

Assessing the Enrollment Trends and Financial Impacts of Charter Schools on Rural and Non-Rural School Districts in Pennsylvania

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Executive Summary

This research assessed charter school enrollment trends in Pennsylvania and the financial impacts of charters and cyber charters on traditional K-12 school districts for academic years (AY) 2006-2007 through 2010-2011, the most recent years for which data were available. The research also analyzed how these impacts may vary according to urban and rural location and districts' student racial/ethnic demographics.

Student enrollment in Pennsylvania charter schools has grown dramatically since the mid-2000s. Between 2006-07 and 2010-11, charter school enrollment increased by 54 percent from about 58,000 students to more than 90,000 students. Cyber charter schools grew 75 percent during the same 5-year period. Charter school enrollment in Pennsylvania, as nationally, is overwhelmingly urban. By 2010-11, only slightly more than 1 percent of all charter school students attended rural charter schools.

Urban "brick and mortar" (non-cyber) charter schools are disproportionately non-white in comparison to traditional public schools, and have become more so over time, which directly contrasts with cyber charter school enrollments. By 2010-11, urban brick and mortar charter school enrollments were nearly 80 percent non-white, while the reverse was true for cyber charter enrollments. Brick and mortar charter schools with high non-white student concentrations are disproportionately likely to be located in low-wealth areas. Rural charter schools are also disproportionately non-white in comparison to traditional rural K-12 school districts.

Pennsylvania school districts are mandated to fund the charter schools their students attend based on a per-student tuition payment, which is determined by the sending district's expenditure level. Between 2006-07 and 2011-12, school district payments to charter schools increased annually from \$527 million to \$1.145 billion, with total disbursements over the time period from both local and state sources amounting to \$4.777 billion. Of this \$4.777 billion, 12 percent was contributed by rural school districts. In 2011-12, the annual increase in the traditional public school district tuition payments made to charter schools exceeded the increase in revenues generated from real estate taxes, thus implying that many districts must divert funds from existing instructional

programs and services to pay for charter school student tuition. In total, urban school districts have experienced the greatest financial burden, given the proportion of charter school students originating in those districts.

Importantly, the available data suggest that students moving from a traditional public school district to a charter school generally move to a school with lower academic performance than the original district.

In regard to students with individual education plans (IEPs), the research found that more scrutiny needs to be put on charter schools to ensure they are providing for similar types and proportions of special needs students in a cost effective manner. A single payment amount for all types of special education students does not reflect the wide variation in the costs of different types and intensities of services that various students need. Under the current funding formula for special education tuition payments, the charter schools received substantially more in tuition payments for special education students than they reported spending for special education.

The growing financial impact on local taxpayers of the increasing number of students attending charter schools and the current funding system that places the full responsibility for charter school costs on school districts is clear. While the rapid expansion of charter schools, especially cyber charter schools, may provide some parents with more school choices, policy makers need to be cognizant of the financial impact that state mandates place on traditional schools and districts. Given the increasing amount of state and local disbursements to charter schools, this raises difficult policy questions regarding public investments in charter schools and the educational services provided to Pennsylvania students.

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Introduction

Federal and state policies have promoted the rapid growth of charter schools for two decades (Bankston et al., 2013). Since Pennsylvania's 1997 authorization, more than 165 charter schools have been established across the commonwealth. These include both "brick and mortar" charters with buildings where students attend classes and cyber charters relying wholly on online instruction. By the 2010-11 academic year, with more than 90,000 students, Pennsylvania had the 7th largest charter school enrollment nationwide, educating slightly less than 5 percent of Pennsylvania's students. Consistent with national trends, Pennsylvania charter school students disproportionately have attended urban schools, with 56 percent of students enrolled in central city charter schools and 29 percent enrolled in suburban charters.¹ An additional 15 percent of charter school students were enrolled in rural or town areas. In contrast, national data has found that more than one-third of traditional public school students were enrolled in rural or town areas according to federal education data designation (Frankenberg, Siegel-Hawley, and Wang, 2011).

Pennsylvania contains several large urban districts that enroll predominantly minority students as well as more than 200 smaller rural districts that enroll mostly white students. In addition to this geographic and racial/ethnic diversity, the presence of two types of charter options and the changing funding structure for charter schools makes Pennsylvania a particularly interesting case study of how charter schools affect the financial, demographic, and enrollment status of traditional school districts and, further, whether the potential impacts of charter schools differ by district location, and socioeconomic and demographic factors.

This research assessed charter and public school enrollment and segregation trends within Pennsylvania for academic years 2006-07 through 2010-11, the last 5 years of most currently available data, and analyzed enrollment and financial impacts of charters and cyber charters on school districts (including academic year 2011-12 for financial data). The research paid particular attention to how impacts may be experienced across urban/rural locations, across districts with varying student racial/ethnic demographics, and over time.

¹ Central city, suburban, and town/rural designations in the study referenced used the definitions of schools based on their location as assigned by the National Center for Education Statistics' Common Core of Data.

Background

Charter school advocates argue that charter schools represent a fiscally efficient means of improving student achievement and provide families (particularly those from low-income backgrounds) with the ability to choose alternative schooling options (see, for example, Chubb and Moe, 1990; and Orfield, 2013). The last five Presidential administrations have enthusiastically supported charter schools, and more than 40 states have authorized charter schools (Siegel-Hawley and Frankenberg, 2011).

While charter schools have grown dramatically in enrollment, research has suggested some unanticipated outcomes. Although theoretically open to all students, charter schools may “counsel” students about the appropriateness of their fit with the charter school’s offerings and many charter schools have disproportionately enrolled particular student subgroups, thus creating de facto racially/ethnically segregated learning environments (Frankenberg et al., 2011; Finnigan et al., 2004; Fuller, 2012; Garcia, 2007; Miron, et al., 2010; Nelson, et al., 2000; Renzulli and Evans, 2006). Additionally, there are questions about whether charter schools provide equitable access to special education students (Finnegan et al., 2004; Fuller, 2012; Nelson, et al., 2000; Welner and Howe, 2005). Further, national data sources suggest that up to one-quarter of charter schools may not provide the federal National School Lunch Program and some states do not require the provision of transportation, both of which may limit access for economically disadvantaged students (Carnoy, Jacobson, Mishel, and Rothstein, 2005; Frankenberg et al., 2011). These trends affect traditional public school districts, which may be left with students not enrolled or retained by charter schools.

Pennsylvania has two types of charter schools: brick and mortar charter schools, with a physical school building where students attend classes, and cyber charter schools, which do not have a physical building but provide online instruction. Both types of schools are considered charter schools. All students in Pennsylvania can attend the school of their (or their parents) choice, including the traditional public school in the district where the student resides, or any charter school they wish to attend. Practically speaking, however, brick and mortar charter schools have a somewhat limited geographic area from which to attract students because of the limits of transportation time to the school. Alternatively, cyber charter schools are not limited by geographic location, as students who are residents of Pennsylvania may choose to attend any cyber charter school approved for operation within the state.

All charter schools in Pennsylvania are funded from tuition paid by school districts based on an individual district’s cost per student. Initially, school districts were responsible for approximately 70 percent of the costs and the state contributed approximately 30 percent. However, beginning with the

2011-12 school year, state funding for this purpose was eliminated, thus substantially increasing school district costs associated with charter school tuition payments. There is a common perception that school districts are able to save most, if not all, of the tuition dollars paid to charter schools by cost reductions borne from having to serve fewer students. However, districts only save the costs actually incurred to serve one more (or less) student. For example, having one or two students in a classroom leave for a charter school does not change the cost for the school at all; the teacher is paid the same salary, receives the same benefits, the classroom is still heated or cooled, the school administration is not affected, and so forth. Only when the number of students leaving a school leads to a reduction in staff would the district actually be able to save money. Given that few traditional public schools would lose enough students in a particular grade level to reduce the number of classes offered, costs savings from student transfers to charter schools is a rare occurrence. Consequently, when students transfer to a charter school, districts are largely left with the same costs, but also have to pay the additional tuition costs to charter schools (Arsen and Ni, 2008; Logan, 2009). In economic terms, districts pay out the average cost per student (state average of \$9,400 per student in 2012-13), but can only save the marginal cost per student (approximately zero). Rural school districts may be especially affected by these fiscal impacts, given their smaller economies of scale.

The increasing costs associated with charter school payments have occurred concomitantly with increased fiscal pressures at both the national and state levels that have diminished local tax revenues, shrinking state revenues that have reduced state aid to districts, and additional revenue shortfalls after the end of federal stimulus funding in 2011. Moreover, expenditures for districts have continued to rise during the same period. For example, there have been increased costs associated with pensions, health care, demands for salary increases, special education programs, and utilities. These two trends of lower revenues and increased costs, have led to widespread staff reductions and program cuts implemented to balance district budgets (Hartman, 2013).

Based on the aforementioned research and concerns related to charter schools, this research had several goals:

Goal I: Analyze enrollment trends in charter schools (including both cyber and brick and mortar charter schools) in rural and urban Pennsylvania.

Objective I-1: Document demographic and enrollment trends for all three school types (i.e. charter, cyber charter, and school district) in rural and non-rural areas of the state over the most

recent 5-year time period. Student enrollment will be analyzed for sub-groups of students, by geographic locale, grade level, and school type.

Objective I-2: Document the extent to which students are racially/ethnically or economically concentrated in school types and the change in the percentage of students in racially/ethnically or economically concentrated schools (e.g., 50-90 percent and 90-100 percent of target group) in the three school types in rural and non-rural areas of the state over the most recent 5-year time period and to disaggregate the results by measures of district wealth.

Goal II: Analyze the financial impact of charter schools (including both cyber and brick and mortar charter schools) on school district budgets in rural and urban Pennsylvania.

Objective I-1: Document the dollar amount transferred to charter schools (both brick and mortar and cyber) from traditional public school districts for rural and non-rural areas and whether/how this has changed over time.

Objective I-2: Document the percentage of a district's total budgeted dollars transferred to charter schools (both brick and mortar and cyber) from traditional public school districts and whether/how this has changed over time.

Data and Methods

This study, conducted in 2013, used district- and school-level demographic data and district-level financial data from the Pennsylvania Department of Education (PDE) and the National Center for Education Statistics' Common Core of Data (CCD) for the academic years 2006-07 through 2010-11 (and through 2011-12 for financial data). In these analyses, the researchers used the Center for Rural Pennsylvania's definition of "rural" and "urban," where school districts are considered rural when the persons per square mile is less than 284². Brick and mortar charters are designated as urban or rural according to the school district in which they are located. These designations were manually entered using a PDE list of charters and district location³. Cyber charters were not designated as rural or urban because each cyber school likely enrolls students from both types of districts.

² See: www.palegislature.us/demographics_rural_urban.html.

³ If charters were no longer in existence, they were looked up on-line and located accordingly.

Student enrollment numbers were disaggregated by race/ethnicity, grade span, and free-/reduced-price lunch (FRPL) program eligibility. The researchers obtained district-level National School Lunch Program financial and FRPL data from PDE. Although the FRPL measure is only a rough proxy for poverty, almost all public schools provide data on this measure and it is much more reliable than other available proxies of poverty such as median adult income in the school district because not all adults send a child to public schools. All other enrollment and demographic data were accessed through CCD.

For the enrollment analyses, the researchers divided the local education agencies (LEAs) into five different “school type” categories: 1) urban traditional public school districts; 2) rural traditional public school districts; 3) urban charters; 4) rural charters; and 5) cyber charters. Since the focus of this research was to evaluate the difference between charter schools and traditional public school districts (TPS), the analyses excluded non-traditional school types such as state-run institutions, vocational schools, and intermediate units. All analyses for traditional public school districts were done at the district level and not the school level, except for the analyses of economic and racial concentration, which used school-level data.

All of the fiscal data used are publically accessible through PDE’s website and include information specific to charter schools, as well as data regarding school districts from AY 06-07 through 11-12. Specific data elements include: the per pupil amounts for tuition for both regular and special education students that districts paid to charter schools; the total dollar amounts of tuition payments that districts paid to charter schools; state subsidy to districts to offset charter school costs; district expenditure budgets; and district local tax revenues. All dollar amounts are expressed in current dollars and were not adjusted for inflation.

This study also used an additional financial dataset obtained from PDE that contained a listing of individual charter schools with the tuition payments they received from each sending school district. The data were only provided for 2006-07 through 2009-10. This dataset was combined with data containing the Pennsylvania System of School Assessment (PSSA) test scores for each school district and each charter school for the 2009-10 academic year. These datasets were merged together to compare the academic performance and tuition payments between individual charter schools and each of the school districts that had sent at least one student to the charter school.

For each of the approximately 4,000 charter school/district combinations, the average student PSSA performance as defined by the percentage of students meeting the proficient or advanced standards for both mathematics and reading was compared to determine if students were moving from a lower performing district to a higher performing charter school or vice versa. Based on this comparison of test

scores, tuition payments received from the sending districts were treated as negative when the charter school had lower average student test scores than the sending school district and positive when the charter school had higher average student test scores than the sending school district. In this way, the comparison captured whether tax dollars were spent on providing students access to a higher or lower-performing charter school than the students' original home districts.

The individual charter school/school district interactions were then aggregated to provide an overall picture of tuition payments relative to the academic performance of the sending and receiving district. To examine the 2006-07 through 2010-11 enrollment trends, descriptive analyses were conducted for each type of charter school and traditional LEA for each school year, including analyses for sub-groups of students. These sub-groups included: grade level, race/ethnicity, special education students with individual educational plans (IEPs), FRPL students, and English language learner (ELL) students. The researchers then analyzed the number of different types of charter schools and traditional districts that had schools of varying levels of racial and economic concentration (e.g. 50-100 percent and 90-100 percent minority enrollment; 90-100 percent white enrollment; 0-10 percent, 50-100 percent, and 90-100 percent FRPL Program participation)⁴. Further, the researchers calculated percentage changes over time.

Finally, the researchers examined the overlap between racial composition and district wealth (as defined by Market Value/Personal Income (MVPI) Aid Ratio quintiles) as well as percent FRPL students. MVPI is an estimate of a district's total wealth calculated by a comparison of the districts total market value (MV) of real estate per student and total personal income (PI) per student to statewide averages. The 2010-11 MVPI are based on 2008 wealth measures. To be useful for aid ratios and other funding formulas, the market value and personal income are estimated on a per pupil basis and compared to the state average. Ratios range from 0.15 to 0.85 with higher numbers translating to lower district wealth. For ease of interpretation, the researchers created approximate quintiles based on all of the districts in Pennsylvania based on the 2010-11 MVPIs⁵.

For the 2006-07 through 2011-12 fiscal analyses, the districts were identified as either rural or urban, and separate analyses were conducted for each group. Each of the analyses examined the actual

⁴ The analysis used these measures because they are commonly used in studies of school segregation (see, e.g., Frankenberg et al., 2011; Orfield et al., 2012). Historically, a common measure of segregation was a majority non-white school (e.g., 50-100 percent minority) and schools with 90-100 percent non-white students were considered racially isolated. The elimination of both types of schools was an important goal of desegregation efforts. More recently, as research has shown the benefits of diverse schools for students of all races, segregation analyses have also begun to measure white isolation (e.g., 90-100 percent white schools).

⁵ MVPIs tend to be a lagged indicator. The 2010 ratios were the most current at the time of the analysis, but they relied on 2008 data.

values of various fiscal variables for each of the years, the annual change from year to year, and the percentage change from year to year. In addition to the magnitude of the district expenditures for charter schools, these payments were compared to the district expenditure budget and the district local property tax collections to determine the share of each devoted to charter schools.

Findings

Enrollment Trends

Similar to many states, Pennsylvania charter school enrollment has grown substantially in the last 5 years, increasing by more than one-half (55 percent) since 2006-07, which represents an increase of about 32,000 students (see Table 1). In the latest year for which data were available, charter schools enrolled more than 90,000 students. The increase in charter students is shared across all grade levels, although the smallest percentage increase was among elementary school students (49 percent). Of all charter schools, cyber charters have seen the largest increase, growing more than 75 percent in 5 years to an enrollment of nearly 28,000 students. The growth was especially pronounced for cyber high school students, which more than doubled during this time period. During this time period, as the share of cyber charter students increased, the share of charter students who attended schools in urban and rural areas decreased.

Rural brick and mortar charter school students only accounted for 1.33 percent of all PA charter students by 2010-11, down from 1.79 percent in 2006-07. Thus, despite the modest enrollment increases in rural charter schools over this time period (an increase of 154 students, or 13 percent), these gains have not kept pace with the overall increases with charter schools in the commonwealth during the time period. The most rapid growth in rural brick and mortar charter school students was among elementary school students. High school students in rural charters actually declined—which was the only decline among any school type/age group during this period for charter school enrollment. In 2010-11, two new rural charter schools were formed, increasing the statewide total to seven.

Table 1: Charter School Enrollment Trends, 2006-07 to 2010-11

School Level	Academic Year					5 year % change
	2006-07	2007-08	2008-09	2009-10	2010-11	
Urban						
K-5	19,907	21,367	23,067	24,835	29,708	49.2
6-8	9,144	10,483	11,288	12,322	14,432	57.8
9-12	12,471	13,466	14,674	15,928	17,272	38.5
Total Students	41,522	45,316	49,029	53,085	61,412	47.9
Total Schools	99	106	109	117	126	27.3
Rural						
K-5	428	503	481	522	604	41.1
6-8	219	236	234	216	228	4.1
9-12	402	441	460	455	371	-7.7
Total Students	1,049	1,180	1,175	1,193	1,203	14.7
Total Schools	5	5	5	5	7	40.0
Cyber						
K-5	5,405	6,133	6,775	7,258	8,073	49.4
6-8	3,780	4,926	5,270	5,773	6,466	71.1
9-12	6,612	8,656	10,353	11,572	13,240	100.2
Total Students	15,797	19,715	22,398	24,603	27,779	75.9
Total Schools	11	11	11	11	11	0.0
Total						
K-5	25,740	28,003	30,323	32,615	38,385	49.1
6-8	13,143	15,645	16,792	18,311	21,126	60.7
9-12	19,485	22,563	25,487	27,955	30,883	58.5
Total Students	58,368	66,211	72,602	78,881	90,394	54.9
Total Schools	115	122	125	133	144	25.2

Source: U.S. Department of Education, National Center for Education Statistics, Common Core of Data (CCD)
Note: K-5 includes pre-kindergarten enrollment.

In contrast to the rising charter school enrollments, traditional public school enrollment declined for both urban and rural schools during the period examined. The percentage decline was steeper among rural public school districts (an almost 7 percent decline in enrollment), but urban schools experienced a larger absolute decline in the number of students (nearly 41,000 as compared to about 32,000 students in rural schools) during the time period (see Table 2). In both urban and rural traditional public schools, the percentage decline in enrollment was greater in the more advanced grades. In fact, elementary school students in urban areas increased slightly since 2006-07. Over this time period, the number of rural students remained fairly constant at approximately 26 percent of enrollment of traditional public school students.

