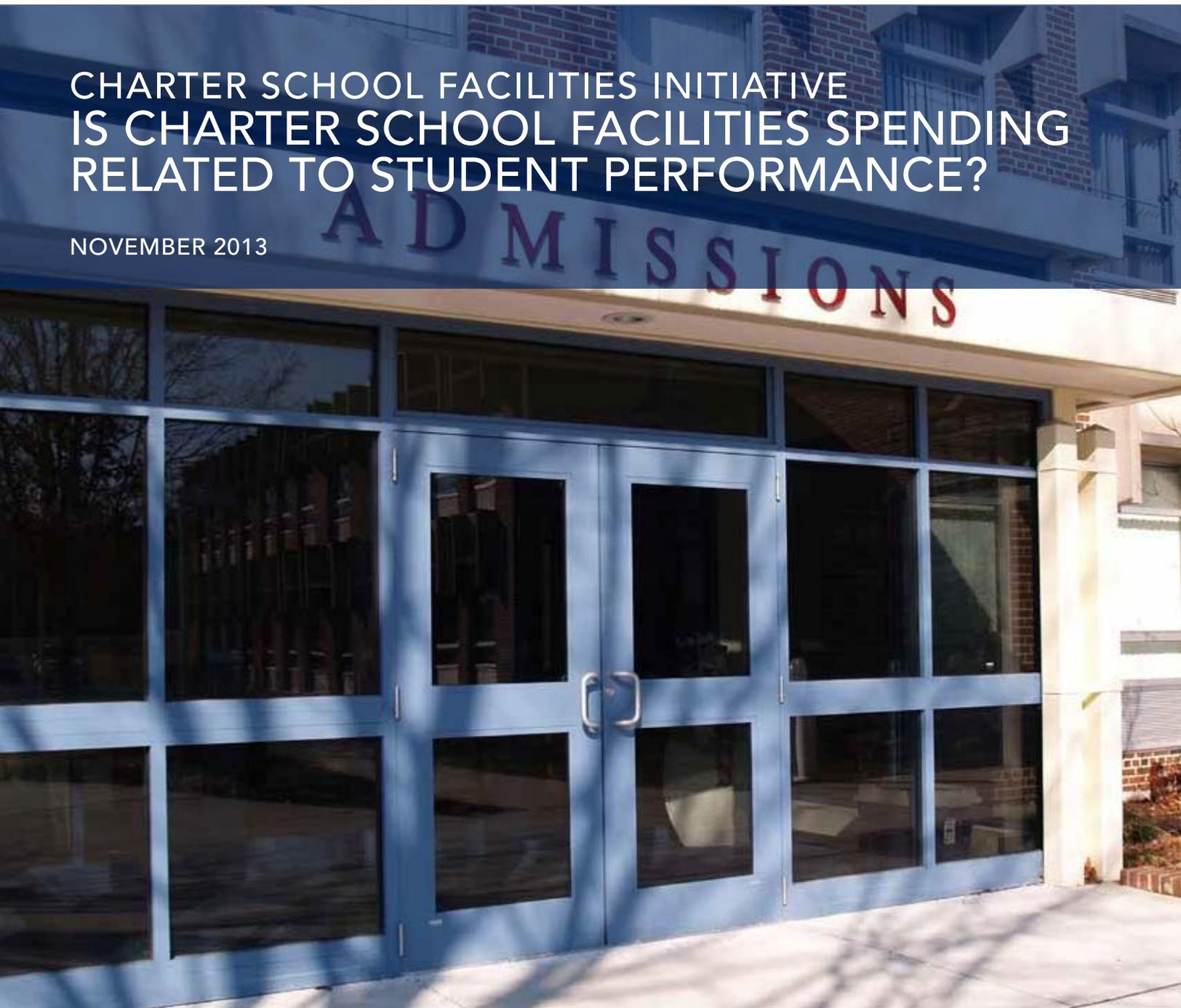


CHARTER SCHOOL FACILITIES INITIATIVE IS CHARTER SCHOOL FACILITIES SPENDING RELATED TO STUDENT PERFORMANCE?

NOVEMBER 2013



COLORADO LEAGUE of
CHARTER SCHOOLS
focus on achievement



ED.gov

THE NATIONAL CHARTER SCHOOL RESOURCE CENTER IS FUNDED BY THE U.S. DEPARTMENT OF EDUCATION'S OFFICE OF INNOVATION AND IMPROVEMENT AND ADMINISTERED BY AMERICAN INSTITUTES FOR RESEARCH, UNDER CONTRACT NUMBER ED-04-CO-0109/0004.



TABLE OF CONTENTS

Introduction	2
Methodology.....	5
Sample and Data Collection.....	5
Measurement	7
School Performance Data.....	7
Per-Pupil Operating Revenue.....	8
Total Facilities Spending.....	8
Results	9
Facilities Spending and the Location of the Facility.....	14
Facilities Spending and Characteristics of the Charter	17
Facility Spending and Characteristics of the Facility.....	22
Conclusions	25
Appendices	28
Appendix A: Survey Development and Data Collection.....	28

INTRODUCTION

During the 2012-2013 school year, 20 years following the enactment of the first charter legislation in the U.S., there are nearly 6,000 public charter schools across the country in 41 states plus the District of Columbia. Charter schools are now serving over two million public school students¹.

Despite charters' prevalence in the public school landscape, charter schools across most states are still responsible for acquiring a school facility on their own and paying for the facility out of their per-pupil operating budgets. While some schools may prefer to select a facility that allows them to customize the school's space in a non-traditional manner, most do not relish spending funds traditionally reserved for instructional necessities. With only a few exceptions (Colorado and Massachusetts), charter schools do not receive specific funding to help pay for facilities or to make capital improvements as part of the annual operating budget. This report highlights the average amount that charter schools are spending on school facilities and explores whether there is a relationship between charter schools' facilities expenditures (as a percentage of per-pupil funding) and student performance.

Facilities spending data collected from across 10 states as part of the Charter School Facilities Initiative ("CSFI") were matched with participating charter schools' performance data from the U.S. Department of Education's EdFacts database. Though facilities data has been collected in 13 states to date, performance data for the most recent three states was not yet available at the time this report was published. Eight-Hundred and forty-three (843) charter schools that participated in the CSFI surveys were successfully matched with performance data for the analyses presented in this report².

Based on the sample of charter schools included in this report, the average charter school spends nine percent of its per-pupil operating revenue on facilities. However, this average is found to vary widely depending on a number of factors, including what entity owns the school facility, i.e the school, a private organization, or a traditional public school district.

-
- 1 Data obtained from the National Alliance for Public Charter School's Dashboard, found at <http://dashboard.publiccharters.org/dashboard/schools/year/2013>.
 - 2 Some comparable statistics differ from the previous CSFI report *Charter School Facilities Initiative: Initial Findings from Ten States*. It should be noted that the 10-state report includes all facilities data, while this report includes only the data from charter school facilities that also had corresponding school performance data, for a sample of 848 facilities (out of the original 956 facilities from the 10 states).



