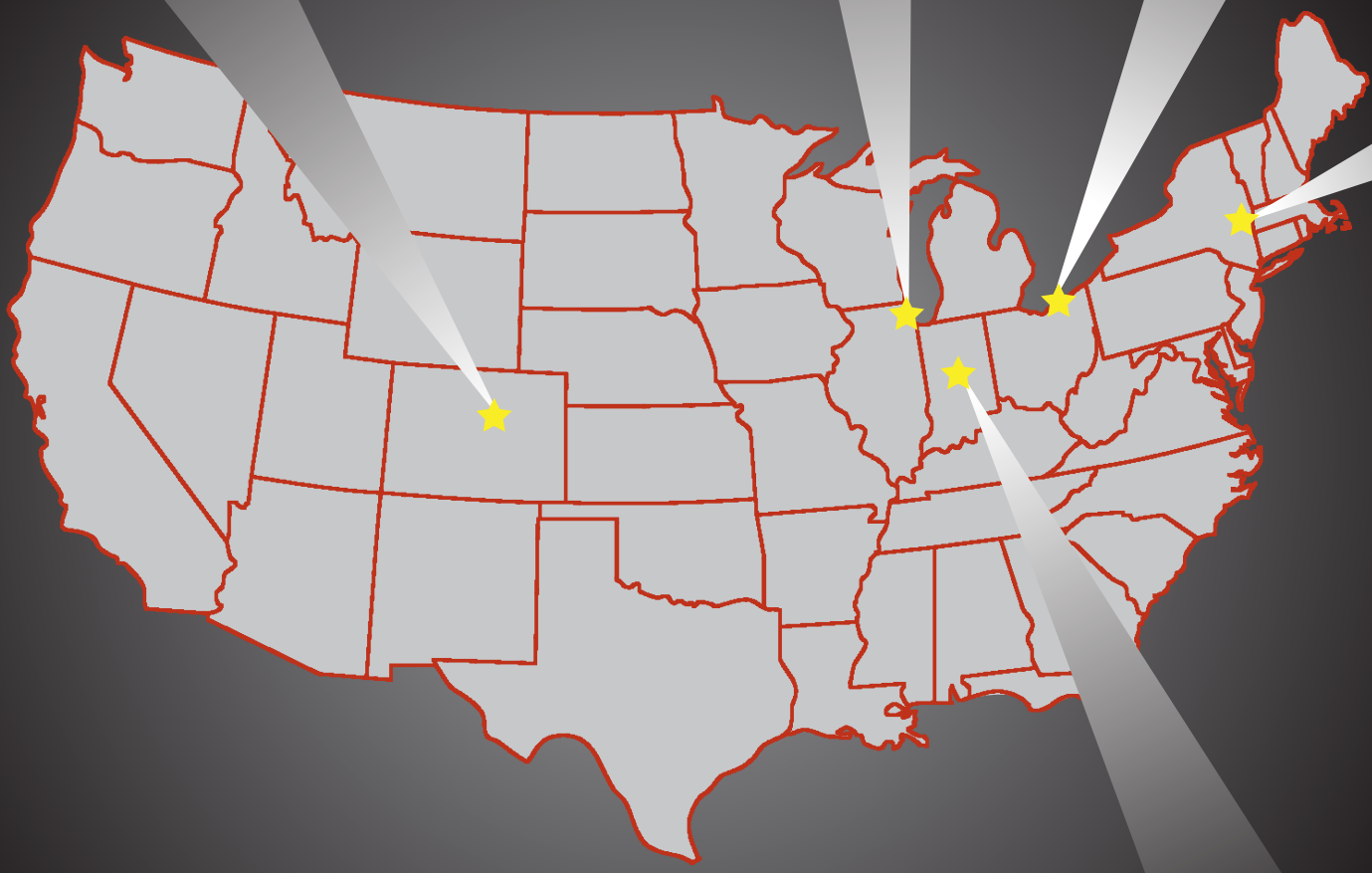
Searching for Excellence

A FIVE-CITY, CROSS-STATE COMPARISON OF CHARTER SCHOOL QUALITY



March 2013

ANALYSIS CONDUCTED BY:

PUBLIC IMPACT

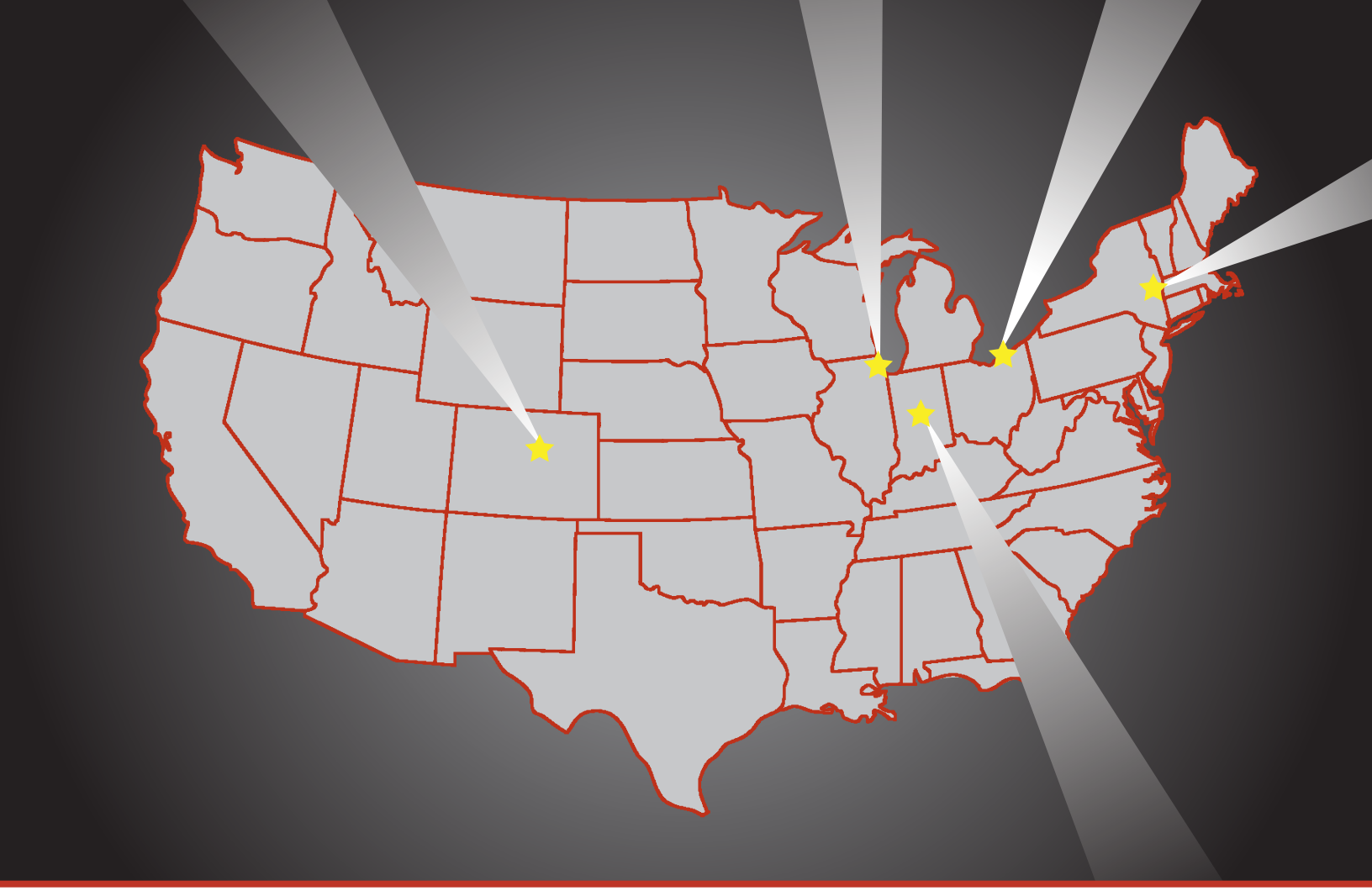
THOMAS B. FORDHAM INSTITUTE
ADVANCING EDUCATIONAL EXCELLENCE

SEARCHING FOR EXCELLENCE

A FIVE-CITY, CROSS-STATE COMPARISON OF CHARTER SCHOOL QUALITY

RESEARCH CONDUCTED BY PUBLIC IMPACT
FOREWORD & FORDHAM ANALYSIS BY TERRY RYAN AND AARON CHURCHILL
MARCH 2013

THOMAS B. FORDHAM INSTITUTE
ADVANCING EDUCATIONAL EXCELLENCE



Public Impact's mission is to dramatically improve learning outcomes for all children in the U.S., with a special focus on students who are not served well. Public Impact is a team of professionals from many backgrounds, including former teachers. Public Impact is made up of researchers, thought leaders, tool-builders, on-the-ground consultants, and former educators who work with leading education reformers.

The **Thomas B. Fordham Institute** is the nation's leader in advancing educational excellence for every child through quality research, analysis, and commentary, as well as on-the-ground action and advocacy in Ohio. It is affiliated with the Thomas B. Fordham Foundation, and this publication is a joint publication of the Foundation and the Institute. For further information, please visit our website at www.edexcellence.net or write to the Institute at 37 W Broad St Columbus, OH 43215. The Institute is neither connected with nor sponsored by Fordham University.

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FOREWORD

In just two decades charter schools have grown from a boutique school reform strategy to an alternative public school system serving a significant percentage of the nation's K-12 students. In 1996, just 19 states had charter legislation in place, and there were only about 250 charters serving some 20,000 pupils. Fast forward to 2013: 41 states and the District of Columbia now have charter laws on the books, and there are more than 2 million students enrolled in 5,600 charter schools.

According to the National Alliance for Public Charter Schools, seven school districts in the nation have at least 30 percent of their public school students enrolled in public charter schools. An additional 18 districts have 20 percent or more of their public school students enrolled in charter schools (four of these districts are in Fordham's home state of Ohio). And, there are now more than 100 districts across the country with at least 10 percent of public school students enrolled in charters.[1] Charter schools are undeniably one of the most popular and growing school reforms of the last 25 years.

But, there is still much work to be done, especially when it comes to improving student achievement in the nation's charter schools. The fact is that the quality of charter schools remains uneven. While there are hundreds of high-performing charter schools across the country serving some of the nation's neediest students there are an equal number of charters failing to deliver academically. It was in recognition of this mixed performance that the National Association of Charter School Authorizers (NACSA) launched its *One Million Lives* campaign in late 2012. NACSA captured the challenge when it observed, "even after two decades of chartering, too many students fail to graduate and too few students are academically prepared for success. While many charter schools perform at the highest levels, many others perform at the lowest levels. Charter schools are not the only solution in public education, but they shouldn't be part of the problem."[2]

The Thomas B. Fordham Institute, and its sister organization the Thomas B. Fordham Foundation, have long advocated for quality charter schools. Even more, in Ohio we authorize 11 schools across the state, which collectively serve about 2,500 students. But, we've long been equally frustrated by the mixed academic performance of charters. Mirroring national trends, Ohio has some fantastic charters but it also has too many laggards among its 360 plus schools. Even Fordham's sponsorship portfolio of charter schools is something of a mixed bag academically.[3]

The variability of charter school quality demands a response, both to boost and replicate great charters and to determine ways for making smart decisions about those charters that should be closed. So, in order to better understand charter school performance and ways to improve it we asked the crack research team at Public Impact in Chapel Hill, North Carolina to take a fresh look at the quality of charter schools in five US cities: Albany, Chicago, Cleveland, Denver, and Indianapolis. We chose these cities because they all have relatively large percentages of students enrolled in charter schools, and they are well known for their recent school reform efforts that include extensive support for charters.

1 National Alliance for Public Charter Schools, *A Growing Movement: America's Largest Charter School Communities, Seventh Annual Edition* (Washington, DC: National Alliance for Public Charter Schools, 2012), http://publiccharters.org/data/files/ Publication_docs/NAPCS%20 2012%20Market%20Share%20Report_20121113T125312.pdf.

2 National Association of Charter School Authorizers, "More About One Million Lives," https://www.qualitycharters .org/more-about-one-million-lives.

3 In 2012 Fordham sponsored 8 schools that received a state academic rating. Two schools were rated A, two were rated B, one was rated C, two were rated D and one was rated F.

Using building-level achievement data, we asked Public Impact to answer some basic questions. First, how do charters in these five cities compare academically to their district peers within the *cities* they are located? Are they outperforming them, doing about the same, or performing at lower levels? Has, we wondered, any of these cities figured out how to help make all, or at least most, of their charters high-performers?

Second, how are charters in these cities doing in comparison to district schools across their *state*? Are they outperforming state averages, matching them, or failing to match state averages? Can, we wondered, charters succeed at scale in not only helping students outperform their long-suffering urban peers but compete effectively against their wealthier suburban peers? In short, have any of these cities created charter sectors that have found the magic formula for closing the achievement gap?

Third, and most interestingly, what might be the impact on student achievement in these cities' charter schools, if the bottom ten percent of performers were closed while the top performers were given support to expand their market share by an equal percentage? Can a strategic charter closure policy matched by policies that support the expansion and growth of high quality charters be the elixir for improving student performance in these big cities?

This report seeks answers to these questions, as we search for citywide charter school excellence.

Terry Ryan, Vice President for Ohio Programs and Policies
Aaron Churchill, Ohio Research and Data Analyst

ACKNOWLDEGMENTS

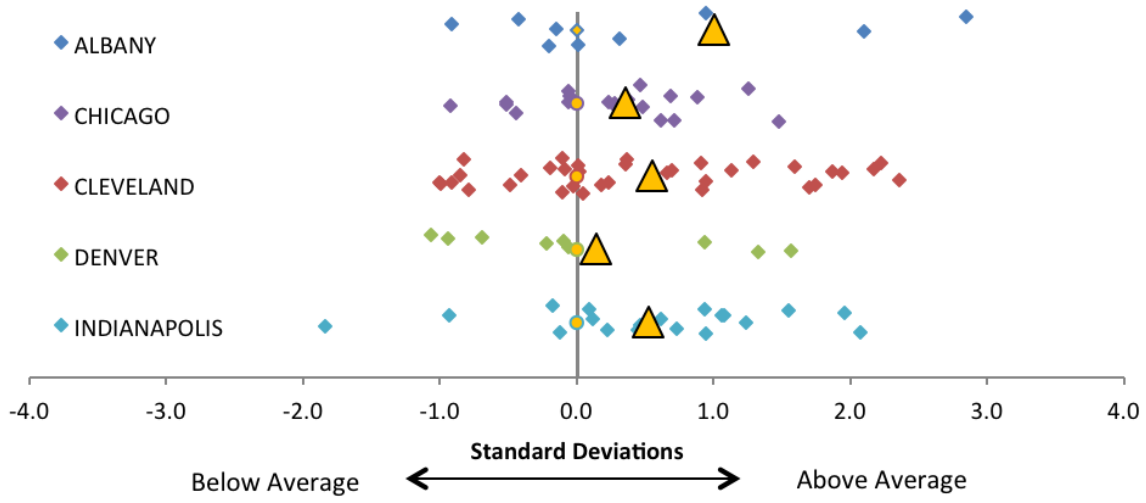
This report was a collaborative effort between the Thomas B. Fordham Institute and Public Impact, a North Carolina-based research organization. We are deeply appreciative of Public Impact's commitment to this project. In particular, we are indebted to Public Impact's outstanding research team of Lyria Boast, Gillian Locke, and Tom Koester. We also thank Bryan Hassel for his input at critical junctures in the research process. Within the Fordham family, this report was aided by the sage advice of our Washington DC colleagues Chester E. Finn, Jr., Amber Winker, and Dara Zeehandelaar. Among the Fordham-Ohio team the hard work of Emmy Partin, Jeff Murray, and Angel Gonzalez helped usher this report to press. Victoria Serruto, owner of VS3 Studios LLC, produced the layout and cover design.

FORDHAM ANALYSIS: A FIVE-CITY SNAPSHOT OF CHARTER QUALITY

Cleveland's public school system struggles to educate its students at a satisfactory level. In 2011, Cleveland's fourth graders performed second worst among the 21 cities that participated in the National Assessment of Educational Progress - Trial Urban District Assessments (NAEP-TUDA), a standardized exam carried out by the U.S. Department of Education. Only Detroit performed worse.[4] State-level data also indicate the struggles of Cleveland's school system: Cleveland Metropolitan School District was rated "Academic Emergency" (F) by the state in 2011-12, as were ten of its public charter schools.[5] Given these feeble performance indicators, our preliminary hunch was that the academic quality of Cleveland's charters would lag that of the charters in the other comparison cities.

But, contrary to our hypothesis, we found that three of the cities' charters, as a group, perform at about the same level as Cleveland's charter sector. Only Albany appeared to have a high-performing charter school sector. Figure 1 demonstrates the similarity of charter *sector* quality across these cities. The chart shows reading test pass rates for charter schools relative to the district average pass rate for grades three to five. To enable a comparison across cities, we use a standard measure of how far each charter's pass rate is from the district average (represented as the 0 vertical line on the chart).[6] The charter school average for each city is represented by the yellow triangles. For Chicago, Cleveland, Denver, and Indianapolis, the charter school sector performs, on average, at one-third to two-thirds of a standard deviation above the district average. Of these five cities, Albany's charter sector led, performing over one standard deviation above Albany's district schools.