Table 2: Traditional Public School Enrollment Trends, 2006-07 to 2010-11

School Level	Academic Year					5 year % change
	2006-07	2007-08	2008-09	2009-10	2010-11	
Urban						
K-5	559,878	557,934	556,981	560,072	561,654	0.3
6-8	299,856	291,628	284,720	280,510	280,777	-6.4
9-12	411,705	407,035	398,355	390,733	385,700	-6.3
Total Students	1,271,439	1,256,597	1,240,056	1,231,315	1,228,131	-3.4
Total Districts	265	265	265	264	264	-0.4
Rural						
K-5	196,297	194,319	193,817	192,344	190,783	-2.8
6-8	110,487	107,601	104,631	102,075	100,379	-9.1
9-12	154,593	152,113	146,971	143,810	140,673	-9.0
Total Students	461,377	454,033	445,419	438,229	431,835	-6.4
Total Districts	235	235	235	235	235	--
Total						
K-5	756,175	752,253	750,798	752,416	752,437	-0.5
6-8	410,343	399,229	389,351	382,585	382,585	-6.8
9-12	566,298	559,148	545,326	534,543	534,543	-5.6
Total Students	1,732,816	1,710,630	1,685,475	1,669,544	1,669,565	-3.7
Total Districts	500	500	500	499	499	-0.2

Source: U.S. Department of Education, National Center for Education Statistics, Common Core of Data (CCD).

Note: Grade level enrollment is reported by schools rather than LEAs. School sums may differ from district level enrollment if any students attended out-of-district schools. Byrn Athyn School District was excluded as it does not enroll any students within the district. In July 2009, there was a consolidation of the two urban school districts, Center Area and Monaca, into Central Valley School District. This new district was subsequently classified as urban.

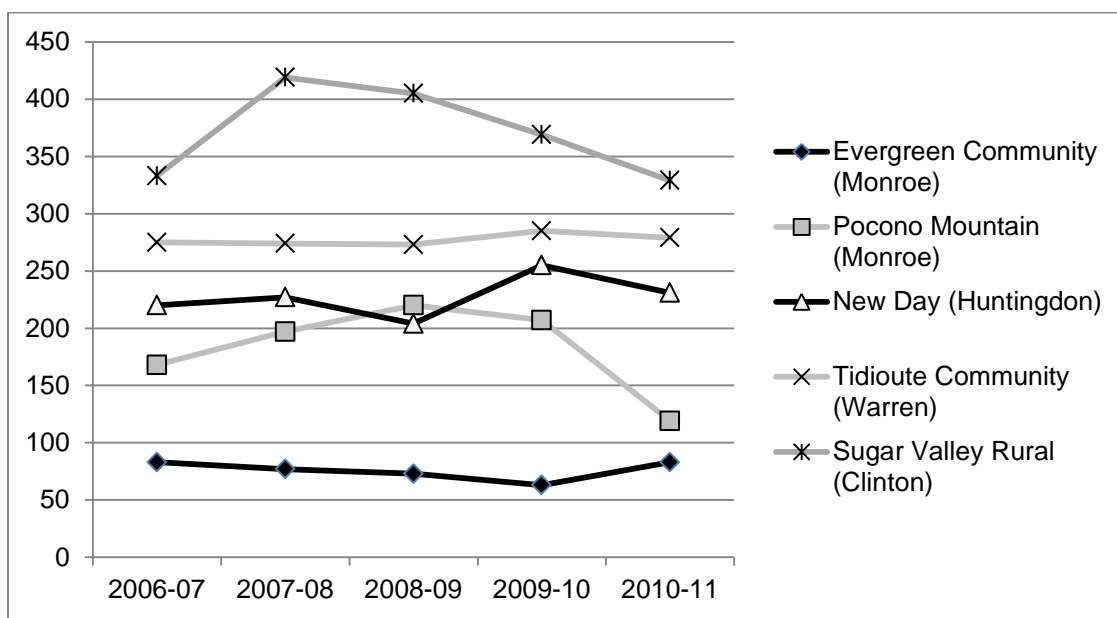
Since this research did not measure private and home school enrollment, it was also a useful comparison to examine census estimates of children 5- to 17- years old for rural and urban areas (See Appendix A1). According to these estimates, there was a decrease of almost 43,000 children throughout the commonwealth. The decrease was slightly greater in rural areas (-2.7 percent) compared to urban areas (-1.9 percent). The decline in urban population was very similar to the decline in TPS enrollment. However, the decrease in students attending rural traditional public schools was twice as large as the census estimates. This suggests that cyber schools may be enrolling students from traditional public schools located in rural areas of the commonwealth.

To explore the enrollment of rural charter school students more closely, the researchers examined the annual enrollment of each of the rural charter schools in Pennsylvania for both charter schools in existence across all 5 years of data as well as all charter schools, regardless of years of existence. With respect to student enrollment in only the five rural charter in existence over the 5-year time span, the

analysis found mixed results while the analysis of all rural charter schools found an increase in aggregate enrollment of rural charters. The overall increase in aggregate enrollment was due, in part, to the establishment of two new charter schools in 2010-11.

Figure 1 documents the changing total student enrollment for the five rural charter schools in existence across all 5 years under study. Except for 1 year, Sugar Valley Charter School showed steady growth of enrollment. Each year, Evergreen Community Charter School (grades 6-12) also reported growth.

Figure 1: Rural Charter School Enrollment, 2006-07 to 2010-11



Source: U.S. Department of Education, National Center for Education Statistics, Common Core of Data (CCD).
 Note: County in parenthesis.

In contrast, two charter schools had almost the identical enrollment in 2010-11 as they did in 2006-07 (Pocono Mountain and Tidioute Community). Pocono Mountain, in particular, has experienced annual declines in enrollment since 2007-08, and, in 2010-11, had 50 fewer students than its peak enrollment year. Likewise, New Day, which served grades 7-12 in 2010-11⁶, experienced enrollment declines in the last 2 years analyzed, including a sharp decline prior to 2010-11, leaving it with 100 fewer students than 2 years prior.

⁶ Perhaps part of the decline for New Day is that it has decreased the amount of grades served. In 2006-07, it enrolled five kindergarten students, two in second grade, one in fourth grade and six in fifth grade; there were no 1st, 3rd or 5th graders.

Racial/Ethnic Composition

Recently, there has been much debate about the degree of racial/ethnic segregation in both charter and traditional public schools and whether schools in one particular sector are more or less segregated than schools in the other sector (Carnoy et al., 2005; Finnegan et al., 2004; Frankenberg et al., 2011; Miron et al., 2010; Renzulli and Evans, 2005). In addition, a growing body of literature has focused on the positive impact that reducing racial/ethnic isolation and creating racially/ethnically diverse schools has on student outcomes (Linn and Welner, 2007; Mickelson, 2008). Thus, examining the student racial/ethnic segregation in rural charter and traditional public schools is increasingly an important issue to explore. Before turning to school-level isolation patterns, however, it is important to see whether the racial/ethnic composition of students enrolling in charter schools differed substantially from rural traditional public school students.

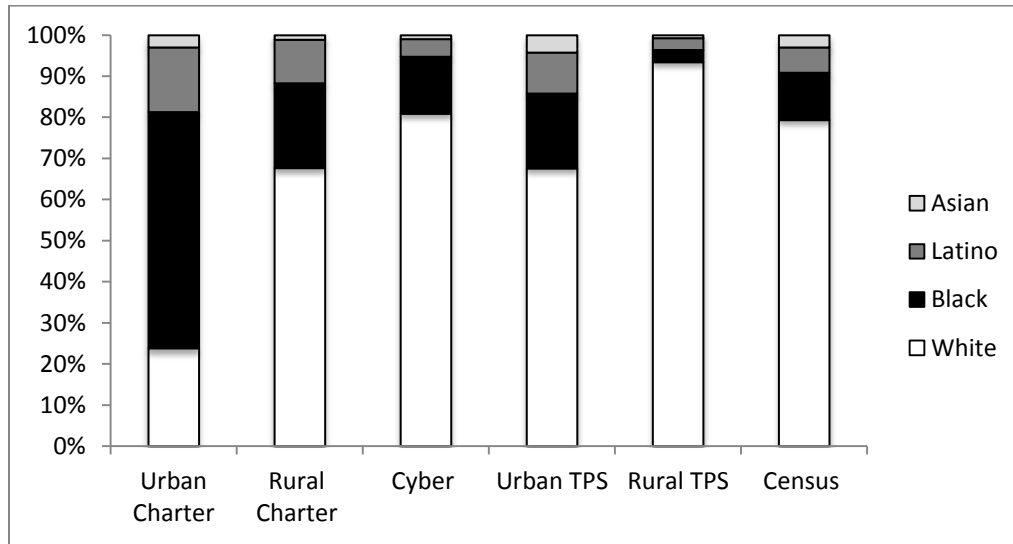
In considering the racial/ethnic composition of schools in Pennsylvania, a useful barometer is the racial/ethnic composition of the general population of the state as reported by the United States Census. The far right column in Figure 2 provides this information. In terms of overall school enrollment in the most recent census, Pennsylvania was approximately 80 percent white, 11 percent African-American, 6 percent Latino, and 3 percent Asian. It should be noted that between the 2000 and 2010 census, the white population decreased for almost every 5-year age groups less than 45 years old – the exceptions being for college-age students 20-24 and 25-29 (Census Viewer, 2012). At the same time, minority populations experienced growth for almost every age group⁷.

Nationwide, charter schools disproportionately enroll students of color, particularly black students and, to a lesser extent, Latino students (Frankenberg et al., 2011). In Pennsylvania, there was a similar trend. In both rural and urban areas, charter schools have enrolled a greater proportion of minority students than traditional public schools. By 2010-11, less than one-quarter of urban charter students were white and more than one-half were black while Latino students comprised another 15 percent. In traditional urban schools, however, two-thirds of students were white and less than 20 percent were black, illustrating a stark demographic disparity (see Figure 2). Similarly, in rural schools, both charter and traditional public schools were majority white, but black students – and Latinos to a lesser extent – were over-represented in charter schools. During this time period, approximately 20 percent of rural charter students were black and another 10 percent were Latino. These groups each accounted for just 3 percent of enrollment in rural traditional public schools. Finally, Asian students were slightly under-

⁷ African-Americans experienced modest decreases for ages 5-14, but these are at least partially explained by more children identifying as two or more races.

represented in urban charters and comprised similar shares of rural charter and traditional public schools at about 1 percent.

Figure 2: Racial/Ethnic Composition of Enrollment by School Type, 2010-11



Source: U.S. Department of Education, National Center for Education Statistics, Common Core of Data (CCD).

Not only were there differences in the racial/ethnic composition between charter and traditional public schools, but these differences grew more disparate during the time period examined. Specifically, for both rural and urban schools, minority charter school enrollment grew at a faster rate during this time period than did white enrollment.⁸ As seen in Table 3, the five-year percentage change for racial/ethnic groups in rural and urban charter schools were the lowest for white students. However, since whites comprise the largest share of students in rural charter schools, the gain in absolute number, 80, was the highest. As a result of the greater percentage increases for minority students, the share of charter school enrollment that was minority was greater in 2010-11 than in 2006-07. Conversely, whites made up a smaller percentage of the overall charter school population in 2010-11 than in 2006-07. While black students increased over the 5-year period in rural charter schools in the last year of data shown here, black students actually experienced a fairly substantial decrease.

⁸ Reporting on student race and ethnicity changed in 2011 to include American Indians or two or more races. Because of this, 2011 data are not entirely comparable with data from preceding years.

Table 3: Charter School Enrollment by Racial/Ethnic Composition, 2006-07 to 2010-11

Racial/Ethnic Sub-Group	2006-07		2007-08		2008-09		2009-10		2010-11		5 Yr %age Point Chg
	#	%	#	%	#	%	#	%	#	%	
Urban											
White	11,449	27.4	11,983	26.8	12,665	26.3	13,548	26.0	14,329	23.3	-4.1
Black	24,301	58.1	25,834	57.8	27,169	56.4	29,192	56.0	34,618	56.2	-1.9
Latino	4,961	11.9	5,650	12.6	6,882	14.3	7,717	14.8	9,476	15.4	3.5
Asian	1,088	2.6	11,983	2.6	1,386	2.9	1,578	3.1	1,782	2.9	0.3
Rural											
White	724	68.9	775	65.9	780	66.6	816	68.5	804	66.8	-2.1
Black	209	19.9	276	23.5	278	23.7	288	24.2	246	20.5	0.6
Latino	106	10.1	113	9.6	104	8.9	78	6.5	126	10.5	0.4
Asian	10	1.0	9	0.8	8	0.7	8	0.7	13	1.1	0.1
Cyber											
White	12,585	79.3	15,587	82.0	17,611	81.4	19,478	81.6	21,574	77.7	-1.7
Black	2,214	14.0	2,533	13.3	2,913	13.5	3,168	13.3	3,690	13.3	-0.7
Latino	557	3.5	583	3.1	697	3.2	868	3.6	1,144	4.1	0.6
Asian	294	1.9	190	1.0	188	0.9	221	0.9	264	1.0	-0.9

Source: U.S. Department of Education, National Center for Education Statistics, Common Core of Data (CCD).

Note: Totals for race varied from school totals in some cases. These percentages use a sum of all students reporting race. Percentages calculated using sum of students reporting race including American Indians and two or more races in 2011, therefore, percentages may not sum to 100%.

In comparison to trends in rural and urban charter schools, this study finds very different patterns in the racial/ethnic composition of students enrolled in cyber charter schools. Students in cyber schools were disproportionately white in comparison to other charter school types. Specifically, in each of the last 5 years, white students have comprised more than three-quarters of the enrollment and more than 80 percent of the enrollment during three of the 5 years studied.

As this type of charter school has grown, the white enrollment has too, with nearly 9,000 more white students in cyber charter schools in 2010-11 than in 2006-07 – an increase of more than 70 percent. The next largest group was black students, making up approximately 13 percent of the cyber charter school enrollment. As with white students, there was also a substantial increase in the number of black students during the 5 years studied. Asian students were the smallest group and the number of Asian students actually decreased slightly since 2006-07. Finally, while the number of Latino students more than doubled in the 5-year span, the overall number of cyber school students that were Latino remained less than 5 percent of all cyber charter students.

**Table 4: Enrollment by Racial/Ethnic Composition
for Urban and Rural Traditional Public School, 2006-07 to 2010-11**

Racial/Ethnic Sub-Group	2006-07		2007-08		2008-09		2009-10		2010-11		5 Yr %age Point Chg
	#	%	#	%	#	%	#	%	#	%	
Urban											
White	871,200	68.5	853,982	68.4	836,824	68.2	826,447	68.0	815,126	66.3	-2.2
Black	247,906	19.5	237,562	19.0	229,630	18.7	223,877	18.4	219,440	17.9	-1.7
Latino	106,928	8.4	109,854	8.8	111,858	18.7	114,429	9.4	120,691	9.8	1.4
Asian	43,288	3.4	45,075	3.6	46,551	3.8	48,818	4.0	51,106	4.2	0.8
Rural											
White	437,694	94.2	428,367	93.9	418,396	93.7	408,127	93.6	400,223	92.7	-1.6
Black	13,365	2.9	13,579	3.0	13,333	3.0	12,983	3.0	12,848	3.0	0.1
Latino	9,928	2.1	10,649	2.3	11,039	2.5	11,417	2.6	12,390	2.9	0.7
Asian	2,927	0.6	2,966	0.7	3,061	0.7	3,107	0.7	3,028	0.7	0.1

Source: U.S. Department of Education, National Center for Education Statistics, Common Core of Data (CCD).

Note: Totals for race varied from school totals in some cases. These percentages use a sum of all students reporting race. Percentages calculated using sum of students reporting race including American Indians and two or more races in 2011, therefore, percentages may not sum to 100%.

When comparing individual racial groups, white and black students show divergent patterns by type of district. Both racial groups have declined in enrollment in urban and rural traditional public schools (see Table 4), but increased in each of the three types of charter schools. The declines were larger in magnitude than were the increases in charter schools, but declines in district enrollments would likely have been less substantial if charter schools were not an option for students. Latino students grew in all of the district and charter school types, although at a lower rate in rural charter schools than in rural traditional public schools. Asian students increased in all but cyber charters.

Racial/Ethnic Concentration

The next section of this study examines the extent to which different types of districts and charter schools evidenced racial/ethnic segregation. The measure used here is racial concentration, which refers to the concentration of either minority or white students in a particular school or district. Of particular interest was the racial/ethnic enrollment in racially/ethnically isolated schools or districts —specifically, those schools or districts that were 90-100 percent minority or 90-100 percent white. These schools and/or districts offer very little inter-racial exposure for students. This concentration was examined at both the district- and school- levels (which are the same for charter schools) and for both minority and white concentrations (see Table 5).

Table 5: Racial/Ethnic Concentration by LEA Type, 2006-07 to 2010-11

School Categorization	2006-07		2007-08		2008-09		2009-10		2010-11		5 Yr Percent Change
	N	%	N	%	N	%	N	%	N	%	
Charter Schools: Urban											
Isolated Minority ¹	53	53.5	57	53.8	60	55.1	63	53.9	73	57.9	37.7
Majority Minority ²	68	68.7	73	68.9	76	69.7	82	70.1	94	74.6	38.2
Isolated White ³	2	2.0	1	0.9	3	2.8	2	1.7	1	0.8	-50.0
Number of LEAs	99		106		109		117		126		
Charter Schools: Rural											
Isolated Minority ¹	1	20.0	0	-	0	-	1	20.0	1	14.3	0.0
Majority Minority ²	1	20.0	1	20.0	1	20.0	1	20.0	2	28.6	100.0
Isolated White ³	3	60.0	3	60.0	3	60.0	3	60.0	4	57.1	33.3
Number of LEAs	5		5		5		5		7		
Charter Schools: Cyber											
Isolated Minority ¹	0	-	0	-	0	-	0	-	0	-	-
Majority Minority ²	0	-	0	-	0	-	0	-	0	-	-
Isolated White ³	2	18.2	2	18.2	2	18.2	2	18.2	2	18.2	0.0
Number of LEAs	11		11		11		11		11		
Traditional Public Schools: Urban											
Isolated Minority ¹	5	1.9	5	1.9	5	1.9	5	1.9	6	2.3	20.0
Majority Minority ²	25	9.5	25	9.5	26	9.9	26	9.9	27	10.3	8.0
Isolated White ³	123	46.8	117	44.5	114	43.4	108	40.9	87	33.0	-29.3
Number of LEAs	263		263		263		264		264		
Traditional Public Schools: Rural											
Isolated Minority ¹	0	-	0	-	0	-	0	-	0	-	-
Majority Minority ²	0	-	0	-	0	-	0	-	0	-	-
Isolated White ³	223	94.1	222	93.7	222	93.7	219	93.2	217	92.3	-2.7
Number of LEAs	237		222		222		219		217		

Source: U.S. Department of Education, National Center for Education Statistics, Common Core of Data (CCD).

Note: Percent change based on percentages due to change in number of LEAs.

All Isolated Minority Districts (90-100% minority) are also Majority Minority Districts (50-100%).

Districts/LEAs that are 10-50% white are not included in table.

1-Isolated minority applies to LEAs with over 90% non-white students.

2-Majority-minority applies to LEAs with over 50% non-white students.

3-Isolated white applies to LEAs with over 90% white students.