Figure 1. Average Percent of Per-Pupil Operating Revenue Spent on the School Facility, by Ownership Type

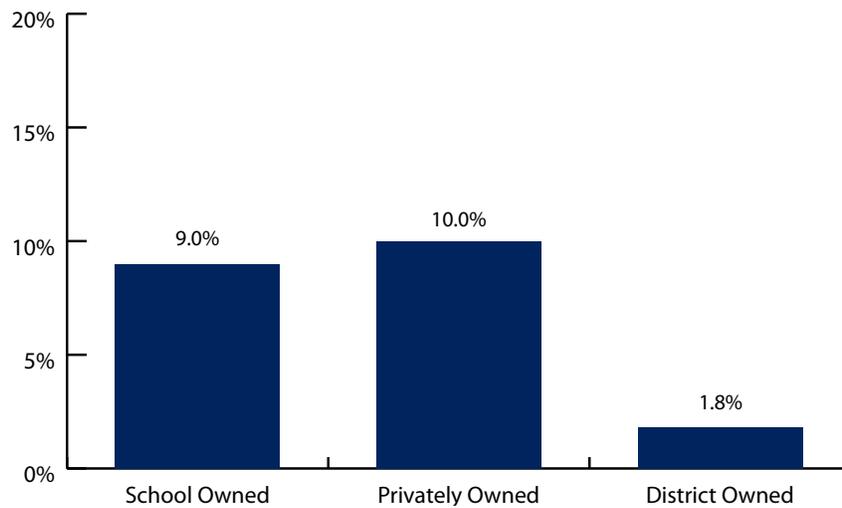


Figure 1 (taken from *Charter School Facilities Initiative: Initial Findings from Ten States*), shows that charter schools that own their facility (“School Ownership”) paid an average of nine percent of their operating budget on the facility. Charter schools that rent from a private entity (“Private Ownership”) paid an average of 10 percent. And, charter schools that rent from a traditional school district (“District Ownership”) paid an average of 1.8 percent, with many of the charters in district owned facilities paying no rent at all.

Given the wide variation in the percentage of operating budgets being spent on facilities, the CSFI has the unique opportunity to explore the relationship between spending on facilities and charter schools’ performance outcomes. This report compares the average spending of higher and lower performing charter schools to begin to assess whether spending on facilities may be impacting outcomes for students.



In addition, this report investigates whether other factors, beyond the type of organization that owns the facility, may be related to variations in facilities spending. The location of the charter facility, characteristics of the charter, and characteristics of the school facilities will be explored as possible drivers of facility spending. While there are a number of potential factors that drive both charter school spending on facilities and charter school performance, this report focuses on those that were captured as part of the CSFI survey.

It should be noted that while the sample of charter school facilities crosses 10 states it has not yet reached the point of being nationally representative. For this reason the analyses contained in this report are exploratory in nature only, and no results should be interpreted as causal. It is hoped that these results will help inform which factors might be driving facility costs and, in turn, influence charter school performance. Once the sample of charter schools included in the CSFI database reaches the point of national representation, more sophisticated statistical modeling will be possible for testing these relationships.

Initial results suggest that higher performing charter schools spend a higher percentage of the school's base level per-pupil operating revenue on facilities compared to lower performing charter schools. While higher performing schools tend to have larger site sizes and more specialized instructional spaces (i.e., dedicated libraries, science labs, computer labs, etc.), they also tend to receive less operating revenue, on average, than their lower performing counterparts.

METHODOLOGY

Sample and Data Collection

Details on the survey development and methodology can be found in Appendix A, but generally the CSFI worked with the local state charter support organization (“CSO”) to gather qualitative and quantitative data on the charter schools in their respective states. With the exception of the first state, Colorado, participating schools were measured by CSO staff and/or consultants and charter school administrators completed an online survey. In Colorado, charter administrators provided all the data and a random selection of schools were re-measured by the CSO to check for reliability in measurement and reporting.

Overall participations rates were generally quite high, with seven of the 10 states reaching 75 percent or higher. For the purposes of the CSFI surveys, facilities (not charter schools) are the unit of analysis, and the number of charter schools in a state does not necessarily equal the number of charter school facilities. In this survey, schools that have separate state identification numbers, but share the same site and have the same chartering board, are considered to be one case (or facility). Additionally, for charter schools with multiple campuses, each campus is considered a separate facility and, therefore, a separate case. Further, when two or more charter schools share a building (co-location) each individual school is considered a separate case. In these instances, facility identification numbers are used to ensure that the spaces are accounted for appropriately.



Table 1 shows the number of charters and facilities in each state presented in this report, as well as the overall rate of participation.

Table 1. Number of Charters and Charter School Facilities in each State at the Time of the Survey, and Participation Rates as a Percentage of the Total Number of Facilities

State	Number of Charter Schools (when surveyed)	Number of Charter School Facilities (when surveyed)	Percent of Charter Facilities to Participate ^a
Colorado	141	141	116 (82%)
Georgia	43	43	36 (84%)
Idaho	43	53	51 (96%)
Indiana	59	59	35 (59%)
Massachusetts	70	69	63 (91%)
Michigan	201	298	200 (67%)
New Jersey	89	92	69 (75%)
New York	186	200	172 (86%)
Tennessee	41	36	31 (86%)
Texas	208	537	193 (36%)

It should be noted that the number of participants is not reflected equally across all analyses for a variety of reasons. For example, 105 facilities with survey data lacked available performance data—largely due to schools with student populations that fell below publicly reportable thresholds. In addition, some facilities participated in only the measurement component of the survey while others only completed the online survey. Finally, because the facilities included were limited to only “higher” and “lower” performing schools, a fraction of the total schools were included in the analyses included in this report (see Measurement section for information on how schools were selected). As a result, each analysis presented in this report may have a different number of facilities included. Each table or figure supplies the number of facilities that were included (labeled as “n”) for the analysis being described.

MEASUREMENT

School Performance Data

School performance data for the subject areas of mathematics and reading were obtained from the U.S. Department of Education's EdFacts database. Data from all public schools (charter and non-charter) were used to rank schools' proficiency rates in each of the 10 states, separately. Though proficiency rates are not the most robust measure of quality for schools, it is the one measure for which all states have data. To define "higher" and "lower" performing charters for the study, all public schools were grouped by grade level configurations (i.e., K-5, K-8, K-12, 6-8, 6-12 and 9-12³) within their respective states. Each group was then ranked, using a percentile distribution from one to 100. Charters that fell into a percentile ranking of 1-10 were classified as "lower" performing charters. Charters that ranked between the 90th and 100th percentile were classified as "higher" performing charters. Table 2 shows the number of charter schools that participated in the CSFI study that were in the top and bottom decile, by state.

As ranking occurred by grade level, it was not necessary for analysis to be completed by grade level. All higher performing charter schools are considered as a group and all lower performing charters are considered as a group.

Table 2. Number of Charter Schools in the Top and Bottom Deciles in each State Surveyed, for both Math and Reading

State	Mathematics		Reading	
	Top Decile	Bottom Decile	Top Decile	Bottom Decile
Colorado	23	11	28	8
Georgia	5	3	9	0
Idaho	7	3	5	2
Indiana	0	8	2	5
Massachusetts	8	1	6	0
Michigan	22	22	21	29
New Jersey	4	17	3	14
New York	16	17	4	24
Tennessee	3	10	0	3
Texas	31	41	28	35
Total	119	133	106	120

3 These six grade levels were selected because the standards used in the facilities study are different and follow the same six levels. See Appendix B for details on the grade level standards used in this report.