Figure 1: Average Charter Quality Modestly Outperforms District Averages
Charter school reading pass rates relative the district average, grades 3-5, 2010-11



Source: Data analysis conducted by Public Impact. See page 20-21 for analyses of charter performance by city for grades 3-5 math and grades 6-8 reading and math. **Note:** Each diamond denotes how far a charter school's pass rate is from the traditional district's average pass rate, in standard deviation units. Gold triangles represent the charter sector's weighted average pass rate relative the district.

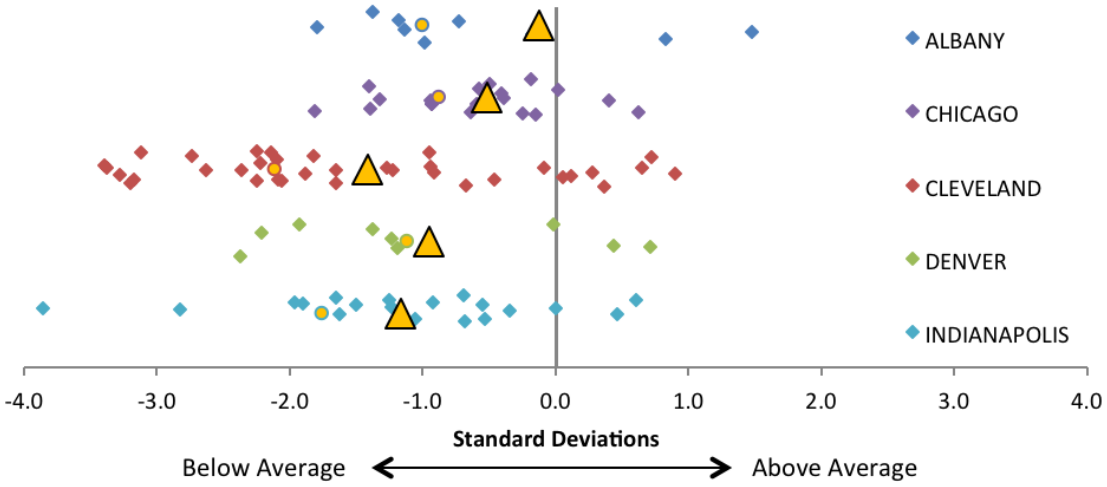
4 National Assessment of Educational Progress - Trial Urban District Assessment, "NAEP Data Explorer," National Center for Education Statistics, http://nces.ed.gov/nationsreportcard/naepdata/.

5 Ohio Department of Education, "Interactive Local Report Card," http://ilrc.ode.state.oh.us/Downloads.asp.

6 Standard deviation units, alternatively called "z-scores," are a measure of *how much* better or worse a school is from the group average. A positive standard deviation unit denotes above-average performance; a negative unit denotes below-average performance. The z-scores are weighted by student enrollment.

Charter schools' relative performance, in these cities both collectively and individually, drops when they are compared to their public schools peers statewide. Figure 2 shows that all five charter school sectors perform below their respective state average, anywhere between -1.5 (Cleveland, the lowest-performing in this group) to -0.5 standard deviations (Albany, the highest-performing) below the average. The statewide comparisons slightly better distinguish which charter sectors perform the best and worst. Albany again outshines the other cities, but Chicago's charter sector rises toward the top in this comparison. Cleveland's charter sector, which performed similarly to all other cities except Albany in the city comparison, becomes a more-distinct laggard in the statewide comparison. When we examine individual charters—each diamond represents a charter's pass rate relative the statewide average—only a handful compare favorably with schools statewide. Schools that compete with the best-in-the-state fall to the right of the vertical 0.0 standard deviation line.

Figure 2: Average Charter Quality Falls Short of Statewide Averages
Charter school reading pass rates relative the statewide average, grades 3-5, 2010-11



Source: Data analysis conducted by Public Impact. See page 25-26 for analyses of charter performance by state average for grades 3-5 math and grades 6-8 reading and math. **Note:** Each diamond denotes how far a charter school's pass rate is from the traditional state average pass rate, in standard deviation units. Gold triangles represent the charter sector's weighted average pass rate relative the state average.

High Fliers and Bottom Dwellers

In addition to showing how charter sectors, on average, perform, figures 1 and 2 also provide a snapshot of the variation in the quality of *individual* charter schools across these cities. With respect to the traditional district averages (figure 1), the spread of individual charter school performance ranges from nearly -2.0 standard deviations (awful performance) to nearly +3.0 standard deviations (outstanding performance). The truly outstanding charter schools in the city comparisons are those that perform 2.0 standard deviations above the average, indicating that they outperform 98 percent of all public schools in their city. They are the cream of the crop; true high fliers. These schools not only excel in comparison to their city peers, but – as figure 2 makes clear – also in comparison to top schools in their states.

Table A shows the highest-performing charter schools in Albany, Chicago, Cleveland, Denver, and Indianapolis. The table lists the top performers, with their sponsor and charter management organization, school characteristics and demographics, and their academic results for the 2010-11 school year. The academic performance rating categories are based on each school's performance relative to the traditional city district. In Albany, the high-flying schools are part of the Brighter Choice network of charters (Albany Community Charter is affiliated but not operated by the Brighter Choice Foundation); in Chicago, two independently-run charters are high-performing, as is the LEARN charter school; in Cleveland, the Breakthrough

schools shine brightly; in Denver, the Schools of Science and Technology perform well; and in Indianapolis, the Indiana Math and Science schools top its charter options. Most, though not all, of these charter schools serve primarily poor and minority students.

Table B lists the charter laggards for the five cities we examined. Several of these charters have been open for five or more years—the perennial bottom dwellers. Albany, a city with a sterling charter sector, even had a long-suffering charter, Albany Preparatory. It, however, was closed in spring 2012.[7] The other cities also have troubled charters that perform well below both city and state averages. In Cleveland, three of its low-performing charters had been, prior to 2011, sponsored by the Ashe Culture Center, Inc. The Ohio Auditor of State found Ashe's financials to be is such disarray that they were declared "unauditable" in 2010.[8] Subsequently, the Ohio Department of Education revoked Ashe's authorizer status in September 2011 and assumed sponsorship duties for Ashe's schools.[9] Two of these schools—Marcus Garvey and Elite Arts—were closed in 2012. The third school on this troubled list—Villaview—is currently operating under the sponsorship of the Ohio Department of Education.

7 Scott Waldman, "State Tells Parents Albany Prep Closing, Not Merging," *Albany Times Union*, May 30, 2012, http://www.timesunion.com/local/article/Albany-charters-at-risk-3593778.php.

8 Edith Starzyk, "6 Charter Schools Sponsored by Ashe Culture Center Declared Unauditable," *Cleveland Plain Dealer*, November 24, 2010, http://blog.cleveland.com/metro/2010/11/six_charter_schools_sponsored.html.

9 Edith Starzyk, "Ashe Culture Center to Lose Sponsorship of Charter Schools after Ohio Board of Education Vote," *Cleveland Plain Dealer*, September 21, 2011, http://blog.cleveland.com/metro/2011/09/ ashe_culture_center_to_lose_sp.html.

Table A: All five cities have outstanding charters…

City	Charter school name	Grade Span, 2010-11	Years Open, including 2010-11	Enrollment, 2010-11	% Black , 2010-11	% Hispanic, 2010-11	% Economic Disadvantaged, 2010-11	Academic Performance, 2010-11				Management Organization, 2010-11	Sponsor, 2010-11
								3-5 Reading	3-5 Math	6-8 Reading	6-8 Math		
Albany	Albany Community Charter School	K-4	4	296	87%	8%	92%	Excellent	Excellent			Freestanding	Charter School Institute at SUNY
Albany	Brighter Choice Charter School for Boys	K-4	9	255	83%	9%	88%	Excellent	Excellent			Brighter Choice Charter Schools	New York Board of Regents
Albany	Brighter Choice Charter School for Girls	K-4	9	247	79%	15%	86%	Good	Excellent			Brighter Choice Charter Schools	New York Board of Regents
Chicago	LEARN Elem Charter School	PK-8	10	1312	98%	3%	98%	Good	Good	Good	Mediocre	Freestanding	City of Chicago Sd 299
Chicago	Locke A Elem Charter Academy	PK-8	12	500	100%	1%	94%	Good	Good	Good	Good	Freestanding	City of Chicago Sd 299
Chicago	Namaste Elem Charter School	K-7	7	418	6%	81%	83%	Good	Good	Good	Good	Freestanding	City of Chicago Sd 299
Cleveland	Citizens Academy	K-5	11	409	99%	0%	71%	Excellent	Excellent			Breakthrough Schools	Cleveland Municipal School District
Cleveland	Constellation Schools: Old Brooklyn Community Elementary	K-4	13	290	***	10%	46%	Excellent	Excellent			Constellation Schools, LLC	ESC of Lake Erie West
Cleveland	Constellation Schools: Westside Community School of the Arts	K-6	4	221	16%	35%	90%	Good	Good	Good	Excellent	Constellation Schools, LLC	Buckeye Community Hope Foundation
Cleveland	Intergenerational School, The	K-8	11	221	89%	***	63%	Excellent	Excellent	Excellent	Excellent	Breakthrough Schools	ESC of Lake Erie West
Denver	Denver School of Science and Technology	6-12	7	874	26%	35%	44%			Good	Excellent	Freestanding	Denver County 1
Denver	Denver School of Science and Technology- GVR	6	1	141	33%	43%	60%			Good	Excellent	Freestanding	Denver County 1
Denver	Highline Academy Charter School	K-8	7	504	28%	14%	30%	Good	Good	Good	Good	Freestanding	Denver County 1
Indianapolis	Andrew J Brown Academy	K-8	8	633	81%	0%	85%	Good	Good	Good	Good	National Heritage Academies	Mayor of Indianapolis Office
Indianapolis	Indiana Math and Science Academy - Indianapolis	K-11	4	502	66%	15%	77%	Good	Good	Good	Good	Concept Schools	Ball State University
Indianapolis	Irvington Community School	K-12	9	890	12%	4%	54%	Excellent	Good	Good	Good	Freestanding	Mayor of Indianapolis Office

Table B: …And dreadful ones

City	Charter school name	Grade Span, 2010-11	Years Open, including 2010-11	Enrollment , 2010-11	% Black , 2010-11	% Hispanic, 2010-11	% Economic Disadvantaged, 2010-11	Academic Performance, 2010-11				Management Organization, 2010-11	Sponsor, 2010-11
								3-5 Reading	3-5 Math	6-8 Reading	6-8 Math		
Albany	Albany Preparatory Charter School	5-8	5	214	76%	14%	95%	Bad	Good	Terrible	Mediocre	Freestanding*	Charter School Institute at SUNY
Chicago	Catalyst Circle Rock Elem School	K-8	1	30	97%	3%	3%	Bad	Bad	Mediocre	Mediocre	Catalyst Schools	City of Chicago Sd 299
Chicago	Catalyst Elem Charter School	K-8	5	495	99%	1%	95%	Bad	Bad	Bad	Bad	Catalyst Schools	City of Chicago Sd 299
Chicago	Galapagos Elem Charter School	K-8	6	350	99%	1%	91%	Mediocre	Bad	Mediocre	Bad	Galapagos Charter	City of Chicago Sd 299
Chicago	Kipp Ascend Elem Charter School	K-8	8	430	94%	5%	87%	Bad	Bad	Mediocre	Mediocre	Kipp Foundation	City of Chicago Sd 299
Cleveland	Elite Academy of the Arts	K-8	4	232	100%	0%	100%	Mediocre	Bad	Mediocre	Bad	Freestanding*	Ohio Department of Education
Cleveland	Hope Academy Cathedral Campus	K-8	13	519	100%	0%	86%	Bad	Bad	Mediocre	Bad	White Hat Management	Buckeye Community Hope Foundation
Cleveland	Marcus Garvey Academy	K-8	9	192	98%	0%	96%	Bad	Bad	Mediocre	Bad	Freestanding*	N/A
Cleveland	Villaview Community School	5-8	4	101	96%	***	99%	Bad	Bad	Bad	Bad	Lighthouse Academies	Ohio Department of Education
Cleveland	Virtual Schoolhouse, Inc.	K-12	7	313	87%	***	99%	Bad	Bad	Bad	Bad	Freestanding	ESC of Lake Erie West
Denver	Manny Martinez Middle School	6-8	2	224	8%	88%	94%			Bad	Bad	Edison Learning	Denver County 1
Denver	Northeast Academy Charter School	K-8	7	416	51%	41%	88%	Bad	Terrible	Bad	Bad	Freestanding	Denver County 1
Denver	Pioneer Charter School	PK-6	15	361	6%	91%	94%	Bad	Bad	Bad	Mediocre	Freestanding	Denver County 1
Denver	Vanguard Classical School	K-8	4	508	15%	52%	56%	Mediocre	Bad	Mediocre	Bad	Freestanding	Denver County 1
Indianapolis	Imagine Indiana Life Sciences Academy - East	K-7	3	816	81%	14%	92%	Bad	Terrible	Bad	Bad	Imagine Schools	Ball State University
Indianapolis	Imagine Life Sciences Academy - West	K-7	2	541	72%	22%	89%	Bad	Bad	Good	Mediocre	Imagine Schools	Ball State University

Source: Fordham research and Public Impact data analysis. **Notes:** Academic performance categories based on z-scores or standard deviation units, relative the home district average (the two terms can be used interchangeable, see page 18). The categories are as follows: Terrible: < -2.0 standard deviations (s.d.); Bad: -2.0 < x < -0.5 s.d.; Mediocre: -0.5 < x < 0.5 s.d.; Good: 0.5 < x < 2.0 s.d.; Excellent: > 2.0 s.d. Only elementary and middles schools are included. For the master list of charters and detailed explanatory notes, please see Appendix F on page 51.

Strategic Closure Could Boost Charter Sector

Our analysis above indicates that the charter school sectors in these five cities modestly outperformed their traditional districts peers. Yet, we also show that comparing charters against large urban districts is a weak comparison, as large urban schools far too often fail to adequately educate their students. When we ratchet up the level of competition by including all state schools, charters, both as a group and individually, perform much worse. Further, when we dig deeper at a building level, we observe stark variety in school quality. On the one hand, there are deeply troubled charters—some whose academic results can't even match up with their long-suffering district peers. But on the other hand, there are fantastic charters—some whose academic performance competes with the best schools in their states.

To advance the quality of the charter school sectors in these cities we strongly encourage policies that would close the lowest ten percent of failing charters in each city, while supporting policies that would help the high-flyers in these municipalities expand their efforts. Figures 3 and 4 show the potential impact of such a bold mix of strategic closure and replication policies for charter schools in Cleveland. In Cleveland, the policy of closure and aggressive replication of high-performing schools would, Public Impact estimates, result in charter schools vastly outperforming the district schools in five years (figure 3). Moreover, this policy would put Cleveland's charters on track to perform on par with the state average by year five (figure 4).

