendix D, Data Table D-9: School Characteristics by School/Neighborhood Link and Data Table D-10: Neighborhood Characteristics by School/Neighborhood Link.

<sup>160</sup> We limited our analysis to elementary school students because secondary students are more likely to travel far distances to attend school.

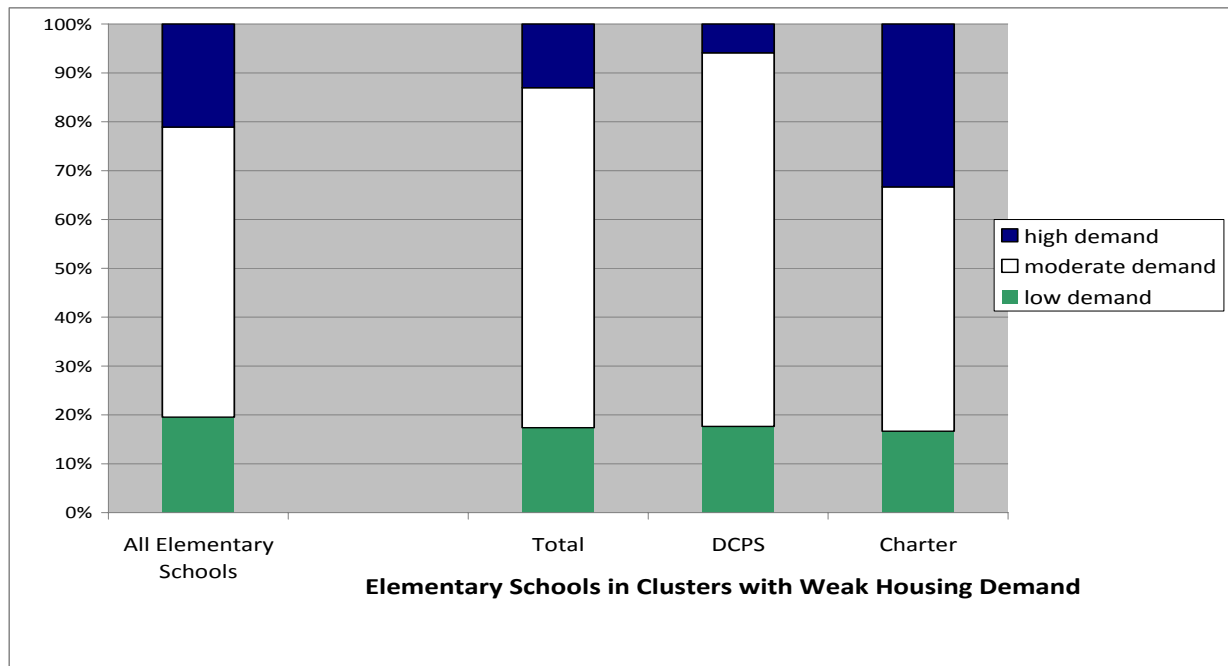
<sup>161</sup> Appendix D, Data Table D-11 School Characteristics for Students Choosing to Attend School Near or Far From Their Home and Data Table D-12: Destination Neighborhood Characteristics for Students Choosing to Live Near or Far From Their Home.

where housing demand is weak may face difficulty attracting and retaining students as a result. Using our housing market typology (described earlier in this chapter) and the demand rankings, we found that there is no strong relationship between housing market demand and school demand. This is especially true at the elementary level and for public charter schools.

The housing market typology yields a group of 11 clusters (type IV) that have experienced low growth in the volume of sales and low to moderate sales prices. These clusters include many of the city’s poorest and most distressed neighborhoods. A total of 36 schools (25 elementary and 11 secondary schools) are located in these weak market clusters – 19 percent of all elementary schools and 16 percent of secondary schools.

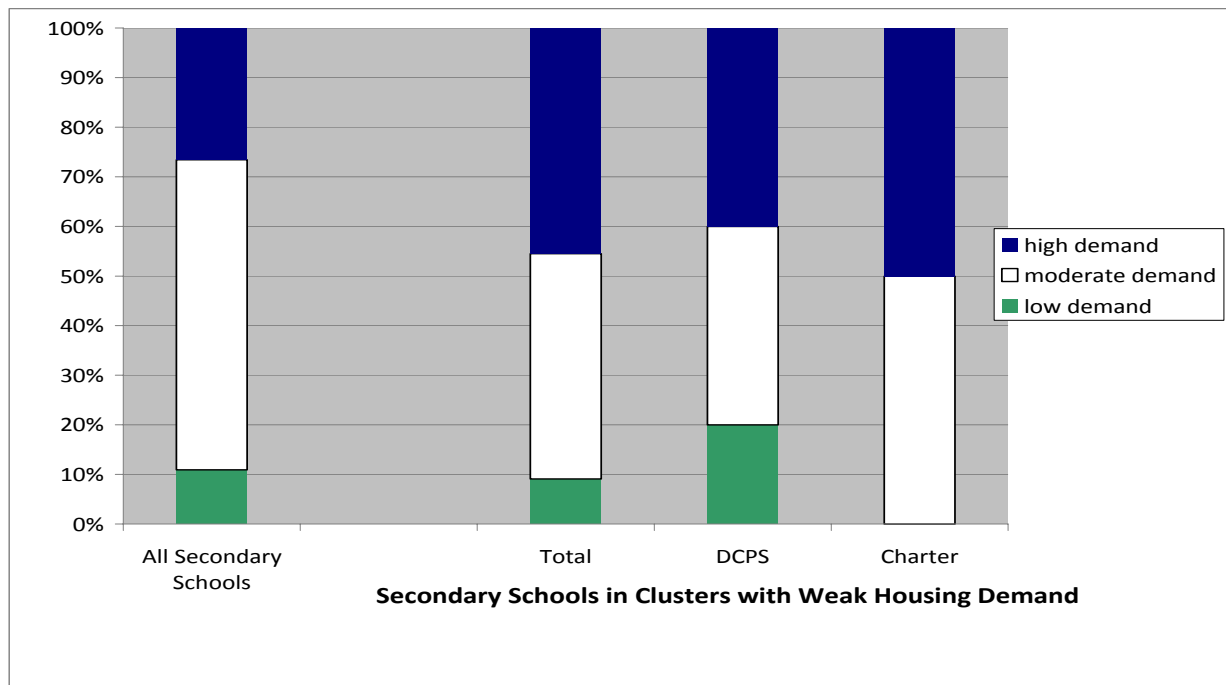
The 25 elementary schools located in weak demand neighborhoods include 17 DCPS schools and 8 public charter schools. We find no evidence that demand for these schools is low relative to citywide averages (see Figure 4-1). In fact, in these clusters, only 18 percent of DCPS elementary schools and 17 percent of the charter elementary schools have low demand, compared to 20 percent of all elementary schools citywide. Moreover, a third of charter elementary schools in these neighborhoods experience high demand, compared to only 21 percent of all elementary schools citywide.

**Figure 4-1: Weak Housing Markets & Elementary School Levels of Demand**



The 11 secondary schools located in weak demand neighborhoods include 5 DCPS schools and 6 charter schools. A fifth of the DCPS schools (but none of the charter schools) have experienced low demand, compared to only 11 percent of all secondary schools citywide (see Figure 4-2). Thus, neighborhood housing market conditions may contribute to weak demand for DCPS secondary schools, but does not appear to be an explanation for weak demand at the elementary school level or among charter secondary schools.