In 3 of the 5 years, there was at least one rural charter school that was racially/ethnically isolated white and at least one school that was racially/ethnically isolated minority. Further, there was at least one rural charter school that had a minority student population greater than 90 percent during 3 of the years examined, including the last 2 years for which data were available. During the last year for which data were available, there were two majority-minority rural charter schools. This finding is quite surprising given the relatively small percentage of minority students in rural charter schools across the commonwealth.

Finally, as a comparison, urban charter schools—which, as noted previously, had a very different racial/ethnic composition than rural charter schools—experienced a slight increase in isolated minority urban charter schools as well as a decline in isolated white urban charters by the end of the 5-year period. Overall, a majority of urban charters were racially/ethnically isolated minority schools, and by 2010-11, almost three-quarters of the schools were majority non-white. In contrast, there was only a handful of racially/ethnically isolated white urban charter schools, and by the last year of data, only one urban charter was more than 90 percent white.

The next section examines the percentage of students enrolled in racially/ethnically isolated schools during the 5 years by different school types (see Tables 6 and 7)⁹. In each year, a majority of rural charter school students were in schools with less than 10 percent minority students. Moreover, there was a decline in the percentage of students in racially/ethnically isolated white charter schools in rural areas, from 63 percent of students in 2006-07 to 58 percent in 2010-11 (Table 6). However, the number of students in such isolated white settings in rural areas actually increased since 2006-07, from 663 to 703 students. In each year, there were the same or more rural charter school students in racially/ethnically isolated white schools than there were among urban charter school students, even though there were vastly more urban charter school students. Finally, there were a very high percentage of rural traditional public school students in racially/ethnically isolated white schools, although this declined by approximately 40,000 students.

⁹ Cyber schools were not in the tables on concentration because the influence of peer effects would be expected to be minimal in this type of schooling given that these students are not actually in the same building/classrooms.

Table 6. Racial/Ethnic Concentration for Charter and Traditional Public Schools in Rural and Urban Locations

School Categorization	Academic Year				
	2006-07	2007-08	2008-09	2009-10	2010-11
Charter Schools: Urban					
Isolated Minority ¹	53	57	60	63	73
Majority Minority ²	68	73	76	82	94
Isolated White ³	2	1	3	2	1
Total	99	106	109	117	126
Charter Schools: Rural					
Isolated Minority ¹	1	0	0	1	1
Majority Minority ²	1	1	1	1	2
Isolated White ³	3	3	3	3	4
Total	5	5	5	5	7
Traditional Public Schools: Urban					
Isolated Minority ¹	263	265	271	268	260
Majority Minority ²	513	523	529	531	533
Isolated White ³	723	681	654	622	581
Total	2,014	2,014	2,017	2,016	2,003
Traditional Public Schools: Rural					
Isolated Minority ¹	0	0	0	0	0
Majority Minority ²	13	15	15	14	13
Isolated White ³	921	908	906	892	878
Total	1,014	1,009	1,007	991	984

Source: U.S. Department of Education, National Center for Education Statistics, Common Core of Data (CCD). Districts/LEAs that are 10-50% white are not included in the table.

1-Isolated minority applies to schools with over 90% non-white students.

2-Majority-minority applies to schools with over 50% non-white students.

3-Isolated white applies to schools with over 90% white students.

Table 7. Number of Students in Racially/Ethnically Concentrated Schools by School Type

School Racial/ethnic Categorization	2006-07		2007-08		2008-09		2009-10		2010-11		5 year % Change
	Student Enrollment	% Tot. Students	Student Enrollment	% Tot. Students	Student Enrollment	% Tot. Students	Student Enrollment	% Tot. Students	Student Enrollment	% Tot. Students	
Charter Schools: Urban											
Iso- Min ¹	22,159	53.0	23,500	51.8	26,472	54.0	29,002	55.5	35,768	58.0	61.4
Maj-Min ²	29,449	70.4	31,482	69.4	34,436	70.2	37,488	71.7	46,818	76.0	59.0
Iso-White ³	663	1.5	98	0.2	712	1.5	521	1.0	94	0.2	-85.5
Charter Schools: Rural											
Iso- Min	333	31.7	0	0.0	0	0.0	369	30.9	329	27.4	-1.2
Maj-Min	333	31.7	419	35.5	405	34.5	369	30.9	417	34.7	25.2
Iso-White	663	63.1	698	59.2	697	59.3	747	62.6	703	58.4	6.0
Traditional Public Schools: Urban											
Iso- Min	154,148	12.1	147,718	11.8	140,251	11.3	138,211	11.2	139,815	11.4	-9.3
Maj-Min	314,737	24.8	312,710	24.9	305,974	24.7	303,942	24.7	307,481	25.0	-2.3
Iso-White	454,604	35.8	427,026	34.0	398,803	32.2	375,745	30.5	349,224	28.4	-23.2
Traditional Public Schools: Rural											
Iso- Min	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0.0
Maj-Min	8740	1.9	8083	1.8	9383	2.1	9070	2.1	8721	2.0	-0.2
Iso-White	412,537	88.8	400,869	87.7	392,260	87.5	382,633	87.3	372,884	86.3	-9.6

Source: U.S. Department of Education, National Center for Education Statistics, Common Core of Data (CCD).

Note: Percent change based on percentages due to change in number of schools.

1-Isolated minority applies to schools with over 90% non-white students.

2-Majority-minority applies to schools with over 50% non-white students.

3-Isolated white applies to schools with more than 90% white students.

As shown in Table 7, the percentage of rural charter school students in racially/ethnically isolated minority schools – those that were 90-100 percent students of color – was lower in 2010-11 than in 2006-07, although the *number* of students in such schools was virtually identical. However, during 2 of the 5 years, there were no students in racially/ethnically isolated minority schools. There was a slight increase in the percentage of students in majority-minority rural charter schools by 2010-11. In comparison, there were no schools in traditional rural districts that were racially/ethnically isolated minority during any of the 5 years. There was an increase in the share of students in racially/ethnically isolated minority charter schools in urban areas during this time period.

Racial/Ethnic Concentration and Socioeconomic Status

Another way to examine the degree to which LEAs are segregated by race/ethnicity is to examine the relationship between racial/ethnic concentration and district wealth. In Pennsylvania, the Market Value/Personal Income Aid Ratio (MVPI) is the primary indicator of district wealth. The MVPI is a measure of wealth based on the district's market value of taxable property and the personal income of those residing in the district. To be useful for aid ratios and other funding formulas, the market value and personal income are typically estimated on a per-pupil basis and compared to the state average. Ratios range from 0.15 to 0.85, with lower ratios indicating higher wealth districts and higher ratios indicating lower wealth districts. For ease of interpretation, this report uses approximate quintiles based on all of the districts in Pennsylvania using the 2010-11 MVPIs¹⁰. The analysis compares the extent that racial/ethnic segregation was related to MVPI for 2006-07 and 2010-11 for different types of LEAs (see Tables 8 and 9). In 2006-07, almost 87 percent of racially/ethnically isolated minority urban charter schools were located in districts with low wealth.

¹⁰ MVPIs tend to be a lagged indicator. The 2010 ratios were the most current, but relied on 2008 data.

Table 8: Racial/Ethnic Concentration and School Aid Ratios, 2006-07

MVPI Quintile	Percentage of Minority Students			
	0-10%	10-50%	50-90%	90-100%
Charter Schools: Urban (N=99)				
Low Wealth	-	31.0	73.3	86.8
Low-Medium Wealth	50.0	3.5	6.7	1.9
Medium Wealth	50.0	10.3	0	1.9
Medium-High Wealth	-	17.3	13.3	7.5
High Wealth	-	37.9	6.7	1.9
Total Percent	100.0	100.0	100.0	100.0
Total Number	2	29	15	53
Charter Schools: Rural (N=5)				
Low Wealth	100.0	-	-	-
Low-Medium Wealth	-	-	-	-
Medium Wealth	-	100.0	0	100
Medium-High Wealth	-	-	-	-
High Wealth	-	-	-	-
Total Percent	100.0	100.0	0.0	100.0
Total	3	1	0	1
Traditional Public Schools: Urban (N=2277)				
Low Wealth	7.2	13.8	69.4	85.9
Low-Medium Wealth	9.8	7.8	9.4	7.2
Medium Wealth	15.9	10.4	3.1	0.4
Medium-High Wealth	31.8	23.7	11.7	6.1
High Wealth	35.3	44.3	6.4	0.4
Total Percent	100.0	100.0	100.0	100.0
Total	723	778	513	263
Traditional Public Schools: Rural (N=1014)				
Low Wealth	21.5	10.0	0.0	-
Low-Medium Wealth	32.8	16.3	7.7	-
Medium Wealth	25.5	33.8	76.9	-
Medium-High Wealth	13.6	27.5	15.4	-
High Wealth	6.6	12.5	0.0	-
Total Percent	100.0	100.1	100.0	-
Total	921	80	13	-

Source: U.S. Department of Education, National Center for Education Statistics, Common Core of Data (CCD) for racial/ethnic breakdown. Pennsylvania Department of Education for MPVI. Note: MVPI Aid Ratio is a measure of a district's total wealth per student calculated by comparing the district's total market value (MV) of real estate per student and total personal income (PI) per student to state averages. All analyses use 2010-11 MVPI for quintile breakdown. The 2010-11 MVPI are based on 2008 wealth measures. Quintiles were created only using traditional LEAs and not charter schools to not give added weight to districts with higher numbers of charter schools.

Table 9: Racial/Ethnic Concentration and School Aid Ratios, 2010-11

MVPI Quintile	Percentage of Minority Students			
	0-10%	10-50%	50-90%	90-100%
Charter Schools: Urban (N=126)				
Low Wealth	-	31.3	78.9	83.6
Low-Medium Wealth	50.0	3.1	5.3	1.4
Medium Wealth	-	12.5	0.0	2.7
Medium-High Wealth	-	18.8	15.8	5.5
High Wealth	50.0	34.4	0.0	6.8
Total Percent	100.0	100.1	100.0	100.0
Total Number	2	32	19	73
Charter Schools: Rural (N=7)				
Low Wealth	-	-	-	-
Low-Medium Wealth	75.0	-	-	-
Medium Wealth	-	100.0	100.0	100.0
Medium-High Wealth	-	-	-	-
High Wealth	25.0	-	-	-
Total Percent	100.0	100.0	100.0	100.0
Total	4	1	1	1
Traditional Public Schools: Urban (N=2003)				
Low Wealth	9.0	11.0	48.7	84.6
Low-Medium Wealth	10.3	6.4	14.7	7.3
Medium Wealth	17.4	11.2	4.8	1.5
Medium-High Wealth	33.4	24.3	18.7	5.8
High Wealth	29.8	47.1	13.2	0.8
Total Percent	99.9	100.0	100.1	100.0
Total	580	890	273	260
Traditional Public Schools: Rural (N=984)				
Low Wealth	21.6	5.4	-	-
Low-Medium Wealth	33.8	17.2	7.7	-
Medium Wealth	25.4	35.5	84.6	-
Medium-High Wealth	13.0	30.1	7.7	-
High Wealth	6.2	11.8	-	-
Total Percent	100.0	100.0	100.0	-
Total	878	93	13	-

Source: U.S. Department of Education, National Center for Education Statistics, Common Core of Data (CCD) for racial/ethnic breakdown. Pennsylvania Department of Education for MPVI.

In comparing the overlap between racial/ethnic concentration and MVPI for urban charters and TPS, there were fairly similar patterns in 2006-07. One exception was that predominantly white TPS (10-50 percent minority) were more likely to be located in high wealth urban districts than predominantly white urban charters. For example, almost 70 percent of predominantly white schools were located in

medium-high or high wealth urban districts while only around 55 percent of predominantly white urban charters were located in such districts.

As stated previously, both charter and traditional public schools in rural areas tend to have disproportionately higher shares of white students. In 2006-07, three of the five rural charter schools were isolated white (<10 percent minority) and all of these schools were located in the lowest wealth districts. Conversely, a quarter of rural isolated white TPS were located in medium wealth districts and one-fifth of the schools were located in medium-high or high wealth districts in 2006-07.

Table 10: Percentage of Students Participating in Free-/Reduced-Price Lunch by School Type, 2006-07 to 2010-11

School Type and Location	Academic Year					% Pt Chg 2006-07 to 2010-11
	2006-07	2007-08	2008-09	2009-10	2010-11	
Charter: Urban	67.0	63.3	64.7	64.4	67.2	0.2
Charter: Rural	50.5	59.6	52.3	50.0	51.0	0.5
Charter: Cyber	41.8	40.6	41.0	41.9	43.9	2.1
TPS: Urban	33.8	33.9	36.1	38.3	39.2	5.4
TPS: Rural	32.7	30.0	34.9	37.2	38.0	5.3

Source: Pennsylvania Department of Education (PDE).

One drawback of using the MVPI is that the information is at the district level. While inter-district segregation tends to be more pronounced than intra-district segregation, using the concentration of FRPL students in a school provides more detailed information at the school level. Moreover, the measure provides information about the number of individual students living near or below the poverty line (free- or reduced-price lunch is provided for families with incomes at 185 percent of the poverty rate or below) by school type. Table 10 shows that urban, rural, and cyber charter schools enrolled greater percentages of FRPL students than traditional public schools in both rural and urban areas. The greatest discrepancy occurred in urban areas where charter schools enrolled almost twice the percentage of FRPL students as urban traditional public schools for all 5 years (e.g., 67 percent of urban charter schools were low-income while only 39 percent of urban TPS students were in 2010-11). However, this difference grew smaller over the 5 years, reflecting the greater increase in the percentage of FRPL students in traditional public schools. Further, it is important to note that in the 2010-11 academic year, Philadelphia and Pittsburgh, the two urban districts with the majority of charter schools, had 80 percent and 68 percent FRPL students, respectively. Thus, when compared to traditional public

schools in the same metro areas, urban charter schools tend to enroll the same or lower percentages of FRPL students.

Table 11: Poverty Concentration by School Type, 2006-07 to 2010-11

FRPL Measure	2006-07		2007-08		2008-09		2009-10		2010-11		5 Yr %age Point Change
	#	%	#	%	#	%	#	%	#	%	
Charter Schools: Urban											
> 90% FRPL ¹	19	19.2	25	23.6	20	18.4	20	17.1	30	23.8	4.6
> 50% FRPL ²	78	78.8	72	67.9	75	68.8	84	71.8	91	72.2	-6.6
< 10% FRPL ³	6	6.1	3	2.8	3	2.8	5	4.3	3	0.0	-3.7
Total LEAs	99		106		109		117		126		
Charter Schools: Rural											
> 90% FRPL ¹	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	-
> 50% FRPL ²	3	60.0	4	80.0	3	60.0	3	60.0	4	57.1	-2.9
< 10% FRPL ³	1	20.0	1	20.0	1	20.0	1	20.0	2	28.6	8.6
Number of LEAs	5		5		5		5		7		
Traditional Public Schools: Urban											
> 90% FRPL ¹	0	0.0	2	0.8	2	0.8	3	1.1	2	0.8	0.8
> 50% FRPL ²	43	16.4	32	19.4	51	19.4	58	22.0	58	22.0	5.6
< 10% FRPL ³	50	19.0	57	21.7	42	16.0	42	16.0	34	12.9	-6.1
Number of LEAs	263		263		263		264		264		
Traditional Public Schools: Rural											
> 90% FRPL ¹	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	-
> 50% FRPL ²	17	7.1	10	4.2	15	6.3	27	11.5	24	10.2	3.1
< 10% FRPL ³	3	1.3	8	3.4	3	1.3	0	0.0	0	0.0	-1.3
Number of LEAs	237		237		237		235		235		

Source: Pennsylvania Department of Education (PDE).

Notes: % change based on percentages due to change in number of LEAs.

Table does not include LEAs with 10% to 50% FRPL.

1 >90% FRPL applies to LEAs with over 90% Free-/Reduced-Price Lunch.

2 >50% FRPL applies to LEAs with over 50% Free-/Reduced-Price Lunch.

3 <10% FRPL applies to LEAs with less than 10% Free-/Reduced-Price Lunch.

Similar to the measures of racial/ethnic concentration, this study also examined the extent to which different LEA types were concentrated by poverty. As shown in Table 11, urban charters had much higher proportions of concentrated poverty than traditional urban LEAs. It should be noted that this comparison is somewhat flawed in that the latter category is usually much larger in terms of geographic area and thus much more heterogeneous in terms of student enrollment. Moreover, the bulk of charters with concentrated poverty were located within the district boundaries of traditional public school districts with very high levels of concentrated poverty (i.e. Philadelphia, Pittsburgh, and Harrisburg). In terms of rural charters, four of the seven schools had more than 50 percent FRPL

students and two of the seven schools had less than 10 percent FRPL students in 2010-11. Given the inherent flaws when comparing charter LEAs and traditional LEAs, it is more useful to look at poverty concentration at the school level as illustrated in Table 12.

Students attending charters—both urban and rural—were much more likely than students in traditional public schools to attend schools with concentrated poverty (Table 12). For example, the proportion of urban charter students attending schools with majority FRPL students was substantially greater than the percentage of FRPL students attending urban traditional public schools for all 5 years. Regardless of school type, enrollment at schools with concentrated poverty seems to be consistently high and/or increasing. Conversely, the enrollment in concentrated low-poverty schools declined in all school types except for rural charters, though given the small sample, this was driven by the addition of one new school in 2010-11.

Table 12: Number and Percentage of Economically Concentrated Schools by School Type, 2006-07 to 2010-11

School Poverty Concentration	2006-07		2007-08		2008-09		2009-10		2010-11		5 Yr Percent Change
	N ¹	%	N	%	N	%	N	%	N	%	
Charter Schools: Urban											
> 90% FRPL	19	19.2	25	23.6	20	18.4	20	17.1	30	23.8	57.9
> 50% FRPL	78	78.8	72	67.9	75	68.8	84	71.8	91	72.2	16.7
< 10% FRPL	6	6.1	3	2.8	3	2.8	5	4.3	3	2.4	-50.0
Number of Schools	99		106		109		117		126		
Charter Schools: Rural											
> 90% FRPL	-	-	-	-	-	-	-	-	-	-	-
> 50% FRPL	3	60.0	4	80.0	3	60.0	3	60.0	4	57.1	33.3
< 10% FRPL	1	20.0	1	20.0	1	20.0	1	20.0	2	28.6	100.0
Number of Schools	5		5		5		5		7		
Traditional Public Schools: Urban											
> 90% FRPL	81	4.1	232	11.7	252	12.7	260	12.9	241	12.0	197.5
> 50% FRPL	618	31.4	619	31.3	626	31.6	691	34.2	687	34.2	11.2
< 10% FRPL	428	21.7	383	19.4	363	18.3	288	14.3	275	13.7	-35.7
Number of Schools	1969		1979		1984		2019		2008		
Traditional Public Schools: Rural											
> 90% FRPL	5	0.5	3	0.3	4	0.4	4	0.4	3	0.3	-40.0
> 50% FRPL	127	13.6	123	13.3	134	14.5	200	20.2	197	20.0	55.1
< 10% FRPL	26	2.8	20	2.2	16	1.7	9	0.9	6	0.6	-76.9
Number of Schools	932		928		927		992		985		

Source: Pennsylvania Department of Education (PDE).

1-Number of schools in each category. Note: Number of students and percentage of students are in the appendix.