Figure 3: Change in Cleveland Z-Score with Closure and Replication Policy Implementation Relative to the District

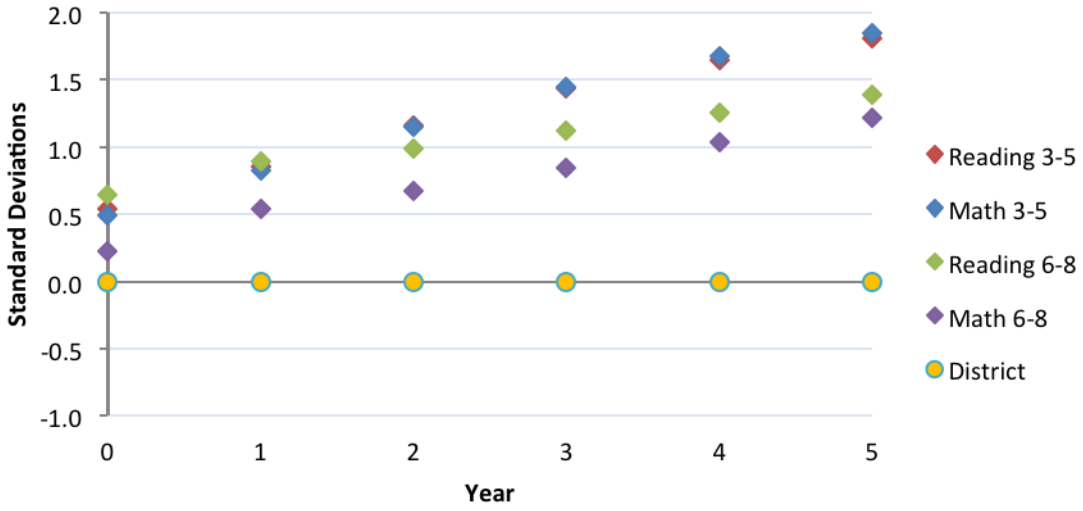
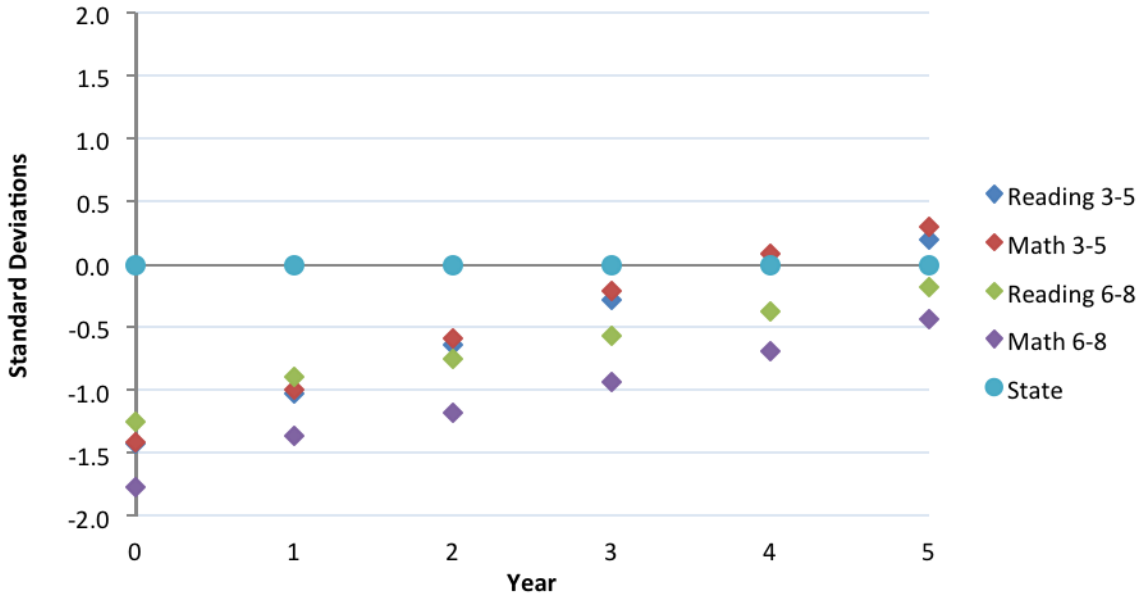


Figure 4: Change in Cleveland Z-Score with Closure and Replication Policy Implementation Relative to the State



Source: Data analysis and simulation conducted by Public Impact. For the full methodology, please refer to page 46 **Note:** Each diamond denotes how far Cleveland's charter sector average pass rate is from the traditional district's average pass rate (figure 3) and the state's average pass rate (figure 4) in standard deviation units or z-scores.

Conclusion: No Magic Formula...But

We wrote in 2010 that "placing a 'charter' sign over a schoolhouse door doesn't guarantee educational excellence."[10] This study demonstrates this fact empirically. First, although all the charter sectors in the five cities modestly outperform their citywide district peers, no charter school sector compares favorably to the statewide average on a statewide level. Second, all five cities have troubled charters—charters that struggle so mightily that they weigh down the entire citywide charter sector. Even Albany, the highest-performing charter sector in our sample has its laggards. As such, none of these cities have found a magic formula that'll guarantee a high-quality charter school sector for all their students.

However, we know we can do charter schooling better through a combination of strong and conscientious charter school authorizers, energized philanthropic organizations committed to supporting excellence, talented and innovative management organizations, political will to support what works and crack down on what doesn't, and community support for better schools. We find these elements most active in Albany's charter school sector, with the Brighter Choice Foundation leading the charge,[11] but also in pockets of the other four cities studied. In Cleveland, for example, the Breakthrough Network manages two charters that compete well above the district average, and compare favorable to top performing schools in the state. This, while serving nearly 100 percent poor and minority students.

We are appreciative of the fantastic work Public Impact did in putting this study together. The analysis that follows is deep enough to be highly informative, but is simple enough to be digestible to the general reader. For technical evaluations of charter schools, we refer the reader to the research literature on charter schools.[12] Rather, we hope that Public Impact's analysis of

10 Chester E. Finn, Jr., Terry Ryan, and Michael Lafferty, *Ohio's Education Reform Challenges* (New York: Palgrave Macmillan, 2010): 156.

11 Peter Meyer, "Brighter Choices in Albany," *Education Next* 9 (2009), http://educationnext.org/brighter-choices-in-albany/.

12 Readers are encouraged to consult studies such as Christina Clark Tuttle, et al., *Student Characteristics and Achievement in 22 KIPP Middle Schools* (Princeton, NJ: Mathematica Policy Research, Inc., 2010); Emily H. Peltason and Margaret Raymond, *Charter School Growth*

charter school data—together with our interpretation of the data analysis above—will provide policymakers, school reformers, and others with a better understanding of how charters are actually performing in these five cities. And, to provide modeling using achievement data for how a strategic closure and replication policy could improve a city's charter school sector performance. We hope this report helps cities in their ongoing search for educational excellence for all kids.

and Replication (Stanford, CA: Center for Research on Education Outcomes, 2013); Ron Zimmer, Suzanne Blanc, Brian Gill, and Jolley Christman, *Evaluating the Performance of Philadelphia's Charter Schools* (Washington, DC: RAND Education, 2008).

DATA ANALYSIS,
Conducted by Public Impact

This study takes a fresh look at charter school performance in five cities: Albany, NY; Cleveland, OH; Chicago, IL; Denver, CO; and Indianapolis, IN. In each of these cities, we compared charter school performance to the performance of traditional district schools in the surrounding city district, as well as to all other schools – including district and charter schools – across the state. Our analysis uses straightforward comparative methods in an effort to show where charter schools fall in the district and state achievement distributions. We are not trying to make causal claims about the effect of charter school status on achievement, nor do we attempt to apply statistical controls. Despite differences in geography, the size of the charter sector, state tests, and a range of other factors, our analysis identified three findings that held true in every city we examined:

1. The average city charter school slightly outperformed the average traditional school in the surrounding city district.

2. The average city charter school trailed the average school statewide, often by a considerable margin.

3. There is wide variation in the performance of individual charter schools within the cities, with far too many low-performing schools.

While these findings show that charter schools tend to provide a better education than the schools in which their students would have otherwise enrolled, they also make clear that charters have a long way to go before they meet the sector's goal for academic excellence.

About the Sites

This study analyzes building-level demographic and achievement data for the charter schools in five selected cities. To compare the performance of Cleveland's charter school sector against other cities' charter school sector, we examine the charter schools' academic performance relative to (a) traditional district schools in each city; and (b) all public schools (traditional district and charter) in the state where each city is located. We used publically-available data obtained from the state departments of education websites. The analysis presented here is a one-year snapshot of achievement, using data from school year 2010-11.

We examine only elementary and middle charter schools (grades K-8), knowing that in Cleveland, many high school charters serve a high proportion of dropout students or students at-risk of dropping out. We didn't think this unique characteristic of Cleveland's charter schools would apply for other cities' high school charters, thus excluding a fair, apples-to-apples comparison.

Charter school enrollment, the percentage of all public school students enrolled in charter schools (market share), and the student characteristics are presented in Tables 1 and 2 (Detailed information for each school is presented in Appendix B). In each city, charter schools served at least 10 percent of public school students in the city, and as much as 30 percent. At least 70 percent of charter school students in each city were eligible for free or reduced price lunch, while more than 75 percent were non-white.

In every city but Indianapolis, charter schools enrolled higher percentages of minority students and students eligible for free or reduced price lunch compared to the surrounding city school district and the state, indicating a greater level of student need. Enrollment data for students with disabilities and English-language learners were not available for all five cities, but the information available for Albany, Cleveland and Indianapolis showed lower enrollment of these students compared to the surrounding district.

The study evaluates charter school performance without controlling for student characteristics. Though there are some differences in student characteristics in comparison to schools in the district and across the state, we wanted to take a simple look at how schools are doing versus a key ultimate objective - proficiency.

Table 1. Enrollment at City Charter Schools, 2010-11

City	Number of Charter Schools	Total Public Enrollment	Market Share
Albany	11	2,421	29%
Chicago	36	38,648	11%
Cleveland	45	11,977	27%
Denver	30	9,876	14%
Indianapolis	23	9,837	30%

Table 2. 2010-11 Demographic Data for City Charter Schools and Traditional District Schools, and Schools Statewide

Entity	% Free and Reduced Lunch	% Special Education	% English Language Learners	% Non-White
Albany Charter Schools	**84%**	NA	1%	**97%**
Albany City District	60%	NA	6%	79%
New York	49%	NA	**8%**	51%
Chicago Charter Schools	**86%**	NA	NA	**98%**
Chicago Public Schools District	84%	NA	NA	91%
Illinois	46%	NA	NA	49%
Cleveland Charter Schools	**83%**	10%	3%	**86%**
Cleveland Metropolitan District	77%	**22%**	**6%**	85%
Ohio	45%	15%	2%	25%
Denver Charter Schools	71%	NA	NA	**85%**
Denver School District	**72%**	NA	NA	80%
Colorado	40%	NA	NA	43%
Indianapolis Charter Schools	71%	12%	7%	69%
Indianapolis Pubic Schools	**81%**	**18%**	**12%**	**77%**
Indiana	47%	15%	5%	27%

NA: Not available

Bolded values represent highest values for that comparison group

Analytic Approach

To evaluate the performance of charter schools in each of the five cities, we compared city charters to traditional district schools and to all public schools statewide using both z-score analysis and decile analysis. With the two approaches, we were able to look at overall charter performance as well as the distribution of performance across individual charter schools.

Z-Score Analysis

Z-scores, or standard scores, represent the number of standard deviations an individual score lies from the mean score for a group. For this study, we calculated z-scores for charter schools in relation to the mean proficiency rates in reading and math of both traditional district schools and all other public schools across the state. A z-score of +1 indicates that a school's average performance is one standard deviation above the mean, and the school outperformed approximately 84 percent of comparison schools; a z-score of +2 indicates that a school's average performance is two standard deviations above the mean, and the school's performed is better than 98 percent of comparison schools. In contrast, a z-score of -1 indicates that a school's average performance was one standard deviation below the mean, and the school outperformed just 16 percent of comparison schools.

To address differences in proficiency rates commonly seen across grade levels, we calculated z-scores separately for elementary and middle schools and for math and reading. We also calculated an average z-score for all of the charter schools in the city, which weights the results from each school to reflect school enrollment (See Appendix A for more detail).

Decile Analysis

The decile analysis shows how the charter schools performed relative to other schools in the district or state by placing them into one of 10 rank categories. To conduct this analysis, we took four steps:

1. Ranked traditional district schools by proficiency rate.
2. Divided them into ten equal groups, or "deciles."
3. Determined the proficiency rate required to place a school into each of the deciles.
4. Calculated the percentage of charter school students that attend schools that fell into each of the deciles.

If charter school performance mirrored the performance of traditional district schools, we would expect to see exactly 10 percent of charter school students attending schools assigned to each decile. If charter schools outperformed the traditional district schools, more than 50 percent of charter school students would be attending schools assigned to the top deciles (six to ten), and vice versa if charter schools underperformed compared to traditional schools.

We carried out the analysis separately for comparisons to district and state schools, as well as for elementary and middle schools and for math and reading. The final percentages refer to the percentage of *students* attending a school with an average pass rate falling within that decile. (See Appendix A for more detail).

District Comparison

We compared the performance of the city-charter schools to the average performance of traditional schools in the surrounding districts. Tables 3-5 summarize overall city-charter performance when compared to traditional district schools.

Table 3. Percentage of Charters Exceeding the District Average

City	Reading Grades 3-5	Math Grades 3-5	Reading Grades 6-8	Math Grades 6-8
Albany	55.6%	88.9%	66.7%	66.7%
Chicago	63.2%	57.9%	72.7%	59.1%
Cleveland	62.9%	62.9%	69.0%	51.7%
Denver	33.3%	55.6%	61.1%	61.1%
Indianapolis	78.9%	68.4%	94.7%	63.2%
Total	**62.6%**	**64.8%**	**73.6%**	**58.2%**

Table 4. Percentage of Charters Exceeding the District Average by 1.0 or Greater Standard Deviation

City	Reading Grades 3-5	Math Grades 3-5	Reading Grades 6-8	Math Grades 6-8
Albany	22.2%	44.4%	33.3%	33.3%
Chicago	10.5%	10.5%	13.6%	4.5%
Cleveland	28.6%	28.6%	31.0%	20.7%
Denver	22.2%	22.2%	22.2%	44.4%
Indianapolis	31.6%	31.6%	31.6%	36.8%
Total	**24.2%**	**26.4%**	**25.3%**	**25.3%**

Table 5. Percentage of Charters Lagging the District Average by 1.0 or Greater Standard Deviation

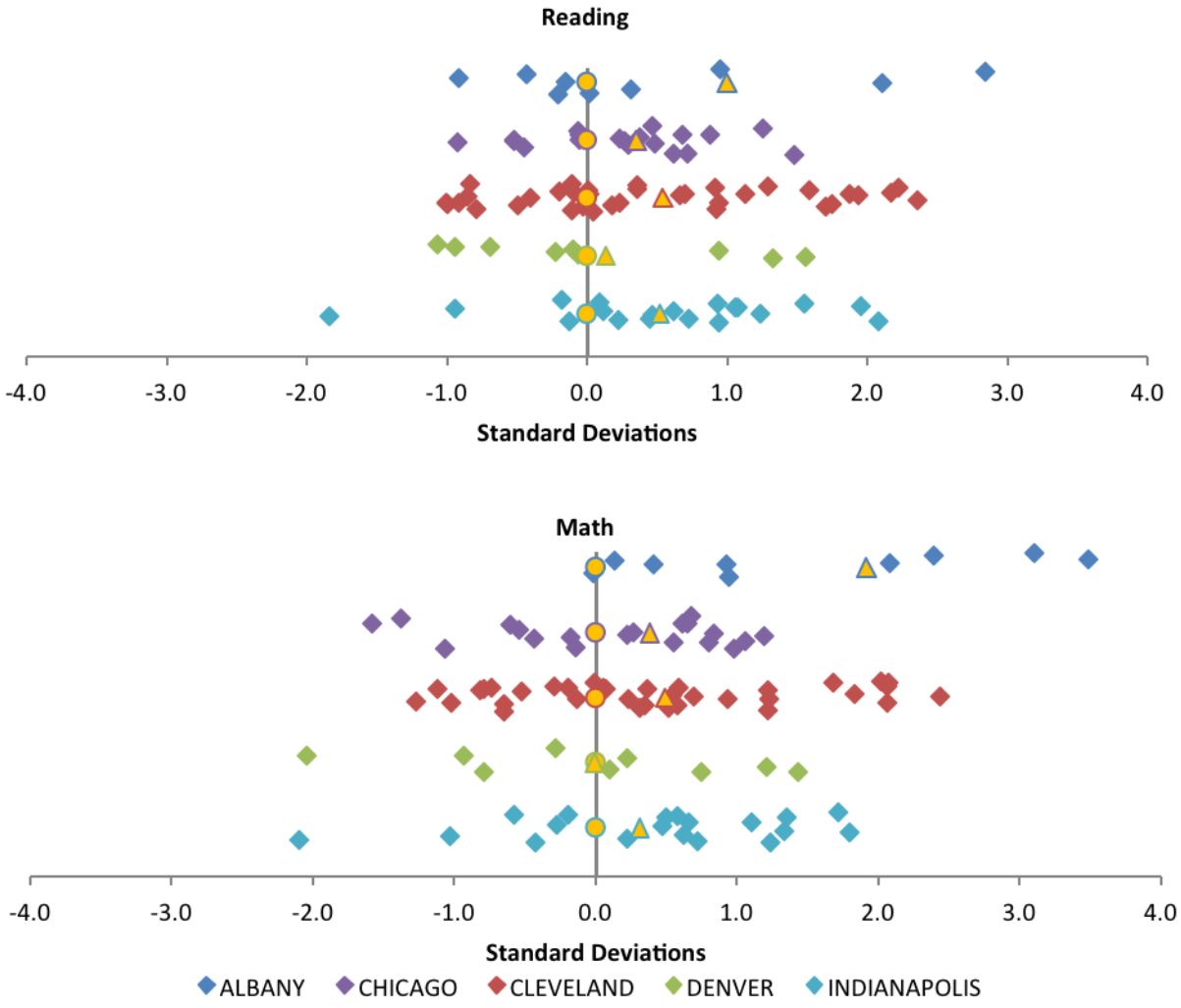
City	Reading Grades 3-5	Math Grades 3-5	Reading Grades 6-8	Math Grades 6-8
Albany	0.0%	0.0%	33.3%	0.0%
Chicago	0.0%	15.8%	4.5%	9.1%
Cleveland	2.9%	8.6%	3.4%	10.3%
Denver	11.1%	11.1%	11.1%	16.7%
Indianapolis	5.3%	10.5%	0.0%	10.5%
Total	**3.3%**	**9.9%**	**5.5%**	**11.0%**

Graphs 1 and 2 present z-scores for individual charter schools (represented by diamonds) as well as average z-score for all charters in the city (yellow triangles).[13] The zero line and the yellow circles represent average school performance district-wide. Diamond-shaped markers to the right of the zero line represent charter schools that outperformed the district average, while markers to the left of the zero line represent charter schools that trailed the district average. The further to the right or left of the line the marker appears, the better or worse the school performed.