As seen in Table 2, the number of schools in each state to fall in either the top or bottom decile can be quite low, making state by state comparisons impractical. Therefore, all analyses presented in this report are done simply by comparing all higher performing schools to all lower performing schools. Separate analyses are performed for math and reading, as not all higher performing schools in mathematics are also higher performing in reading, nor are lower performing schools often the same in both math and reading.

Per-Pupil Operating Revenue

Per-pupil operating revenue (“PPOR”) was calculated by dividing the annual operating revenue by the total official enrollment reported by each state. Both annual operating revenue and official enrollment were acquired through each state’s education agency, via the state’s charter support organization (CSO). PPOR includes state and district funds provided to the charters for operating purposes only. PPOR does not include any categorical funds for Title I, special education services or the like. Only in instances in which a charter school received categorical funds specifically for the purpose of funding facilities or capital improvements were these additional funding amounts included in PPOR.

Total Facilities Spending

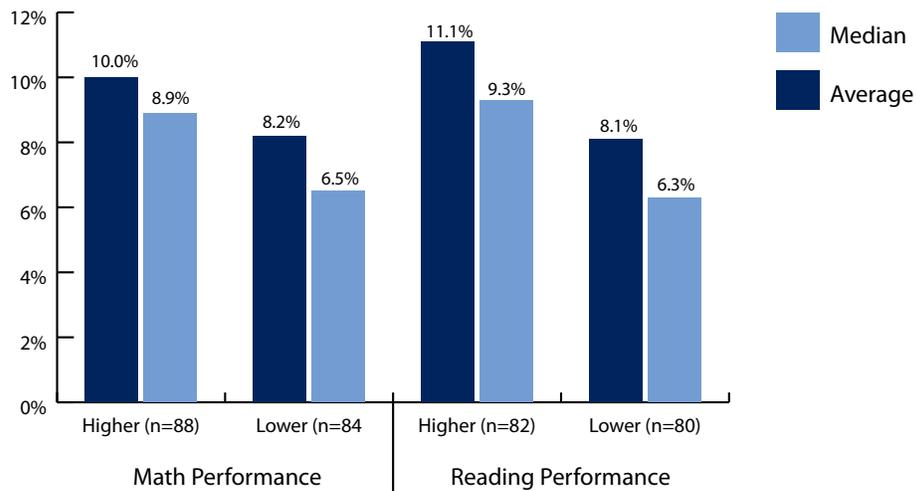
Total facilities spending was obtained from the charter school administrators via an online survey. Administrators were asked to provide the annual payments for any bonds or loans they currently held and/or the annual amount paid for the facility as part of a rental or lease agreement. Renters were asked to indicate which utilities, if any, were included in the rental payment. Renters also reported maintenance fees and upkeep costs associated with the school facility. Traditionally run district schools pay for utilities and maintenance costs out of their PPOR. To make for equitable comparisons, utilities and maintenance fees were subtracted from the total rental amount for schools that received these services through their rental agreement. In this report, total facilities spending are reported as either an average total dollar amounts or as an average percentage of PPOR.

In some cases, charter schools actually had rental payments that were calculated as a negative amount based on the methodology described above, representing a net facilities benefit. This occurred when a charter school received its facility from a school district or other governmental entity for no cost and also did not have to pay utility costs and/or maintenance fees. In the cases where this occurred, the schools’ data was recoded as having a zero (\$0) payment, rather than the actual negative amount.

RESULTS

To assess whether there is a relationship between charter school spending on facilities and school performance, measures of central tendency (i.e., means and medians) were computed for both higher and lower performing schools. Higher performing charters are those that had proficiency rates in the top decile among all public schools in their respective state serving the same grade levels (i.e., elementary, middle, high school, K-8, K-12, or 6-12). Lower performing charter schools are those that fell in the lowest decile of proficiency in their state.

Figure 2. Average, Median Percent of Per-Pupil Operating Funds Spent by Higher and Lower Performing Charter Schools



As seen in Figure 2 higher performing charter schools are spending a higher percentage of the schools' operating budgets on facilities than lower performing charter schools. On average, higher performing charters are spending more by two to three full percentage points.

There are several possible reasons for this difference that were explored here. Higher performing charter schools may be spending a larger percentage of their PPOR on facilities because: a) their facilities are larger (Table 3), b) their facilities have more amenities (Table 4), c) or they receive less PPOR (Figure 3).

Table 3. Average and Median Site Size, in Acres, for Higher and Lower Performing Charter Schools

Charter School Performance	Average	Median
Reading Performance		
Lower Performing Charters (n=100)	3.1	1.4
Higher Performing Charters (n=90)	7.2	3.0
Math Performance		
Lower Performing Charters (n=119)	2.8	1.2
Higher Performing Charters (n=101)	7	2.2

Table 4. Percentage of Higher and Lower Performing Charter Schools that have None or All of the Five Specialized Instructional Spaces in the Facility

Number of Specialized Instructional Spaces ^a in the Schools Facility	Math Performance		Reading Performance	
	Higher	Lower	Higher	Lower
Zero out of Five (n=40)	38%	62%	43%	57%
Five out of Five (n=28)	65%	35%	61%	39%

a. Specialized instructional spaces are dedicated instructional spaces outside the general classrooms and include: libraries, science labs, computer labs (physical or mobile), art or music rooms, and special education resource rooms.

Results from the analysis provided in Table 3 and Table 4 support the notion that higher performing charter schools are on larger sites and have more educational amenities. Higher performing charter school sites averaged seven acres, while lower performing charter school sites averaged three acres, and a far higher proportion of higher performing charters included multiple specialized instructional spaces (i.e., dedicated libraries, computer labs, science labs, art or music rooms, and special education resource rooms). It does not appear, however, that higher performing charter schools are paying dramatically more for facilities, in actual dollar amounts spent per pupil, compared to the lower performing charters. Table 5 shows that the higher performing charters spend roughly \$100 more per pupil on facilities, compared to lower performing charters. However, when tested, the difference was not found to be statistically significant.

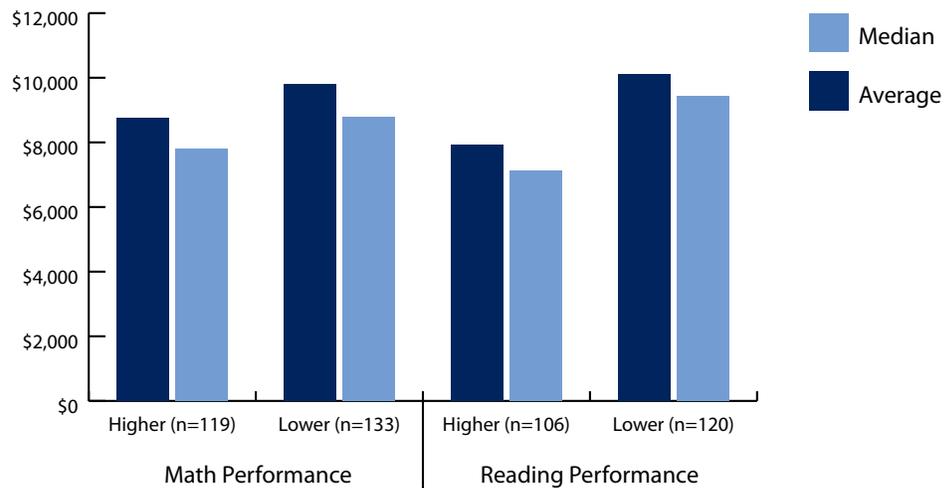
Table 5. Average, Median Dollar Amounts Spent on Facilities by Higher and Lower Performing Charter Schools⁴

Charter School Performance	Average	Median
Math Performance		
Higher (n=88)	\$850	\$726
Lower (n=84)	\$747	\$611
Reading Performance		
Higher (n=82)	\$876	\$737
Lower (n=80)	\$781	\$611

When comparing the average base level per-pupil revenue received by higher and lower performing charter schools (Figure 3) and the average dollar amounts being spent by higher and lower performing charter schools (Table 5), it appears that the higher performing charter schools are simply receiving fewer per-pupil dollars; thus, the higher performing charters spend a higher proportion of their per-pupil revenue despite very similar amounts spent on their facilities

4 Note: An independent sample t-test found the mean difference in dollars spent between higher and lower performing charter schools to be non-significant for both math and reading.