Table 13. Number of Students in Racially/Ethnically Concentrated Schools by School Type, 2010-11

% Free-/ Reduced- Price Lunch	Percent Minority Students in Schools 2010-11							
	0-10%		10-50%		50-90%		90-100%	
	#	%	#	%	#	%	#	%
Charter: Urban (N=126)								
0-10% FRPL	-	-	3	10.3	-	-	-	-
10-25% FRPL	2	6.7	5	17.2	-	-	1	1.9
25-50% FRPL	7	23.3	12	41.4	1	6.7	4	7.7
50-90% FRPL	10	33.3	8	27.6	11	73.3	32	61.5
90-100% FRPL	11	36.7	1	3.4	3	20	15	28.8
Total Schools	30		29		15		52	
Rural Charter: Rural (N=7)								
0-10% FRPL	1	20	1	100	-	-	-	-
10-25% FRPL	-	-	-	-	-	-	-	-
25-50% FRPL	1	20	-	-	-	-	-	-
50-90% FRPL	3	60	-	-	-	-	1	100
90-100% FRPL	-	-	-	-	-	-	-	-
Total Schools	5		1		-		1	
Traditional Public School: Urban (N=2003)								
0-10% FRPL	98	19	175	18.7	-	-	-	-
10-25% FRPL	220	42.6	289	30.8	8	2.8	-	-
25-50% FRPL	174	33.7	307	32.7	38	13.2	12	4.6
50-90% FRPL	24	4.7	159	17	186	64.8	75	28.6
90-100% FRPL	-	-	8	0.9	55	19.2	175	66.8
Total Schools	516		938		287		262	
Traditional Public School: Rural (N=984)								
0-10% FRPL	4	0.5	2	1.8	-	-	-	-
10-25% FRPL	106	12.3	12	11	-	-	-	-
25-50% FRPL	596	69.2	67	61.5	1	7.1	-	-
50-90% FRPL	155	18	28	25.7	10	71.4	-	-
90-100% FRPL	-	-	-	-	3	21.4	-	-
Total Schools	861		109		14		-	

Source: U.S. Department of Education, National Center for Education Statistics, Common Core of Data (CCD).

Nationally and historically, there is a correlation between race/ethnicity and poverty concentration in the nation’s public schools (Orfield, Kuscera, and Siegel-Hawley 2012). Even middle- and upper-income minority families are more likely to live in high poverty areas due to historical ties to that neighborhood, housing discrimination, and other forms of prejudice (Frankenberg and Kotok, 2013). This overlap exists in Pennsylvania schools as well (see Table 13 and Appendix Table A2 for 2006-07 overlap). In the case of urban charters, schools with less than 10 percent minority students or more than 90 percent minority students had fairly high percentages of FRPL students. Conversely, no urban TPS with less than 10 percent minority students had more than 90 percent FRPL students. Moreover, more

than two-thirds of racially/ethnically isolated minority urban TPS enrolled more than 90 percent FRPL students compared to less than one-third of racially/ethnically isolated urban charters. As expected, the majority of rural schools, both TPS and charters, enrolled mostly white students. There were, however, 14 majority-minority rural TPS of which all but one school had a majority of low-income students. Taken together, these data suggest that the intersection between concentrated race and poverty is slightly greater in TPS than in charter schools. On average, charter schools had higher percentages of FRPL students than traditional public schools. However, while the share of FRPL students at charters remained fairly stable over the 5-year period, there were significant increases in the percentage of FRPL students in traditional public schools over this time frame.

This study shows a clear association between high minority enrollment and concentrated poverty in urban schools, particularly for traditional public schools. Given the racial/ethnic composition of rural schools, less of a pattern emerged. However, even in rural areas, the data provide some evidence that race/ethnicity and poverty are linked for the one high minority rural charter school in Pennsylvania and most of the high minority rural traditional public schools.

Enrollment of Special Population Students

This section reviews the number and percentage of students with Individual Education Plans (IEPs) and English Language Learner (ELL) students in the five LEA categories from the 2006-07 to 2010-11. The data for both special populations of students were from the Common Core of Data produced by the National Center for Education Statistics. Data in this report were aggregated by the five school types.

Students with Individual Education Plans

As shown in Table 14, the number of students with IEPs increased for all three types of charter schools as well as for urban traditional public schools. Alternatively, the number of students with IEPs declined for rural traditional public schools. The percentage increase for urban and cyber charter schools was greater than the percentage increase in all students in these schools. Thus, as shown in Figure 3, the percentage of students with IEPs in urban charter schools increased slightly from 12.9 percent in 2006-07 to 13.6 percent in 2010-11. With respect to cyber charter schools, the percentage of students with IEPs increased from 10.9 percent in 2006-07 to 14.6 percent in 2010-11. This was a substantial increase—particularly over such a short period of time.

Table 14: Number of Students and Students with IEPs by School Type, 2006-07 to 2010-11

School Type	2006-07	2007-08	2008-09	2009-10	2010-11	Percent Change
Charter: Urban						
IEP Students	5,415	6,207	6,772	7,306	8,388	54.9
All Students	41,522	45,316	49,029	53,085	61,412	47.9
Charter: Rural						
IEP Students	219	251	267	252	243	11.0
All Students	1,049	1,180	1,175	1,193	1,203	14.7
Charter: Cyber						
IEP Students	1,734	2,290	2,759	3,363	4,060	134.1
All Students	15,797	19,715	22,398	24,603	27,779	75.8
TPS: Urban						
IEP Students	206,779	206,922	207,648	207,691	207,071	0.1
All Students	1,268,832	1,254,108	1,237,643	1,231,315	1,228,131	-3.2
TPS: Rural						
IEP Students	78,050	77,512	76,871	75,352	74,784	-4.2
All Students	463,984	455,522	447,832	438,229	431,835	-6.9

Source: U.S. Department of Education, National Center for Education Statistics, Common Core of Data (CCD).

Note: IEP numbers were reported at district level rather than school level.

On the other hand, while rural charter schools experienced an increase in the percentage of students with IEPs, the increase was less than the percentage increase for all students enrolled. Thus, as shown in Figure 3, the overall percentage of students with IEPs in urban and cyber charters increased, but decreased for rural charters.

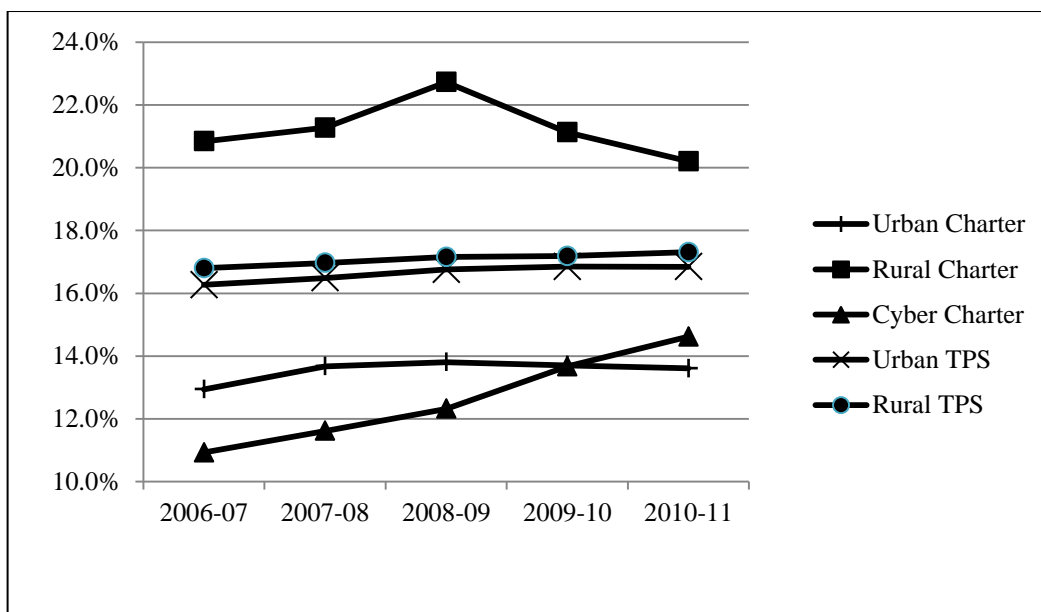
Interestingly, the number of students with IEPs in urban traditional public schools remained essentially constant over the 5 years while the overall enrollment in such schools declined. Thus, despite the decline in overall enrollment, the percentage of students with IEPs in traditional public schools in urban areas actually increased as shown in Figure 3. Specifically, the percentage of students with IEPs increased from 16.3 percent in 2006-07 to 16.8 percent in 2010-11.

Finally, both the number of students with IEPs and total number of students enrolled declined over the 5 years for traditional public schools in rural areas. Yet, the decline in total enrollment was greater than the decline in students with IEPs. Thus, as shown in Figure 3, the percentage of students with IEPs actually increased—from 16.8 percent in 2006-07 to 17.3 percent in 2010-11.

Overall, as shown in Figure 3, rural charter schools had the greatest percentage of students with IEPs and the difference between rural charter schools and other school types was fairly substantial. Indeed, there was a difference of at least three percentage points across all 5 years. With respect to the two rural school types, rural charter schools enrolled a greater percentage of students with IEPs than

rural public schools. Both rural and urban public schools had fairly similar percentages and each had percentages greater than either urban or cyber charters. While cyber charters initially had the lowest percentage of students with IEPs for the first 3 of the 5 years, the relatively significant increases over the last 2 years resulted in the percentage of students with IEPs in cyber charter schools surpassing the percentage enrolled in urban charter schools.

Figure 3: 5-Year Trend in the Percentage of Students with IEPs by School Type, 2006-07 to 2010-11



Source: U.S. Department of Education, National Center for Education Statistics, Common Core of Data (CCD)
 Note: IEP numbers were only reported at district level rather than school level.

One important aspect of students with IEPs that is missing from this report is the type of disabilities of students and how these might vary across school types. A recent report details such differences and concludes that, as compared to traditional public schools, charter schools serve a greater percentage of IEP students with mild disabilities and a lower percentage of IEP students with severe disabilities (Education Law Center, 2013). This discrepancy is important because it substantially impacts the funding of both charter schools and traditional public LEAs as will be discussed below.

English Language Learner Students

As shown in Table 15, there were increases in the number of ELL students enrolled in all five school types over the study period. The greatest percentage increase in the number of ELL students was the sixteen-fold increase for rural charter schools. This substantial increase, however, is misleading because only two ELL students were enrolled in rural charter schools in the 2006-07 academic year while there were 34 ELL students in the 2010-11 school year. Thus, the dramatic increase stemmed from the very low number of ELL students in 2006-07. Moreover, almost all of the increase was from one particular school. The increase for rural charter schools, however, was greater than that for rural public schools. Specifically, while the number of ELL students in rural charter schools increased by 32 ELL students, the number of ELL students in rural public schools increased by only 11 ELL students.

Table 15: Number of Total Students and ELL Students by School Type, 2006-07 to 2010-11

School Type	2006-07	2007-08	2008-09	2009-10	2010-11	Percent Change
Charter: Urban						
ELL Students	1,069	1,261	997	1,816	2,046	91.4
All Students	41,522	45,316	49,029	53,085	61,412	47.9
Charter: Rural						
ELL Students	2	3	1	2	34	1,600.0
All Students	1,049	1,180	1,175	1,193	1,203	14.7
Charter: Cyber						
ELL Students	18	35	50	55	60	233.3
All Students	15,797	19,715	22,398	24,603	27,779	75.8
TPS: Urban						
ELL Students	40,153	41,908	42,210	41,768	42,247	5.2
All Students	1,268,832	1,254,108	1,237,643	1,231,315	1,228,131	-3.2
TPS: Rural						
ELL Students	2,471	2,656	2,643	2,591	2,482	0.4
All Students	463,984	455,522	447,832	438,229	431,835	-6.9

Source: U.S. Department of Education, National Center for Education Statistics, Common Core of Data (CCD).

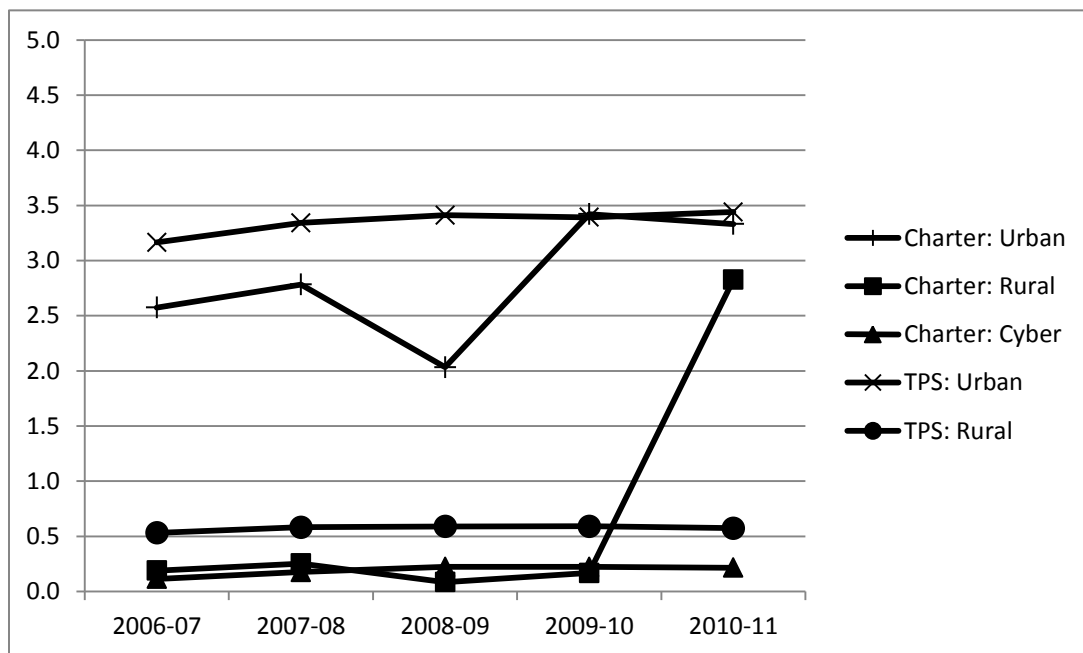
Note: ELL numbers were reported at district level rather than school level.

Similarly, cyber charter schools experienced a dramatic increase in the number of ELL students enrolled, but the original number of students was very low—only 18 students in 2006-07—which makes the increase appear more dramatic than the actual numbers suggest. Both urban charters and urban traditional public schools experienced significant increases in the actual number of ELL students. Urban charters enrolled nearly 1,000 more ELL students in the 2010-11 school year than in 2006-07 year.

Similarly, there was an increase of more than 2,000 ELL students over the same time period for urban traditional public schools.

The trends in the percentages of ELL students enrolled in schools is detailed in Figure 4. Not surprisingly, urban charter and urban traditional public schools had the greatest percentages of ELL students in 2010-11—about 3.3 percent. Urban charters had a lower percentage of ELL students than urban traditional public schools in 2006-07, but experienced a greater increase in ELL enrollment than did urban traditional public schools during the time examined. Rural charter schools had only a negligible percentage of students designated as ELL through the first four years of the study, but the 32 student increase in the 2010-11 school increased the percentage of ELL students to 2.8 percent. Rural public schools maintained a steady, albeit small, percentage of ELL students. Over the 5 years, the percentage of ELL students in such schools remained at about 0.6 percent. Finally, there was essentially no increase in the percentage of ELL students enrolled in cyber charter schools and only 0.2 percent of all cyber charter school students were designated as ELL.

Figure 4: 5-Year Trend in the Percentage of ELL Students by School Type, 2006-07 to 2010-11



Source: U.S. Department of Education, National Center for Education Statistics, Common Core of Data (CCD).
 Note: ELL numbers were only reported at district level rather than school level.

Financial Impacts

To examine the fiscal impact of charter schools on rural and urban school districts in Pennsylvania, three components were included—all school districts, rural school districts, and urban school districts. Each of the analyses examined the actual values of various fiscal variables for each of the years 2006-07 through 2011-12, the annual change from year to year, and the percentage change from year to year. In this manner, both the magnitude of the amounts and the trends over time were studied. The financial data are current values and not adjusted for inflation.

Pennsylvania school districts are mandated to provide funding to charter schools in which their students are enrolled on a per student amount, known as tuition payments¹¹. Tuition payments are not based on the cost of the charter schools' educational program, but rather on the sending district's expenditure level. This amount is derived from the state-established funding calculation, which sets a per pupil tuition amount to be paid by the school district for each of their students enrolled in a charter school. The amount is calculated by PDE each year using form PDE-363, Funding for Charter Schools, and is based on each districts' total expenditures less specified deductions, largely federally funded expenditures, student transportation, facilities acquisition and construction, and debt service and fund transfers.

Separate calculations were made for regular education and special education tuition amounts with the special education tuition amount usually being about double that for regular education students (see Table 16). Since the tuition payment calculations were based on each district's total expenditures, each district has a different tuition amount per student. The result is that two students from different districts sitting next to each other in the same classroom receiving the same instruction in the same charter school will generate different funding amounts for the charter school.

Due to their derivation, tuition payments per student were linked to district spending levels. As district spending levels increase, tuition payments per student increase as well. Likewise, if spending levels decline, tuition payments per student decline as well. As shown in Table 16, this pattern was found among all school districts and more specifically in both the rural and urban groups of districts. In the early years of the study, there was growth in tuition payments in the range of 4 percent to 6 percent annually. However, in the later years, the growth in tuition payment levels slowed down noticeably and, in fact, turned negative in 2012-13; the later year changes were a result of slowing and reduced district

¹¹ Act 22 of 1997, Charter School Law, Section 1725-A Funding for Charter Schools.

expenditures caused by the economic slowdown and a substantial reduction in state funding beginning in 2011-12.