In almost all cases, the average city charter school outperformed traditional schools in the surrounding district. Albany's charter schools performed best compared to traditional schools in the surrounding districts, followed by charter schools in Cleveland and Indianapolis. Only in one instance, middle school math in Chicago, was average charter school performance lower than the surrounding district average.

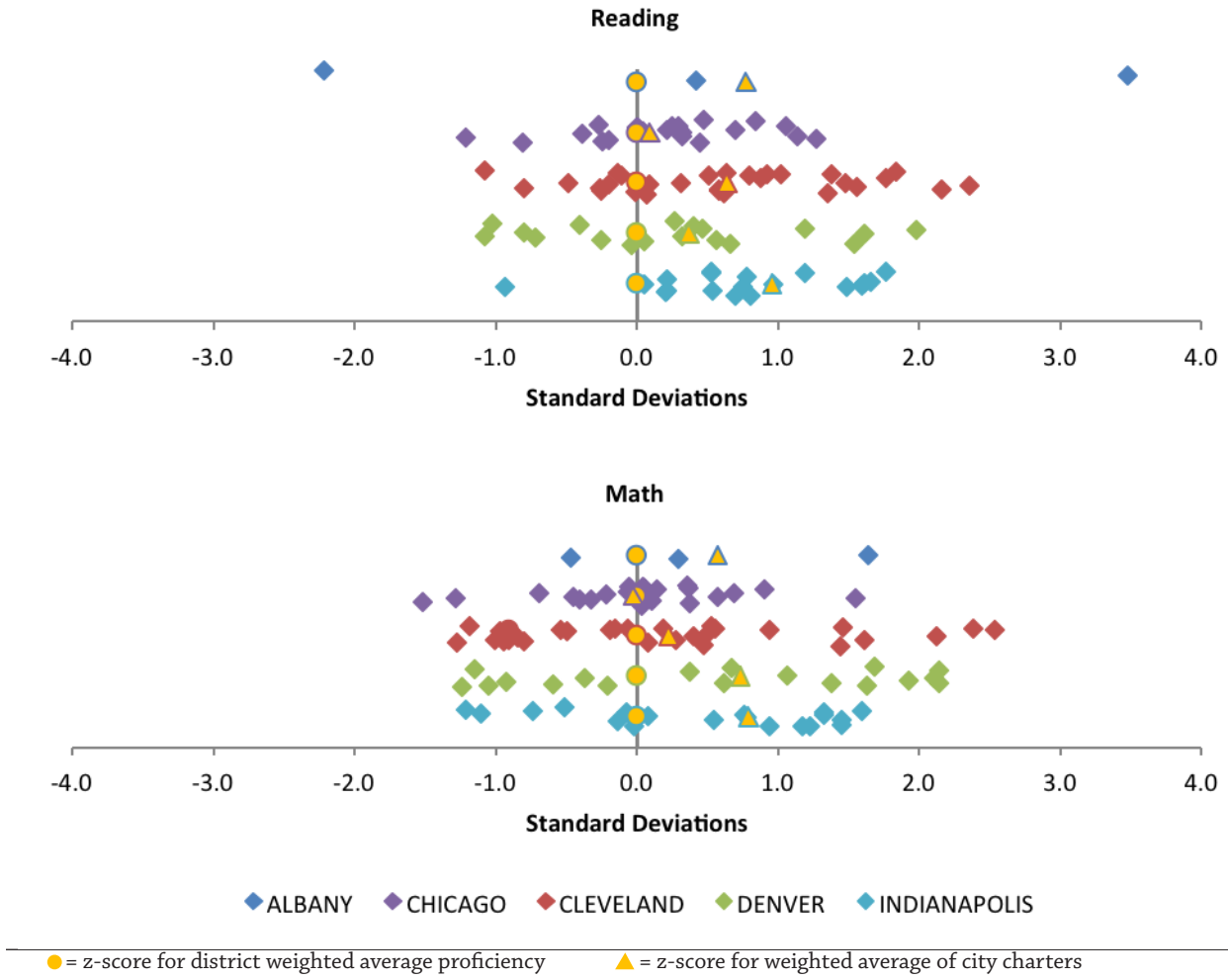
13 See Appendix C for individual school z-scores and Appendix D for additional city-level detail.

Graph 1. Z-Scores for City Charter Schools v. District Average, Grades 3-5, 2010-11



● = z-score for district weighted average proficiency ▲ = z-score for weighted average of city charters

Graph 2. Z-Scores for City Charter Schools v. District Average, Grades 6-8, 2010-11



● = z-score for district weighted average proficiency ▲ = z-score for weighted average of city charters

Decile Analysis

The variation of charter school performance within cities is illustrated more clearly with the decile analysis. The decile analysis examines how the charter schools performed relative to other schools in the district by placing them into one of 10 rank categories. Decile 1 represents performance on par with the lowest performing 10 percent of traditional schools in the surrounding district, while decile 10 represents performance on par with the highest performing 10 percent of traditional schools in the district. The tables below show the percentage of charter school students attending schools at each decile compared to the surrounding district.

Table 6 shows that in all of the cities, over two-thirds of the charter school students are attending schools that are performing above the median district performance.[14] In Albany, over a third of charter school students are attending schools that are performing as well as the top decile of traditional district schools in reading. In math, that figure shoots up to nearly half.

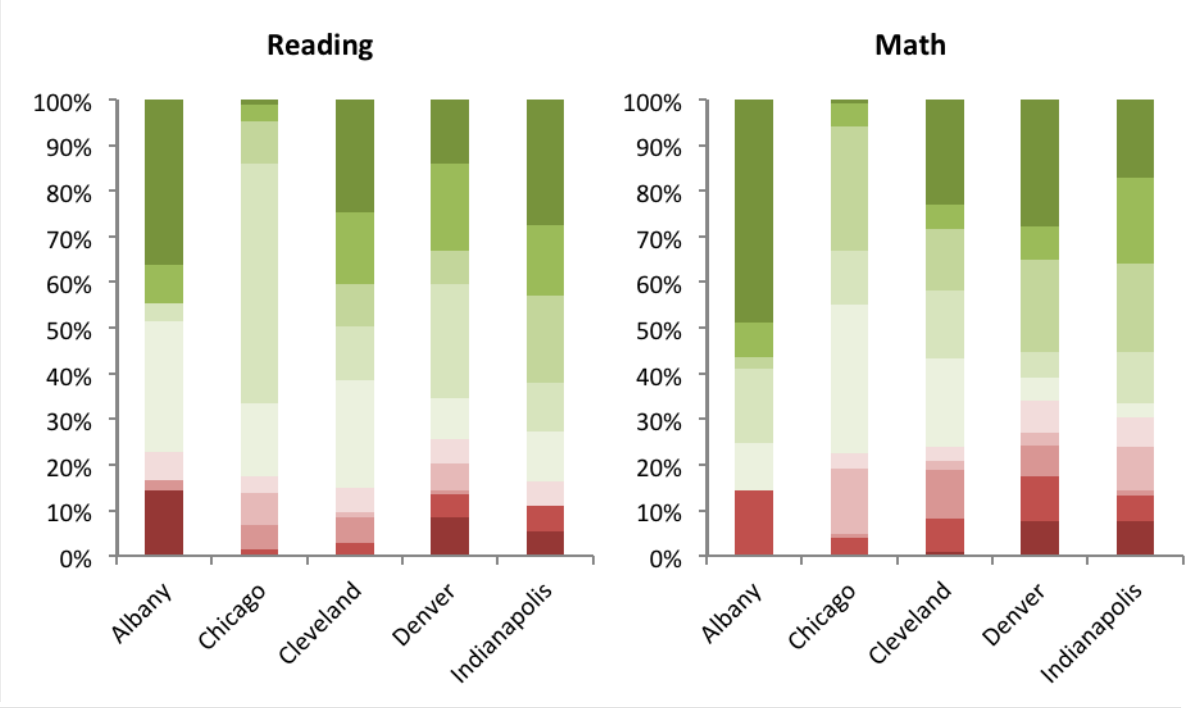
Table 6. Decile Analysis of City Charters vs District Schools, 2010-11

Percentage of charter school students attending charter schools at each decile level in:										
	Reading					Math				
DECILE	Albany	Chicago*	Cleveland	Denver	Indianapolis	Albany	Chicago*	Cleveland	Denver	Indianapolis
10	36%	1%	25%	14%	27%	49%	1%	23%	28%	17%
9	8%	4%	16%	19%	16%	8%	5%	5%	7%	19%
8	0%	10%	9%	7%	19%	3%	27%	14%	20%	20%
7	4%	52%	12%	25%	11%	16%	12%	15%	6%	11%
6	29%	16%	24%	9%	11%	10%	33%	19%	5%	3%
5	6%	4%	5%	5%	6%	0%	3%	3%	7%	6%
4	0%	7%	1%	6%	0%	0%	14%	2%	3%	10%
3	2%	5%	6%	1%	0%	0%	1%	11%	7%	1%
2	0%	1%	3%	5%	6%	14%	4%	7%	10%	6%
1	15%	0%	0%	8%	5%	0%	0%	1%	8%	8%
Top 20%	44%	5%	41%	33%	43%	57%	6%	28%	35%	36%
Above the Median	77%	83%	85%	74%	84%	86%	78%	76%	66%	70%
Below the Median	23%	18%	15%	26%	16%	14%	22%	24%	34%	30%
Bottom 20%	15%	1%	3%	13%	11%	14%	4%	8%	18%	14%

** Chicago charter schools that are part of International Charter Schools or the UNO Network are reported in aggregate and represent nearly half of the charter school enrollment in Chicago. School-level proficiency rates are not publically reported.*

14 See Appendix E for city-level detail.

Graph 3. Percentage of City Charter School Students Attending Schools in Each District Performance Decile, 2010-11



State Comparison

Although the data show that charter schools generally outperform traditional schools in the surrounding district, the city districts in our analysis are all low-performing. Table 7 shows the average pass rates in reading and math for each of the five cities and corresponding states. In every instance, the traditional schools in the city district performed at least ten percentage points below the statewide average. The largest performance gaps appeared in Cleveland, where traditional district schools in the city trailed state averages by as many as 29 percentage points.

Although the average charter school student in these cities may be attending a better school than he or she would have likely attended had the charter school option not been available, the promise of charter schools as truly *high-quality* school options sets a much higher bar. In this section we compare city charter school performance to both statewide performance, and the highest-performing schools in the state.

Table 7. Average Pass Rate on State Exam – Grades 3-8, 2010-11

	Reading	Math
Albany School District	34%	39%
New York	53%	64%
Chicago Public School District	69%	78%
Illinois	79%	85%
Cleveland Municipal District	57%	46%
Ohio	83%	77%
Denver Public School District	50%	47%
Colorado	69%	63%
Indianapolis Public School District	56%	58%
Indiana	78%	79%

Z-Score Analysis

Tables 8-10 summarize the city-charter z-scores based on statewide means and offer a comparison across city performance.

Table 8. Percentage of Charters Exceeding the Statewide Average

City	Reading Grades 3-5	Math Grades 3-5	Reading Grades 6-8	Math Grades 6-8
Albany	22.2%	44.4%	0.0%	0.0%
Chicago	15.8%	26.3%	22.7%	18.2%
Cleveland	20.0%	20.0%	17.2%	13.8%
Denver	25.0%	22.2%	22.2%	44.4%
Indianapolis	15.8%	10.5%	26.3%	31.6%
Total	**18.9%**	**22.0%**	**20.9%**	**24.2%**

Table 9. Percentage of Charters Exceeding the Statewide Average by 1.0 of Greater Standard Deviation

City	Reading Grades 3-5	Math Grades 3-5	Reading Grades 6-8	Math Grades 6-8
Albany	11.1%	22.2%	0.0%	0.0%
Chicago	0.0%	0.0%	0.0%	4.5%
Cleveland	0.0%	2.9%	3.4%	6.9%
Denver	0.0%	0.0%	5.6%	16.7%
Indianapolis	0.0%	0.0%	0.0%	0.0%
Total	**1.1%**	**3.3%**	**2.2%**	**6.6%**

Table 10. Percentage of Charters Lagging the Statewide Average by 1.0 of Greater Standard Deviation

City	Reading Grades 3-5	Math Grades 3-5	Reading Grades 6-8	Math Grades 6-8
Albany	44.4%	22.2%	33.3%	66.7%
Chicago	21.1%	36.8%	9.1%	22.7%
Cleveland	62.9%	68.6%	62.1%	75.9%
Denver	62.5%	44.4%	44.4%	38.9%
Indianapolis	52.6%	57.9%	47.4%	47.4%
Total	**50.0%**	**52.7%**	**41.8%**	**49.5%**

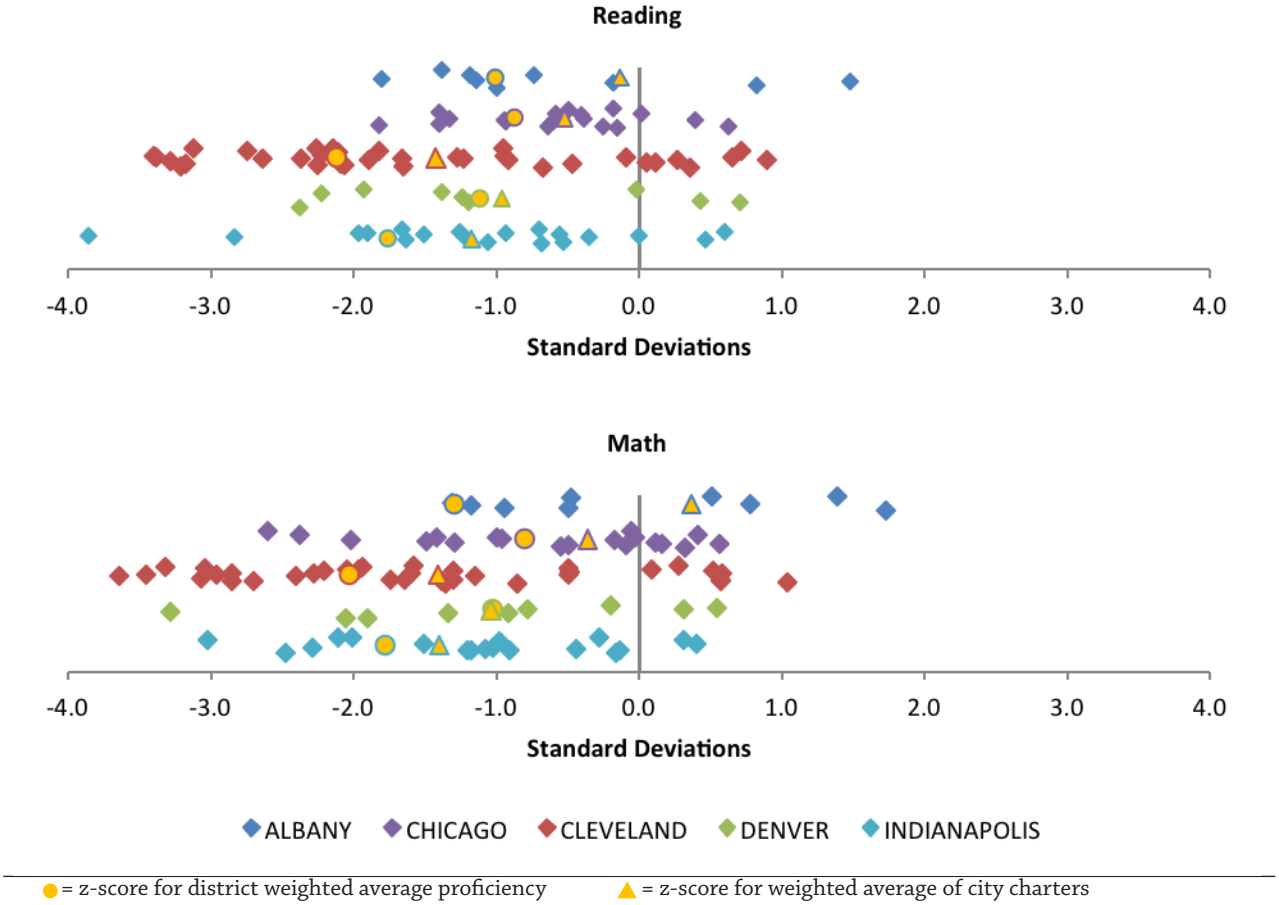
Graphs 4 and 5 present z-scores for individual charter schools (represented by diamonds) as well as average z-score for all charters in the city (yellow triangles).[15] The zero line represents average school performance statewide. Markers to the right of the zero line represent schools that outperformed the state average, while markers to the left of the zero line represent schools that trailed the state average. The further to the right or left of the line the marker appears, the better or worse the school performed. District averages in each of the cities are included for reference and are represented by a yellow circle.

In all but one of the graphs below, the yellow triangle marker for the charter average appears to the left of the zero line, indicating that the charters did not perform as well as the average school in the state. In just one instance – math performance at Albany's elementary schools – did charters outperform the state average.