**Figure 4-2: Weak Housing Markets & Secondary School Levels of Demand**

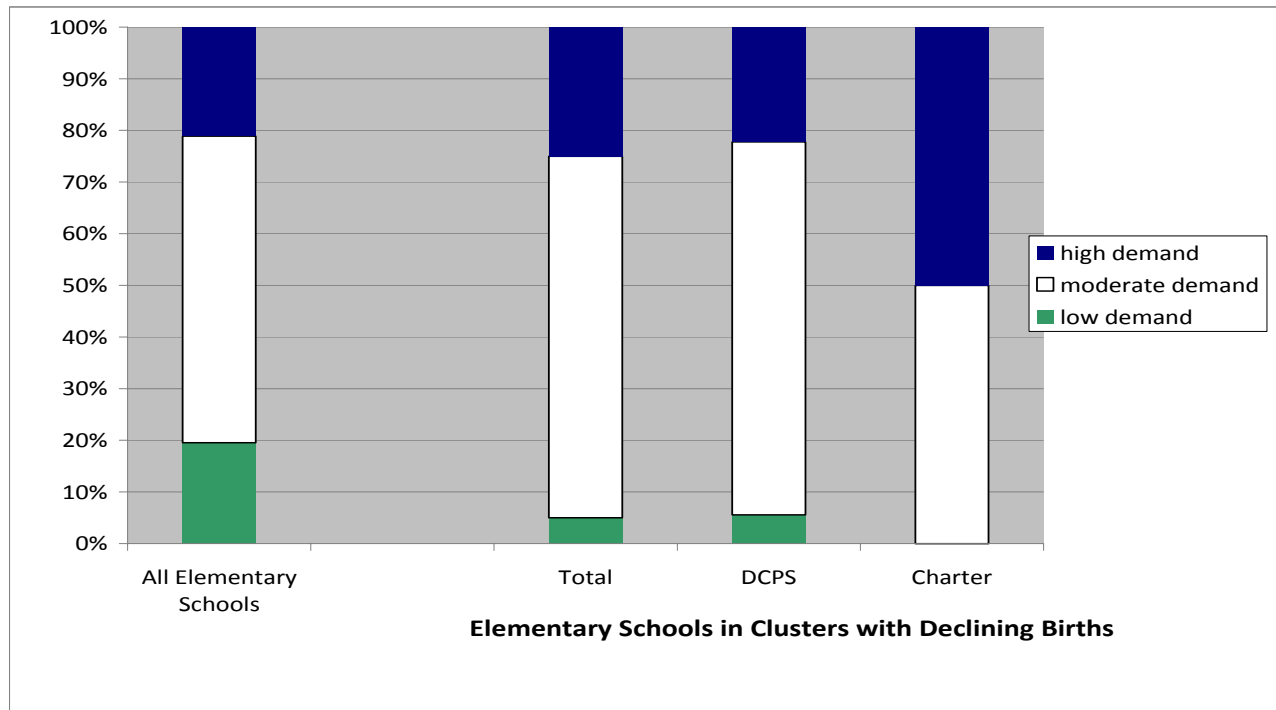


An alternative explanation for weak demand for some of the city’s elementary schools might be that they are located in neighborhoods where births have been low or declining. Indeed, in recent years, trends in birth rates have varied quite substantially across the District’s neighborhoods. We grouped neighborhood clusters into four categories based on the change in the number of births from 2001 to 2005. Ten clusters actually saw real declines in births over this period; these clusters are quite widely scattered across the city and include neighborhoods with both weak and strong housing market conditions. However, we found no evidence that declining births and weak school demand at the elementary level are related.

A total of 21 elementary schools are located in these “declining births” clusters – 16 percent of all elementary schools citywide. The 21 elementary schools located in weak demand neighborhoods include 18 DCPS schools and only 3 public charter schools. We find no evidence that declining births provides an explanation for weak school demand at the elementary level (see Figure 4-3). In fact, in these clusters, only 6 percent of DCPS elementary schools and none of the charter elementary schools have weak demand, compared to 20 percent of all elementary schools citywide.



**Figure 4-3: Births & Elementary School Levels of Demand**



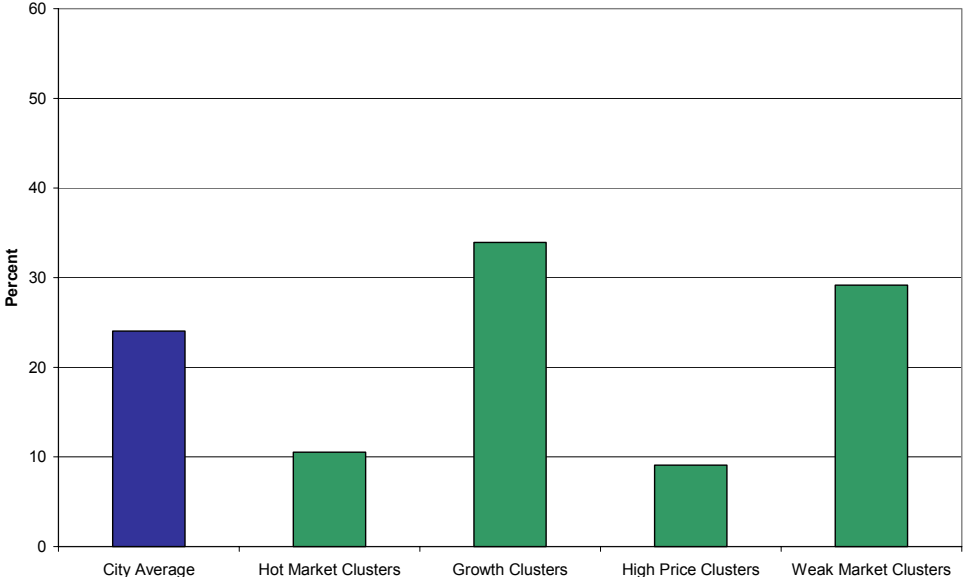
### **Housing Market Changes and Early Exit from Public Schools**

We examined whether schools with high levels of early exit (students leaving for another public school before they reach the school's terminal grade) are located in neighborhoods experiencing rapid housing market change. We used our housing market typology (described earlier in this chapter) to classify clusters according to the intensity of housing market pressures. This approach identifies a group of 10 clusters that have experienced rapid growth in the volume of sales but moderate sales prices (type II – growth clusters) and another 11 clusters with moderate sales prices and low growth in sales (type IV – weak market clusters). The other 17 neighborhood clusters (type I – hot market and type III – historically high-priced) had high sales prices.



On average, schools in neighborhoods with lower housing prices have higher levels of early exit than high price neighborhoods. This is true in both weak market and growth neighborhood clusters.

**Figure 4-4: Percentage of Public Elementary Schools with Very High “Early Exits” by Housing Market Type, 2006-07<sup>162</sup>**



This study did not examine the reasons for early exit, but other research has shown that one of the most important factors contributing to school mobility is students’ residential mobility, with between 60 and 70 percent of school changes attributable to residential changes.<sup>163</sup> However, these findings may be different in a public education system with so many options and a system of easy entrances but also easy exit. For example, although public charter schools have to accept any student if there is space, they do not need to keep a student who does not conform to high social or academic standards. In addition, since there is excess space in most DCPS schools, moving from one school to another is relatively easy.<sup>164</sup>

**New Homebuyers and Public School Quality**

Much of the recent growth in demand for housing in the District of Columbia has come not from families with children but from childless singles and couples and from empty-nesters. It seems possible that families with children – and young couples who expect to have children soon – might be especially likely to locate in neighborhoods with high quality schools. But given the high degree of choice and mobility in the District’s school system, it is also possible that families may separate their housing location choices from their school choices, anticipating that they will be able to send their children to high-quality schools outside their neighborhoods. Here we explore these issues by focusing first on the quality of schools in neighborhood clusters where a large share of recent homebuyers have children who attend public schools and then on neighborhood clusters experiencing increases in births.