Table 16. Average Tuition Rates for Charter School Students, 2006-07 to 2012-13

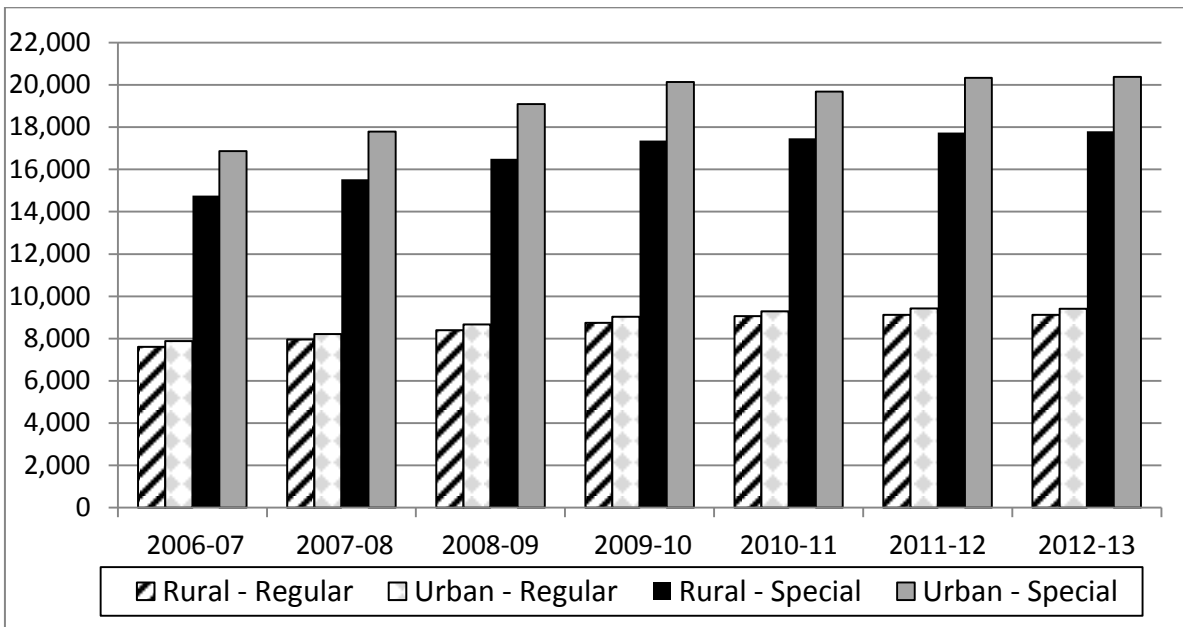
Academic Year	All School Districts		Rural School Districts		Urban School Districts	
	Average Tuition Rate (\$)	Percent Change	Average Tuition Rate (\$)	Percent Change	Average Tuition Rate (\$)	Percent Change
Regular Education						
2006-07	7,879		7,604		7,882	
2007-08	8,210	4.2	7,956	4.6	8,214	4.2
2008-09	8,664	5.5	8,397	5.5	8,397	2.2
2009-10	9,023	4.1	8,737	4.0	8,737	4.0
2010-11	9,303	3.1	9,051	3.6	9,051	3.6
2011-12	9,433	1.4	9,118	0.7	9,422	4.1
2012-13	9,401	-0.3	9,114	0.0	9,404	-0.2
Special Education						
2006-07	15,878		14,757		16,871	
2007-08	16,731	5.4	15,532	5.3	17,795	5.5
2008-09	17,872	6.8	16,498	6.2	19,091	7.3
2009-10	18,832	5.4	17,369	5.3	20,129	5.4
2010-11	18,646	-1.0	17,472	0.6	19,687	-2.2
2011-12	19,120	2.5	17,745	1.6	20,340	3.3
2012-13	19,173	0.3	17,806	0.3	20,385	0.2

Source: Pennsylvania Department of Education. Figures not adjusted for inflation.

Average tuition rates for rural and urban districts, including regular and special education, are illustrated in Figure 5. In each case and across all years, tuition rates for urban schools were greater than for rural schools. This is likely due to the greater expenditure levels in urban school districts, which result in higher tuition rates per student. Likewise, the substantially greater tuition rates paid to charter schools for special education students is caused by the calculation procedure established by the Pennsylvania Department of Education. In general, districts were required to pay about twice the tuition amounts for special education students than they do for regular students. There was no consideration in the special education funding formula for charter schools of the type of disability, the cost to the charter school for providing the service, or whether the student is in a brick-and-mortar or cyber charter school. The single funding amount for all special education students does not reflect the substantial variation in

costs for serving special education students across the spectrum of disabilities, the appropriate resources needed, and the instructional approach used (Chambers, et al. 2002). However, Act 3 in 2013¹² established the Special Education Funding Commission that was charged to make recommendations related to special education funding, including consideration of three cost categories of eligible students whose funding would vary by intensity and cost of needed services.

Figure 5: Average Tuition Rates Paid to Charter Schools, by Rural and Urban Districts for Regular and Special Education Students, 2006-7 to 1012-13



Source: Pennsylvania Department of Education (PDE).

Money Paid to Charter Schools by School Districts

This analysis examined the amount of money school districts have paid to charter schools over a 5-year period (2006-07 to 2010-11). Through the first 5 years of the study period, school districts paid the required tuition amounts per regular and special education students multiplied by the number of students attending charter schools. The state provided a subsidy to offset the cost to the district. This was intended to cover up to about 30 percent of the total district costs, but was often less due to funding limitations. The formula was:

$$\text{Net cost to district} = (\text{total district tuition payments paid to charter schools}) - \text{state subsidy}$$

¹² See: <http://www.legis.state.pa.us/cfdocs/legis/li/uconsCheck.cfm?yr=2013&sessInd=0&act=3> .

However, in 2011-12, the subsidy was eliminated. Thus, after 2011-12, school districts and their taxpayers bear the full cost of sending their students to charter schools. The tuition payments from 2006-07 through 2011-12 are shown in Table 17. For all school districts, the total costs were \$527 million in the initial year, but more than doubled over the next 6 years to \$1.145 billion. The cumulative total tuition payments that charter schools received over the 6-year period was \$4.78 billion. Of this total, local school districts, through local revenues, paid a net total of \$3.81 billion to charter schools, while the state contributed an additional \$963 million to subsidize district/taxpayer costs. Over the same period, the subsidy amounts provided by the commonwealth began declining in 2009-10 in both dollars and share of expenditures and did not keep up with the total cost of charter

Table 17. District Tuition Expenditures for Charter Schools, 2006-07 to 2011-12

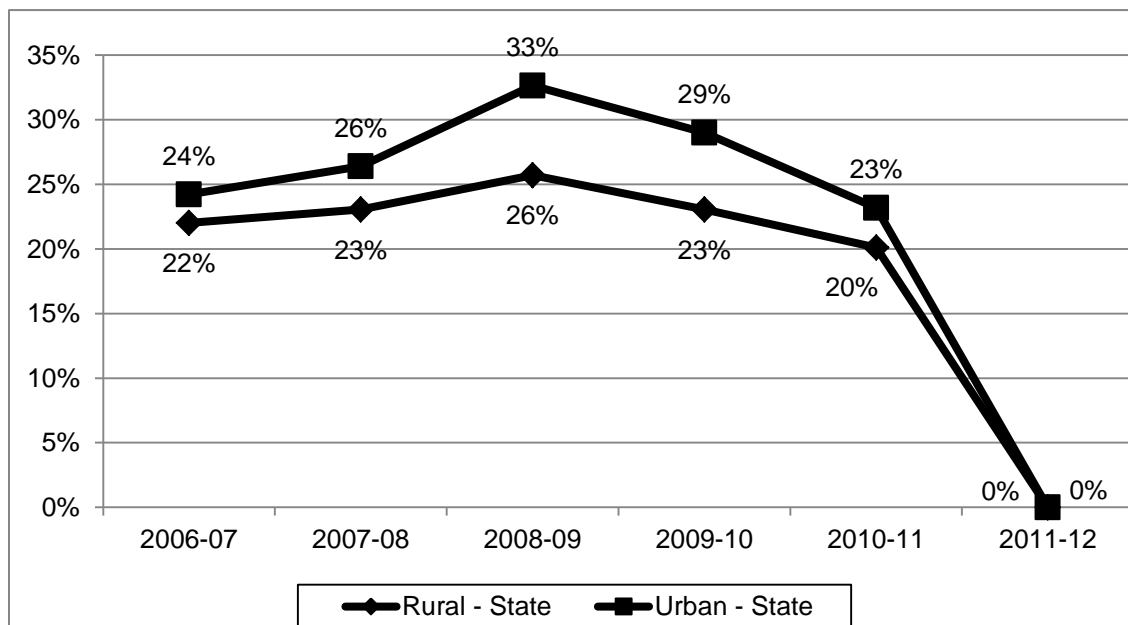
Academic Year	Total Tuition to Charter Schools	State Subsidy to Districts - 7140	Net District Payments to Charter Schools	% State Subsidy	District Share
All Districts					
2006-07	527,943,681	126,597,755	401,345,926	24.0	76.0
2007-08	621,151,495	161,513,939	459,637,556	26.0	74.0
2008-09	717,306,015	228,062,579	489,243,436	32.0	68.0
2009-10	805,621,739	227,568,421	578,053,318	28.0	72.0
2010-11	959,703,712	219,002,976	740,700,736	23.0	77.0
2011-12	1,145,248,954	0	1,145,248,954	0.0	100.0
6 Yr Total	4,776,975,595	962,745,669	3,814,229,926	0.0	0.0
Rural Districts					
2006-07	57,723,106	12,700,872	45,022,233	22.0	78.0
2007-08	75,391,373	17,373,549	58,017,824	23.0	77.0
2008-09	88,003,477	22,629,292	65,374,185	26.0	74.0
2009-10	100,873,684	23,261,257	77,612,427	23.0	77.0
2010-11	112,941,955	22,712,772	90,229,183	20.0	80.0
2011-12	132,694,666	0	132,694,666	0.0	100.0
6 Yr Total	567,628,260	98,677,742	468,950,518	0.0	0.0
Urban Districts					
2006-07	470,425,722	113,937,519	356,488,203	24.0	76.0
2007-08	546,066,524	144,140,390	401,926,133	26.0	74.0
2008-09	629,537,826	205,433,287	424,104,540	33.0	67.0
2009-10	704,748,055	204,307,164	500,440,891	29.0	71.0
2010-11	846,761,757	196,290,204	650,471,553	23.0	77.0
2011-12	1,012,554,288	0	1,012,554,288	0.0	100.0
6 Yr Total	4,210,094,172	864,108,564	3,345,985,608	0.0	0.0

Source: Pennsylvania Department of Education (PDE). Figures not adjusted for inflation.

schools to districts. Consequently, the annual net cost to districts almost tripled over the same time period: from \$401 million to \$1.15 billion. For the 6-year total, tuition payments from rural school districts constituted a much smaller amount – around \$470 million – which was about 12 percent of the total amount. The bulk of the payments were from urban schools, reaching approximately \$3.5 billion, or 88 percent of the total amount.

Overall, during the course of the study the share of funding from state sources ranged from 23 percent to 32 percent, except for the last year. During the years when the state was contributing toward the tuition payments made to charter schools, the urban districts consistently had from 2 percent to 7 percent more of the costs funded by the state subsidy than did rural districts. These results are illustrated in Figure 6.

Figure 6. State Share of Tuition Payments to Charter Schools, 2006-07 to 2011-12



Source: Pennsylvania Department of Education (PDE).

Data to separate the tuition payments for regular education students and special education students were publically available for only the last 3 years of the study, 2009-10 through 2011-12. The total tuition amounts, share of total tuition payments for each of student, annual changes, and percentage annual changes are provided in Table 18. The majority of the tuition payments were for regular education students, although the amount and share of funding for special education students have

steadily risen the last 3 years. The pattern is the same for rural and urban school districts. The annual increases show substantial annual gains—more than \$100 million annually for regular students and \$40 to \$80 million for special education students. For both rural and urban school districts, special education tuition payments have increased at a much faster rate than regular education. This is particularly true for urban districts where special education tuition payments grew at almost three times the rate of regular education payments in the last year. Since the tuition amount per student for special education is about double that of regular education, charter schools have an economic incentive to enroll special education students with substantially greater financial impact on school districts when this occurs. None of the requested data to examine the types of disabilities among special education students served by charter schools were provided by PDE.

Table 18. Charter School Tuition Payments for Special and Regular Education Enrollments

Academic Year	Tuition to Charter Schools		Annual \$ Change		Annual % Change	
	Special Ed.	Regular Ed.	Special Ed.	Regular Ed.	Special Ed.	Regular Ed.
All Districts						
2009-10	174,137,927	631,483,811				
2010-11	216,084,416	743,619,296	41,946,489	112,135,484	24.1	17.8
2011-12	294,991,093	850,257,860	78,906,677	106,638,565	36.5	14.3
Rural Districts						
2009-10	21,808,463	79,065,220				
2010-11	27,219,395	85,722,560	5,410,932	6,657,339	24.8	8.4
2011-12	33,711,425	98,983,241	6,492,030	13,260,682	23.9	15.5
Urban Districts						
2009-10	152,329,464	552,418,591				
2010-11	188,865,021	657,896,736	36,535,557	105,478,145	24.0	19.1
2011-12	261,279,668	751,274,619	72,414,647	93,377,883	38.3	14.2

Source: Pennsylvania Department of Education (PDE). Figures not adjusted for inflation.

Trends in Net District Payments to Charter Schools

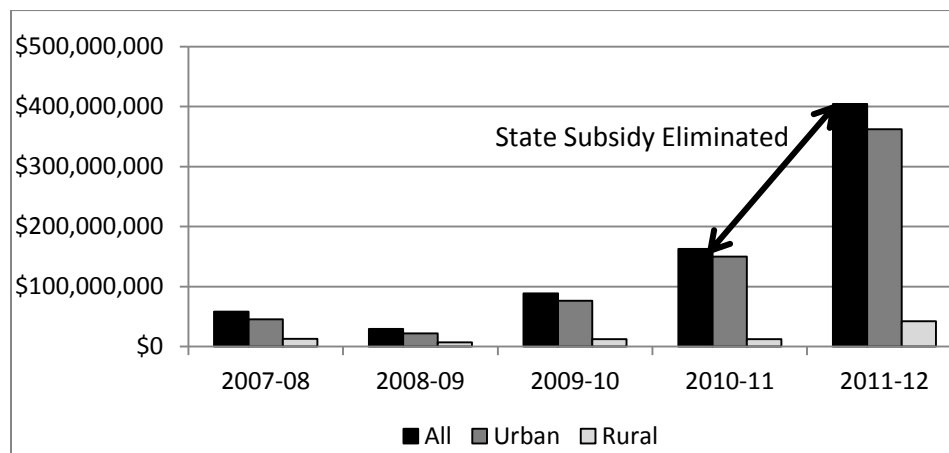
The annual cost increases for tuition payments for charter schools were affected by two primary factors: 1) the growth of total tuition payments for districts for charter schools (which are driven by changes in regular and special education enrollments in charter schools and the per student tuition payment amounts), and; 2) the level of state subsidy to districts to offset the mandatory tuition payments. Both of these factors have changed considerably over the 6-year study period. Table 19 presents the trends in the annual dollar amounts school districts paid to charter schools for tuition and Figure 7 illustrates those trends.

Table 19. Annual Changes in District Tuition Payments for Charter Schools, 2007-08 to 2011-12

Academic Year	Annual Changes in Total Tuition to Charter Schools	Annual Changes in State Subsidy to Districts	Annual Changes in Net District Payments to Charter Schools
All School Districts			
2007-08	93,207,814	34,916,184	58,291,630
2008-09	96,154,520	66,548,640	29,605,880
2009-10	88,315,724	-494,158	88,809,882
2010-11	154,081,973	-8,565,445	162,647,418
2011-12	185,545,242	-219,002,976	404,548,218
5 Year Total	617,305,273		743,903,028
Rural School Districts			
2007-08	17,668,267	4,672,676	12,995,591
2008-09	12,612,104	5,255,744	7,356,361
2009-10	12,870,207	631,965	12,238,242
2010-11	12,068,271	-548,485	12,616,756
2011-12	19,752,712	-22,712,772	42,465,483
5 Year Total	567,628,260		468,950,518
Urban School Districts			
2007-08	75,640,802	30,202,871	45,437,931
2008-09	83,471,303	61,292,896	22,178,406
2009-10	75,210,229	-1,126,123	76,336,352
2010-11	142,013,702	-8,016,960	150,030,662
2011-12	165,792,530	-196,290,204	362,082,734
5 Year Total	542,128,566		656,066,085

Source: Pennsylvania Department of Education. Figures not adjusted for inflation.

Figure 7. Annual Change in Net Tuition Payments, 2007-08 to 2011-12



Source: Pennsylvania Department of Education.

As shown in Table 20, the total magnitude of annual dollar increases for district payments to charter schools have been steady and substantial each year, except 2008-09, when a stable total tuition amount and a larger than previous state subsidy combined to lower the annual dollar increase for districts. After that, a regularly decreasing state subsidy amount and large annual increases in total tuition expenditures have greatly increased the annual costs on school districts for tuition payments to charter schools. The elimination of the state subsidy in 2011-12 added another \$219 million to district expenditure obligations for charter schools beyond the large jump in total tuition payment obligations. The effect was a \$414 million additional cost for school districts that year. The pattern for rural and urban school districts were generally similar except that in 2009-10 the state subsidy amount for rural school districts was still increasing, while the reduction for urban districts started in that year.

Another way of comparing changes over time is to measure the percentage changes from one year to the next. This eliminates the effect of the magnitude of the base data. Table 20 shows the relative percentage increases and decreases in tuition payments to charter schools. The general patterns were similar to those of the dollar changes shown previously, but they permit more of a direct comparison of the fiscal impacts on rural and urban school districts. As shown in Figure 8, in the early years, rural districts had higher rates of growth in their net tuition payment obligations, while the pattern reversed mid-way through the study period, ending with urban districts experiencing higher percentage increases in tuition payments in the later years.

Table 20. Annual Percent Changes in District Tuition Payments for Charter Schools, 2007-08 to 2011-12

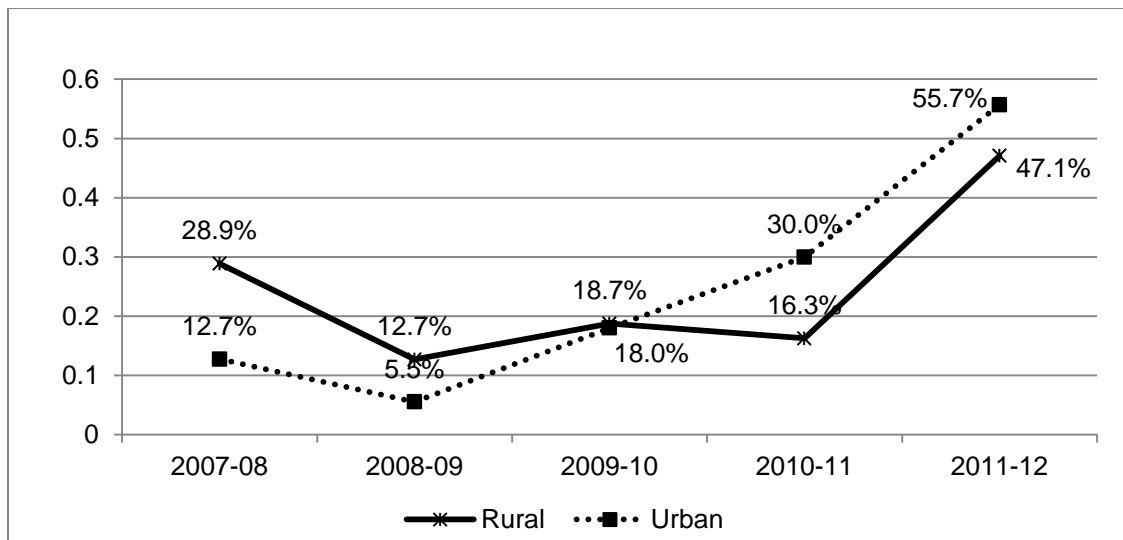
Academic Year	Total Tuition to Charter Schools	State Subsidy to Districts	Net District Payments to Charter Schools
All School Districts			
2007-08	17.7	27.6	14.5
2008-09	15.5	41.2	6.4
2009-10	12.3	-0.2	18.2
2010-11	19.1	-3.8	28.1
2011-12	19.3	-100.0	54.6
5 Year Total	116.9		185.4
Rural School Districts			
2007-08	30.6	36.8	28.9
2008-09	16.7	30.3	12.7
2009-10	14.6	2.8	18.7
2010-11	12.0	-2.4	16.3
2011-12	17.5	-100.0	47.1
5 Year Total	129.9		194.7
Urban School Districts			
2007-08	16.1	26.5	12.7
2008-09	15.3	42.5	5.5
2009-10	11.9	-0.5	18.0
2010-11	20.2	-3.9	30.0
2011-12	19.6	-100.0	55.7
5 Year Total	115.2		184.0

Source: Pennsylvania Department of Education (PDE).