Cleveland charter schools performed worst compared to the state. On average, proficiency rates at Cleveland charter schools were one to two standard deviations below the state average, depending on the grade level and subject, meaning that Cleveland charters outperformed fewer than 10 percent of schools statewide.

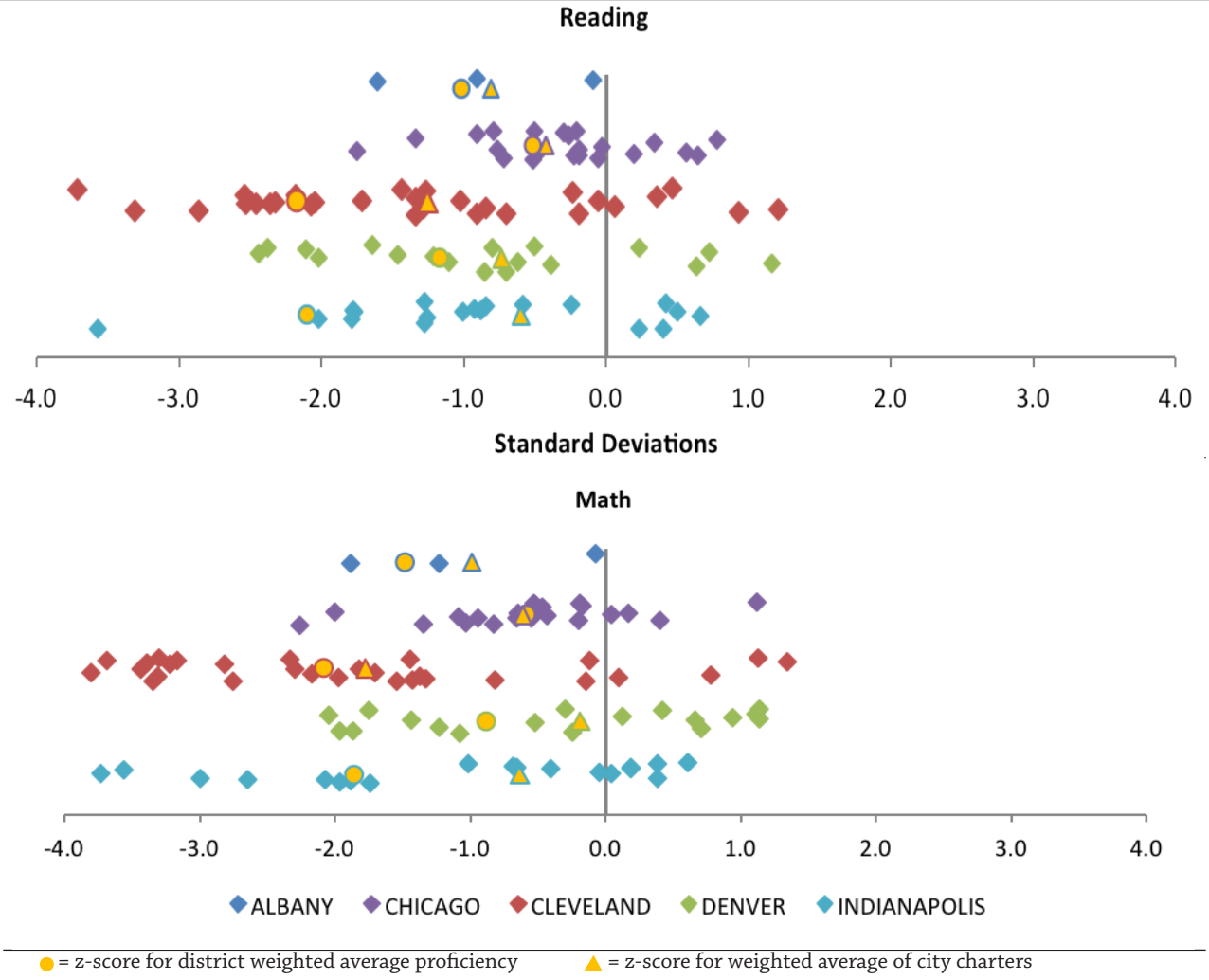
15 See Appendix C for individual school z-scores and Appendix D for additional city-level detail.

Graph 4. Z-Scores for City Charter Schools v. State Average, Grades 3-5, 2010-11



● = z-score for district weighted average proficiency ▲ = z-score for weighted average of city charters

Graph 5. Z-Scores for City Charter Schools v. State Average, Grades 6-8, 2010-11



Decile Analysis

The decile analysis evaluates how charter schools performed relative to other schools in the state by placing them into one of 10 rank categories. Schools in decile 1 are performing on par with the lowest 10 percent of schools across the state, while performance of schools in decile 10 is similar to the top 10 percent of schools statewide.

Table 11 shows the percentage of charter school students attending schools at each decile. The vast majority of charter school students across the cities are attending charter schools that are in the bottom deciles in both math and reading.

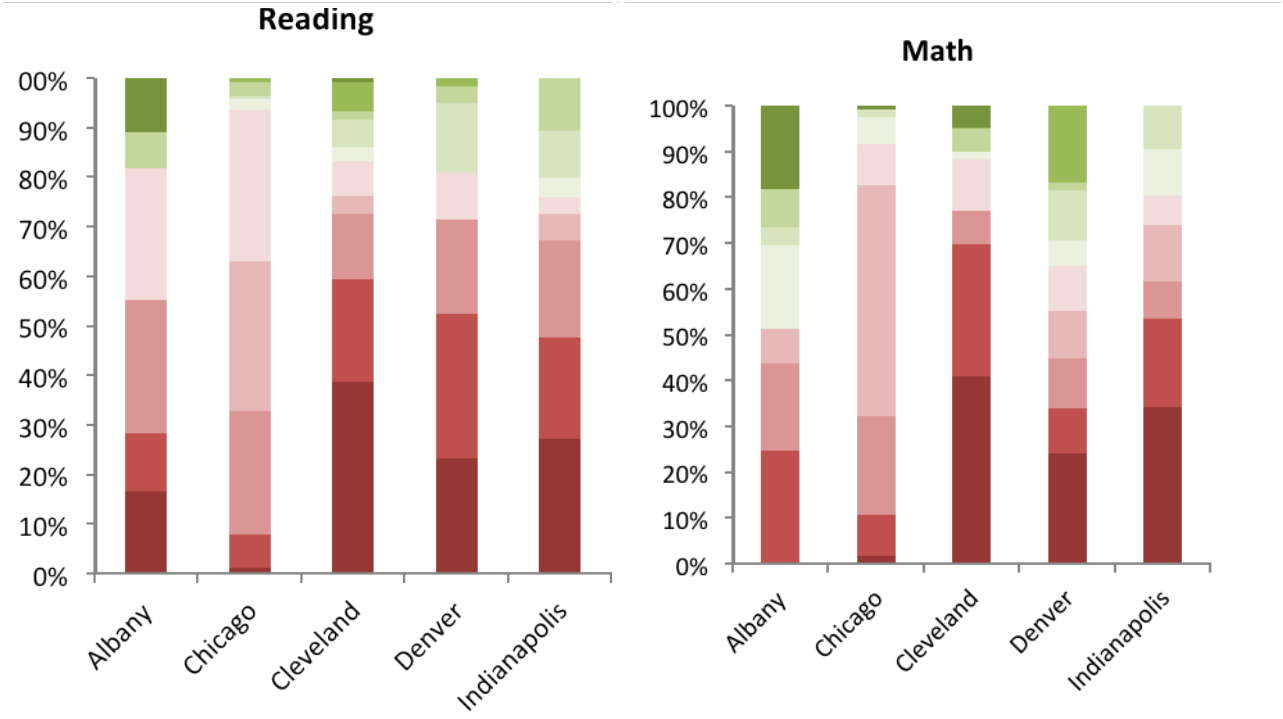
Cleveland had the highest-percentage of students attending low-performing charter schools, with approximately 40 percent of charter schools students attending schools on par with the lowest 10 percent of schools statewide in reading as well as in math. Meanwhile, Albany's charter schools demonstrated the strongest performance compared to the state in both reading and math - almost 11 percent of charter school students attend schools on par with the top-performing schools in the state in reading, and more than 18 percent did so in math.

Table 11. Decile Analysis of City Charters vs State Schools, 2010-11

Percentage of charter school students attending charter schools at each decile level in:										
	Reading					Math				
DECILE	Albany	Chicago*	Cleveland	Denver	Indianapolis	Albany	Chicago*	Cleveland	Denver	Indianapolis
10	11%	0%	1%	0%	0%	18%	1%	5%	0%	0%
9	0%	1%	6%	2%	0%	0%	0%	0%	17%	0%
8	7%	3%	2%	4%	11%	8%	0%	5%	2%	0%
7	0%	1%	6%	14%	9%	4%	2%	0%	11%	10%
6	0%	2%	3%	0%	4%	18%	6%	1%	6%	10%
5	27%	31%	7%	9%	3%	0%	9%	11%	10%	7%
4	0%	30%	4%	0%	5%	8%	50%	0%	11%	12%
3	27%	25%	13%	19%	20%	19%	22%	7%	11%	8%
2	12%	7%	21%	29%	20%	25%	9%	29%	10%	20%
1	17%	1%	39%	23%	27%	0%	2%	41%	24%	34%
Top 20%	11%	1%	7%	2%	0%	18%	1%	5%	17%	0%
Above the Median	18%	7%	17%	19%	24%	49%	8%	12%	35%	20%
Below the Median	82%	94%	83%	81%	76%	51%	92%	88%	65%	80%
Bottom 20%	29%	8%	60%	52%	47%	25%	11%	70%	34%	54%

**Chicago charter schools that are part of International Charter Schools or the UNO Network are reported in aggregate and represent nearly half of the charter school enrollment in Chicago. School-level proficiency rates are not publically reported.*

Graph 6. Percentage of City Charter School Students Attending Schools in Each Statewide Performance Decile, 2010-11



Closure and Replication

In each city, there are schools performing far below both city and state average performance. We ought to celebrate the hard work of the top charters and look for ways to replicate their success. At the same time, failure to hold low-performing charters accountable robs students of educational opportunities and hurts the perception of the entire charter sector. Charter school authorizers therefore have the opportunity and the responsibility to close or replace chronically low-performing schools and to support the expansion and replication of high-performing schools.

To see the impact of a targeted policy for improvement, we have simulated the results of closing low-performing schools and replicating high-performing schools over a five-year period in the five cities. Cleveland showed some of the lowest-performing schools across the cities; we use Cleveland as an example here, though results for all cities are available in Appendix E.

Our model shows how the city's overall charter sector performance would change if:

Year 1: the bottom 10 percent of schools are closed, while the top 10 percent of schools are replicated. We identified the bottom and top 10 percent of schools in each city based on the school-level average of reading and math pass rates. We evaluated elementary and middle school grade levels separately.

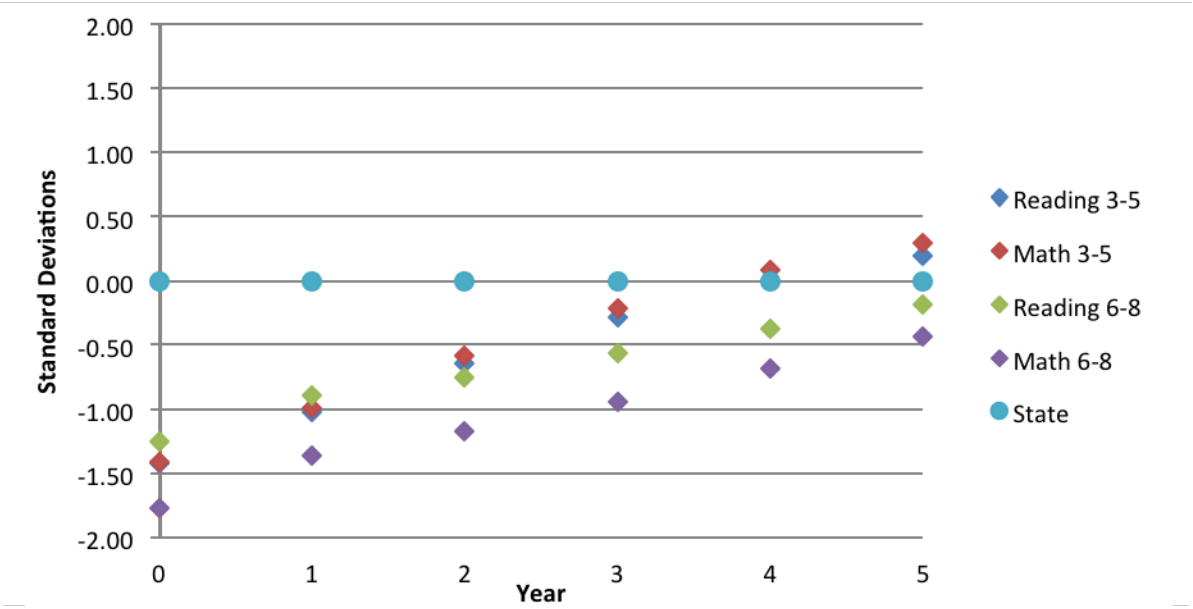
Year 2: no schools are closed, but the top schools are replicated more quickly – by four schools.

Years 3 through 5: six great new schools open in Year 3, eight in Year 4, and ten in Year 5.

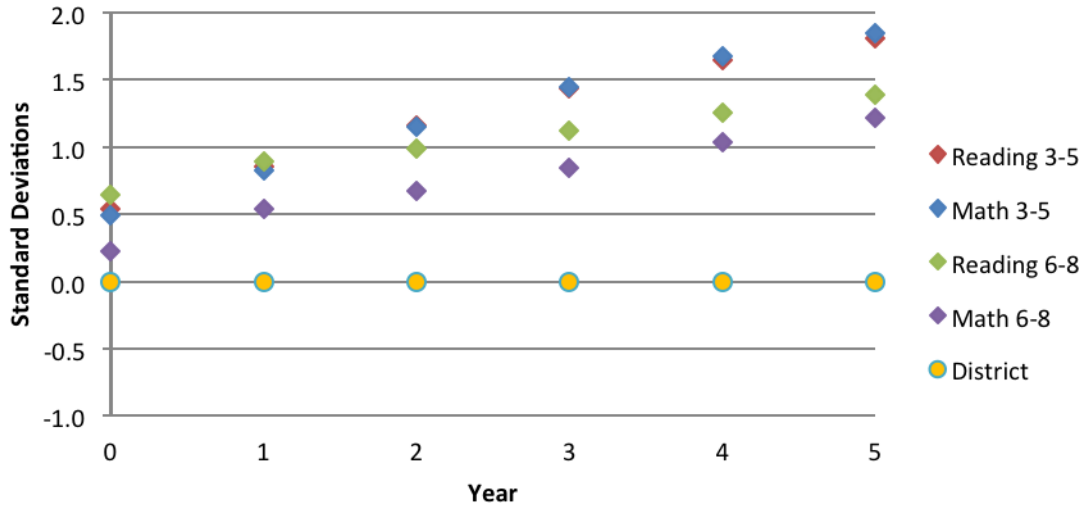
Graphs 7 and 8 show how the overall performance of Cleveland's charters would change if the lowest-performing charters closed and the top-performing charters replicated, as described above. In each graph, the zero lines represent average state or district school performance for the subject and grade level. Markers above the zero line indicate that the average city charter school performance is better than the average school in the district or state, while markers below the zero line indicate the opposite. The further above or below the zero line the marker appears, the better or worse city charter schools performed compared to the district or state average.

In Cleveland, the policy of closure and aggressive replication of high-performing schools would result in charter schools vastly outpacing the district schools, allow grade 3-5 city charters to catch up and surpass performance of the average grade 3-5 schools statewide and improve performance of grade 6-8 city charters by more than a standard deviation.

Graph 7: Change in Cleveland Z-Score with Closure and Replication Policy Implementation Relative to the State



Graph 8: Change in Cleveland Z-Score with Closure and Replication Policy Implementation Relative to the District



Conclusion

In the five comparison cities, charter schools generally perform better than traditional district schools. As state comparisons demonstrate, however, "beating the district" is not enough to provide charter students with a high-quality education. Moreover, far too many charters consistently underperform. Coordinated efforts to close the lowest-performing charter schools while simultaneously supporting the expansion and replication of the best charter schools can dramatically improve charter school quality and ensure that charter schools fulfill their promise.

Appendix A: School Selection Methodology

The study compares K-8 charter school performance in five cities – Cleveland, Ohio; Denver, Colorado; Chicago, Illinois; Indianapolis, Indiana; and Albany, New York. It uses publicly-available enrollment and performance data downloaded from department of education websites in each state. For each of the cities, the study compares the performance of charter schools within the city to both traditional public schools within the city and all public schools across the state.

School Selection

Identifying City Charter Schools

For each city, we analyzed performance results for all charter schools that met the following criteria:

- Administered the state assessment in 2010-11 to enough students in any grade 3 through 8 to meet the state's minimum threshold for reporting the results.
- Had a physical campus (virtual schools were not included). Schools with both virtual and brick-and-mortar components were included.
- Were located in the same geographic area as the city school district.