Figure 3. Average, Median Base Per-Pupil Funding Received by Higher and Lower Performing Charter Schools

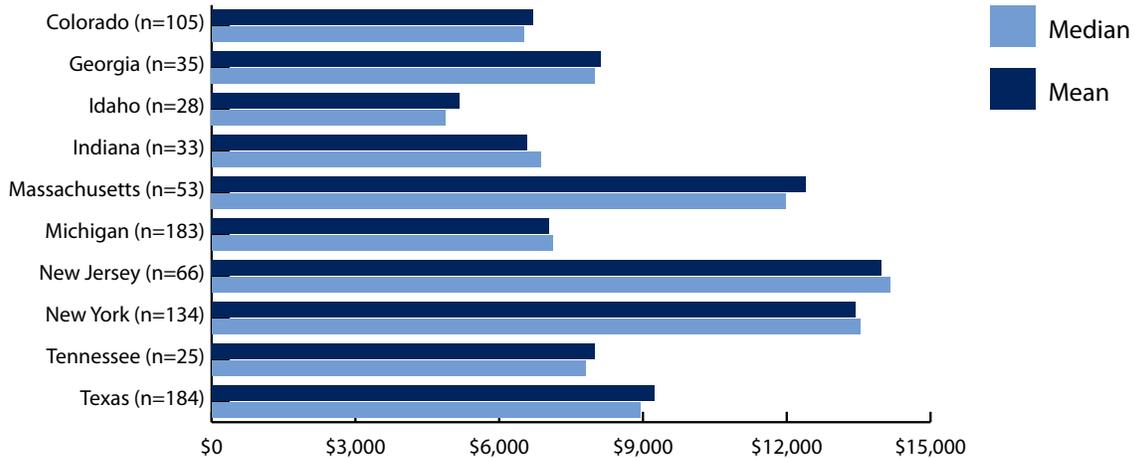


Why lower performing charters receive more base PPOR is not clear, but it may have to do with the students the charters are serving. For a few of the states in the sample, charters reside predominantly in urban areas where the average percent of Free and Reduced Lunch (FRL) qualified students is higher (Table 6) and are on the East Coast (Massachusetts, New Jersey, New York) where PPOR is higher than in other states (see figure 4).

Table 6. Average Percentage of Charter School Students the Qualify for Free or Reduced Priced Lunch (FRL), by Location

Location	Mean	Median
Urban (n=489)	69%	77%
Suburban (n=147)	53%	63%
Rural (n=193)	52%	55%

Figure 4. Average, Median Per-Pupil Revenue Received by Charter Schools across the 10 States



The performance of low income students tends to be lower than middle and upper income students (see Table 7 and Coleman, 1962). Perhaps the high PPOR, combined with a high concentration of low income students contributes to the trend found here between the facilities expenditures and student performance outcomes. The percent of low income students (measured by the percent of FRL students) attending the higher and lower performing charter school indicate that this explanation is a definite possibility.

Table 7. Average, Median Percent of Students that Qualify for Free and Reduced Priced Lunch among Higher and Lower Performing Charter Schools that Participated in CSFI

	Average Percent FRL	Median Percent FRL
Math Performance		
Higher (n=113)	45%	38%
Lower (n=128)	76%	81%
Reading Performance		
Higher (n=102)	33%	24%
Lower (n=115)	81%	86%

Although the results presented above provide interesting (and sometimes puzzling) trends, there are a number of other possible explanations for why higher performing charter schools spend a higher proportion of their PPOR on facilities. As stated previously, the analyses conducted for this report were exploratory in nature and should not be interpreted as causal in any way.

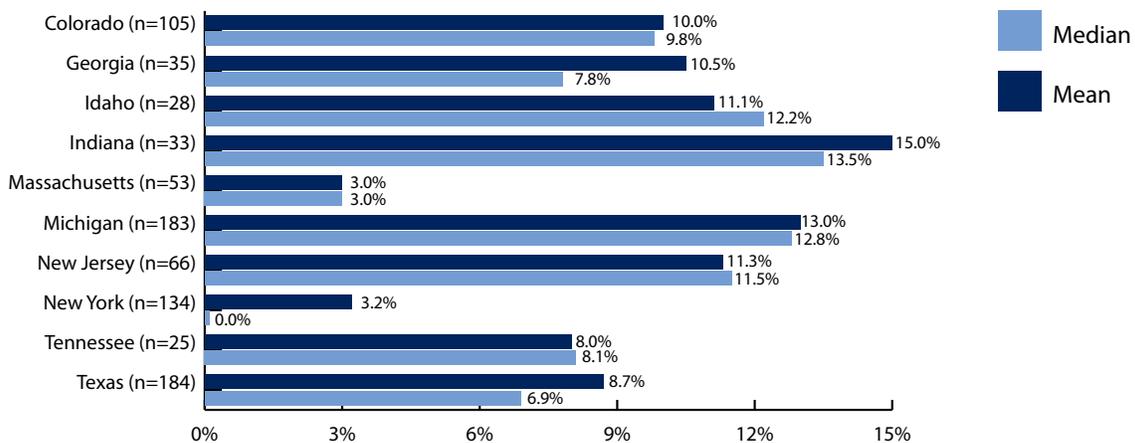
To investigate additional potential drivers of facilities spending among charter schools across the sample, the sections below explore variations in facilities expenditures based on: the location of the charter facility, characteristics of the charter, and characteristics of the school facility.

Facilities Spending and the Location of the Facility

STATE

As reported in the initial 10-state facilities report, there is significant variation across the sample states in regards to the average percentage of PPOR spent on the school facility. For example, in Massachusetts, where charter schools receive a facility-specific funding allocation of \$893 per student, charters spend just below three percent of their PPOR on facilities. On the other hand, charter schools in Indiana—where charters do not receive a facilities allocation and per-pupil funding is one of the lowest (see Figure 4)—schools are spending over 14 percent (see Figure 5).

Figure 5. Average, Median Percent of PPOR Spent on Charter School Facilities, Across 10 States



Indiana is not alone. Not surprisingly, charters receiving more PPOR, on average, tend to spend a lower percentage of their PPOR on facilities (Figure 5). One exception to the pattern showing an inverse relationship between PPOR and percent of PPOR spent on facilities is in New Jersey. New Jersey charters receive the highest average PPOR of all 10 states, but are tied with Idaho for the third highest percentage of PPOR spent on charter school facilities. One possible reason for this is that a great majority of New Jersey charters are in Newark, a large urban area. Perhaps due to the higher cost of land in large cities charter schools located in urban areas spend more for facilities, in general. The next analysis explores that possibility.