**Recent Homebuyers with Public School Students**

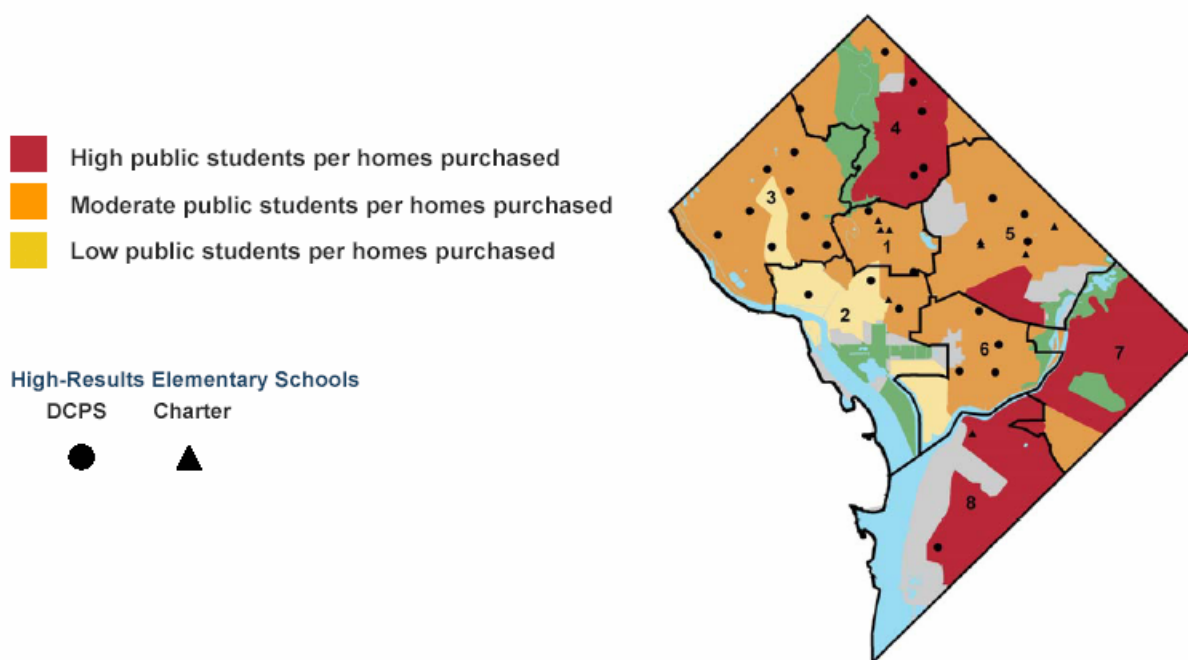
On average, sales of single-family homes in the District of Columbia between 2003 and 2006 generated 34 public schools students per 100 homes sold. But these student generation rates vary quite dramatically by neighborhood cluster, from a low of 1 student per 100 homes sold in the Glover Park/Cathedral Heights in

<sup>162</sup> Appendix D, Data Table D-13: School Early Exit Rates by Neighborhood Housing Market Trends.  
<sup>163</sup> Kerbow, D. (1996). Patterns of urban student mobility and local school reform. *Journal of Education of Students Placed at Risk*, 1(2), 147-169. EJ 531 794; Rumberger, RW, Larson, KA, Rea, RK, and Palardy, GJ (1999). *The educational consequences of mobility for California students and schools*. Berkeley, CA: Policy Analysis for California Education. ED 441 040.  
<sup>164</sup> The Study Team also analyzed school characteristics by rate of early exit. See Appendix D, Data Table D-14: School Characteristics by Level of Early Exits for more detail.

Ward 3 (cluster 14) to a high of 82 students per 100 homes sold in Congress Heights in Ward 8 (cluster 39). We grouped the city's 39 neighborhood clusters into three categories based on these recent student generation rates to identify neighborhoods where high, moderate, and low shares of recent home buyers were families with children who attend public school.<sup>165</sup> This is by no means a perfect indicator of which neighborhoods in the city are attracting the most families with children; no data are available on the location decisions of families that rent, families that send their children to private schools, or families with children still too young to attend school. Nonetheless, it provides a rough indication of where families with children in public school are buying homes. Map 4-3 shows how the three categories of clusters are distributed geographically, and Appendix D, Data Table D-1: Neighborhood Cluster Typology Scores lists all the clusters in each category.


Families with children who attend public school are generally not buying homes in the high-priced areas where high-quality elementary schools are located. Elementary schools located in clusters with the most students per home purchased generally exhibit lower quality than citywide averages. Only 2 percent of elementary schools in these clusters have high resources and only 11 percent have high results, compared to 7 percent and 28 percent of elementary schools citywide. This finding applies to both DCPS and charter elementary schools. Families with children seem to be buying homes in these neighborhoods despite the poor school quality, possibly because these neighborhoods are more affordable. In fact, all of the clusters with high student generation rates from home sales have moderate house prices (type II); none fall into either the hot market category (type I) or the historically high priced category (type III) discussed earlier. A significantly larger share of elementary schools appears to be high quality in clusters with low numbers of students per recent home sale. Specifically, 20 percent of elementary schools in these clusters have high resources and 50 percent have high results.

**Map 4-3: High Results Schools & Students in Recently Purchased Homes**



Because the neighborhoods with the highest student generation rates from recent home sales do not offer the strongest schools, we explored the characteristics of schools attended by students living in recently sold homes. How do these schools compare to the average for all students citywide? The share of elementary school students attending charters is the same for students living in recently sold homes as for all students. However, the elementary schools attended by students from recently sold homes are more likely to have high

<sup>165</sup> Generation rates were created by matching DCPS and public charter student residences as of October 2006 to single-family home sales data from 2004 to 2006. More specifically, we matched public students' residences and single-family home sales data by parcel identifiers, keeping only the most recent sale if a home was sold more than once during the period.



results than the average for all students citywide. Specifically, 39 percent of these students attend elementary schools with high results, compared to 30 percent of all students. In addition, the median distance traveled by elementary school students living in recently sold homes is slightly higher than the median for all students (0.6 miles versus 0.4 miles, respectively). Thus, the evidence suggests that many families with children buying homes in the District may be separating their housing decisions from their school decisions, at least in part because the neighborhoods with the greatest number of high quality schools are also extremely high priced.<sup>166</sup>

## Neighborhoods with Rising Births

Another window on the question of where families with children (or soon to have children) are choosing to live in the District is provided by patterns of births. During the last several years, births have increased in some parts of the city while declining in others. Some young families may have chosen their neighborhoods in anticipation of childbearing. Are births increasing in neighborhoods with high quality schools, or are they flat or declining in neighborhoods served by lower quality schools?

We grouped the city's 39 neighborhood clusters into four categories, based on the change in the annual number of births from 2001 to 2005. The categories include very high growth, moderate growth, low growth, and decline in number of births. Note that we focus on growth (or decline) in the actual number of births rather than on the rate of increase, because in neighborhoods with relatively few births per year, a small absolute change can yield a large percentage increase. Ten clusters had very high growth in the number of births, 10 had moderate growth, 9 had low growth, and 10 actually declined in the number of births between 2001 and 2006. See Appendix D, Data Table D-18: Neighborhood Births Typology and Data Table D-19: Neighborhood Births Typology Data for more detail.

Clusters that saw the greatest increase in births between 2001 and 2005 have relatively high-quality elementary schools (measured in terms of both resources and results). Thirteen percent of elementary schools in the clusters have high resources and 42 percent have high results, compared to only 7 percent and 29 percent citywide. Both DCPS and charter elementary schools in these neighborhoods score as high or higher than their counterparts in neighborhoods with lower growth in births. Interestingly, however, clusters that experienced moderate growth in births between 2001 and 2005 appear to have lower quality elementary schools than clusters that experienced either low growth or a decline in births. Seven of the 10 clusters in the moderate growth category also experienced low to moderate housing price increases, and the school risk scores in these neighborhoods are very high.<sup>167</sup>