Using these criteria, we identified 104 charter schools across the five cities (see Table B.1). Detailed information on each school is presented in Appendix B.

NOTE: In Chicago, the performance results for two large charter school operators, Chicago International Charter Schools and the UNO Network, are reported in aggregate for all of their schools and individual school-level data are not available.

Identifying Traditional District Schools

This study compares charter school performance to the performance of traditional district schools in the city. For each city, traditional district schools included all schools that met the following criteria:

- Administered the state assessment in 2010-11 to enough students in any grade 3 through 8 to meet the state's minimum threshold for reporting the results. Were located in the city school district.
- We identified district schools using district ID numbers provided in DOE enrollment and performance data files.

Identifying Schools Statewide

This study also compares the performance of charter schools within the five cities to the performance of schools across the state in which those charters are located. To be included in the analysis, the schools must meet the following criteria:

- Administered the state assessment to students in any grade 3 through 8 in 2010-11 in sufficient numbers to result in reported results (met state n-size limits for reporting).

Charter schools outside of the city are included in the group of state comparison schools.

Z-Scores

We calculated z-scores for each grade level (grades 3-5 and grades 6-8), subject (reading and math), and comparison group (traditional city public schools and all statewide schools) combination.

Using the weighted mean proficiency (weighted by enrollment for included grades, 3-5 or 6-8) for traditional schools in the comparison group, we calculate the weighted variance. Next, we calculated the standard deviation of the comparison group using the weighted mean and variance. We used the standard deviation and the weighted mean for the comparison group to calculate a z-score for each city-charter school.

Next, we calculated the aggregate weighted mean proficiency for the city-charter schools and used that mean to calculate the aggregate z-score for city charter schools as a group.

Finally, using the weighted mean calculated for traditional city public schools (or the "district" in which the charter schools are located), we calculated the aggregate z-score for the district in reference to the comparison group.

Decile Analysis

The decile analysis shows how the charter schools performed relative to other schools in the district or state by placing them into one of 10 rank categories. To conduct this analysis, we used grade-level proficiency rates to calculate the elementary (grades 3-5) and middle school (grades 6-8) overall proficiency rates for all schools (charter and traditional schools in both comparison groups – district and state). Separately for traditional district schools and for all schools in the state, we conducted each of the following steps:

1. Ranked all schools by proficiency rate.
2. Divided them into ten equal groups, or "deciles."
3. Determined the minimum proficiency rate required to place a school into each of the deciles.
4. Calculated the percentage of charter school students that attend schools that fell into each of the deciles.

NAEP Comparison

In the interest of including performance results consistent across the five states included in this analysis, we considered adding an analysis based on National Assessment of Educational Progress (NAEP), which is administered to a sample of students nationwide.

In 2007, the US Department of Education published a method that uses school-level results from the 4th and 8th grade NAEP and state assessments to create a "multiplier" for each state that can be used to convert state assessment results to NAEP "equivalencies."[16]

Given the lack of access to school-level NAEP results for the five comparison states, we could not carry out the analysis according to the method presented in the US DOE publication. While it would be possible to calculate a multiplier using statewide average NAEP and state assessment proficiency rates, we decided that this method was not rigorous enough to include in the study.

16 National Center for Education Statistics, *Mapping 2005 State Proficiency Standards onto the NAEP Scales* (Washington DC: U.S. Department of Education, 2007).

Policy Simulation

Year 1 Analysis

In Year 1, we simulate the impact on city-charter aggregate proficiency if schools performing in the bottom 10 percent were closed and replaced with replications of the schools performing in the top 10 percent. To carry out the simulation, we carried out the following steps:

1. Calculated average proficiency rate for each city charter school (based on reading and math proficiency). Calculations were performed separately for grades 3-5 and grades 6-8.

2. Identified the schools performing in the bottom 10 percent and the top 10 percent in each city. If the 10 percent calculation does not result in at least two schools, round up to get at least two schools. An exception was made for grade 6-8 schools in Albany due to the fact that there were only three schools in the city-charter group. We deleted the bottom performer and replaced with the top performing school, even though this constitutes considerably more than 10 percent of the schools.

3. Deleted the performance scores of the bottom 10 percent of city charters from the z-score calculation for all city-charters. In their place, we added the performance of the top 10 percent of city-charters identified in step 2.

Growth Over 5 Years

In Years 2-5, we build on progress in Year 1 by simulating the impact of aggressively replicating the top performing school in each city-charter group. The model assumes that the top-performing charter school replicates to produce an additional two schools each year (see Table A.1 below). To calculate an aggregate z-score for all city-charters, the model includes the performance score for the top-performing school multiple times to represent each new school that opens. For example, in Year 2, the top-performing charter school's performance score is included in the z-score calculation four additional times, while in Year 3, it is included six times, and so forth.

Table A.1. Replication of the top-performing school assumed in model

Year	Number of the top-performing school
2	4
3	6
4	8
5	10

Years 2 to 5

1. Simulate more aggressive replication of the top school in Years 2-5 by adding the top-performing school's performance multiple times to the mean proficiency calculation for all city-charters. For Year 2, add the top school's performance four times into the city-charter mean proficiency calculation, and calculate a new z-score based on this mean. This simulates the city-charter performance vs. the comparison group with four additional great charter schools in the city.

2. Increase the number of schools added by two in Years 3, 4, and 5, respectively. This simulates the addition of six great schools in Year 3, eight great schools in Year 4, and ten great schools in Year 5.

Appendix B: School Characteristics

Table B.1. 2010-11 Enrollment and Performance Data of City Charter Schools														
School Name	**City**	**Grades Served**	**Total Enrollment**	**% Free and Red. Lunch**	**% Sp. Educ.**	**% Eng Lang Learn**	**% Black**	**% Asian**	**% Hisp**	**% White**	**Read Prof % 3-5**	**Read Prof % 6-8**	**Math Prof % 3-5**	**Math Prof % 6-8**
Albany														
Achievement Academy Charter School	Albany	5-8	252	89%	N. Avail.	0%	64%	0%	9%	1%	32%	48%	33%	42%
Albany Community Charter School	Albany	K-4	296	92%	N. Avail.	2%	87%	0%	8%	5%	82%	95%	NA	NA
Albany Preparatory Charter School	Albany	5-8	214	95%	N. Avail.	0%	76%	3%	14%	4%	25%	57%	19%	30%
Brighter Choice Charter Middle School For Boys	Albany	5	50	78%	N. Avail.	0%	86%	2%	12%	0%	44%	74%	NA	NA
Brighter Choice Charter Middle School For Girls	Albany	5	42	91%	N. Avail.	2%	88%	0%	12%	0%	36%	42%	NA	NA
Brighter Choice Charter School For Boys	Albany	K-4	255	88%	N. Avail.	0%	83%	1%	9%	2%	71%	89%	NA	NA
Brighter Choice Charter School For Girls	Albany	K-4	247	86%	N. Avail.	7%	79%	1%	15%	4%	53%	79%	NA	NA
Henry Johnson Charter School	Albany	K-4	366	68%	N. Avail.	2%	81%	0%	10%	4%	39%	44%	NA	NA
Kipp Tech Valley Charter School	Albany	5-8	286	77%	N. Avail.	0%	91%	0%	5%	3%	37%	56%	49%	62%
Chicago														
Amandla Elem Charter Sch	Chicago	5-7	299	87%	N. Avail.	N. Avail.	100%	0%	0%	0%	56%	59%	74%	79%
Aspira Charter High School	Chicago	6-12	1486	91%	N. Avail.	N. Avail.	6%	1%	89%	3%	NA	NA	67%	73%
Bronzeville Lighthouse Elem Chrtr	Chicago	K-8	471	90%	N. Avail.	N. Avail.	98%	0%	1%	0%	69%	85%	82%	80%
Catalyst Circle Rock Elem School	Chicago	K-8	30	3%	N. Avail.	N. Avail.	97%	0%	3%	0%	55%	65%	80%	77%
Catalyst Elem Charter School	Chicago	K-8	495	95%	N. Avail.	N. Avail.	99%	0%	1%	0%	48%	61%	63%	60%
Chicago International Charter	Chicago	K-12	8589	85%	N. Avail.	N. Avail.	70%	1%	24%	4%	68%	84%	80%	79%
Chicago Math & Sci Elem Charter	Chicago	6-12	596	88%	N. Avail.	N. Avail.	23%	7%	62%	4%	NA	NA	77%	86%
Chicago Vir Elem Charter Schl	Chicago	K-12	565	56%	N. Avail.	N. Avail.	57%	3%	13%	15%	66%	76%	85%	82%
Erie Elem Charter School	Chicago	K-6	296	88%	N. Avail.	N. Avail.	18%	0%	78%	2%	67%	76%	80%	83%
Galapagos Elem Charter School	Chicago	K-8	350	91%	N. Avail.	N. Avail.	99%	0%	1%	0%	61%	71%	73%	63%
Kipp Ascend Elem Charter School	Chicago	K-8	430	87%	N. Avail.	N. Avail.	94%	0%	5%	0%	55%	71%	77%	73%
LEARN Elem Charter School	Chicago	PK-8	1312	98%	N. Avail.	N. Avail.	98%	0%	3%	0%	71%	88%	89%	83%
Legacy Elem Charter School	Chicago	PK-7	402	94%	N. Avail.	N. Avail.	100%	0%	3%	0%	73%	87%	82%	79%
Locke A Elem Charter Academy	Chicago	PK-8	500	94%	N. Avail.	N. Avail.	100%	0%	1%	0%	84%	92%	91%	97%
Namaste Elem Charter School	Chicago	K-7	418	83%	N. Avail.	N. Avail.	6%	2%	81%	10%	81%	91%	90%	85%
Passages Elem Charter School	Chicago	PK-7	352	90%	N. Avail.	N. Avail.	56%	12%	17%	7%	61%	80%	79%	76%
Perspectives Charter High School	Chicago	5-12	2226	85%	N. Avail.	N. Avail.	92%	0%	6%	1%	NA	NA	72%	79%
Polaris Elem Charter Academy	Chicago	K-5	282	88%	N. Avail.	N. Avail.	92%	0%	7%	0%	69%	86%	NA	NA
Providence-Englewood Elem Charter	Chicago	K-8	392	79%	N. Avail.	N. Avail.	97%	0%	3%	0%	75%	86%	86%	89%
Shabazz International Chrtr Schls	Chicago	K-12	1012	89%	N. Avail.	N. Avail.	99%	0%	1%	0%	61%	73%	74%	70%

Table B.1. 2010-11 Enrollment and Performance Data of City Charter Schools (continued)														
School Name	**City**	**Grades Served**	**Total Enrollment**	**% Free and Red. Lunch**	**% Sp. Educ.**	**% Eng Lang Learn**	**% Black**	**% Asian**	**% Hisp**	**% White**	**Read Prof % 3-5**	**Read Prof % 6-8**	**Math Prof % 3-5**	**Math Prof % 6-8**
Univ of Chicago Elem Charter Schl	Chicago	PK-12	1638	86%	N. Avail.	N. Avail.	100%	0%	1%	0%	72%	90%	80%	74%
UNO Network Elementary School	Chicago	K-11	3861	93%	N. Avail.	N. Avail.	3%	0%	94%	1%	66%	81%	79%	79%
Young Womens Leadership Chartr HS	Chicago	7-12	329	84%	N. Avail.	N. Avail.	78%	0%	14%	7%	NA	NA	77%	77%
Cleveland														
Apex Academy	Cleveland	K-8	635	93%	6%	0%	100%	0%	0%	0%	53%	42%	73%	52%
Arts and Science Preparatory Academy	Cleveland	K-8	207	100%	16%	0%	84%	0%	8%	6%	37%	21%	68%	28%
Bella Academy of Excellence	Cleveland	K-6	254	84%	***	0%	92%	0%	***	***	51%	40%	70%	35%
Citizens Academy	Cleveland	K-5	409	71%	10%	0%	99%	***	0%	***	93%	93%	NA	NA
Cleveland Arts and Social Sciences Academy	Cleveland	K-8	362	98%	10%	0%	96%	0%	***	***	59%	32%	52%	29%
Cleveland College Preparatory School	Cleveland	K-8	239	35%	8%	0%	88%	0%	***	8%	52%	57%	74%	56%
Cleveland Community School	Cleveland	K-4	198	99%	6%	0%	95%	0%	***	***	40%	47%	NA	NA
Cleveland Entrepreneurship Preparatory School	Cleveland	6-8	345	85%	13%	0%	92%	***	***	***	NA	NA	88%	79%
Constellation Schools: Madison Comm Elementary	Cleveland	K-8	283	90%	12%	0%	19%	0%	32%	39%	65%	64%	82%	76%
Constellation Schools: Old Brooklyn Comm Elem	Cleveland	K-4	290	46%	7%	0%	***	***	10%	79%	91%	86%	NA	NA
Constellation Schools: Puritas Community Elem	Cleveland	K-4	200	67%	8%	0%	13%	***	19%	61%	86%	86%	NA	NA
Constellation Schools: Stockyard Community Elem	Cleveland	K-6	285	84%	14%	25%	10%	***	40%	40%	54%	52%	65%	30%
Constellation Schools: Westpark Community Elem	Cleveland	K-4	290	33%	6%	0%	***	***	14%	73%	82%	78%	NA	NA
Constellation Schls: Westside Com Sch of the Arts	Cleveland	K-6	221	90%	11%	0%	16%	0%	35%	37%	83%	81%	90%	90%
Elite Academy of the Arts	Cleveland	K-8	232	100%	15%	0%	100%	0%	0%	0%	51%	33%	58%	26%
Harvard Avenue Community School	Cleveland	K-8	646	91%	0%	0%	100%	0%	0%	0%	46%	47%	69%	54%
Hope Academy Cathedral Campus	Cleveland	K-8	519	86%	15%	0%	100%	0%	0%	0%	39%	26%	58%	20%
Hope Academy Chapelside Campus	Cleveland	K-8	443	92%	14%	0%	100%	0%	0%	0%	59%	50%	69%	45%
Hope Academy Cuyahoga Campus	Cleveland	K-8	439	89%	10%	20%	31%	3%	28%	29%	69%	56%	61%	36%
Hope Academy East Campus	Cleveland	K-8	342	77%	14%	0%	100%	0%	0%	***	54%	43%	56%	48%
Hope Academy Lincoln Park	Cleveland	K-8	218	77%	11%	9%	72%	0%	11%	15%	53%	46%	57%	28%
Hope Academy Northcoast	Cleveland	K-8	274	94%	10%	0%	64%	0%	***	23%	56%	52%	70%	50%
Hope Academy Northwest Campus	Cleveland	K-8	429	94%	13%	6%	42%	***	37%	20%	75%	70%	56%	42%
Horizon Science Academy Cleveland Elem Sch	Cleveland	K-5	149	80%	***	9%	88%	***	***	***	72%	69%	NA	NA
Horizon Science Academy Denison Elem School	Cleveland	K-5	172	94%	12%	0%	45%	***	23%	16%	45%	30%	NA	NA
Horizon Science Academy-Cleveland Middle School	Cleveland	6-8	167	88%	6%	0%	89%	***	8%	***	NA	NA	84%	76%
Horizon Science Academy-Denison Middle School	Cleveland	1-8	321	90%	8%	14%	48%	0%	31%	13%	57%	53%	76%	57%
Intergenerational School, The	Cleveland	K-8	221	63%	8%	0%	89%	***	***	5%	90%	86%	98%	98%
Lion of Judah Academy	Cleveland	K-8	140	98%	9%	0%	97%	***	***	***	50%	30%	NA	NA
Marcus Garvey Academy	Cleveland	K-8	192	96%	15%	0%	98%	0%	0%	0%	36%	33%	60%	26%
Northeast Ohio College Preparatory School	Cleveland	K-8	225	45%	7%	0%	68%	0%	19%	6%	69%	59%	85%	57%
Phoenix Village Academy Primary 2	Cleveland	3-5	65	95%	20%	0%	100%	0%	0%	0%	85%	69%	NA	NA