LOCATION

Table 8 shows the average dollar amounts spent, per pupil, as a function of whether charter school facilities are located in urban, suburban, or rural area⁵. Results shown here suggest that charter schools in urban areas pay the least, on average (\$729). However, it should be noted that nearly all New York City charter schools receive shared facilities from the district for which they pay zero dollars. Eighty of the 134 New York charter schools that responded to the facilities survey paid no rent or bond payments, skewing the average payments made by urban charter schools downward. The average per-pupil facilities payment for urban charters increases to \$1,000 when New York City charter schools that are paying no rent are excluded from this analysis.

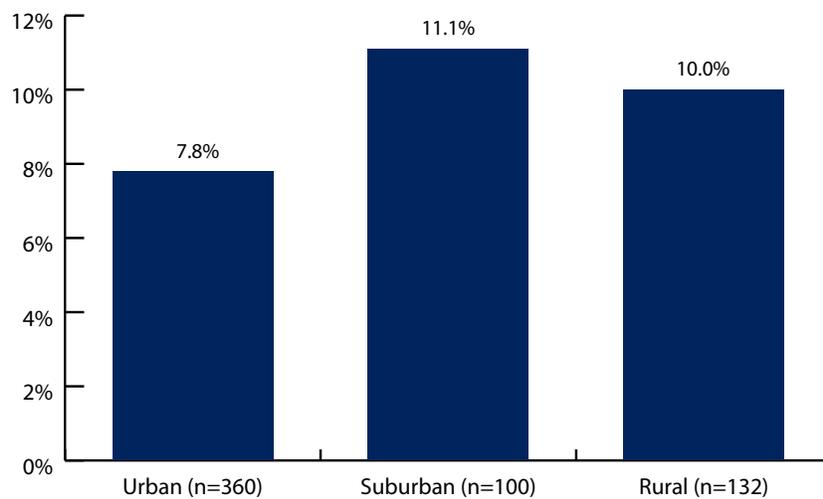
5 School Urbanicity was defined according the National Center for Education Statistics (NCES) coding of school location, but were condensed into three classifications only: urban (or city), suburban, and rural. For the purposes of this study, the NCES codes for town and rural were collapsed into a single category. When NCES codes were not available for a charter school facility, state charter associations were asked to give us a classification according to their best judgments for urban (city), rural, or suburban.

With all zero payments included (in and outside of NYC) suburban charter schools pay the most, on average, for their facilities (See Table 8 and Figure 6).

Table 8. Average Spending, Per Pupil, on Charter School Facilities by Location

Location of Charter School	Average Amount Spent of Facilities, Per Pupil
Urban (n=323)	\$729
Suburban (n=105)	\$985
Rural (n=139)	\$782

Figure 6. Percentage of PPOR Spent by Charter Schools on Facilities, by Location



Whether including or excluding New York City schools, there does appear to be a difference in the proportion of PPOR spent on facilities based on the schools location type.

Facilities Spending and Characteristics of the Charter

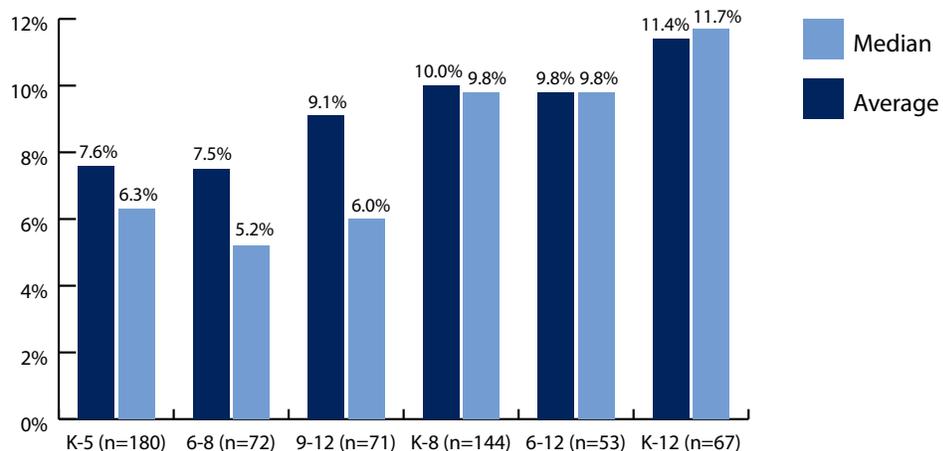
Other factors that may impact how much charters spend on their facilities include characteristics of the charter itself, including grades served, and whether the charter is part of a network or management organization, and by what type of authorizer the charter is overseen.

GRADES SERVED

When investigating the proportion of PPOR being spent on a facility we have found that there is a relatively strong and negative relationship between the amount paid by the school and the PPOR amount received by the school. Some states have weighted funding formulas that provide higher payments for high school students versus elementary and middle school students, while others give the same amount per pupil regardless of grades. Given the variation in practices for funding the different grade levels, the next analysis explores the amount charters are spending on facilities based on the grade levels they are serving.

Across the 10 states surveyed, the average percent of PPOR charters spend on facilities is nine percent. When investigating the average spending by grades served, Figure 7 shows that elementary charters (K-5), middle school charters (6-8), and high school charters (9-12), tend to spend below the 10-state average; charter schools serving Kindergarten through 8th grade and those serving 6th-12th grades are spending very close to the average amount; and K-12 charter schools are spending nearly 2.5 percentage points above the 10-state average.

Figure 7. Average, Median Percentage of PPOR Spent on the Facility, by Grades Served in the Charter School



Similar to the trend found for spending by state, charters spending higher proportions of PPOR appear to be doing so primarily because, as a group, they are receiving less PPOR to begin with. Table 9 shows that the average per-pupil funding received by charters serving grades K-12 is \$8,426.34—nearly \$2,000 less per pupil than the K-5 and 6-8 charter schools.

Table 9. Average Spending on Facilities by Charters Serving Different Grade Levels

Grades Served	Per-Pupil Funding Amount	
	Average	Median
K-5 (n=233)	\$10,355	\$9,261
6-8 (n=100)	\$10,444	\$9,433
9-12 (n=111)	\$9,065	\$8,591
K-8 (n=232)	\$8,501	\$7,110
6-12 (n=70)	\$9,017	\$8,521
K-12 (n=92)	\$8,426	\$7,110

Why K-12 and K-8 charter schools receive so much less per pupil is beyond the scope of this paper, but these results make clear that base PPOR is a large part of why some charters spend a much higher percentage of their operating funds on their facilities than others.

YEARS OF OPERATION

Compared to the public education system as a whole, charter schools are relatively new, yet after 20 years there is enough variation in the age of operating charter schools to evaluate whether length of operation is linked in any way to the percent of PPOR that charter schools are spending on facilities.