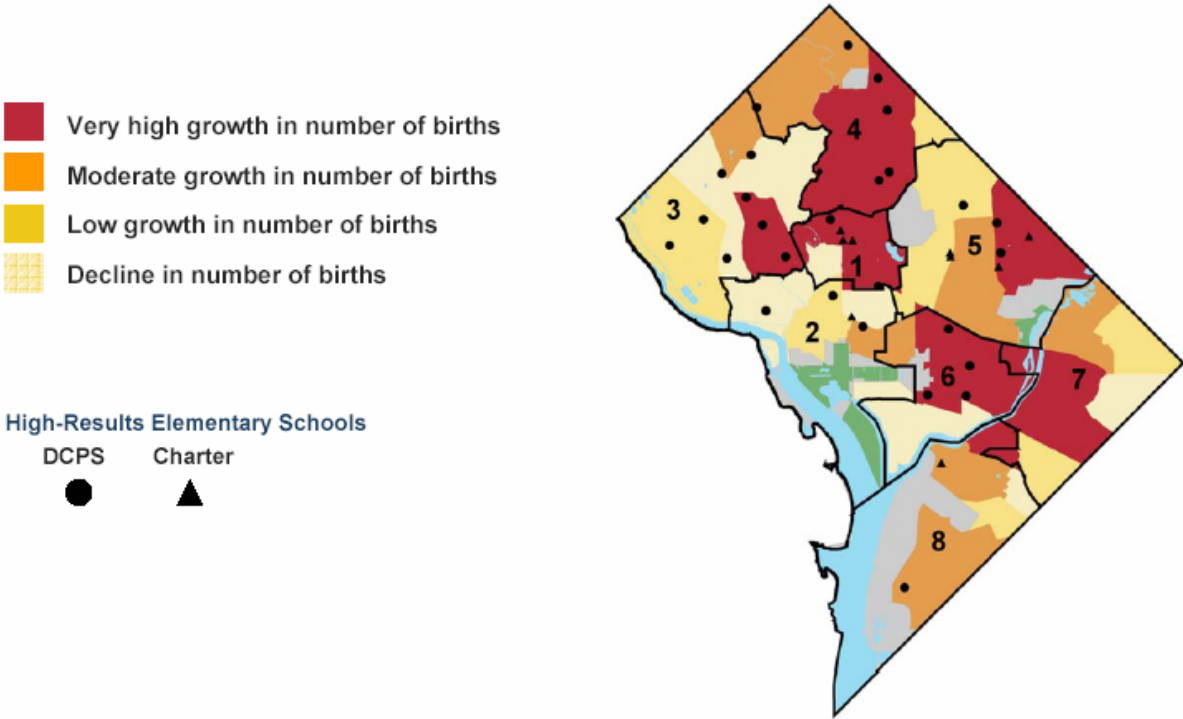
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<sup>166</sup> For more detail, see Appendix D, Data Table D-15: School Characteristics for Students Living in Recently Sold Homes, Data Table D-16: School Characteristics by Neighborhood New Student Generation, and Data Table D-17: Distance Traveled by Students Living in Recently Sold Homes by Ward.

<sup>167</sup> See Appendix D, Data Table D-20: School Characteristics by Neighborhood Birth Trends for more detail.



Map 4-4: Births & High Results Schools





## Chapter 5 - Conclusion

This report contains extensive analysis of student mobility, public school quality, and neighborhood characteristics in the District of Columbia. It would not have been possible without accessible, up-to-date, comprehensive and accurate data for both DCPS and public charter schools and students.<sup>168</sup> It took many months for the study team to acquire, assemble, and prepare even the basic data necessary for this analysis of educational demand and supply in the District. The data compilation would not have been possible without the assistance we received from the Office of the State Superintendent of Education (OSSE), as well as from DCPS and the Public Charter School Board. An important role for OSSE is making data available for research, planning and evaluation. In partnership with the Office of the Chief Technology Officer (OCTO), OSSE is working to develop a longitudinal, student-level data set that will be made available through their State Longitudinal Education Data Warehouse (SLED) initiative and improve opportunities for high quality research and analysis of public education. OSSE has a simplified version, called the Multi-Year Enrollment Automated Database (MEAD) that is available now. Thanks to OSSE, the school level data used by the study team is available in electronic format so others will be able to use the data for other research and analysis.

With the data that we have compiled, and other data and information of OSSE, other researchers and analysts will be able to improve on our framework and create other ways to analyze the quality and character of public schools in the District of Columbia. For instance, it is possible to link our comprehensive public school data sets, not only with neighborhood development indicators, as we have done in this study, but with health and safety indicators, as well as other important community concerns. In addition, continuing to compile future comparable data sets about students and schools will make it possible to compare and evaluate specific policy and practice interventions over time. High quality information will also assist with planning for our future. It can be used to help identify where we are headed and where we would like to go.

In order to model the usefulness of research based policy and planning, the study team developed a Policy Report based on the findings from this research report. The research from this study informs the vision and policy recommendations set forth in an accompanying policy report, ***Quality Schools, Healthy Neighborhoods, and the Future of D.C.*** The policy report examines current education and housing policy and planning and how they influence school supply and patterns of enrollment. The policy report proposes options for policy and planning reform that will provide the underpinning for growth in the child population of the District of Columbia and the enrollment in the District's public schools.

The Quality Schools, Healthy Neighborhoods, and the Future of D.C. and the Research Study are available on [www.dc.gov](http://www.dc.gov) and on the websites of the study team: [www.21csf.org](http://www.21csf.org); [www.brookings.edu](http://www.brookings.edu); and [www.urban.org](http://www.urban.org). OSSE and the study team welcome comments and questions about the research already done and queries about how the data might be used for other research in the future.

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<sup>168</sup> The Study Team received access to the student-level data set through the terms of Memorandums of Agreement (MOAs) with DCPS and the District of Columbia Public Charter School Board (PCSB) that protect the privacy of students.

# Research and Data Methodology

## Methodology for Chapter One

### School-Age Population

The analysis in Chapter One on public school participation by race/ethnicity uses the U.S. Census Bureau 2006 Population Estimates, as well as student-level enrollment data obtained from DCPS, the Board of Education, and the Public Charter School Board for SY 2006-07. The school-age population estimate for children ages 5-18 includes some 18-year-old college students, which appears to particularly inflate the number of white students age 18. To calculate a more accurate public school participation rate, the number of white children in that age range is conservatively estimated to be the same as at the other ages. The Census Bureau and revised estimated numbers (used in the report) are specified in Table 1 below.

**Table 1: Estimating Non-Hispanic White School-Age Population**

	Population Estimates	Report Estimate (Conservative)
Non-Hispanic Whites, Age 17	782	782
Non-Hispanic Whites, Age 18	3,055	782
Non-Hispanic Whites, School-Age (5-18)	13,571	11,298
Share of School-Age Population, Non-Hispanic Whites	15.3%	13.1%
Share of School-Age Population in Public Schools	25.9%	31.2%

### Student Enrollment Data

The analysis in Chapter One's General Enrollment section relies on student-level enrollment data obtained from DCPS, the Board of Education, and the Public Charter School Board for SY 2003-04 through SY 2006-07. (The DCPS and BOE student level data are from the STARS system, and Public Charter School Board data were files from each individual school.) These data reflect the enrollment patterns at the time of the District's official October count (pre-audit). The data identify every student attending a DCPS or public charter school, his or her basic characteristics (i.e., race/ethnicity, age, grade level, free and reduced lunch, LEP/NEP), home address, and school attended. In SY 2006-07, there were 74,030 students attending either a DCPS or public charter school. We did not use the OSSE audited school enrollment data for our analysis because audited school data do not include students' residential addresses.

The analysis in the General Enrollment section of the report is based on a subset of the pre-audit file called the "basic file." In our analysis we excluded those students over age 22, wards of the state, private tuition recipients, and students in custody. The total number of students in the subset for each of the school years was:

- 69,827 students for SY 2006-07,
- 74,245 students for SY 2005-06,
- 73,032 students for SY 2004-05, and
- 73,731 for SY 2003-04.

We geocoded the students in the pre-audited file by assigning the longitude and latitude of the parcel center of the student's address (Maryland State Plane Coordinate System, North American Datum 1983 Meters). For SY2006-07 we successfully geocoded 67,910 students living in the District, meaning 97 percent of the addresses in the student enrollment file could be matched to a parcel in the District. The geocoding allows us to analyze the student data by the students' residential geography, such as by ward and neighborhood cluster. In addition, the geocoding allows us to identify key characteristics of the students' residential housing (e.g., sales price) as well as their 2000 Census tract characteristics (e.g., neighborhood poverty). (Some of the students in

the total student file had residential addresses outside of the District, which were not included in our ward or neighborhood cluster analysis).

For all the analysis that involves distance (i.e., distance from students' residence to student's school), we took a slightly smaller subset of students. As before, we excluded those students over age 22, wards of the state, private tuition recipients, and students in custody. In addition, we excluded all those students with an assigned school of DCPS headquarters (or 825 N. Capitol), and all special population students, such as alternative, adult education, and special education students. (Distance calculations for the special populations are calculated separately in the Special Population section of Chapter One.) The subset of students included in the distance analysis by ward of the General Enrollment section was 67,376 for SY 2006-07, and the subset of students for the distance analysis by neighborhood cluster of the General Enrollment section was 67,197. (The number of students assigned to a ward and neighborhood cluster differ because there is some land in the District that is not designated a neighborhood cluster.)

See Table 2 for a full listing on the number of students in each of the analyses of the General Enrollment section of Chapter One.