The funds used to pay charter schools are unavailable for instructional and support programs for other students in the district or for other district expenditures. A measure used to determine the impact is the percentage of Current Expenditures. While there are several measures of expenditures used in Pennsylvania, Current Expenditures¹³ was chosen, as it is most representative of the cost of operating a school district. Total expenditures include capital and debt service amounts, which are periodic and can distort the ongoing spending patterns for districts; actual instructional expense, which represents instructional expenditures, but excludes other necessary operating costs of districts (Pennsylvania Department of Education, 2012).

¹³ Current expenditures are the sum of the Instruction (1000), Support Services (2000) and Operation of Non-Instructional Services (3000). Numbers represent major functions in the Manual of Accounting and Financial Reporting for PA Public Schools.

Figure 8. Annual Percent Changes in District Tuition Payments for Charter Schools, 2007-08 to 2011-12



Source: Pennsylvania Department of Education (PDE).

Tables 21 and 22 trace the comparison of district current expenditures and district tuition payments to charter schools, from 2006-07 through 2009-10. For the first 4 years, tuition payments to charter schools remained fairly constant at less than 3 percent of current expenditures, and less than 2 percent for rural districts. However, beginning in 2010-11, the share of current district expenditures taken by charter school tuition payments increased rapidly to 5.3 percent by 2011-12, almost doubling their share in 2 years. Urban districts had higher shares of their current expenditures devoted to tuition payments, while rural districts had substantially lower budget shares paid to charter schools. The patterns are illustrated in Figure 9. The annual dollar changes for tuition payments grew over this time period, particularly over the final 2 years, while annual changes in current expenditures showed a slowing trend and actually declined in 2011-12. The comparison is shown more clearly in the annual percentage changes section of the table where net tuition payments grew at increasingly rapid rates, reaching 55 percent in the last year, while annual growth of current expenditures were in the 3 percent to 4 percent range before a 2 percent reduction in the last year.

Table 21: Current Expenditures and Charter School Tuition Payments, 2006-07 to 2011-12

Academic Year	Current Expenditures and Charter School Tuition Payments		
	Current Expenditures	Net Tuition to Charter Schools: Total	% CS Tuition of Current Expenditures
All School Districts			
2006-07	19,244,551,462	401,345,926	2.1
2007-08	20,164,757,503	459,637,556	2.3
2008-09	20,775,302,909	489,243,436	2.4
2009-10	21,495,732,475	578,053,318	2.7
2010-11	22,239,708,545	740,700,736	3.3
2011-12	21,746,846,227	1,145,248,954	5.3
6 Year Total	125,666,899,119	3,814,229,926	3
Rural Districts Only			
2006-07	4,723,048,105	45,022,233	1
2007-08	4,932,603,509	58,017,824	1.2
2008-09	5,027,732,657	65,374,185	1.3
2009-10	5,200,110,624	77,612,427	1.5
2010-11	5,312,214,532	90,229,183	1.7
2011-12	5,196,705,856	132,694,666	2.6
6 Year Total	30,392,415,282	468,950,518	1.5
Urban Districts Only			
2006-07	14,539,321,860	356,488,203	2.5
2007-08	15,232,153,994	401,926,133	2.6
2008-09	15,747,570,252	424,104,540	2.7
2009-10	16,295,621,850	500,440,891	3.1
2010-11	16,927,494,013	650,471,553	3.8
2011-12	16,550,140,371	1,012,554,288	6.1
6 Year Total	95,292,302,340	3,345,985,608	3.5

Source: Pennsylvania Department of Education (PDE). Figures not adjusted for inflation.

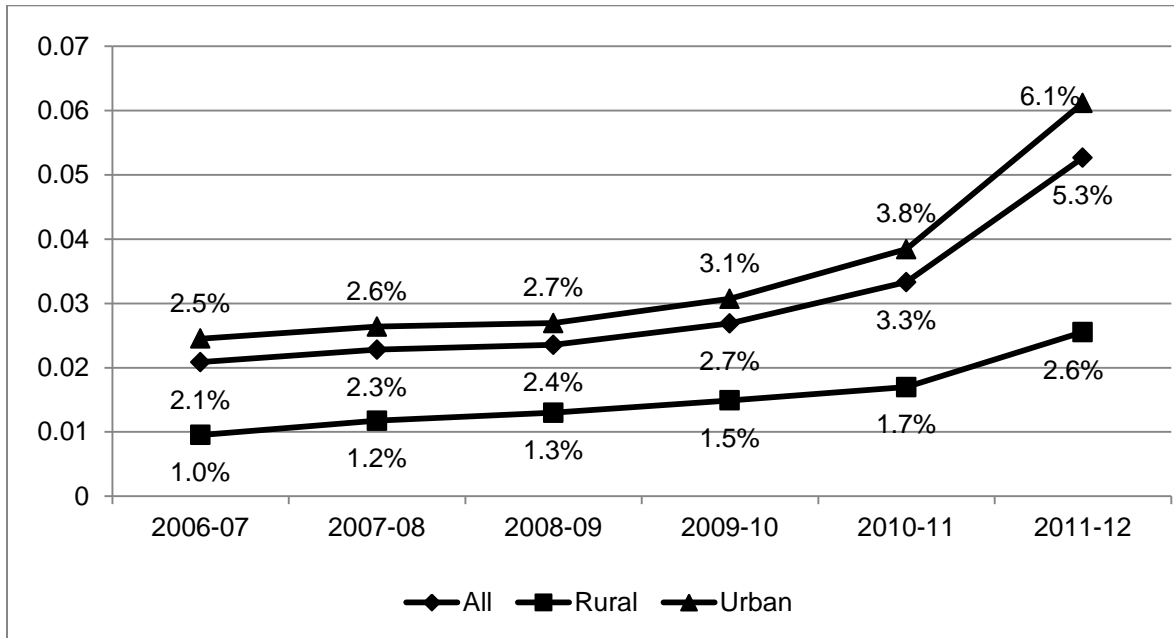
Table 22: Changes in Current Expenditures and Charter School Tuition Payments, 2006-07 to 2011-12

Academic Year	Annual Dollar Changes		Annual Percentage Changes	
	Net Tuition to Charter Schools: Total	Current Expenditures	Net Tuition to Charter Schools: Total	Current Expenditures
All School Districts				
2007-08	58,291,630	920,206,041	6.4	3
2008-09	29,605,880	610,545,406	18.2	3.5
2009-10	88,809,882	720,429,566	28.1	3.5
2010-11	162,647,418	743,976,071	54.6	-2.2
2011-12	404,548,218	-492,862,319	65.0	11.5
5 Year Total	743,903,028	2,502,294,765	14.5	4.8
Rural Districts Only				
2007-08	12,995,591	209,555,404	28.9	4.4
2008-09	7,356,361	95,129,148	12.7	1.9
2009-10	12,238,242	172,377,967	18.7	3.4
2010-11	12,616,756	112,103,908	16.3	2.2
2011-12	42,465,483	-115,508,677	47.1	-2.2
5 Year Total	87,672,433	473,657,751	66.1	9.1
Urban Districts Only				
2007-08	45,437,931	692,832,135	12.7	4.8
2008-09	22,178,406	515,416,258	5.5	3.4
2009-10	76,336,352	548,051,599	18.0	3.5
2010-11	150,030,662	631,872,162	30.0	3.9
2011-12	362,082,734	-377,353,642	55.7	-2.2
5 Year Total	656,066,085	2,010,818,511	64.8	12.1

Source: Pennsylvania Department of Education. Figures not adjusted for inflation.

While in individual years of the 6-year study period, the increases in tuition payments may have been a seemingly small advance, the total impacts were much more substantial. The total increase in tuition payments to charter schools was approximately \$750 million, while the increase in Current Expenditures had a net increase of \$2.5 billion. The increase in tuition payments to charter schools represented 30 percent of the total increase in current expenditures for districts; that is, about \$1 of every \$3 of district spending growth was attributable to increased mandatory payments to charter schools. The impact was less in rural school (19 percent), but greater in urban schools (33 percent) of the total increase in current expenditures respectively (see Figure 9).

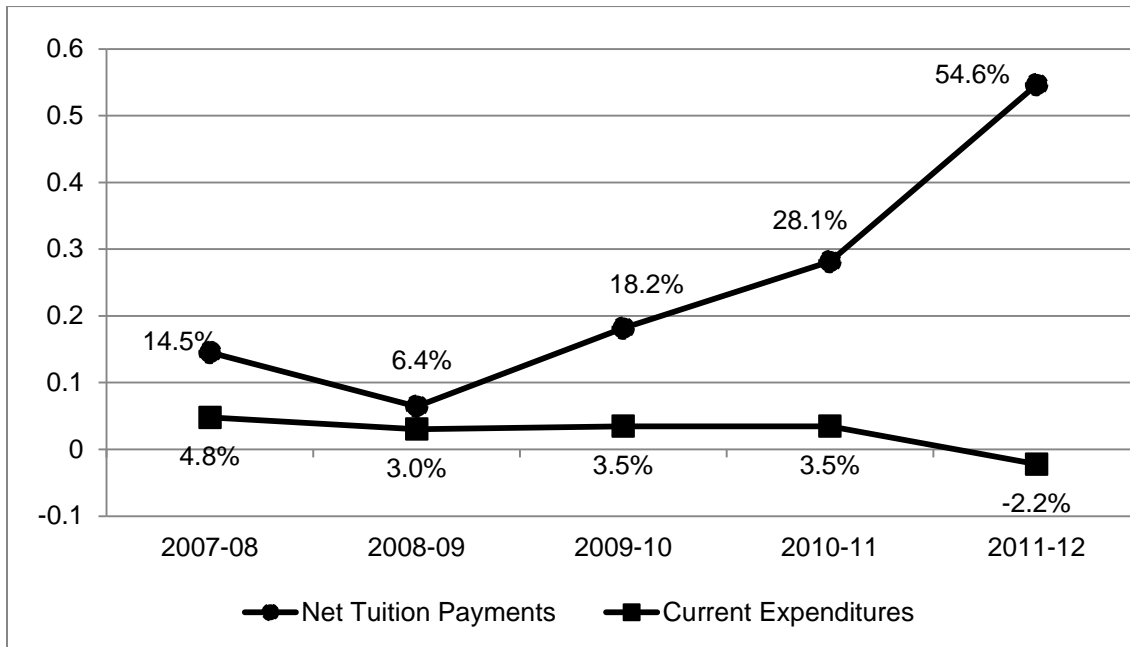
Figure 9. Net Tuition Payments as Percentage of District Current Expenditures, 2006-07 to 2011-12



Source: Pennsylvania Department of Education.

The reason for this pattern of rapid growth in budget share since 2008-09 is indicated in Figure 10 for all school districts. Throughout the study period, current expenditures grew at modest rates of generally around 3.5 percent, but had an actual reduction in 2011-12, when state funding to K-12 education was cut by \$900 million by the administration and legislature; these reductions were made in basic education and other subsidies, including elimination of state support for district payments to charter schools. Charter school tuition payments, on the other hand, always had substantially higher growth rates over the study period and, in 2011-12, reached an annual increase in excess of 50 percent. The results for rural and urban districts showed very similar patterns.

Figure 10. Statewide Annual Percentage Growth, Net Tuition Payments and Current Expenditures, 2007-08 to 2011-12



Source: Pennsylvania Department of Education (PDE).

Share of Local Tax Revenue Paid to Charter Schools

In Pennsylvania, the primary local tax source for school districts is the real estate or property tax. It represents 83 percent of the total taxes collected by districts and is the only one that the district can control. Since the passage of Act 1 of 2006, districts have been limited to tax rate increases at or below an inflationary index without seeking voter approval at a referendum. The other local tax of any magnitude is earned income tax, but the rate is set by the commonwealth and is dependent on the local economy. As a result, the district can only estimate what revenue will be received but does not control the amount. Similarly, with state revenue, the district may lobby or try to influence state subsidies, but it is the recipient of the funds and does not determine the amounts.

This analysis examines the amount and share of tuition payments to charter schools in comparison to the real estate taxes collected by school districts. Table 23 shows that the percent of real estate tax required to fund charter school tuition payments for all districts increased steadily from 4 percent to almost 7 percent by 2010-11. However, in 2011-12, due to the elimination of the state subsidy to school districts for charter schools, the share rose to 10 percent. Rural and urban districts had different results. Rural districts had a much lower share of their real estate taxes needed for tuition

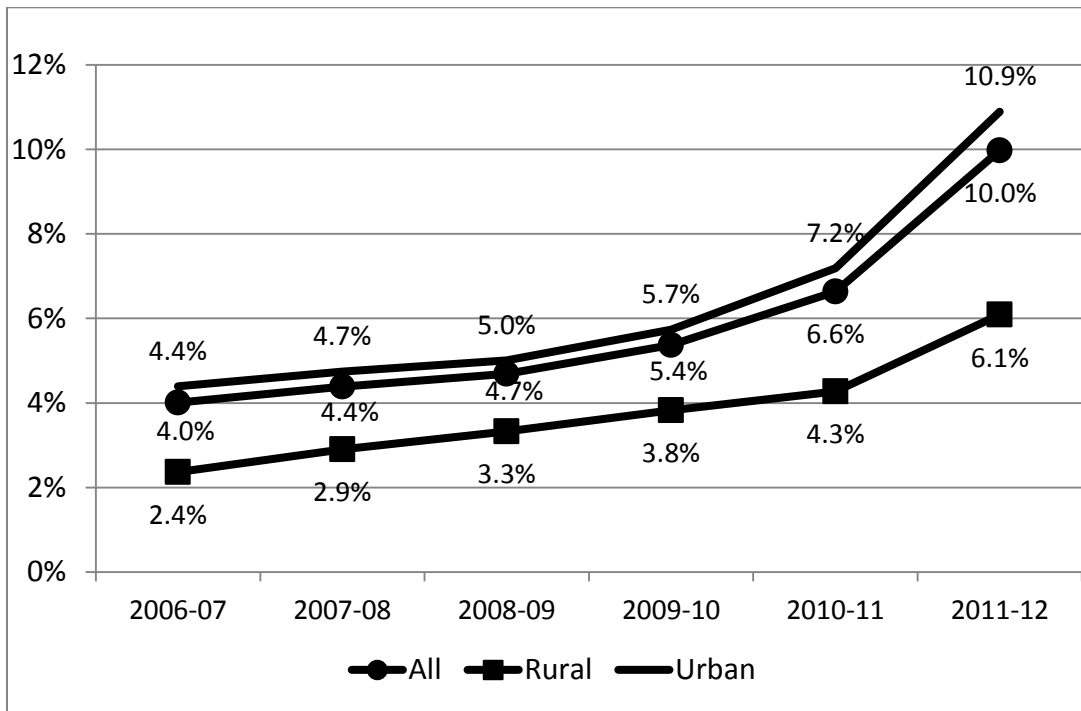
Table 23. Real Estate Taxes and Charter School Tuition Payments, 2006-07 to 2011-12

Academic Year	Real Estate Taxes and Tuition Payments to Charter Schools			Annual Dollar Changes		Annual Percentage Changes	
	Real Estate Taxes - Current and Interim	Net Tuition to Charter Schools: Total	% CS Tuition of Real Estate Taxes	Real Estate Taxes - Current and Interim	Net Tuition to Charter Schools: Total	Real Estate Taxes - Current and Interim	Net Tuition to Charter Schools: Total
All School Districts							
2006-07	10,014,529,839	401,345,926	4.0				
2007-08	10,476,322,248	459,637,556	4.4	461,792,410	58,291,630	4.6	14.5
2008-09	10,437,620,575	489,243,436	4.7	-38,701,673	29,605,880	-0.4	6.4
2009-10	10,757,487,536	578,053,318	5.4	319,866,961	88,809,882	3.1	18.2
2010-11	11,158,272,835	740,700,737	6.6	400,785,298	162,647,419	3.7	28.1
2011-12	11,480,468,871	1,145,248,954	10.0	322,196,037	404,548,217	2.9	54.6
6 Yr Total	64,324,701,904	3,814,229,926	-	1,465,939,033	743,903,028		
Rural Districts Only							
2006-07	1,906,320,787	45,022,233	2.4				
2007-08	1,998,495,819	58,017,824	2.9	92,175,032	12,995,591	4.8	28.9
2008-09	1,963,046,613	65,374,185	3.3	-35,449,206	7,356,361	-1.8	12.7
2009-10	2,027,748,321	77,612,427	3.8	64,701,708	12,238,242	3.3	18.7
2010-11	2,112,696,393	90,229,183	4.3	84,948,072	12,616,756	4.2	16.3
2011-12	2,179,492,229	132,694,666	6.1	66,795,837	42,465,483	3.2	47.1
6 Yr Total	12,187,800,161	468,950,518	-	273,171,443	87,672,433		
Urban Districts Only							
2006-07	8,108,209,052	356,488,203	4.4				
2007-08	8,477,826,430	401,926,133	4.7	369,617,378	45,437,931	4.6	12.7
2008-09	8,474,573,962	424,104,540	5.0	-3,252,467	22,178,406	0	5.5
2009-10	8,729,739,216	500,440,891	5.7	255,165,253	76,336,352	3	18
2010-11	9,045,576,442	650,471,553	7.2	315,837,227	150,030,662	3.6	30
2011-12	9,300,976,642	1,012,554,288	10.9	255,400,200	362,082,734	2.8	55.7
6 Yr Total	52,136,901,744	3,345,985,608	-	1,192,767,590	656,066,085		

Source: Pennsylvania Department of Education. Figures not adjusted for inflation.

payments, ranging from 2.4 percent in 2006-07 to just over 6 percent in the last year. Urban districts faced consistently higher tax burdens for charter schools with the share of their real estate taxes ranging from 4.4 percent to 10.9 percent by 2011-12. The trends of the increasing share of charter school tuition of district real estate taxes are shown in Figure 11.