Figure 8. Average Percentage of PPOR Spent on Facilities by the Number of Years the Charter Schools have been in Operation

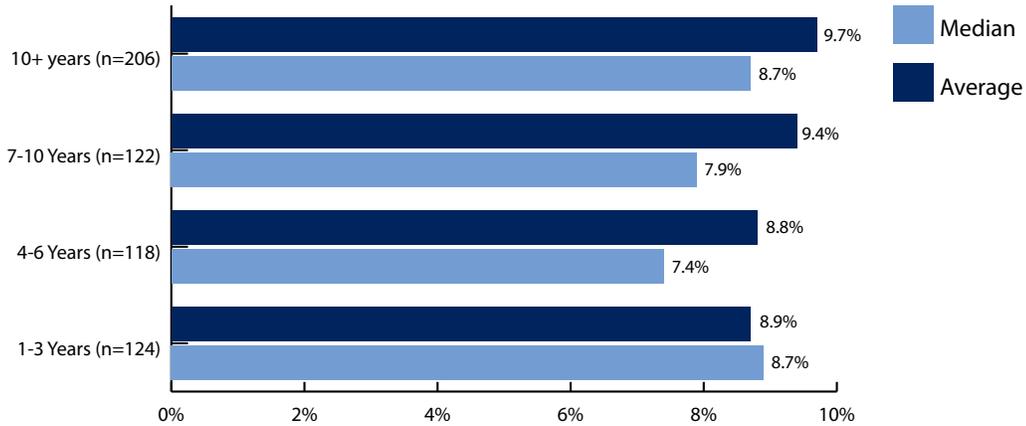


Figure 8 shows that charter schools that have been in operation for seven years or more tend to pay a higher percentage of the schools’ per-pupil operating revenue (on average) than charter schools that have been in operation for fewer than seven years. However, the median percent PPOR was highest for schools that have been in operation for 1-3 years (at 8.9 percent), followed by charter schools that have been in operation for 10 or more years.

Table 10. Percent of Charter Schools, by Years of Operation, that are Owned by the School, a School District, a Private Entity, or a Non-District Governmental Agency

Ownership Type	# Of Years the Charter has been Operating			
	1-3 years	4-6 years	7-10 years	10+ years
School Owned	28.2%	42.1%	49.1%	68.5%
District Owned	30.6%	21.1%	20.4%	8.3%
Privately Owned	36.5%	31.6%	27.8%	19.6%
Other Government Owned	4.7%	5.3%	2.8%	3.6%

It is interesting to note that the highest proportion of schools that own their facility are those that have been in operation for 10 or more years, while the highest proportion of renters (from private organizations) are charters that have been operating for between one and three years (see Table 10). As shown previously, charters owning their facility and charters renting from private entities pay a far higher percentage of PPOR than those renting from districts (see Figure 1).

MANAGEMENT AFFILIATION

As charters have found success some have replicated their model either within the state or across into other states. Similarly, some educational service providers have formed or expanded to serve charters as well as traditional school districts. The variety of situations for charters in this regard allowed an analysis to be conducted comparing the average PPOR spent by charters as a function of “management affiliation ⁶.”

Table 11. Percent of PPOR Spent on Facilities as a Function of Whether the Charter Schools is part of a Network of Schools, a Management Organization (CMO/EMO), or is a Single Site, Independently Operated Charter School

Ownership Type	Percent of PPR Spent on Facilities	
	Average	Median
Independent (n=140)	10.3%	10.0%
Network (n=192)	8.3%	7.4%
CMO/EMO (n=237)	7.9%	7.7%

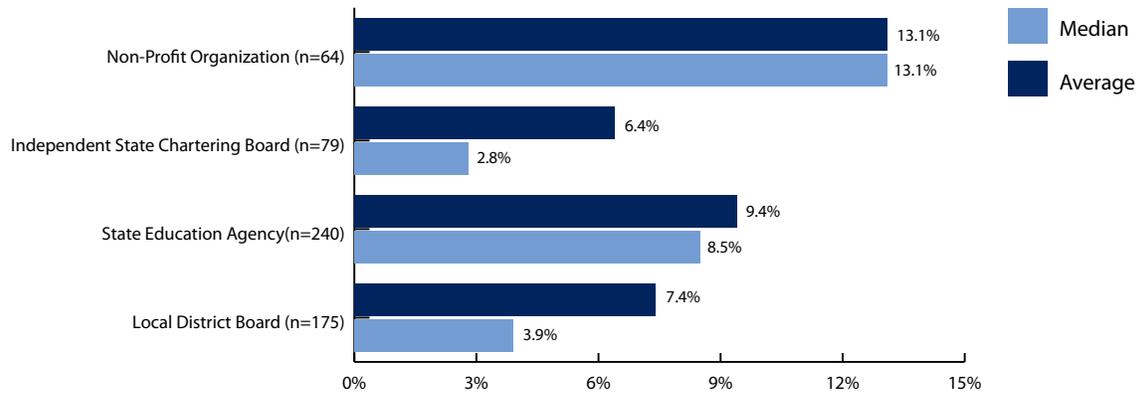
As seen in Table 11, charter schools that are part of a management organization (CMO/EMO) or a small network of charter schools spend around eight percent of their PPOR on facilities, while the independently operated charters spend 10 percent or more of the schools’ PPOR on facilities. Again, further research into why there is such a large difference in the percentage of PPOR being spent on facilities between independently run charters and managed or network charters is beyond the scope of this paper, but perhaps economies of scale play a role.

6 Data was obtained from both the state associations that participated in the CSFI study and the National Alliance for Public Charter Schools to determine whether each charter school was an independent (freestanding) school, part of a small network of local charter schools, or part of a larger management organization (EMO or CMO).

AUTHORIZER TYPE

According to the National Association of Charter School Authorizers (NACSA) there are six main types of authorizers: local district school boards, state education agencies, mayor/municipalities, independent state chartering boards, higher education institutions, and non-profit organizations. Following NACSA definitions of authorizer types, the next analysis compared the percent of PPOR charters authorized by each of these types of authorizers spent on their facilities.

Figure 9. Average, Median Percent of PPOR Spent on Facilities, by Authorizer Type



The sample of charter schools included in this report did not include charters that were authorized by all of the six authorizer types outlined above. No charters authorized by mayor/municipalities or higher education institutions were included in the sample.

Comparing the average percentage of PPOR spent on facilities, charter schools authorized by an independent state chartering board paid the least, while charters authorized by non-profit organizations were found to pay the most (see Figure 9). Whether these results will hold once the sample of charter schools is nationally representative is not known. New York City authorized charters, most of which pay little to no facilities costs, are likely skewing the district authorizer average downward—thus the large gap between the district average and the district median. There is also a large gap between the average and median percent spent by charters authorized by independent state chartering boards, which may or may not lessen with more charters added to the sample.