**Table 2: Number of students included in General Enrollment analysis**

	Total school file (pre-audit)	Basic file	Basic file geocoded to the District	Distance analysis by ward	Distance analysis by cluster
2006-07	74,030	69,827	67,910	67,376	67,197
2005-06	77,272	74,245	71,440	70,864	70,852
2004-05	77,277	73,032	70,882	70,239	70,233
2003-04	77,933	73,731	70,139	69,676	69,634


## Student Exposure Index

In Chapter One's General Enrollment section, we also measured exposure of the average public school student of a particular race/ethnicity to students of other races/ethnicities. This approach to measuring patterns of segregation is called an "exposure index." The statistic is a weighted average of DCPS and public charter schools' racial/ethnic composition, where each school is weighted by the share of its students that are of a particular race/ethnicity. This method is affected by group size, so the larger a particular racial group's share of the total student population, the more likely that exposure to that group will be high. For example, African American students comprise 83 percent of all DC public school students in SY 2006-07. Therefore, the exposure index of the "average" black, white, or Latino student to African American students is higher than his/her exposure to students in other racial/ethnic groups..

Other research using exposure indexes include Douglas S. Massey and Nancy A. Denton (1988), "The Dimensions of Racial Segregation." *Social Forces* 67(2): 281-315, and Noah Sawyer and Peter A. Tatian (2003). *Segregation Patterns in the District of Columbia 1980 to 2000*. DC Data Warehouse Discussion Brief No. 2, October.

## Churning Analysis

The analysis on the share of students who changed schools within a school year (as opposed to across school years) used a 2006-07 pre-audit student level dataset provided by STARS through DCPS. This data set included admittance and withdrawal date variables for eight different months during the 2006-07 school year. This data set includes only DCPS and Board of Education (BOE) public charter students, and we focused our analysis exclusively on DCPS students. The file had over 98 percent of the DCPS students who were enrolled sometime during the school year. The remaining 2 percent of students could not be included in this analysis because their irregular enrollment patterns made it difficult to distinguish which school they attended at various points in time.



To determine the share of DCPS students that changed schools within a school year, we relied on the student withdrawal date. Students who did not withdraw from their school (their school as listed as of October 5, 2006), had no withdrawal date listed. All other students had a withdrawal date from their school, provided they withdrew before the end of the school year.

## Special Education

The analysis in Chapter One's Special Education section relies on the same student-level enrollment data – obtained from DCPS, the Board of Education, and the Public Charter School Board for SY 2006-07 – that is used in the General Enrollment Section, described above. The student enrollment file was limited to all students receiving special education services (any student with an Individual Education Plan attending DCPS or public charter schools, as well as those at non-public schools where DCPS paid tuition), which totaled 10,857 students in SY 2006-07. From this group, a subset was created to capture only those special education students attending public schools – 8,892 students. Separate analysis was run on each group (main group and subset of public only). The distance analysis was conducted only for the public subset, as all students receiving tuition for private placements were coded with school address at DCPS Headquarters (825 N. Capitol Street) and not with their actual private school address.

In addition, we used student-level transportation data from the DCPS Division of Transportation (DOT). This data was captured from the DOT system in October 2006. It provided information on all 4,023 special education students receiving transportation in DCPS school buses to either DCPS, public charter, or non-public residential schools in the District, Virginia, and Maryland.

## Alternative and Adult Education Programs

Slightly more than 3,700 public school students (3,742), or 5 percent of all public school students, attended an alternative or adult education school in the 2006-07 school year. We used a broad definition of alternative education – that is, those schools and programs geared towards students at risk of education failure – similar to the National Center for Education Statistics's (NCES) definition. We also included schools and programs geared towards adult education or for those adult students who had previously dropped out of high school and not received a high school or GED equivalency.

The 15 DCPS and public charter alternative and adult education schools included in this analysis were Ballou STAY, Booker T. Washington PCS (day and evening), CHOICE Academy @ Taft, CHOICE Academy @ Douglas, Carlos Rosario PCS, ESF Bancroft, ESF Mary Center, LAYC, Luke C. Moore, Maya Angelou (Evans), Maya Angelou (Shaw), Next Step PCS, Roosevelt STAY, and Spingarn STAY.

The data in this section include students of all ages; however, this analysis does not include students who participated in in-school suspension programs at their local high schools, were wards of the state (foster children), private tuition recipients (voucher students), or students who were being detained in the DC Jail, DC Detention Facility, or other facilities for adjudicated youth. (The detained students were included in a separate analysis on Students detained in the DC Juvenile Justice System.)

## Students at Archdiocese of Washington

Students at Archdiocese of Washington primary schools were analyzed in an attempt to identify enrollment behavior of a significant portion of the private voucher population. There are 961 students in the analyzed data set – of 2,340 students at the 21 Kindergarten through 8<sup>th</sup> grade schools run by the Archdiocese of Washington – who received Opportunity Scholarships (vouchers) in 2006-07. The program awarded a total of 1,746 Opportunity Scholarships. Data limitations prevented a separate analysis of the Opportunity Scholarship students at the Archdiocese schools; however, we know that these students represent over 40 percent of the population being analyzed.

The student variables in the dataset obtained from the Archdiocese was somewhat more limited than the student-level enrollment files used to analyze the public school population. The most notable difference is the absence of data on students' family income (proxied using the free or reduced lunch variable in the public

student databases). In addition, 18 percent of students in the Archdiocese data set did not have race identified. Distance analysis was conducted for the 2,314 students whose residential addresses could be geocoded.

## **Methodology for Chapter Two**

### **School Quality Attributes**

Each of the three school attribute factors – resources, risks, and results– were constructed from a set of individual indicators for each school. The basic indicators were selected on basis of educational literature characterizing them as important to school quality, as well as using information gathered during focus groups with parents around the city to better understand what they are seeking in their child’s school. Schools were characterized as either elementary or secondary, depending on their grade offerings<sup>169</sup>, and analyzed as two separate groups. Unless otherwise noted below, schools were ranked in quartiles for each indicator. The indicator scores for a given factor (resources, risks, results) were then summed, and the range of possible total scores divided into quartiles.<sup>170</sup> The indicator scores were then averaged to allow for more accurate inclusion of schools that were missing one or two indicators, and the average scores (corresponding to the total scores) were used to determine rankings – high, moderate, or low. For resources and results, the middle two quartiles were considered together as “moderate.” For risk, all four quartiles were reported separately, with the highest quartile described as “high”, the second highest as “moderately high,” the third highest as “moderately low,” and the lowest as “low.” Schools that were missing data on at least half of the indicators were excluded from the analysis for a particular factor.

### **School Level Resources**

5 indicators were used to describe resources (all ranked in quartiles except program type)<sup>171</sup>:

1. The percent of classrooms with highly qualified teachers as defined by NCLB - full certification, a bachelor's degree and demonstrated competence in subject knowledge and teaching;
2. Student-teacher ratio—using NCLB data on teachers, we took total teachers (not aides) and divided total 06-07 enrollment by # of teachers. We did not adjust for special education, except that schools with more special education students would be expected to have low teacher/student ratios;
3. Funding, measured as dollars per student—for DCPS we used: 1) Weighted Student Formula plus 2) local share of facility utilities and maintenance divided by actual square footage of school plus 3) per student share of central administration costs (total local costs divided by 06-07 enrollment). Special education private tuition and transportation were excluded. For charter schools we used the UPSFF allocation for each school. We excluded federal funding, DCPS capital funding, and the charter facilities allowance, as well as private funds raised by individual schools.
4. Facility condition—For DCPS, we used the Facility Condition Index from the 2006 Facility Master Plan building assessment. For charter schools, where no centralized building condition data is available, we used a building condition estimate from Building Hope, information on schools’ major building improvements, and information from principal survey responses.
5. Program type was determined using information from DCPS and charter schools on whether the school had a themed/specialized or basic educational program. (Schools with themed or specialized programs were assigned a “4” while schools with basic programs were assigned a “2”.)

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<sup>169</sup> Schools whose earliest grade was pre-school, pre-kindergarten, or kindergarten were characterized as elementary. All DCPS PS/PK-8 schools were included as elementary, as well as several charter PK-8 schools (and one PK-12). Secondary schools were generally considered those schools whose earliest grade was 5<sup>th</sup> or higher.