Figure 11. Net Tuition Payments to Charter Schools as Percentage of District Real Estate Taxes, 2006-07 to 2011-12

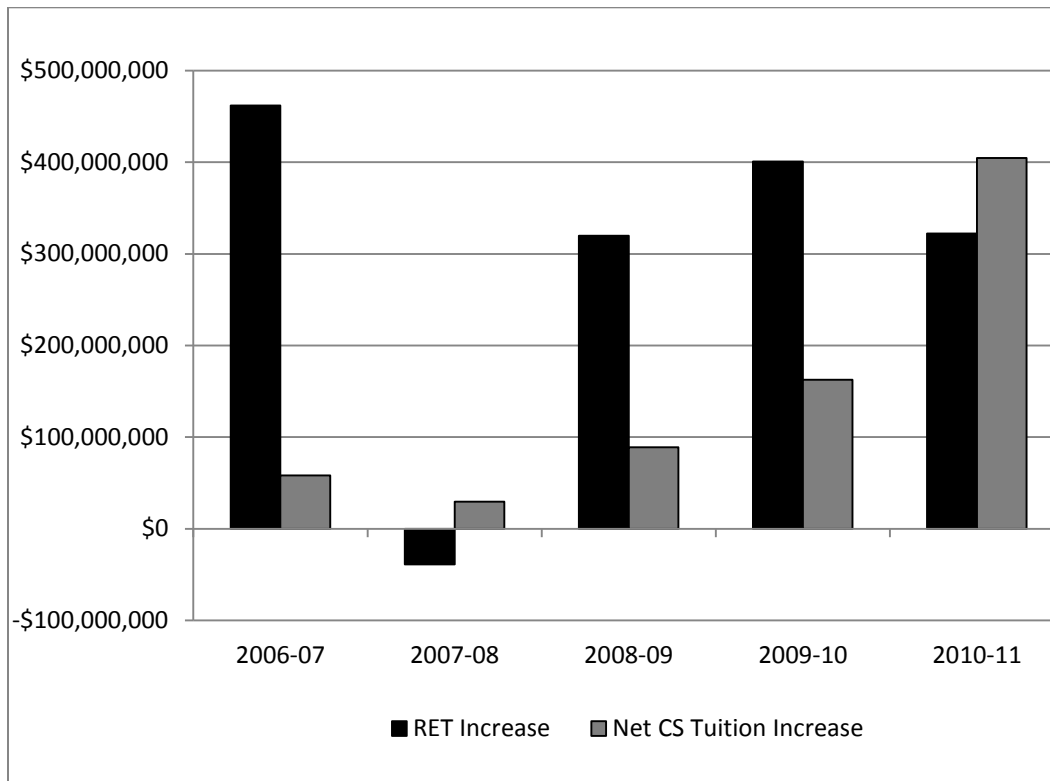


Source: Pennsylvania Department of Education (PDE).

The dollar impact on school district finances is shown in Figure 12. In 2006-07, the new real estate tax revenues received that year far exceeded the increase in tuition payments to charter schools. However, in the next year real estate taxes dropped approximately \$38 million, while tuition payments increased by \$30 million, resulting in a difference of \$68 million of net impact on districts. Over the next 3 years, real estate tax collections continued to increase, but dollar tuition payments to charter schools increased at a faster pace, and, in 2011-12, the annual increase of tuition payments exceeded the increase in real estate taxes. Thus, more than the entire increase in real estate tax collection that year was required to pay the mandated tuition payments that year.

When the increases in tuition payments were greater than the entire increases in real estate tax collections, other sources of funds were required and/or districts had to make reductions in various instructional and operational programs to balance their annual budgets. This was particularly true in 2011-12 when a reduction in state and federal funds supporting education, higher pension funding obligations, and increased tuition payments to charter schools led to overall budget reductions that resulted in many staff layoffs.

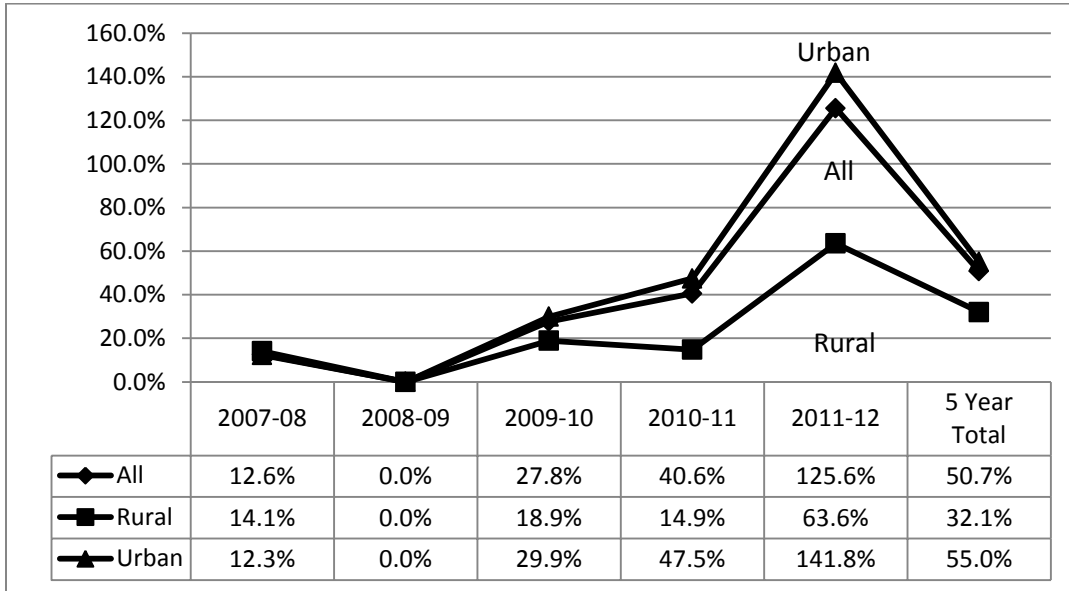
Figure 12. Annual Dollar Changes, Real Estate Taxes and Tuition Payments to Charter Schools, 2006-07 to 2010-11



Source: Pennsylvania Department of Education (PDE)

The share of real estate tax increases necessary to fund tuition payments over the study period is shown in Figure 13. The greatest impact on the ability to support charter school tuition payments has been on urban school districts, where more than 140 percent of the total real estate tax increases in 2011-12 were required; this meant diverting funds from instructional programs and services from other students in those districts to pay for the students attending charter schools. During the study time period, more than half of the increases in total property taxes raised by urban school districts were required for tuition payments for charter schools. Rural school districts saw the same pattern of greater proportions of increased real estate tax collections being required for tuition payments for charter schools, but at relatively lower levels, generally 15 percent to 20 percent in the earlier years, peaking at 64 percent in 2011-12, and having one-third of their taxes going to support tuition payments for charter schools over the time period.

Figure 13. Share of Real Estate Tax Increase Consumed by Tuition Payments, 2007-08 to 2011-12



Source: Pennsylvania Department of Education (PDE)

In summary, Pennsylvania has experienced a rapid and large scale growth in charter schools. By all measures, charter schools have had a significant financial impact on school districts and the impact is accelerating. While all districts have been greatly impacted, urban districts have seen the larger fiscal burden, largely due to the preponderance of charter school students from those districts. The removal of the state subsidy of districts' payments to charter schools in 2011-12 substantially exacerbated the negative fiscal impact on districts and shifted the full costs of tuition payments to district taxpayers. The level of financial outlay for districts was relatively low in earlier years of the study, but has risen steadily to where now district tuition payments exceeded \$1.1 billion in 2011-12. The net annual increases in district payments to charter schools in 2011-12 were \$404 million; by contrast the increase in state aid to basic education for that year was only \$234 million. The share of districts' current expenditures paid to charter schools has doubled over the past 6 years from approximately 2 percent to more than 5 percent. Tuition payments are now in excess of 10 percent of the total real estate taxes collected by school districts, and in 2011-12 the increase in tuition payments were 125 percent of the increase in district real estate taxes.

District costs for tuition payments to charter schools are a mandatory cost to school districts; like pension costs, they have to be paid before other expenditures of the district. With the ability to raise real estate taxes limited to an inflationary index, increases in district tax revenues have been capped at

relatively low levels. When the revenues are restricted and mandatory expenditures consume most or all of new real estate tax revenues, the district budgets still have to be balanced. In practice, this means that if other revenue sources (other local taxes, state revenue) do not grow to match the rise in costs, non-mandatory expenditures must be reduced. While there may still be some non-instructional operating funds to cut, after 3 years of budget reductions, the main cutbacks will come out of instructional programs and services to resident students served in the districts' classrooms.

Tuition Payments by Type of Charter School

Students from rural and urban districts attend both cyber and brick and mortar charter schools and both rural and urban districts make mandatory tuition payments to each of the types of charter schools. However, the magnitudes and patterns of tuition distribution were substantially different between rural and urban districts, as shown in Table 24. The data are from 2009-10, the latest year of available data from PDE that identifies individual district tuition payments to individual charter schools, which allows aggregation to the type of charter school—cyber and brick and mortar.

Table 24. Tuition Payments Made by Rural and Urban Traditional Public Districts by Type of Charter School, 2009-10

Type of Traditional Public LEA	Type of Charter School				Total	
	Cyber		Brick and Mortar		\$	%
	\$	%	\$	%	\$	%
Rural	81,313,244	81.0	19,161,002	19.0	100,474,245	100.0
Urban Total	180,159,169	25.0	527,079,429	75.0	707,238,599	100.0
Urban Districts (excluding Phila.)	153,038,698	42.0	210,212,782	58.0	363,251,481	100.0
Philadelphia	27,120,471	8.0	316,866,647	92.0	343,987,118	100.0
Total	261,472,413	32.0	546,240,431	68.0	807,712,844	100.0

Source: Pennsylvania Department of Education (PDE).

Looking first at rural school districts, in 2009-10 they made a total of about \$100 million of tuition payments to all charter schools with 81 percent of the money going to cyber charter schools and 19 percent to brick and mortar charter schools. By contrast, urban school districts had a reverse distribution pattern. Of their total tuition payments of approximately \$707 million, the bulk went to brick and mortar charter schools (\$527 million or 75 percent) and the balance to cyber charter schools, (\$180 million or 25 percent). The distribution patterns reflect the relative lack of brick and mortar

charter schools that were close enough for students to attend physically in rural areas and the relatively greater availability of brick and mortar charter schools in urban areas.

As shown in Table 24, out of the approximately \$808 million in total tuition payments in 2009-10, cyber charter schools received about \$261 million (32 percent), while brick and mortar charter schools were paid about \$546 million (68 percent). In spite of the imbalance in the shares of rural and urban district tuition payments to cyber and brick and mortar charter schools, cyber charter schools received 69 percent of their payments from urban school districts and 31 percent from rural districts (Table 25). The tuition payment funding for brick and mortar charter schools came overwhelmingly from urban school districts (96 percent) with only 4 percent from rural districts. This last result is strongly influenced by Philadelphia. It represents roughly \$344 million (43 percent) of total tuition payments in the state and 92 percent of those go to brick and mortar charter schools. Other urban districts' tuition payments were split more evenly between brick and mortar (58 percent) and cyber (42 percent) charter schools.

Table 25. Tuition Payments Made to Charter Schools by Type of Traditional Public LEA, 2009-10

Type of Traditional Public LEA	Type of Charter School			
	Cyber		Brick and Mortar	
	\$ payment	%	\$ payment	%
Rural	81,313,244	31.0	19,161,002	4.0
Urban Total	180,159,169	69.0	527,079,429	96.0
Urban Districts (excluding Phila.)	153,038,698	59.0	210,212,782	38.0
Philadelphia	27,120,471	10.0	316,866,647	58.0
Total	261,472,413	100.0	546,240,431	100.0

Source: Pennsylvania Department of Education (PDE).

Performance Comparisons between Charter Schools and Sending Districts

The following analyses were based on the dataset that contained a listing of all individual charter schools associated with their sending traditional public school districts for 2009-10, and the reported student PSSA test scores for both groups of schools/districts in both mathematics and reading. Because multiple districts send students to each individual charter school, multiple combinations were created. For example, if 10 traditional school districts sent at least one student to charter school A, then there would be 10 district-charter combinations. This represented a total of 4,020 combinations since charter schools received tuition payments from an average of eight school districts each.

After identifying the various combinations, tuition and PSSA data were connected to each charter school and traditional public school district. Specifically, for each charter school/school district pair, the following information was connected to the charter-district combination:

- Total tuition payments made by each school district to each charter school.
- School District
 - Percent of Students at Advanced and Proficient Levels for Mathematics
 - Percent of Students at Advanced and Proficient Levels for Reading
- Charter School
 - Percent of Students at Advanced and Proficient Levels for Mathematics
 - Percent of Students at Advanced and Proficient Levels for Reading

Based on the percentage of students meeting the proficient or advanced standard on PSSA tests for both charter schools and traditional public school districts, a PSSA score difference was calculated by subtracting the percentage proficient/advanced students in traditional public school districts from the percentage of proficient/advanced students in charter schools. Specifically, each difference was calculated as:

$$\text{Difference} = \text{Charter School \% proficient/advanced} - \text{Traditional District \% proficient/advanced}$$

The differences between the charter school test scores and district test scores were calculated for mathematics and reading scores for each of the 4,020 interactions. When the charter school PSSA performance was lower than the district performance, the difference was negative. Conversely, instances in which the charter school PSSA performance was greater than the district score, then the difference was positive. There were only six total cases across both mathematics and reading where the scores were equal and less than 100 cases where the differences, either positive or negative, were less than 1 percent. There were four possible outcomes:

- Both mathematics and reading comparisons were negative;
- Both mathematics and reading comparisons were positive;
- Mathematics comparison was positive and reading was negative; and,
- Mathematics comparison was negative and reading was positive.

Caution should be used in interpreting these analyses for several reasons. First, because PDE does not provide information on the number of students transferring from a traditional public school district to a charter school, analyses by tuition transfers cannot be weighted by the number of students. For example, the combination of traditional district A and charter school A in which 25 students transferred into charter school A has the same weight in the analysis as the combination of traditional district B and charter school A in which only one student transferred. Ideally, the first combination would be considered 25 times and the second combination considered only one time. However, as discussed previously, these data simply do not allow for such a calculation to be made.

Additionally, the performance of students within a school and district can vary. Indeed, a low performing student can be enrolled in a high-performing school or district. The inability to use student-level scores makes the analyses below inaccurate to some degree. Unfortunately, we do not know the degree of inaccuracy. A more accurate method would have been to compare the actual PSSA scores for individual students transferring from traditional public schools to charter schools. Unfortunately, however, individual student scores were not part of the analysis since the Pennsylvania Department of Education refused to provide individual scores for use in this study. Regardless of these analytical issues, the trends are pronounced.

The results of the analyses are shown in Table 26, for all charter schools combined, for cyber charter schools, and for brick and mortar charter schools. In all, there were 4,020 individual interactions where school districts sent students to charter schools. For mathematics scores, 3,740 (93 percent) of the comparisons were negative; that is, 93 percent of the time that districts made tuition payments to charter schools, the charter school students (on average) had a worse outcome than students in the district. With respect to reading, the comparable result was that in 81 percent of the instances of students transferring from a traditional public district to a charter school, the sending district had greater PSSA performance than the charter school.

When the results were disaggregated by type of charter school, cyber schools clearly performed worse than brick and mortar charter schools. For example, in mathematics, 98 percent of the district-charter combinations were negative. Thus, in 98 percent of the cases, a student moved from a traditional public district to a cyber charter school, the student moved from a district with greater PSSA performance than the receiving cyber charter school. In reading, the comparable percentage was 86 percent. In comparison, the percentages of transfers from traditional public districts to brick and mortar charter schools that led to negative results were 93 percent in mathematics and 81 percent in reading.

While brick and mortar charter schools had slightly higher shares of student transfers with positive results, approximately 75 percent of the transfers in mathematics and 66 percent of the transfers in reading led to a negative result.

Table 26. Performance Comparisons: Charter Schools and Sending Districts, 2009-10

Type of Charter School	Score Comparisons Result	District / Charter School Interactions			
		Mathematics		Reading	
		#	%	#	%
All	Negative	3,740	93.0	3,261	81.0
	Positive	280	7.0	759	19.0
	Total	4,020	100.0	4,020	100.0
Cyber	Negative	3,134	98.0	2,753	86.0
	Positive	63	2.0	444	14.0
	Total	3,197	100.0	3,197	100.0
Brick and Mortar	Negative	606	74.0	508	62.0
	Positive	217	26.0	315	38.0
	Total	823	100.0	823	100.0

Negative = Charter school PSSA performance **lower** than sending traditional public district.
 Positive = Charter school PSSA performance **greater** than sending traditional public district.
 Source: Pennsylvania Department of Education (PDE).

A further breakdown of the performance comparisons is provided in Table 27. In this table, the results are separated into each of the four possible score comparisons. Strikingly, in 81 percent of the cases in which a student transferred from a traditional public school district to a charter school, the students moved from a traditional public district that had greater PSSA performance in both mathematics and reading. When examining this percentage by charter school type, 86 percent of the transfers from a traditional public district to a cyber school resulted in a student moving from a higher performing district to a lower performing cyber charter school in both subject areas. For brick and mortar charter schools, the comparable percentage was still high at 60 percent, but far lower than for cyber charter schools.

In contrast, in only about 12 percent of the instances of student transfers did a student's move result in the student ending up in a charter school that was higher performing than the sending traditional school district. There was little difference between the results for cyber charter schools (12 percent) and brick and mortar charter schools (14 percent).

Table 27. Distribution of Score Differences, Charter Schools and Sending Districts, 2009-10

Type of Charter School	Distribution of Differences in Mathematics and Reading Performance								Total Interactions
	Math: Negative		Math: Positive		Math: Positive		Math: Negative		
	Reading: Negative		Reading: Positive		Reading: Negative		Reading: Positive		
All	3,246	81%	265	7%	15	0%	488	12%	4,020
Cyber	2,753	86%	63	2%	0	0%	375	12%	3,197
BandM	493	60%	202	25%	15	2%	113	14%	823

Negative = Charter school test scores lower than sending district.

Positive = Charter school test scores higher than sending district.

Source: Pennsylvania Department of Education (PDE).

Value for Money

In this analysis, the aforementioned performance comparison results were applied to the total tuition payments made by traditional public school districts to charter schools. Specifically, this analysis categorizes the tuition payments made by each school district and received by each charter school. Tuition payments were classified as negative when a charter school had lower PSSA performance than a sending district or positive when a charter school had greater PSSA performance than a sending district. In instances where a mixed result was obtained, the tuition payments were split evenly between negative and positive amounts. The results are shown in Table 28. The final calculation was made by summing the dollar amounts for both the positive and negative results across all combinations of traditional public districts and charter schools.

As shown in Table 28, 83 percent of the tuition payments (almost \$218 million) made by traditional public districts to cyber charter schools went to cyber charter schools with lower average PSSA performance than the sending districts. On the other hand, 16 percent of the tuition payments (about \$43 million) made to cyber charter schools were to cyber charter schools with greater PSSA performance than the sending districts. The unknown results were due to the charter schools that did not have reported test scores for the year, thus no performance comparisons were possible.

For brick and mortar charter schools, \$215 million in tuition payments were made to charter schools where the charter schools had reported lower average PSSA performance than the sending districts; this represented 39 percent of the total tuition paid to these charter schools. However, \$306 million in tuition payments (about 56 percent) were made to brick and mortar charter schools that had greater PSSA performance than the sending districts. Of note is that \$26 million was sent to brick and mortar charter schools that did not report student test scores (or for which no test score data were collected). Consequently 5 percent of funds could not be subject to results assessment.

Table 28. Value for Money: Tuition Payments (Total and Percent) to Charter Schools for Lower or Higher Test Score Results, 2009-10

	Type of Charter School				Total	
	Cyber		Brick and Mortar			
	\$	%	\$	%	\$	%
Lower Scores	217,955,731	83.0	214,582,958	39.0	432,538,689	54.0
Higher Scores	42,851,721	16.0	305,891,279	56.0	348,743,000	43.0
Unknown	664,962	0.0	25,766,194	5.0	26,431,156	3.0
Total	261,472,413	100.0	546,240,431	100.0	807,712,844	100.0

Source: Pennsylvania Department of Education (PDE).