Table B.1. 2010-11 Enrollment and Performance Data of City Charter Schools (continued)														
School Name	**City**	**Grades Served**	**Total Enrollment**	**% Free and Red. Lunch**	**% Sp. Educ.**	**% Eng Lang Learn**	**% Black**	**% Asian**	**% Hisp**	**% White**	**Read Prof % 3-5**	**Read Prof % 6-8**	**Math Prof % 3-5**	**Math Prof % 6-8**
Villaview Community School	Cleveland	5-8	101	99%	10%	0%	96%	0%	***	***	38%	24%	42%	27%
Virtual Schoolhouse, Inc.	Cleveland	K-12	313	99%	57%	0%	87%	0%	***	12%	39%	36%	47%	22%
Denver														
Cesar Chavez Academy Denver	Denver	K-8	415	86%	N. Avail.	N. Avail.	1%	0%	87%	8%	48%	56%	41%	20%
Denver School of Science and Technology	Denver	6-12	874	44%	N. Avail.	N. Avail.	26%	3%	35%	31%	NA	NA	80%	77%
Denver School of Science and Technology:GVR	Denver	6	141	60%	N. Avail.	N. Avail.	33%	4%	43%	13%	NA	NA	72%	77%
Girls Athletic Leadership School	Denver	6-7	120	62%	N. Avail.	N. Avail.	17%	1%	43%	33%	NA	NA	60%	46%
Highline Academy Charter School	Denver	K-8	504	30%	N. Avail.	N. Avail.	28%	3%	14%	52%	82%	74%	79%	58%
KIPP Sunshine Peak Academy	Denver	5-8	369	96%	N. Avail.	N. Avail.	0%	1%	97%	0%	30%	47%	55%	51%
Manny Martinez Middle School	Denver	6-8	224	94%	N. Avail.	N. Avail.	8%	0%	88%	2%	NA	NA	28%	19%
Northeast Academy Charter School	Denver	K-8	416	88%	N. Avail.	N. Avail.	51%	1%	41%	3%	35%	14%	35%	22%
Odyssey Charter Elementary School	Denver	K-8	226	28%	N. Avail.	N. Avail.	15%	2%	14%	54%	77%	78%	88%	73%
Omar D Blair Charter School	Denver	K-8	800	54%	N. Avail.	N. Avail.	33%	9%	38%	13%	69%	66%	58%	50%
Pioneer Charter School	Denver	PK-6	361	94%	N. Avail.	N. Avail.	6%	0%	91%	2%	27%	37%	33%	36%
Vanguard Classical School	Denver	K-8	508	56%	N. Avail.	N. Avail.	15%	2%	52%	27%	47%	35%	54%	30%
Venture Prep	Denver	6-7, 9-11	357	89%	N. Avail.	N. Avail.	46%	1%	41%	9%	NA	NA	29%	24%
West Denver Prep: Federal Campus	Denver	6-8	322	93%	N. Avail.	N. Avail.	0%	0%	97%	2%	NA	NA	57%	69%
West Denver Prep: Harvey Park Campus	Denver	6-7	218	90%	N. Avail.	N. Avail.	0%	2%	91%	6%	NA	NA	62%	76%
West Denver Prep: Highlland Campus	Denver	6	108	94%	N. Avail.	N. Avail.	4%	1%	88%	6%	NA	NA	44%	68%
West Denver Prep: Lake Campus	Denver	6	85	93%	N. Avail.	N. Avail.	8%	2%	85%	5%	NA	NA	50%	64%
Wyatt-Edison Charter Elementary School	Denver	K-8	677	85%	N. Avail.	N. Avail.	23%	0%	73%	4%	45%	54%	48%	34%
Indianapolis														
Andrew Academy	Indianapolis	K-7	150	61%	7%	1%	95%	0%	3%	0%	73%	53%	60%	52%
Andrew J Brown Academy	Indianapolis	K-8	633	85%	9%	11%	81%	1%	0%	17%	70%	79%	68%	77%
Charles A Tindley Accelerated School	Indianapolis	6-12	463	59%	7%	0%	13%	0%	0%	87%	NA	NA	83%	85%
Christel House Academy	Indianapolis	K-9	524	90%	12%	21%	20%	0%	31%	40%	80%	86%	80%	83%
Fall Creek Academy	Indianapolis	K-12	375	86%	17%	0%	89%	0%	0%	9%	67%	71%	54%	82%
Flanner House Elementary School	Indianapolis	K-6	209	72%	9%	0%	96%	0%	0%	0%	60%	70%	54%	31%
Fountain Square Academy	Indianapolis	5-12	269	91%	14%	1%	26%	0%	10%	62%	63%	69%	64%	80%
Hoosier Academy – Indianapolis	Indianapolis	K-12	509	28%	14%	1%	12%	2%	4%	79%	85%	80%	81%	78%
Imagine Indiana Life Sciences Academy - East	Indianapolis	K-7	816	92%	8%	11%	81%	0%	14%	3%	38%	31%	33%	33%
Imagine Life Sciences Academy – West	Indianapolis	K-7	541	89%	9%	20%	72%	0%	22%	5%	49%	46%	63%	54%
Indiana Math and Science Academy - Indianapolis	Indianapolis	K-11	502	77%	8%	12%	66%	1%	15%	13%	74%	85%	65%	69%
Indiana Math and Science Academy – North	Indianapolis	K-7	316	76%	9%	3%	77%	1%	2%	11%	77%	69%	65%	53%
Indianapolis Lighthouse Charter School	Indianapolis	PK-10	631	55%	14%	1%	58%	0%	8%	30%	67%	64%	72%	69%
Irvington Community School	Indianapolis	K-12	890	54%	12%	0%	12%	1%	4%	76%	87%	78%	78%	73%
KIPP Indianapolis College Preparatory	Indianapolis	5-8	247	94%	17%	0%	94%	0%	0%	4%	62%	76%	54%	65%

Table B.1. 2010-11 Enrollment and Performance Data of City Charter Schools (continued)														
School Name	City	Grades Served	Total Enroll-ment	% Free and Red. Lunch	% Sp. Educ.	% Eng Lang Learn	% Black	% Asian	% Hisp	% White	Read Prof % 3-5	Read Prof % 6-8	Math Prof % 3-5	Math Prof % 6-8
Monument Lighthouse Charter School	Indianapolis	K-8	541	59%	11%	1%	92%	0%	4%	2%	64%	57%	60%	56%
Padua Academy	Indianapolis	K-7	135	90%	5%	81%	4%	0%	83%	6%	73%	67%	80%	80%
Paramount School of Excellence	Indianapolis	K-8	372	84%	14%	5%	60%	0%	6%	23%	59%	58%	51%	44%
Southeast Neighborhood Sch of Excellence (SENSE)	Indianapolis	K-6	300	30%	13%	13%	7%	0%	17%	65%	69%	55%	60%	40%
The Challenge Foundation Academy	Indianapolis	K-5	475	81%	12%	0%	1%	0%	1%	0%	75%	68%	NA	NA

NOTE: *** indicates that the state subgroup data were censored for privacy (only for Ohio data)

Appendix C: School Level Z-Scores

Table C.1. Z-Score Tables by School								
	Reading Grades 3-5		Math Grades 3-5		Reading Grades 6-8		Math Grades 6-8	
School	City Public Schools μ	Statewide Public Schools μ	City Public Schools μ	Statewide Public Schools μ	City Public Schools μ	Statewide Public Schools μ	City Public Schools μ	Statewide Public Schools μ
Albany								
Achievement Academy Charter School	-0.43	-1.38	0.41	-0.94	0.42	-0.90	0.30	-1.23
Albany Community Charter School	2.84	1.48	3.49	1.73				
Albany Preparatory Charter School	-0.91	-1.80	0.94	-0.48	-2.21	-1.60	-0.47	-1.89
Brighter Choice Charter Middle School for Boys	0.31	-0.73	2.09	0.51				
Brighter Choice Charter Middle School for Girls	-0.20	-1.18	-0.02	-1.31				
Brighter Choice Charter School for Boys	2.10	0.83	3.10	1.39				
Brighter Choice Charter School for Girls	0.95	-0.18	2.39	0.78				
Henry Johnson Charter School	0.01	-0.99	0.13	-1.18				
KIPP Tech Valley Charter School	-0.15	-1.14	0.92	-0.50	3.47	-0.09	1.64	-0.07
Chicago								
Amandla Elem Charter Sch	-0.45	-1.33	-1.58	-2.60	-0.20	-0.72	0.05	-0.53
Aspira Charter High School					-0.81	-1.34	-0.40	-1.03
Bronzeville Lighthouse Elem Chrtr	0.48	-0.39	0.62	-0.09	0.48	-0.03	0.14	-0.43
Catalyst Circle Rock Elem School	-0.52	-1.40	-1.07	-2.02	0.32	-0.19	-0.06	-0.65
Catalyst Elem Charter School	-0.93	-1.82	-1.38	-2.37	-1.21	-1.75	-1.52	-2.26
Chicago International Charter	0.37	-0.50	0.55	-0.17	0.29	-0.22	0.06	-0.52
Chicago Math & Sci Elem Charter					0.00	-0.51	0.69	0.17
Chicago Virtual Elem Charter Schl	0.27	-0.60	-0.14	-0.96	0.70	0.20	0.36	-0.19
Erie Elem Charter School	0.29	-0.58	-0.17	-1.00	0.30	-0.21	0.36	-0.19
Galapagos Elem Charter School	-0.06	-0.94	-0.54	-1.41	-0.27	-0.79	-1.28	-2.00
Kipp Ascend Elem Charter School	-0.52	-1.40	-0.60	-1.48	0.01	-0.51	-0.45	-1.08
LEARN Elem Charter School	0.62	-0.25	0.84	0.16	1.06	0.56	0.37	-0.17
Legacy Elem Charter School	0.71	-0.15	0.80	0.11	0.45	-0.06	0.03	-0.55
Locke A Elem Charter Academy	1.48	0.62	1.19	0.56	1.28	0.78	1.55	1.12
Namaste Elem Charter School	1.26	0.40	1.06	0.42	1.14	0.65	0.57	0.04
Passages Elem Charter School	-0.06	-0.93	0.22	-0.54	0.22	-0.30	-0.22	-0.82
Perspectives Charter High School					-0.38	-0.91	0.05	-0.53
Polaris Elem Charter Academy	0.46	-0.41	0.67	-0.03				
Providence-Englewood Elem Charter	0.88	0.02	0.65	-0.05	0.84	0.34	0.90	0.40
Shabazz International Chrtr Schls	-0.06	-0.93	-0.44	-1.29	-0.24	-0.76	-0.69	-1.35
Univ of Chicago Elem Charter Schl	0.68	-0.18	0.98	0.32	0.32	-0.19	-0.33	-0.94
UNO Network Elementary School	0.23	-0.64	0.27	-0.49	0.25	-0.26	0.10	-0.47

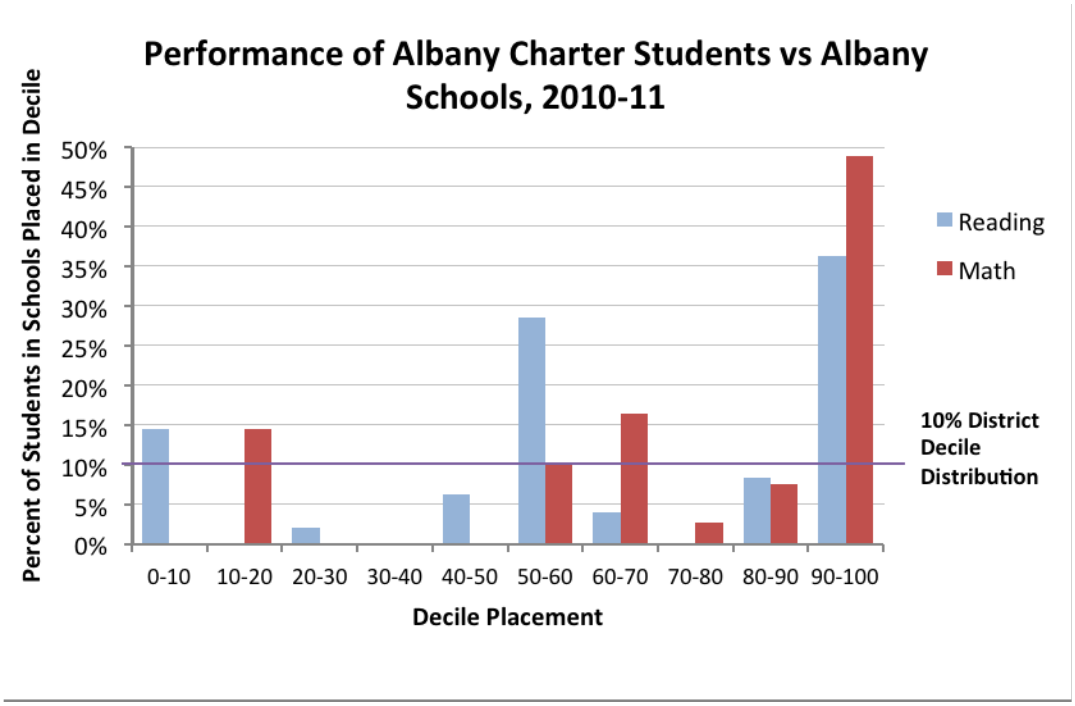
Table C.1. Z-Score Tables by School (continued)	Reading Grades 3-5		Math Grades 3-5		Reading Grades 6-8		Math Grades 6-8	
School	City Public Schools μ	Statewide Public Schools μ	City Public Schools μ	Statewide Public Schools μ	City Public Schools μ	Statewide Public Schools μ	City Public Schools μ	Statewide Public Schools μ
Young Womens Leadership Chartr HS					0.05	-0.47	-0.05	-0.64
Cleveland								
Apex Academy	0.01	-2.10	-0.19	-2.28	0.80	-1.02	0.28	-1.71
Arts and Science Preparatory Academy	-0.99	-3.38	-1.27	-3.64	0.51	-1.43	-0.90	-3.30
Bella Academy of Excellence	-0.11	-2.25	-0.29	-2.40	0.63	-1.26	-0.54	-2.81
Citizens Academy	2.36	0.90	2.43	1.04				
Cleveland Arts and Social Sciences Academy	0.36	-1.65	-0.73	-2.96	-0.48	-2.86	-0.84	-3.22
Cleveland College Preparatory School	-0.09	-2.23	0.58	-1.30	0.88	-0.91	0.49	-1.43
Cleveland Entrepreneurship Preparatory School					1.76	0.36	1.61	0.09
Cleveland Community School	-0.79	-3.12	0.07	-1.94				
Constellation Schools: Madison Community Elementary	0.70	-1.22	0.94	-0.85	1.35	-0.23	1.44	-0.14
Constellation Schools: Old Brooklyn Community Elementary	2.22	0.72	2.07	0.58				
Constellation Schools: Old Brooklyn Community Middle	1.59	-0.09	2.02	0.52	2.16	0.93	2.39	1.13
Constellation Schools: Puritas Community Elementary	1.94	0.36	2.07	0.58				
Constellation Schools: Puritas Community Middle	0.91	-0.95	0.58	-1.30	0.92	-0.84	0.48	-1.44
Constellation Schools: Stockyard Community Elementary	0.02	-2.09	0.31	-1.64	0.32	-1.71	-0.80	-3.16
Constellation Schools: Stockyard Community Middle					0.09	-2.04	-0.16	-2.29
Constellation Schools: Westpark Community Elementary	1.70	0.06	1.68	0.09				
Constellation Schools: Westpark Community Middle	0.66	-1.27	0.52	-1.38	1.38	-0.19	0.94	-0.82
Constellation Schools: Westside Community School of the Arts	1.75	0.11	1.83	0.28	1.84	0.46	2.13	0.78
Elite Academy of the Arts	-0.11	-2.25	-0.65	-2.85	-0.13	-2.36	-1.00	-3.44
Harvard Avenue Community School	-0.41	-2.63	0.05	-1.97	0.58	-1.33	0.40	-1.55
Hope Academy Cathedral Campus	-0.85	-3.21	-1.02	-3.32	-0.11	-2.32	-1.28	-3.80
Hope Academy Chapelside Campus	0.36	-1.66	0.23	-1.74	0.58	-1.34	-0.07	-2.17
Hope Academy Cuyahoga Campus	0.94	-0.91	0.54	-1.35	0.07	-2.07	-0.50	-2.75
Hope Academy East Campus	0.04	-2.06	-0.14	-2.21	-0.26	-2.54	0.08	-1.97
Hope Academy Lincoln Park	-0.02	-2.15	-0.01	-2.04	-0.20	-2.46	-0.91	-3.31
Hope Academy Northcoast	0.18	-1.89	0.34	-1.60	0.62	-1.29	0.19	-1.82
Hope Academy Northwest Campus	1.29	-0.47	1.23	-0.48	-0.25	-2.53	-0.19	-2.34
Horizon Science Academy Cleveland Elementary School	1.13	-0.68	1.22	-0.49				
Horizon Science Academy Denison Elementary School	-0.49	-2.74	-0.82	-3.06				
Horizon Science Academy-Cleveland Middle School					1.48	-0.05	1.46	-0.12
Horizon Science Academy-Denison Middle School	0.23	-1.82	0.36	-1.58	1.02	-0.70	0.53	-1.37
Intergenerational School, The	2.17	0.65	2.07	0.58	2.36	1.21	2.54	1.34
Lion of Judah Academy	-0.19	-2.36	-0.79	-3.04				
Marcus Garvey Academy	-1.01	-3.40	-0.65	-2.85	-0.01	-2.18	-0.97	-3.39
Northeast Ohio College Preparatory School	0.92	-0.94	0.70	-1.15	1.56	0.06	0.56	-1.33
Phoenix Village Academy Primary 2	1.87	0.27	1.22	-0.49				
Villaview Community School	-0.91	-3.28	-1.12	-3.45	-1.07	-3.71	-0.94	-3.35
Virtual Schoolhouse, Inc.	-0.83	-3.18	-0.52	-2.70	-0.80	-3.31	-1.19	-3.68