<sup>170</sup> For example, if possible scores ranged from 5-20 then the first (lowest) quartile would include schools whose total scores ranged from 5-8, the second quartile schools whose total scores ranged from 9-12, the third quartile schools whose total scores ranged from 13-16, and the fourth (highest) quartile schools whose total scores ranged from 17-20.

<sup>171</sup> Insufficient information was available to report resource scores for Community Academy – Virtual PCS and Mary McLeod Bethune PCS (42<sup>nd</sup> Street Campus, Ward 7), both elementary schools.

## Risk

4 indicators were used to describe risk for elementary schools and 3 indicators were used to describe risk for secondary schools (all ranked in quartiles except LEP/NEP)<sup>172</sup>:

1. Share of students living in high poverty census tracts, which are defined as tracts where 30% or more of residents live in poverty. This indicator was double-weighted.
2. Share of students eligible for free and reduced price lunch (elementary only)
3. Share of special education students
4. Share of LEP/NEP students (This indicator was dichotomous – schools with over 15% were assigned a “4” while schools with less than 15% were assigned a “2”.)

## Results

4 indicators were used to describe results (all ranked in quartiles)<sup>173</sup>:

1. Share of students basic and above on 2007 DC-CAS<sup>174</sup> reading
2. Share of students basic and above on 2007 DC-CAS math
3. Share of students proficient and advanced on 2007 DC-CAS reading
4. Share of students proficient and advanced on 2007 DC-CAS math

## *Methodology for Chapter Three*

The school demand factor was constructed in the same way as the three school quality factors – resources, risks, and results – using a set of individual indicators for each school. Schools were characterized as either elementary or secondary, depending on their grade offerings<sup>175</sup>, and analyzed as two separate groups. Unless otherwise noted below, schools were ranked in quartiles for each indicator. The indicator scores were then summed, and the range of possible total scores divided into quartiles.<sup>176</sup> The indicator scores were then averaged to allow for more accurate inclusion of schools that were missing one or two indicators, and the average scores (corresponding to the total scores) were used to determine rankings – high, moderate, or low. As with resources and results, the middle two quartiles were considered together as “moderate.”

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<sup>172</sup> There was insufficient information to report risk scores for three elementary schools: Community Academy – Virtual PCS, Mary McLeod Bethune (42<sup>nd</sup> Street Campus – Ward 7), and Washington Academy PCS (Castle Campus – Ward 6).

<sup>173</sup> At the elementary level, performance data for Wheatley was reported with the performance data for Webb. Performance data for both Mary McLeod Bethune campuses and all three Washington Academy campuses was reported together. Neither DC Bilingual nor LAMB PCS had students old enough to be tested during the 2006-07 school year. At the secondary level, test scores for Dunbar Pre-Engineering and Woodson Business & Finance Academy were not reported separately from the test scores for the entire high school. Students at LAYC-Youth Build are not grade-appropriate to take the DC-CAS. 2007 DC-CAS results for Eastern High School were lost; thus 2006 DC-CAS scores were used in this analysis.

<sup>174</sup> District of Columbia Comprehensive Assessment System

<sup>175</sup> Schools whose earliest grade was pre-school, pre-kindergarten, or kindergarten were characterized as elementary. All DCPS PS/PK-8 schools were included as elementary, as well as several charter PK-8 schools (and one PK-12). Secondary schools were generally considered those schools whose earliest grade was 5<sup>th</sup> or higher.

<sup>176</sup> For example, if possible scores ranged from 5-20 then the first (lowest) quartile would include schools whose total scores ranged from 5-8, the second quartile schools whose total scores ranged from 9-12, the third quartile schools whose total scores ranged from 13-16, and the fourth (highest) quartile schools whose total scores ranged from 17-20.

## School Demand

6 indicators were used to describe demand (all ranked in quartiles)<sup>177</sup>:

1. Change in enrollment between 2004 and 2006
2. Change in students per grade offered between 2004 and 2006; this indicator is used to adjust for enrollment growth in charter schools (and McKinley Technical High School) that were adding grades
3. Share of early exits, defined as students who leave a school before the terminal grade of the school was reached AND show up the following year enrolled elsewhere in the public schools—either DCPS OR PCS.
4. Density factor is used to describe building utilization; it is defined by the standard Gross Square Feet per student of 140 ES/170 MS/200 SHS and divided by the actual GSF per student (building SF divided by enrollment). Where square footage of charter schools was missing, Building Hope estimated whether a school was crowded, OK or had room to grow.
5. Distance traveled, measured as the median distance – as the crow flies – that students travel to a particular school.
6. Neighborhood capture—for DCPS this is defined by the percent of public school students of the appropriate grade who live within the school's boundary AND attend the school; for PCS, capture rate is defined as the number of students who live within .5 mile for ES; 1 mile for middle and 2 miles for high school AND attend the school.

## Early Exit

To analyze students' mobility, we used OSSE's Multi-Year Enrollment Automated Database (MEAD). This longitudinal student-level dataset tracks where each individual public school student attended school (either a DCPS or public charter) between 2001 and 2006.<sup>178</sup> Therefore, we were able to identify the students who switched schools and to where.<sup>179</sup> The Urban Institute appended each school's maximum grade level for every year to the MEAD data in order to categorize the students' switches as either "grade progression" switches (those where the student was required to switch schools) versus "early exit" switches (or those switches that occurred before the maximum grade was reached in a school).

Like all datasets, MEAD has its limitations. The data set tracks only public school students, so students that switch to a private school are not included in our analysis. (Students must continue to attend either a DCPS or public charter school to be included in our student mobility analysis.) Also, the MEAD data are based upon audited enrollment files, so the students' addresses are not included. Therefore, we cannot explore the relationship between residential moves (students changing their home address) and student mobility at this time. (We hope to append student residential locations onto the MEAD data for future analysis.) In order to conduct our analysis consistently with the remainder of our student-level analysis in this report, we excluded students who at any point during the dataset attended an adult or an early education (ECP/ECU) school.<sup>180</sup>

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<sup>177</sup> Several schools lacked sufficient information to report demand scores; many of these schools were newly opened in the 2006-07 school year. At the elementary level, the following schools were not included: Community Academy – Virtual PCS, Nia Community PCS (Ward 8), and all three Washington Academy PCS campuses (Castle-Ward 6, Kingsman-Ward 6, Penn Ave-Ward 7). At the secondary level, the following schools were not included: City Collegiate PCS (Ward 2), KIPP WILL (Ward 2), Washington Latin PCS (Ward 3), and William E. Doar PCS (Rhode Island Ave Campus-Ward 5).

<sup>178</sup> The MEAD data are constructed from OSSE's audited student enrollment files; therefore, each individual year in the MEAD data refers to a school year. For example, the 2001 MEAD data refers to students in the 2001-02 school year.

<sup>179</sup> The number of students in the MEAD data who were identified as either staying at their same school or switching was: 60,903 students in 2001-2002; 61,165 students in 2002-2003; 59,664 in 2003-2004; 58,356 in 2004-2005; and 57,639 students in 2005-2006.

<sup>180</sup> Students enrolled at adult or ECP/ECU schools are ungraded, so we would be unable to determine if these students switches schools due to early exit or grade promotion.

## Focus Group Methods

Eight focus groups with parents and one with former students from across the city were conducted from the summer of 2007 through the winter of 2007-08. The purpose of these focus groups was to gather information directly from parents about their school enrollment choices. The target populations for each group were selected in an effort to speak with parents representing a range of perspectives – geographic, racial, grade level (elementary, middle & high school), and sector (DCPS and charter). The facilitation guide was developed to emphasize questions about school choice – what factors parents consider as important when enrolling their children in school, how they obtain information about the options available, how they perceive the school options available – as well as to explore movement between schools.

The outreach for most groups was conducted by identifying active parents at each school who helped recruit others; in some cases, school leaders also helped with recruitment. Most groups had 5-8 participants, although a few were larger and one (dropouts) had only 3 participants. A total of 72 people participated.