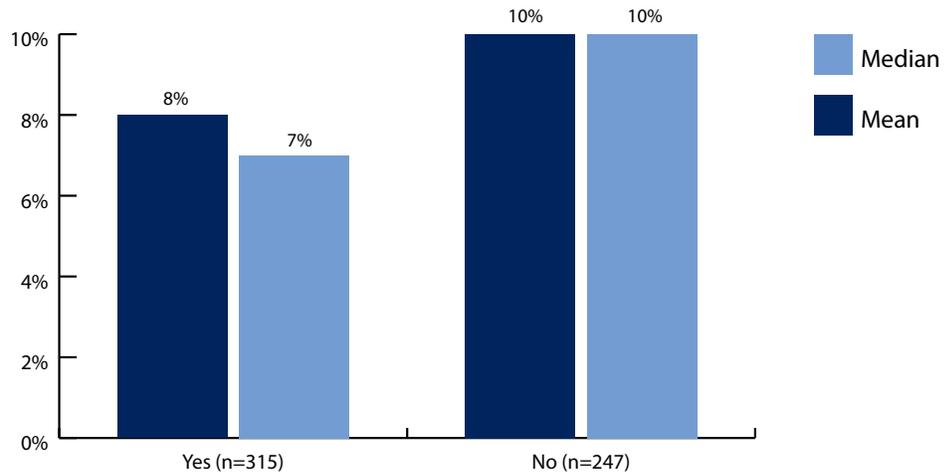
Facility Spending and Characteristics of the Facility

This section looks at some of the aspects of school facilities that could be driving the cost of charter school facilities. The findings may provide a glimpse into what charter schools have decided to go without in order to keep facilities costs at a minimum or because the schools have no other option available.

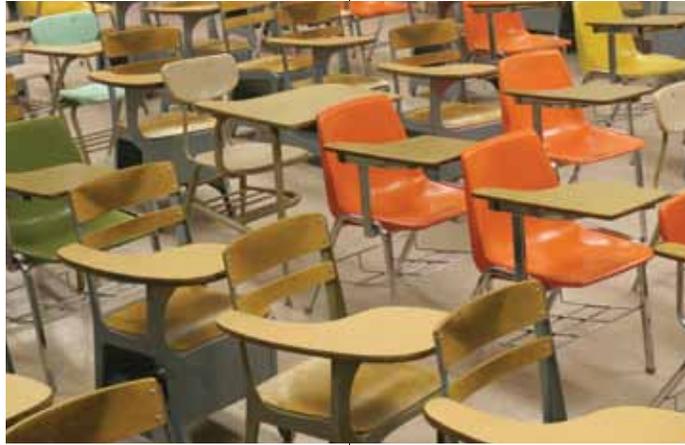
ORIGINALLY CONSTRUCTED AS A SCHOOL

One very obvious difference between charter school buildings and those of traditional public schools is the types of buildings they occupy. Generally, traditional public schools are in buildings that were originally constructed as schools. Charter schools, however, reside in all kinds of spaces, from strip malls and abandoned grocery stores to church basements, to very modern facilities that the charter school had built specifically for the school’s program. The following analysis looks at whether locating a charter school in a non-traditional space confers charters with any cost savings.

Figure 10. Average Percentage of PPOR Spent on the School Facility, by whether the Facility was Constructed as a School Originally



For the 10 states included in this report, the answer is “No”. Charters are not paying less, on average, for buildings that were not constructed as schools. As depicted in Figure 10, charter schools that responded “No” to the question, “Was the school’s facility originally constructed as a school?” pay more on average than the charter schools that responded “Yes” to the same question.



FACILITY AGE

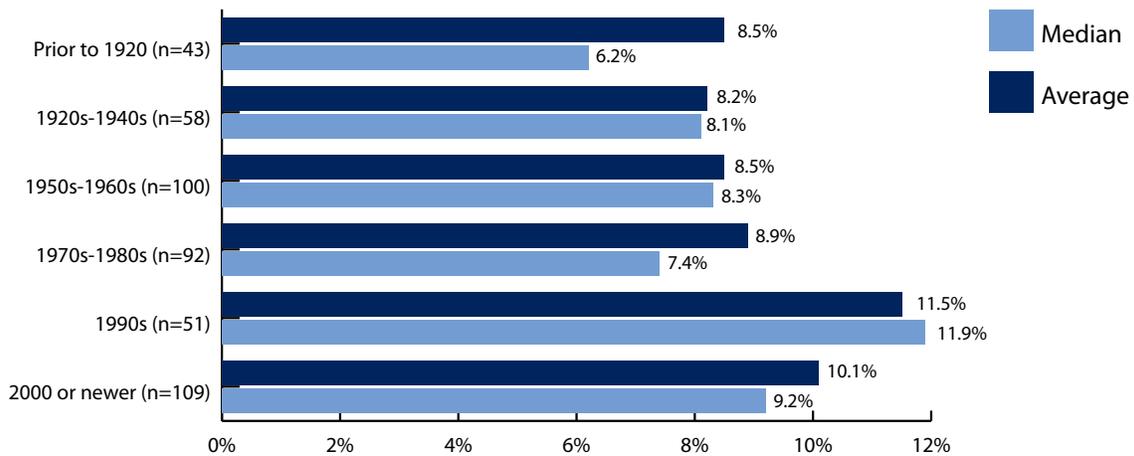
In addition to charters occupying facilities in a large variety of building types, they also occupy facilities of various ages. Table 12 shows the percentage of charter schools that were reported to have been originally constructed in each time period over the last century.

Table 12. Percent of Charter School Facilities Originally Constructed in each Time Period

Time Period	Percent of Charter
Facilities (N=627)	9%
1920s-1940s	15%
1950s-1960s	23%
1970s-1980s	17%
1990s	10%
2000 or newer	26%

Charter schools that reside in buildings that were built on or after 1990 are paying an average of 10 percent or more of the schools’ PPOR on facilities (Figure 11), while charters residing in facilities built prior to 1990 pay closer to eight percent on average.

Figure 11. Average Percentage of PPOR Spent on Facilities, by Year of the Facilities’ Original Construction



This finding may be due in large part to location, again, as the older facilities are more likely to be on the East Coast, where the overall PPOR tends to be much higher. In fact, 72 percent of the charters that reported the schools’ facility was originally constructed prior to 1920 were in Massachusetts, New Jersey, or New York.

BUILDING QUALITY

As part of the CSFI survey, charter school administrators were asked to complete a series of items rating the adequacy of the school’s facility with regard to lighting, temperature, air quality, site condition, etc. (see separate report, *Is the Quality of Charter School Facilities Related to Student Performance?* for more detail). All items were scored and combined into one score of “building quality”. The highest score possible for a facility was 63 points. A correlation was run between the percent of points awarded the facilities by the school administrators and the percent of PPOR spent on the facility. Though the correlation was statistically significant, it was very small (0.16) and building quality only “explains” three percent of the variation observed in the percent of PPOR charters spend on their school’ facilities.

CONCLUSIONS

Two goals for this study were to: 1) look to see if a pattern emerged when comparing the proportion of charter schools' operating budgets being spent on facilities among higher and lower performing charter schools, and 2) explore drivers of facilities spending among charter schools across the country.

Using performance data from the U.S. Department of Education's EdFacts database and facilities spending data collected as part of the Charter School Facilities Initiative, the percentages of schools were found to spend a higher proportion of the schools' PPOR on facilities than the lower performing charter schools (Figure 2).

Follow-up analysis suggests that higher performing charter school facilities have larger sites (Table 3) and more specialized instructional spaces (Table 4), but that they also receive less base funding, on average, than their lower performing counterparts (Figure 3). Because the actual difference in the dollar amounts being spent on facilities does not differ markedly between the higher and lower performing charter schools (Table 5), it appears that higher performing charters are spending a higher proportion of the schools' operating budgets on facilities because of the difference in base PPOR (Figures 2, 3, 4 and Table 9).