Focus on Cyber Charter Schools

Due to the overwhelmingly negative results for cyber charter schools and the manageable number of cyber charter schools, more detailed analyses were conducted to examine the results of individual cyber charter schools. A similar approach was taken as described above for all cyber charter schools—an average performance comparison between the cyber charter schools and their sending schools and the determination of the amounts of tuition payments made to cyber charter schools with lower and higher test scores than their sending districts.

In 2009-10, PDE reported 11 cyber schools in operation with enrollment, student PSSA performance data, and tuition payments received from at least one traditional public school district. These 11 cyber charter schools are listed in Table 29 along with their information for the year. The cyber charter schools were categorized into groups based on similar enrollment size. The largest was PA Cyber Charter School, which had about 8,500 students drawn from almost all school districts in the commonwealth (483 out of 499) with an average of 18 students per sending district; this cyber charter school had more than one-third of the total students attending cyber charter schools in the commonwealth in that year. The next largest cyber charter school was Agora Cyber with about 4,500 students from almost every district in the commonwealth; it averaged nine students per sending district. The next group, with two schools, included Commonwealth Connections Academy and PA Virtual. These two cyber charter schools enrolled about 3,600 students each; they also drew from most districts in the commonwealth for their students and had an average of 8 students per sending district. The fifth largest cyber school, PA Leadership, had 2,000 students from about 70 percent of the districts in the commonwealth and had an average of six students per sending district. The remaining six cyber charter schools had less than 600 students each, served less than one-half of the districts in the commonwealth, and combined would have been the sixth largest cyber charter school in the commonwealth.

Table 29 includes the distribution of performance across the four possible performance combinations. For all but three of the cyber charter schools, at least 90 percent of the student transfers indicated that the student moved from a traditional public district that had greater PSSA performance in both mathematics and reading than the receiving cyber charter school. The largest cyber charter school—PA Cyber—had one of the lowest percentages in this regard. Specifically, 79 percent of the transfers into PA Cyber indicated that the sending district had greater PSSA performance than PA Cyber. Strikingly, only one cyber school—PA Virtual—had more than 2 percent of incoming students transfer from a traditional public district with lower PSSA performance. Three cyber charter schools (21st Century, PA Cyber, and PA Virtual) had substantial percentages of student transfers that indicated the student transferred from a traditional public district that had greater mathematics performance than the cyber charter school, but lower reading performance.

Table 30 and Figure 14 document the application of tuition payments to cyber charter schools to the performance data. Specifically, the PSSA performance data were used to determine if the tuition payments sent to a cyber charter had a positive effect (the student transferred from a traditional public school district into a cyber charter school with greater PSSA performance) or a negative effective (the student transferred from a traditional public district that had greater PSSA performance than the cyber charter school).

Overall, traditional public districts made total tuition payments of \$261 million to cyber charter schools. Of this total amount, \$218 million (83 percent) was paid to cyber charter schools that had lower PSSA performance than the sending districts. Only \$43 million (16 percent) was paid to cyber charter schools that had greater PSSA performance than the sending districts. It is important to note that these payments are mandatory as districts are required by state law and regulations to make the payments. The ultimate source of these payments to lower performing districts are local taxpayers since the governor and state legislature eliminated any state support to traditional public districts to offset the required tuition payments to charter schools in 2011-12.

Table 29. Student Performance in Cyber Charter Schools, 2009-10

Cyber Charter School Name	Charter Enrollment	% of Total Cyber CS Enrollment	Districts Served	Average Students Per District	Results for Charter Students for Sending Districts			
					% of Districts in Each Group			
					Math (-) Reading (-)	Math (+) Reading (+)	Math (+) Reading (-)	Math (-) Reading (+)
21st Century Cyber	594	2.0	234	3	54.0	1.0	0.0	45.0
Achievement House	272	1.0	221	1	100.0	0.0	0.0	0.0
Agora Cyber	4,484	18.0	481	9	96.0	1.0	0.0	3.0
Central PA Digital Learning Fnd	134	1.0	61	2	97.0	0.0	0.0	3.0
Commonwealth Connections Acad	3,652	15.0	444	8	93.0	2.0	0.0	4.0
PA Cyber	8,539	35.0	483	18	79.0	2.0	0.0	19.0
PA Distance Learning	420	2.0	195	2	94.0	1.0	0.0	5.0
PA Leadership	2,020	8.0	364	6	91.0	1.0	0.0	8.0
PA Learners Online Reg Cyber	607	2.0	192	3	97.0	1.0	0.0	3.0
PA Virtual	3,691	15.0	442	8	70.0	7.0	0.0	23.0
Susq-Cyber	190	1.0	80	2	100.0	0.0	0.0	0.0
Total Cyber	24,603	100.0	*	8	86.0	2.0	0.0	12.0

(-) = Charter School Test Scores Lower than Sending District; (+) = Charter School Test Scores Higher than Sending District; * Not applicable.

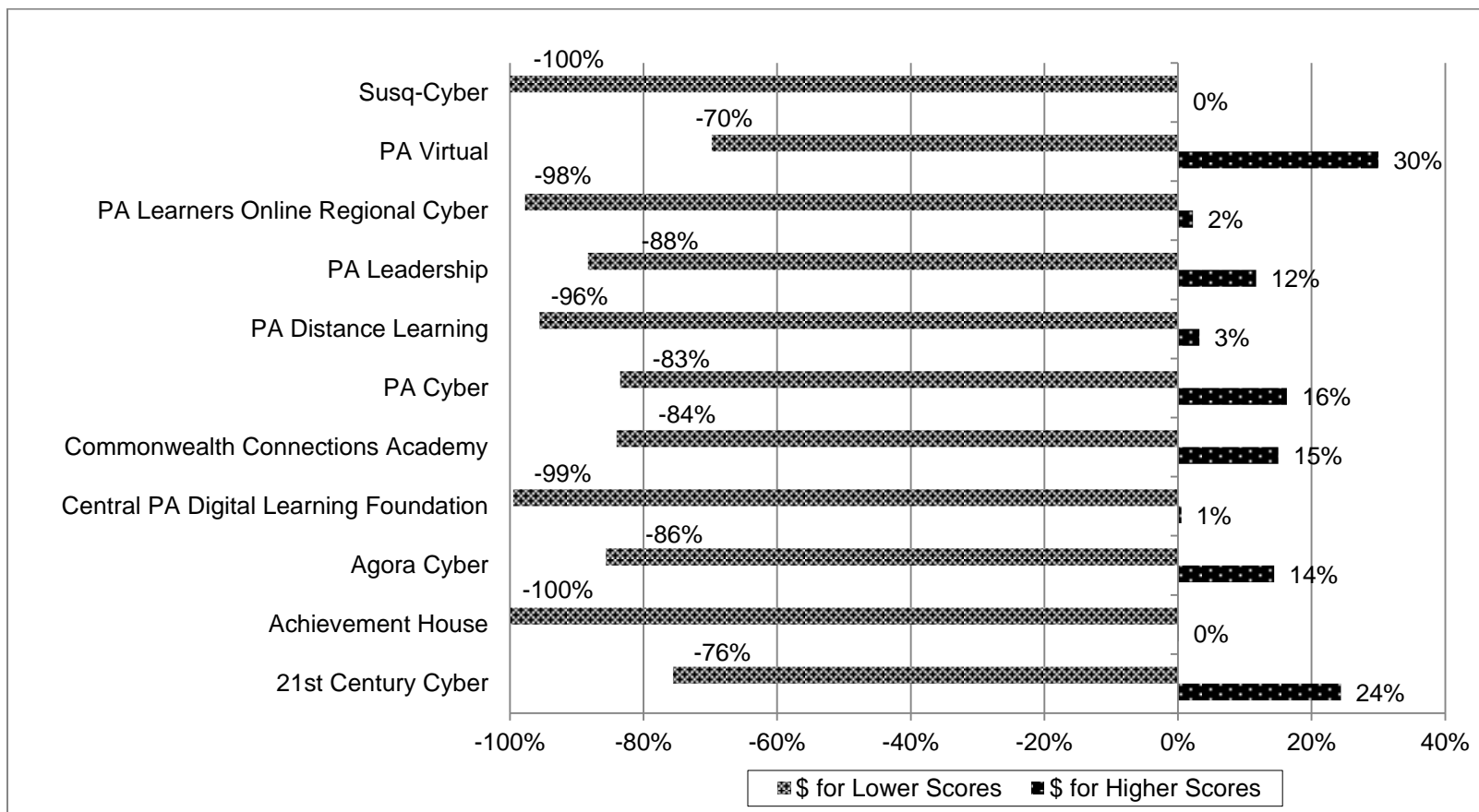
Source: Pennsylvania Department of Education (PDE)

Table 30. Tuition Payments to Cyber Charter Schools Compared to Performance, 2009-10

Cyber Charter School Name	Total Tuition Payments	Tuition for LOWER Charter School Scores		Tuition for HIGHER Charter School Scores	
		\$	%	\$	%
21st Century Cyber	5,932,283	4,484,522	76.0	1,447,761	24.0
Achievement House	4,404,969	4,400,158	100.0	4,811	0.0
Agora Cyber	51,408,432	44,007,244	86.0	7,401,189	14.0
Central PA Digital Learning Fnd	1,259,804	1,253,348	99.0	6,456	1.0
Commonwealth Connections Acad	39,930,954	33,546,823	84.0	6,002,448	15.0
PA Cyber	87,714,292	73,234,996	83.0	14,324,747	16.0
PA Distance Learning	4,033,415	3,855,350	96.0	130,595	3.0
PA Leadership	21,062,241	18,599,310	88.0	2,462,931	12.0
PA Learners Online Reg Cyber	7,121,665	6,960,281	98.0	161,385	2.0
PA Virtual	36,363,829	25,373,171	70.0	10,909,399	30.0
Susq-Cyber	2,240,528	2,240,528	100.0	0	0.0
Total Cyber	261,472,413	217,955,731	83.0	42,851,721	16.0

Source: Pennsylvania Department of Education (PDE).

Figure 14. Distribution of Tuition Payments to Cyber Charter Schools for LOWER or HIGHER Scores, 2009-10



Negative = Cyber Charter School Test Scores Lower than Sending District.
 Positive = Cyber Charter School Test Scores Higher than Sending District.
 Source: Pennsylvania Department of Education (PDE)

Conclusions

This research helps to clarify how statewide charter school policies may impact districts and schools across urban and rural locations.

While the research did not delve deeply into the causes or consequences of racially/ethnically and economically concentrated schools, it is worth noting the relationship between the growth of charters and these types of segregated schools in Pennsylvania. In particular, despite the largely white enrollment of charter schools in rural areas, this analysis found, in most of the years analyzed, the existence of intensely segregated minority settings where 90-100 percent of students were non-white. It also found a growth in majority-minority charter schools in rural areas. In addition, the percentage of students attending rural charter schools with majority low-income student bodies increased over the time examined. (These trends were even greater in urban charter schools during the time examined).

In regard to students with IEPs, the research found that more scrutiny needs to be put on charter schools to ensure they are providing for similar types and proportions of special needs students in a cost effective manner. A single payment amount for all types of special education students does not reflect the wide variation in the costs of different types and intensities of services that various students need. Under the current funding formula for special education tuition payments, the charter schools received substantially more in tuition payments for special education students than they reported spending for special education. As reported on the Pennsylvania Department of Education website, in 2012-13, charter schools received \$351 million in tuition payments from school districts for special education students and had \$151 million in special education instruction and related expenditures, an excess of \$200 million. In 2011-12, the reported data were \$295 million in special education tuition payments received from school districts for special education students and \$134 million spent for special education, a difference of \$161 million.

The growing financial impact on local taxpayers of the increasing number of students attending charter schools and the current funding system that places the full responsibility for charter school costs on school districts is both obvious and escalating. While the rapid expansion of charter schools, especially cyber charter schools, may provide some parents with more school choices, policy makers need to be cognizant of the financial impact that these policies place on traditional schools and districts. Growing tuition payments reached \$1.145 billion in 2011-12 (and \$1.128 billion as recently reported for 2012-13). Payments are consuming larger portions of district budgets, increasing to 2.1 percent to 5.3 percent of Current Expenditures in 6 years. The rate of growth of tuition payments to charter school is exceeding the maximum permitted rate of increase of property tax levies under Act 1. The result is a

rising share of increases in property taxes that are required to fund mandatory tuition payments to charter schools. In 2011-12, a combination of increased tuition payments and the withdrawal of state support to districts for charter school funding resulted in 125 percent of the total property tax revenues across the state being required to fund the mandated charter school tuition payments. The Pennsylvania Auditor General issued a second report calling for substantial reform in how charter schools in the commonwealth are funded, estimating an annual savings of \$365 million to school districts and taxpayers with changes in funding formulas for charter schools (Wagner, 2012).

These analyses also raise critical policy questions about the low academic achievement outcomes of Pennsylvania students enrolled in both brick and mortar and cyber charter schools, particularly given the disbursements paid by the state and by local school districts. As noted by the Stanford study of Pennsylvania charter schools, “without a vigorous focus on quality, the charter sector as a whole is put at risk by those schools that consistently underperform compared to their traditional public school peers” (CREDO, 2011, p. 20). With current legislative proposals in Pennsylvania and elsewhere facilitating the expansion of charter schools—spurred by federal incentives— this research is timely in focusing on the enrollment and financial impact of charter schools on traditional public schools and school districts. At the same time it raises important questions regarding the relationship between the growth of charter schools and consequences for both student academic outcomes, and de facto patterns of school segregation along racial and ethnic lines.

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Appendices

Glossary of Terms

Brick and Mortar Charter School: A charter school that is within the physical boundaries of a traditional school district.

Cyber Charter School: A charter school where the majority of learning occurs via a digital or online medium rather than a traditional classroom.

Economically Concentrated Schools: This designation refers to the extent that free- and reduced-price lunch students or non-free-/reduced-price lunch students are concentrated in schools or districts.

Local Education Agencies (LEA): Commonly used description for a school district. It can refer to a traditional school district, charter school, intermediate unit, or special district.

Majority Minority: This refers to any school or district where more than 50 percent of students are non-white.

Isolated Minority: This refers to any school or district where more than 90 percent of students are non-white.

Isolated White: This refers to any school or district where more than 90 percent of students are white.

Traditional Public School (TPS): This is the designation for a public school district as defined by the state, which encompasses a certain tax base and catchment area for students. It does not refer to a charter school.

Table A1: Number of Students* in Economically Concentrated Schools, 2006-07 and 2010-11

Districts	Academic Year		Change	
	2006-07	2010-11	#	%
Rural School Districts	518,936	504,921	-14,015	-2.7
Urban School Districts	1,561,250	1,532,352	-28,898	-1.9
All Pennsylvania Districts	2,080,186	2,037,273	-42,913	-2.1

* Population Age 5-17 in School Districts for 2006 and 2011.
Source: Census Bureau's Small Area Income and Poverty Estimates.

Table A2: Overlap between Racial/Ethnic Concentration and Percentage Free- and Reduced-Price Lunch, 2006-07

% Free-/ Reduced-Price Lunch	Percent Minority Students in Schools 2006-07							
	0-10%		10-50%		50-90%		90-100%	
	#	%	#	%	#	%	#	%
Charter: Urban (N=99)								
0-10% FRPL	-	-	5	17.2	-	-	-	-
10-25% FRPL	2	100	5	17.2	-	-	-	-
25-50% FRPL	-	-	9	31	-	-	-	-
50-90% FRPL	-	-	10	34.5	11	73.3	38	71.7
90-100% FRPL	-	-	-	-	4	26.7	15	28.3
Total Schools	2	100.0	29	100.0	15	100.0	53	100.0
Rural Charter: Rural (N=5)								
0-10% FRPL	-	-	1	100	-	-	-	-
10-25% FRPL	-	-	-	-	-	-	-	-
25-50% FRPL	1	33.3	-	-	-	-	-	-
50-90% FRPL	2	66.7	-	-	-	-	1	100
90-100% FRPL	-	-	-	-	-	-	-	-
Total Schools	3	100.0	1	100.0			1	100.0
Traditional Public School: Urban (N=1970)								
0-10% FRPL	215	30.60	175	22.9	5	2	-	-
10-25% FRPL	316	45.0	243	31.8	2	0.8	-	-
25-50% FRPL	147	20.9	205	26.7	37	15.1	5	1.9
50-90% FRPL	25	3.6	140	18.3	175	71.4	185	72
90-100% FRPL			2	0.3	26	10.6	67	26.1
Total Schools	703	100.0	765	100.0	245	100.0	257	100.0
Traditional Public School: Rural (N=941)								
0-10% FRPL	20	2.4	5	2.5	-	-	-	-
10-25% FRPL	184	21.7	16	20.3	-	-	-	-
25-50% FRPL	539	63.5	44	55.7	4	30.8	-	-
50-90% FRPL	106	12.5	16	20.3	5	38.5	-	-
90-100% FRPL	-	-	1	1.3	4	30.8	-	-
Total Schools	849	100.0	79	100.0	13	100.0	-	-

Source: U.S. Department of Education, National Center for Education Statistics, Common Core of Data (CCD) for racial/ethnic breakdown. Pennsylvania Department of Education for Free-/Reduced-Price Lunch.

Table A3: Number of Students in Economically Concentrated Schools

% of FRPL Students	2006-07		2007-08		2008-09		2009-10		2010-11		5 Yr %age Pt Chg
	#	%	#	%	#	%	#	%	#	%	
Charter: Urban											
>50% FRPL	33,049	79.0	31,010	68.3	37,989	71.9	44,308	71.9	34,306	69.9	-8.8
>90% FRPL	7,053	16.9	10,909	24.0	8,511	16.0	15,569	25.3	10,044	20.5	49.9
<10% FRPL	2,820	6.7	1,393	3.1	2,119	3.4	468	0.8	430	0.9	-88.7
Rural Charter: Rural											
>50% FRPL	828	78.8	1117	94.7	747	62.6	957	79.6	829	70.6	-99.0
>90% FRPL	-	-	197	16.7	0	0.0	0	0.0	-	-	0.0
<10% FRPL	55	5.2	-	-	77	6.5	127	10.6	73	6.2	101.9
Traditional Public School: Urban											
>50% FRPL	347,789	27.9	334,590	27.0	373,884	10.9	375,379	30.5	331,232	27.1	9.4
>90% FRPL	41,197	3.3	125,380	10.1	134,034	30.3	127,864	10.4	133,301	10.9	214.2
<10% FRPL	314,418	25.2	283,286	22.9	201,655	16.4	189,897	15.5	258,043	21.1	-38.8
Traditional Public School: Rural											
>50% FRPL	39,231	9.2	39,334	9.4	67,708	15.4	66,643	15.4	43,758	10.6	68.1
>90% FRPL	845	0.2	380	0.1	985	0.2	746	0.2	813	0.2	-15.0
<10% FRPL	13,845	3.2	10,387	2.5	4556	1.0	2,365	0.6	7,781	1.9	-83.0

Source: Pennsylvania Department of Education (PDE).

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