Bell SHS (DCPS), Ward 1 – conducted in Spanish

EL Haynes (Public Charter elementary) – Ward 1

Southeast elementary schools (primarily DCPS) – Wards 7 & 8

Southeast high schools (DCPS & charter) – Wards 7 & 8

HS Dropouts – citywide

Capitol Hill – parents of young children (DCPS, charter & private) – Ward 6

Bunker Hill ES (DCPS) – Ward 5

Ward 7 secondary (DCPS)<sup>181</sup>

Friendship Collegiate (public charter high school) – Ward 7

The transcripts from each focus group were read by two project team members. A matrix was developed to capture the frequency with which certain key ideas were mentioned. The findings were divided into four areas – enrollment choice factors, choices characterization, information sources, and movement. The summary of responses included in the main body of the report reflects the frequency with which certain ideas were discussed. It does not necessarily mean that parents found all these elements present in the schools that they chose; rather, it indicates whether certain factors were considered important by parents or not. Some parents mentioned elements that they felt were important but were missing from their child's school.

## Principal Survey

An online survey was issued to all DCPS and public charter school principals in spring 2008 for the purposes of gathering additional information on school attributes, including facilities, fundraising, supplemental programs, and staffing tenure. The Chancellor's office sent the survey to the DCPS principals and the Public Charter School Board sent the survey to the charter school principals. Although the return rate was not sufficient to use the data for quantitative analytic purposes, enough responses were gathered (40 percent of public charter and 50 percent of DCPS schools) to use the information for descriptive analysis. A list of questions and summary of responses is below.

	DCPS Principals	Public Charter Principals
<b>Q1: Does your school have an active parent organization?</b>		
Very Active	25.4% (18)	22.2% (6)
Somewhat Active	<b>54.9% (39)</b>	<b>51.9% (14)</b>
Not Active	14.1% (10)	14.8% (4)

<sup>181</sup> Parent focus groups in Ward 7 were made possible by a small grant from the Annie E. Casey Foundation.



No Organization	5.6% (4)	11.1% (3)
<b>Q2 (DCPS): Do you have an active Local School Restructuring Team (LSRT)?</b>		
Very Active	44.3% (31)	
Somewhat Active	<b>52.9% (37)</b>	
Not Active	2.9% (2)	
<b>Q2 (Charter): Are the parent positions on your Board of Directors filled?</b>		
Yes		<b>92.6% (25)</b>
No		7.4% (2)
<b>Q3: How many parent volunteers does your school have on a monthly basis?</b>		
Zero	5.6% (4)	7.7% (2)
1-10	<b>57.7% (41)</b>	42.3% (11)
11-25	26.8% (19)	<b>46.2% (12)</b>
25-50	7.0% (5)	3.8% (1)
Over 50	2.8% (2)	0
<b>Q4: Does your school have:</b>		
<i>Regular newsletter for parents?</i>		
Yes	<b>84.1% (58)</b>	<b>92.6% (25)</b>
No	15.9% (11)	7.4% (2)
<i>Website with day-to-day information for parents?</i>		
Yes	22.7% (15)	<b>60% (15)</b>
No	<b>77.3% (51)</b>	40% (10)
<b>Q5: Does your school have a student government?</b>		
Yes	<b>59.2% (42)</b>	<b>51.9% (14)</b>
No	40.8% (29)	48.1% (13)
<b>Q6 (Charter): Does your school utilize an extended calendar, either weekly or annually?</b>		
Yes		<b>72% (18)</b>
No		28 (7)
<b>Q7: As of August 1, 2007, how many students were on a waiting list for your school?</b>		
Zero	<b>48.6% (34)</b>	23.1% (6)
1-10	22.9% (16)	7.7% (2)
11-25	12.9% (9)	<b>30.8% (8)</b>
26-50	7.1% (5)	15.4% (4)
51-100	4.3% (3)	11.5% (3)
Over 100	4.3% (3)	11.5% (3)
<b>Q8: Does your school have:</b>		
<i>Orchestra or band?</i>		
Yes	31.9% (22)	18.5% (5)
No	<b>68.1% (47)</b>	<b>81.5% (22)</b>
<i>Sports teams?</i>		
Yes	<b>70.6% (48)</b>	<b>59.3% (16)</b>
No	29.4% (20)	40.7% (11)
<i>Student clubs?</i>		
Yes	<b>78.9% (56)</b>	<b>55.6% (15)</b>
No	21.1% (15)	44.4% (12)
<i>Before and/or after care?</i>		
Yes	<b>74.6% (53)</b>	<b>65.2% (15)</b>
No	25.4% (18)	34.8% (8)
<i>Other out-of-school activities (i.e., tutoring, mentoring)</i>		

Yes	<b>88.4% (61)</b>		<b>92.6% (25)</b>							
No	11.6% (8)		7.4% (2)							
<b>Q9: Does your school partner with outside organizations?</b>										
Yes	<b>93.9% (62)</b>		<b>96% (24)</b>							
No	6.1% (4)		4% (1)							
<b>Q10: How much money did your school raise last year beyond its per pupil funding allocation &amp; from what sources?</b>										
<i>School events (example: auction, bake sale, etc)</i>										
No additional fundraising	18.2% (12)		33.3% (7)							
Under \$25,000	<b>72.7% (48)</b>		<b>47.6% (10)</b>							
\$25,000 to \$100,000	9.1% (6)		9.5% (2)							
\$100,000 to \$250,000	0		4.8% (1)							
\$250,000 to \$500,000	0		4.8% (1)							
Over \$500,000	0		0							
<i>Parents or individual donors</i>										
No additional fundraising	41.5% (27)		28.6% (6)							
Under \$25,000	<b>50.8% (33)</b>		<b>42.9% (9)</b>							
\$25,000 to \$100,000	6.2% (4)		23.9% (5)							
\$100,000 to \$250,000	1.5% (1)		0							
\$250,000 to \$500,000	0		4.8% (1)							
Over \$500,000	0		0							
<i>Foundations and/or Government Grants (excluding Title I or II funds)</i>										
No additional fundraising	<b>61.7% (37)</b>		18.2% (4)							
Under \$25,000	25.0% (15)		18.2% (4)							
\$25,000 to \$100,000	6.7% (4)		<b>27.3% (6)</b>							
\$100,000 to \$250,000	3.3 (2)		18.2% (4)							
\$250,000 to \$500,000	1.7% (1)		9.1% (2)							
Over \$500,000	1.7% (1)		13.6% (3)							
<b>Q11: Please grade the condition of your building:</b>										
Excellent	6.1% (4)		34.8% (8)							
Good	<b>43.9% (29)</b>		<b>39.1% (9)</b>							
Fair	<b>43.9% (29)</b>		26.1% (6)							
Poor	6.1% (4)		0							
<b>Q12: Identify and evaluate the following elements of your school building &amp; grounds:</b>										
	<i>Excellent</i>		<i>Good</i>		<i>Fair</i>		<i>Poor</i>		<i>Not Present</i>	
	DCPS	PCS	DCPS	PCS	DCPS	PCS	DCPS	PCS	DCPS	PCS
<i>Instructional classroom space</i>	5.8% (4)	30.8% (8)	<b>53.6%</b> <b>(37)</b>	<b>46.2%</b> <b>(12)</b>	31.9% (22)	3.8% (1)	7.2% (5)	19.2% (5)	1.4% (1)	0
<i>Specialty classroom space (music, art, drama)</i>	4.3% (3)	8.3% (2)	<b>37.1%</b> <b>(26)</b>	<b>37.5%</b> <b>(9)</b>	34.3% (24)	20.8% (5)	8.6% (6)	16.7% (4)	15.7% (11)	16.7% (4)
<i>Career tech space</i>	4.3% (3)	7.7% (2)	7.2% (5)	3.8% (1)	1.4% (1)	3.8% (1)	14.5% (10)	3.8% (1)	<b>72.5%</b> <b>(50)</b>	<b>80.8%</b> <b>(21)</b>
<i>Library/media center</i>	28.6% (20)	11.5% (3)	35.7% (25)	26.9% (7)	18.6% (13)	11.5% (3)	10.0% (7)	7.7% (2)	7.1% (5)	<b>42.3%</b> <b>(11)</b>
<i>Science labs</i>	5.7% (4)	7.7% (2)	7.1% (5)	11.5% (3)	15.7% (11)	11.5% (3)	12.9% (9)	0	<b>58.6%</b> <b>(41)</b>	<b>69.2%</b> <b>(18)</b>
<i>Gymnasium</i>	5.7% (4)	11.5% (3)	17.1% (12)	19.2% (5)	21.4% (15)	11.5% (3)	8.6% (6)	0	<b>47.1%</b> <b>(33)</b>	<b>57.7%</b> <b>(15)</b>
<i>Technology lab</i>	12.9% (9)	15.4% (4)	<b>34.3%</b> <b>(24)</b>	30.8% (8)	20.0% (14)	7.7% (2)	15.7% (11)	3.8% (1)	17.1% (12)	<b>42.3%</b> <b>(11)</b>
<i>Auditorium</i>	7.1% (5)	7.7% (2)	21.4% (15)	19.2% (5)	<b>32.9%</b> <b>(23)</b>	11.5% (3)	14.3% (10)	0	24.3% (17)	<b>61.5%</b> <b>(16)</b>