However, a much higher percentage of the students attending lower performing charter schools qualify for free and reduced priced lunch (FRL) than the students attending the higher performing charter schools in the sample (Table 7). While the PPOR data that was collected was intended to reflect only base level PPOR, and not include funds for Title I or other programmatic funds, it is possible that the data received did, in fact, include programmatic funds. If programmatic funds were included in some of the states' reported PPOR then that could explain why lower performing charters appear to receive higher PPOR.

Another possible explanation for lower performing charters to receive more PPOR is that low FRL students tend to cluster in large urban areas, and the large urban areas included in the sample are in the New England area (MA, NJ, & NY), where base PPOR is relatively high. The average PPOR received by participating charter schools in Massachusetts, New Jersey, and New York was \$10,122, compared to the average PPOR received by participating charter schools in the other seven states was \$8,764—a \$1,358 difference per pupil. For the average size charter in the sample, 338 students, that is a difference of nearly half a million dollars between charter schools in New England versus those in Colorado, Georgia, Idaho, Michigan and elsewhere. Once the CSFI obtains school performance data for the three states that completed the project in 2012-2013 and one or two more to be collected in 2013-2014, the relationship between facilities spending and school performance will be more reliably assessed.

Among the other potential spending drivers explored, spending differences were also found to exist between newer (schools operating for three years or fewer) and older (schools operating more than three years) charters (Figure 8), as well as between independently run charter schools and charters that were part of a network or management organization (Table 11). It is likely that the differences found here have to do with experience and perhaps economies of scale.

Perhaps networks and charters managed by a management company are able to benefit from economies of scale, or the experience of the management companies when negotiating facilities agreements. The exact nature of the difference was not explored in this study, but would be an interesting topic to explore in future research.

Finally, charter schools tended to spend a higher proportion of their operating budgets on newer facilities (Figure 11) and facilities that were not originally constructed as schools (Figure 10)—neither of which are terribly surprising findings. What was surprising was how low charter school administrators' perceptions about the overall quality of the schools' facilities was related to spending on the facility. One would think that charter school administrators paying a high proportion of the school's budget on a facility would think highly of the facility. But it is also plausible that because they spend a lot of their budget on the facility they may expect the facility to be better than it actually is.

Interestingly, another report produced at the same time as this one, looking at the characteristics of charter facilities and their relationship to school performance outcomes (*Is the Quality of Charter School Facilities Related to Student Performance?*), found very little difference in charter schools administrators' ratings of facility quality between the higher and lower performing schools. It may be that for one reason or another charter school administrators carry a rather low opinion of the school facility (across the sample the average administrator gave their facility 40 percent of all possible points), such that there was too little variation in administrators perceptions to find a relationship.

Further research can be done upon the completion of the CSFI project, or once the sample of charter schools in the CSFI database and for which school performance data is obtainable, reaches national representation. When that occurs more sophisticated statistical tests may be run to test the relationship between facilities spending and school outcomes, as well as tests to see what drives the average spending on facilities for charters.



At first blush, it would appear that base PPOR received by charters is the main driver of the proportional amount of the operating budget charters are spending.

Though the trend analysis showed that higher performing charter schools tend to spend a higher proportion of their operating budgets on facilities, it is worth noting that in Massachusetts, where charters receive a specific facility allotment of nearly \$900 per student on top of base per-pupil funding, no charters were found in the bottom decile on state test performance in reading, and only one appeared in the bottom decile for the state in mathematics (Table 2). Additionally, eight of Massachusetts' charters fell into the top decile on proficiency in the state in math, six in reading. Conversely, in Indiana charter schools, which receive among the lowest base PPOR in the sample and receives no facility specific allotment, had no schools in the top decile for proficiency rates in math, and two in reading; while eight appeared in the bottom decile for math, six for reading.

Granted, proficiency is not the best measurement of quality for schools and future research efforts should use more robust measures, such as growth or percent of points received on a multi-measure performance framework. Unfortunately, when analyzing a national sample using publically available data proficiency rates are the only current option.

That said, the stark difference in the presence or absence of charter schools in the top and bottom deciles in Indiana and Massachusetts and the relative proportion of the charter schools' operating budgets being spent on facilities, rather than teacher salaries or educational materials, is eye opening. Perhaps policies aimed at providing charter schools additional facilities funding and/or reducing the amount that charters are paying for facilities could benefit the charter sector as a whole.

APPENDIX A

Survey Development and Data Collection

A critical first step to gathering the best possible set of objective data and information about charter school facilities and facility needs was to develop a comprehensive questionnaire.

To accomplish this, the Colorado League of Charter Schools (“the League”) commissioned Cuningham Group Architecture, Inc. The firm’s principal architect, Paul Hutton, AIA, has designed a variety of schools and is known for his creative, cost-effective, and environmentally conscious facilities. Mr. Hutton has designed numerous new charter schools and charter school additions. Wayne Eckerling, Ph.D., a former assistant superintendent with Denver Public Schools with responsibilities for supervision of charter schools, educational planning, and research, was also selected to assist in the design of the survey and analysis of the data. In addition to his public school facilities expertise, Dr. Eckerling has experience with general obligation bond planning and implementation.

The draft questionnaire was reviewed by the League’s facility task force, League staff, and others with expertise in school construction and educational policy. A draft questionnaire was then field tested with a small group of charter schools to ensure clarity and comprehensiveness of the items. Further revisions to the questionnaire were made based on the feedback from all participating Colorado schools and survey results. The revised base survey and state-specific questions were then administered in Georgia, Indiana and Texas. Extensive feedback was solicited from these states’ charter support organizations (CSOs) and schools, resulting in further revisions to the League’s base survey.



TOPICS ADDRESSED INCLUDE THE FOLLOWING:

- **Demographic information including grades served, year of inception, and number of students on the waiting list.**
- **Future facility plans.**
- **Shared use information.**
- **Facility information including year of construction and site size.**
- **Facility ownership, financing, and annual payments.**
- **Facility and classroom size and information technology resources.**
- **Facility amenities such as gymnasiums, lunch rooms, libraries, and playgrounds.**
- **Facility adequacy, condition, and maintainability.**
- **Facility funding.**

The questionnaire includes more than 145 items with some requiring multiple responses.

The Colorado League of Charter Schools' questionnaire was revised to address each participating states' specific facilities landscape through a collaborative effort that included key staff from each state charter support organization (CSO), the Colorado League of Charter Schools, and Dr. Eckerling. In all states except Colorado, CSO staff and/or hired consultants measured all instructional spaces for each participating school and assisted schools with completing the questionnaires to ensure both timely and accurate responses. In Colorado, charter school personnel were responsible for all measurements and survey responses. A random set of schools were then measured again by League staff and consultants to gauge overall accuracy of measurements. In all states, submitted questionnaires were reviewed by the League research team for consistency and completeness. Follow-up was done with the schools as necessary.

While the facility measurements and completed questionnaires are the primary source of data for this study, information from the states' departments of education on pupil membership, per-pupil funding, and free and reduced price lunch eligibility were provided to the League by each of the participating CSOs. The demographic and funding data provided was the states' official count and funding data that corresponded with the same year that the survey was conducted.

Charter School Facilities Initiative: Is Charter School Facilities Spending Related to Student Performance? was prepared by the Colorado League of Charter Schools and the National Alliance for Public Charter Schools