<i>Cafeteria</i>	5.9% (4)	11.5% (3)	<b>41.2%</b> <b>(28)</b>	30.8% (8)	38.2% (26)	23.1% (6)	11.8% (8)	0	2.9% (2)	<b>34.6%</b> <b>(9)</b>
<i>Outdoor/athletic and/or play space</i>	7.1% (5)	3.8% (1)	<b>47.1%</b> <b>(33)</b>	19.2% (5)	27.1% (19)	23.1% (6)	12.9% (9)	<b>30.8%</b> <b>(8)</b>	5.7% (4)	23.1% (6)
<i>Teacher parking</i>	10.0% (7)	19.2% (5)	<b>38.6%</b> <b>(27)</b>	15.4% (4)	27.1% (19)	<b>30.8%</b> <b>(8)</b>	21.4% (15)	23.1% (6)	2.9% (2)	11.5% (3)


	DCPS Principals	Charter Principals
<b>Q13: Is your school currently in the process of planning or designing major building improvement?</b>		
Yes	34.3% (24)	38.5% (10)
No	<b>37.1% (26)</b>	<b>53.8% (14)</b>
Don't Know	28.6% (20)	7.7% (2)
<b>Q13a (Charter): Does your school intend to move to a different location in the next three years?</b>		
Yes		42.3% (11)
No		<b>57.7% (15)</b>
<b>Q14: How long have you been a principal?</b>		
<i>Total:</i>		
Less than one year	4.6% (3)	31.8% (7)
1 to 3 years	33.8% (22)	27.3% (6)
4 to 10 years	<b>46.2% (30)</b>	27.3% (6)
11 to 15 years	10.8% (7)	0
More than 15 years	4.6% (3)	<b>40.9% (9)</b>
<i>At your present school:</i>		
Less than one year	4.8% (3)	<b>45.5% (10)</b>
1 to 3 years	<b>45.2% (28)</b>	40.9% (9)
4 to 10 years	43.5% (27)	4.5% (1)
11 to 15 years	3.2% (2)	9.1% (2)
More than 15 years	3.2% (2)	0
<b>Q15: Do you live in the District of Columbia</b>		
Yes	32.3% (21)	47.8% (11)
No	<b>67.7% (44)</b>	52.2% (12)
<b>Q16: Please estimate how many of your teachers have been in your school for:</b>		
	<i>(Response average)</i>	<i>(Response average)</i>
Less than 1 year	3.96	9.29
1 to 3 years	5.03	<b>11.90</b>
4 to 10 years	<b>6.91</b>	7.4
11 to 15 years	4.55	1
More than 15 years	6.14	0.44

## Methodology for Chapter Four

We analyzed the relationship between public schools, public school students, and their neighborhood characteristics. To do this, we created five indicators: changes in the housing market, change in births, change in racial diversity, generation rates, and neighborhood ties. The following describes the data sources and methodology for each of these indicators.

### Housing markets

We categorized the District's neighborhood clusters into our four housing market categories relying on Real Property Data from the District's Office of Tax and Revenue's Real Property Tax Administration. First, we



analyzed the change in the volume of home sales and average home sales prices between 2000 and 2006 and ranked clusters into high or low growth. We used the absolute increase rather than the percentage increase to reflect the change in home sales volumes, rather than changes in rates, because a cluster with small numbers of owner occupied units could experience a large percentage increase even though the total volume of market activity is small. Next, we subdivided both the “high growth” and the “low growth” categories based on the average sales price of single-family homes in 2006 to differentiate “high price” clusters from those with more moderate house prices. The resulting four cluster types are defined as:

- Type I, Hot Market Clusters: High growth in sales volume and high prices (11 clusters)
- Type II, Growth Clusters: High growth in sales but moderate prices (10 clusters)
- Type III, Historically High Price Clusters: Low growth in sales but high prices (7 clusters)
- Type IV, Weak Market Clusters: Low growth in sales and moderate prices (11 clusters)

## **Change in Births**

We categorized the 39 District neighborhood clusters into four categories based on the change in the number of births from 2001 to 2005. Birth data are provided by the D.C. Department of Health, State Center for Health Statistics Administration. The four categories include:

- Very high growth in number of births (10 clusters)
- Moderate growth in number of births (9 clusters)
- Low growth in number of births (10 clusters)
- Decline in number of births (10 clusters)

## **Racial Diversity**

We classified neighborhood clusters into four categories that reflect both the extent of racial and economic segregation and recent trends in neighborhood diversity. To do this we, we used information from the Home Mortgage Disclosure Act that tracks the race of recent homebuyers (2001 to 2006) to identify:

- Racially Changing Clusters: With increasing numbers of white homebuyers (10 clusters)

Then we use 2000 census data on the racial composition of census tracts to identify:


- Predominantly White Clusters: More than 88 percent white in 2000 (9 clusters)

And finally, we use 2000 census data on tract-level poverty rates to differentiate:

- Predominantly Black, Low-Poverty Clusters: More than 73 percent black and less than 22 percent poor in 2000 (8 clusters)
- Predominantly Black, High-Poverty Clusters: More than 89 percent black and more than 26 percent poor in 2000 (12 clusters)

## **Generation Rates**

We categorized neighborhoods by whether neighborhoods with recent homebuyers had relatively high, moderate, or low numbers of children in the public schools. We refer to this as the “generation rate” of the neighborhood. Generation rates were created by matching DCPS and public charter student residences as of October 2006 to single-family home sales parcel data from 2004 to 2006. The 2006 DCPS and public charter student residences are DCPS and BOE student level data from the STARS system and Public Charter School Board data were files from each individual school. The individual student residences were geocoded as



explained earlier in Student Enrollment Data of this Methodology section. These data reflect the enrollment patterns at the time of the District's official October count (pre-audit). The single family home data were from the District's Office of Tax and Revenue's Real Property Tax Administration. We matched public students' residences and single-family home sales data by parcel identifiers, keeping only the most recent sale if a home was sold more than once during the period.

Neighborhoods were categorized into the following three categories:

- High public students per homes purchased (5 clusters)
- Moderate public students per homes purchased (20 clusters)
- Low public students per homes purchased (14 clusters)

## **Schools and Their Neighborhood Ties**

We classified schools into three groups (strongest link, intermediate link, weakest link) based on the share of their students that lived within a DCPS boundary (for DCPS schools) or within a half mile radius (for charter schools). We relied on our basic student enrollment file that included each public school student as of 2006-07, as described in the Student Enrollment Data section of this Methodology. We had geocoded (or assigned longitude and latitude coordinates) to each public school student and were able to match the students' longitude and latitude coordinates to DCPS in-boundary shapefiles through geospatial analysis. Using geospatial analysis, we were also able to draw half mile boundaries around each public charter school and determine the share of students that lived within that half mile buffer area who also attended that school.

Ultimately, the shares of schools elementary and secondary schools were ranked by their neighborhood ties and schools were divided into quartiles. The highest quartile was categorized as "strongest link" category, the middle two quartiles were combined to create the "intermediate link" category, and the final quartile was categorized as "weakest link."

Schools were categorized into the following three categories:

- Strongest link (31 elementary schools, 12 secondary schools)
- Intermediate link (61 elementary schools and 21 secondary schools)
- Weakest link (31 elementary schools and 18 secondary schools)