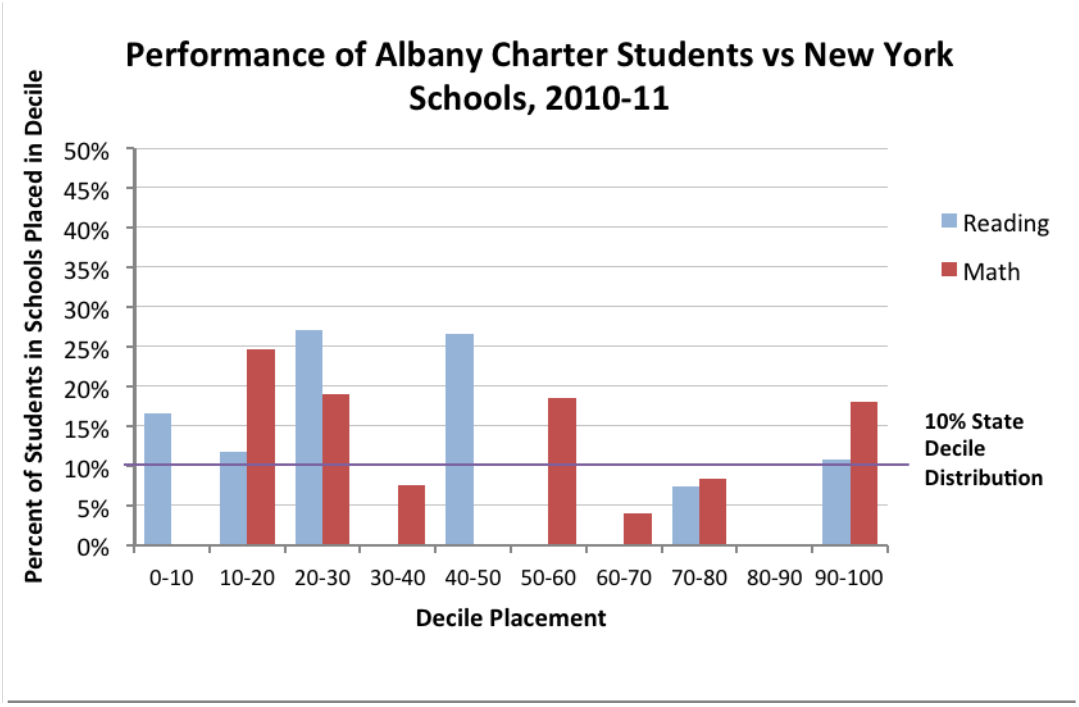
Table C.1. Z-Score Tables by School (continued)	Reading Grades 3-5		Math Grades 3-5		Reading Grades 6-8		Math Grades 6-8	
School	City Public Schools μ	Statewide Public Schools μ	City Public Schools μ	Statewide Public Schools μ	City Public Schools μ	Statewide Public Schools μ	City Public Schools μ	Statewide Public Schools μ
Denver								
Cesar Chavez Academy Denver	-0.06	-1.19	0.22	-0.78	-0.40	-1.64	-1.15	-1.96
Denver School of Science And Technology					1.61	0.72	2.14	1.14
Denver School of Science And Technology - Gvr					1.19	0.23	2.14	1.14
Girls Athletic Leadership School					0.56	-0.51	0.38	-0.52
Highline Academy Charter School	1.56	0.71	1.21	0.31	1.54	0.64	1.07	0.13
Kipp Sunshine Peak Academy	-0.94	-2.22	-0.29	-1.34	0.32	-0.80	0.67	-0.25
Manny Martinez Middle School					-1.08	-2.44	-1.24	-2.05
Northeast Academy Charter School	-0.69	-1.93	-2.05	-3.28	-0.72	-2.02	-1.05	-1.86
Odyssey Charter Elementary School	1.33	0.43	1.43	0.55	1.98	1.16	1.93	0.94
Omar D Blair Charter School	0.94	-0.02	0.75	-0.20	0.47	-0.62	0.62	-0.30
Pioneer Charter School	-1.07	-2.37	-0.79	-1.90	-0.79	-2.11	-0.21	-1.07
Vanguard Classical School	-0.10	-1.23	-0.93	-2.05	0.27	-0.85	-0.59	-1.43
Venture Prep					-1.02	-2.38	-0.92	-1.75
West Denver Prep - Highland Campus					-0.25	-1.46	1.63	0.66
West Denver Prep - Lake Campus					0.06	-1.11	1.38	0.42
West Denver Prep - Federal Campus					0.40	-0.70	1.68	0.71
West Denver Prep - Harvey Park Campus					0.67	-0.39	2.11	1.11
Wyatt-Edison Charter Elementary School	-0.22	-1.38	0.10	-0.91	-0.03	-1.21	-0.37	-1.23
Indianapolis								
Andrew Academy	0.95	-0.68	-0.58	-2.48	0.53	-1.27	-0.14	-2.07
Andrew J Brown Academy	0.73	-0.93	1.33	-0.16	0.97	-0.58	1.17	-0.05
Charles A Tindley Accelerated School					1.77	0.67	1.60	0.61
Christel House Academy	1.55	0.00	1.80	0.40	1.61	0.42	1.45	0.39
Fall Creek Academy	0.45	-1.25	0.72	-0.91	0.21	-1.77	1.45	0.38
Flanner House Elementary School	-0.12	-1.90	0.66	-0.98	0.20	-1.78	-1.21	-3.73
Fountain Square Academy	0.11	-1.63	0.58	-1.07	0.75	-0.92	1.32	0.19
Hoosier Academy – Indianapolis	1.95	0.46	1.36	-0.13	1.66	0.50	1.23	0.04
Imagine Indiana Life Sciences Academy - East	-1.84	-3.86	-2.10	-4.31	-0.93	-3.57	-1.10	-3.56
Imagine Life Sciences Academy - West	-0.94	-2.83	-1.03	-3.02	0.70	-1.01	-0.02	-1.89
Indiana Math and Science Academy - Indianapolis	1.06	-0.56	1.72	0.31	0.80	-0.84	0.78	-0.66
Indiana Math and Science Academy - North	1.24	-0.35	0.62	-1.02	0.78	-0.88	-0.07	-1.97
Indianapolis Lighthouse Charter School	0.46	-1.23	0.22	-1.50	1.19	-0.24	0.76	-0.68
Irvington Community School	2.08	0.60	1.24	-0.27	1.49	0.23	0.94	-0.40
KIPP Indianapolis College Preparatory	0.09	-1.66	1.10	-0.44	0.21	-1.77	0.55	-1.01
Monument Lighthouse Charter School	0.23	-1.50	-0.28	-2.11	0.54	-1.26	0.08	-1.74

Table C.1. Z-Score Tables by School (continued)	Reading Grades 3-5		Math Grades 3-5		Reading Grades 6-8		Math Grades 6-8	
School	City Public Schools μ	Statewide Public Schools μ	City Public Schools μ	Statewide Public Schools μ	City Public Schools μ	Statewide Public Schools μ	City Public Schools μ	Statewide Public Schools μ
Padua Academy	0.93	-0.70	0.47	-1.20	1.59	0.40	1.32	0.19
Paramount School of Excellence	-0.18	-1.96	-0.19	-2.01	0.06	-2.01	-0.51	-2.64
Southeast Neighborhood School of Excellence (SENSE)	0.61	-1.06	-0.43	-2.29	0.53	-1.27	-0.74	-3.00
The Challenge Foundation Academy	1.08	-0.53	0.49	-1.17				

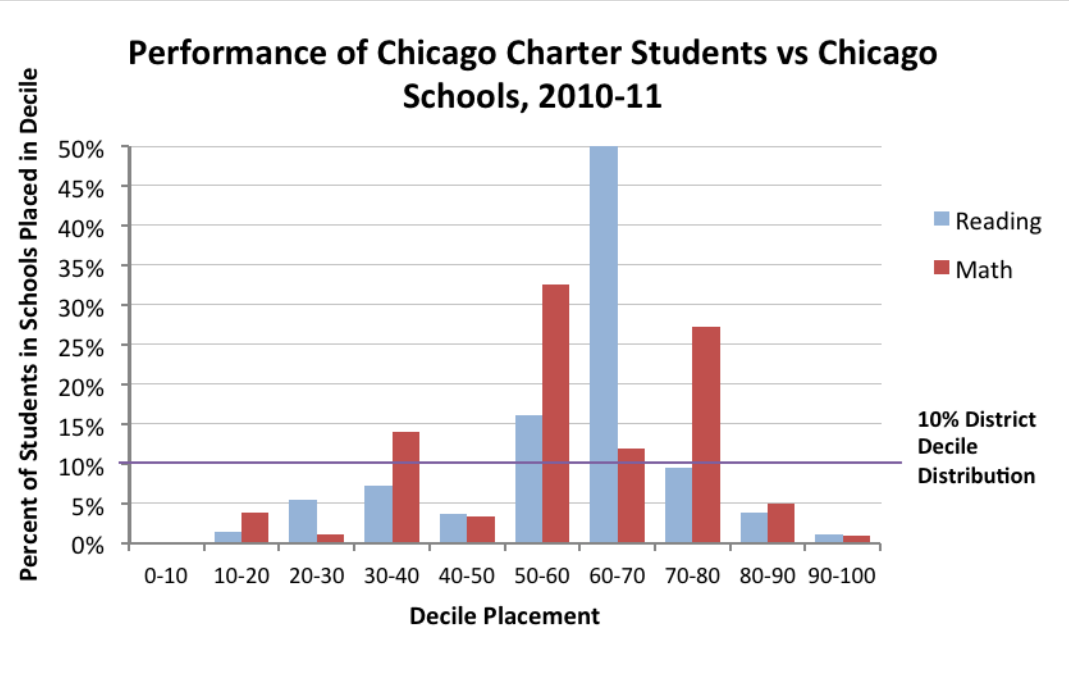
Appendix D: City-level Decile Comparison

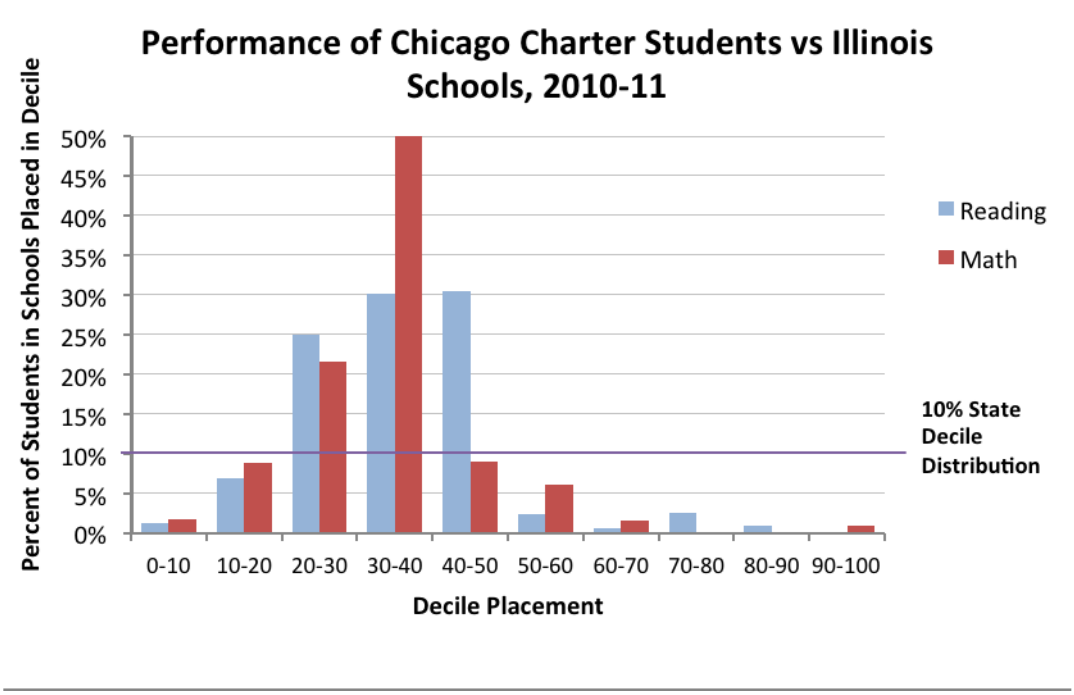
Albany

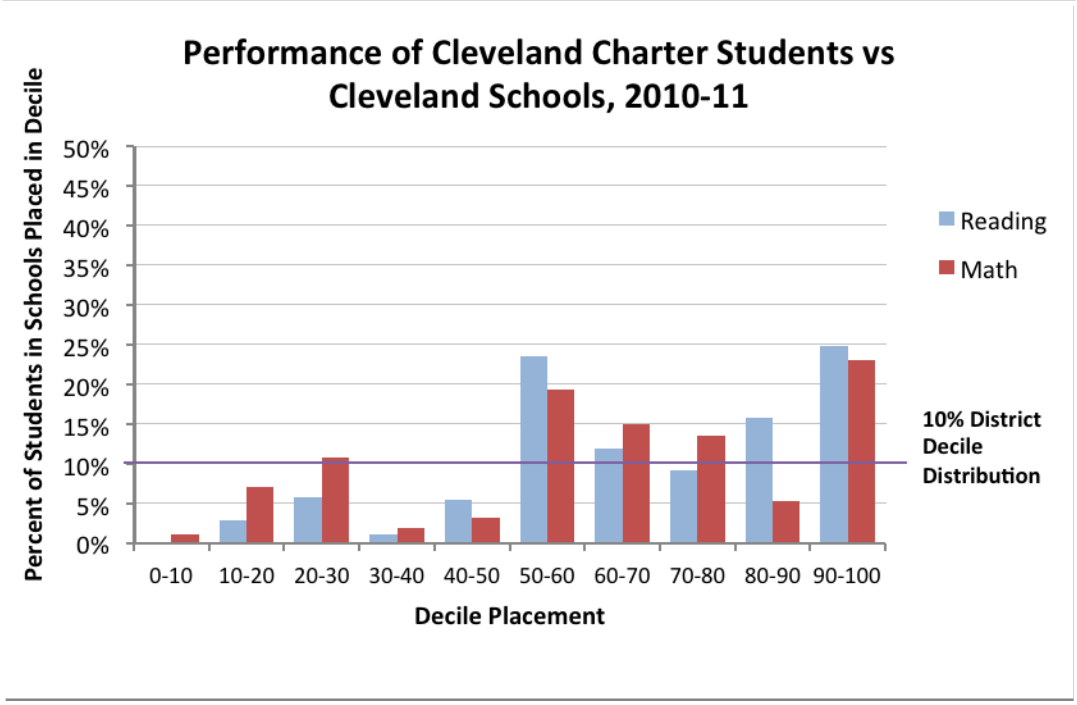


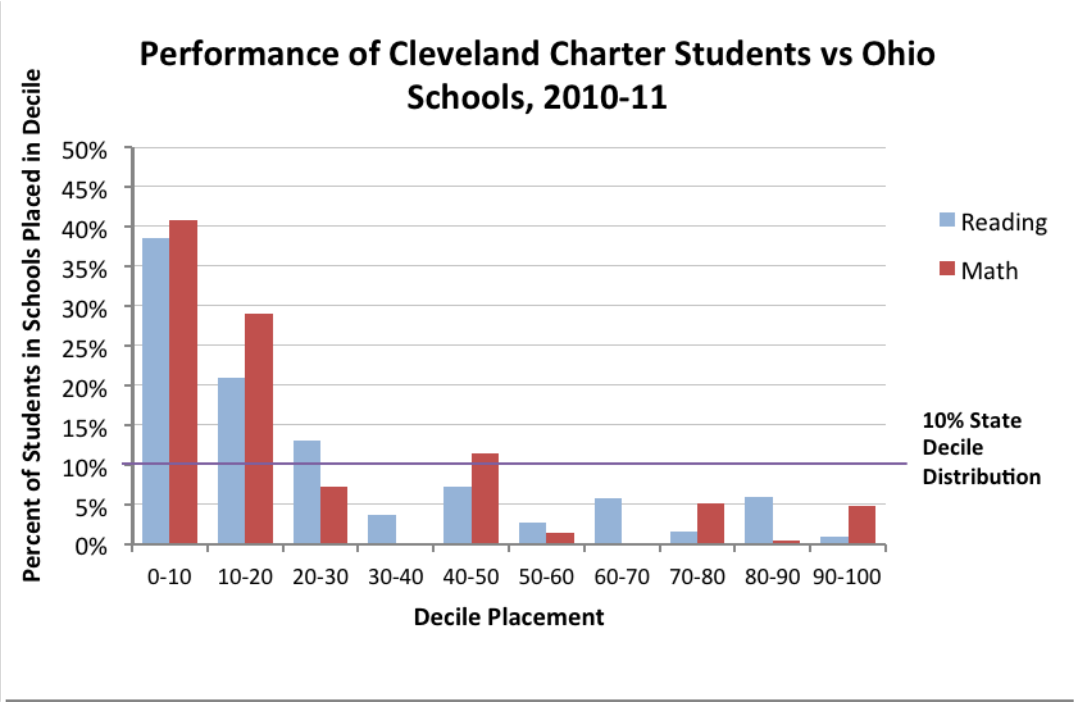


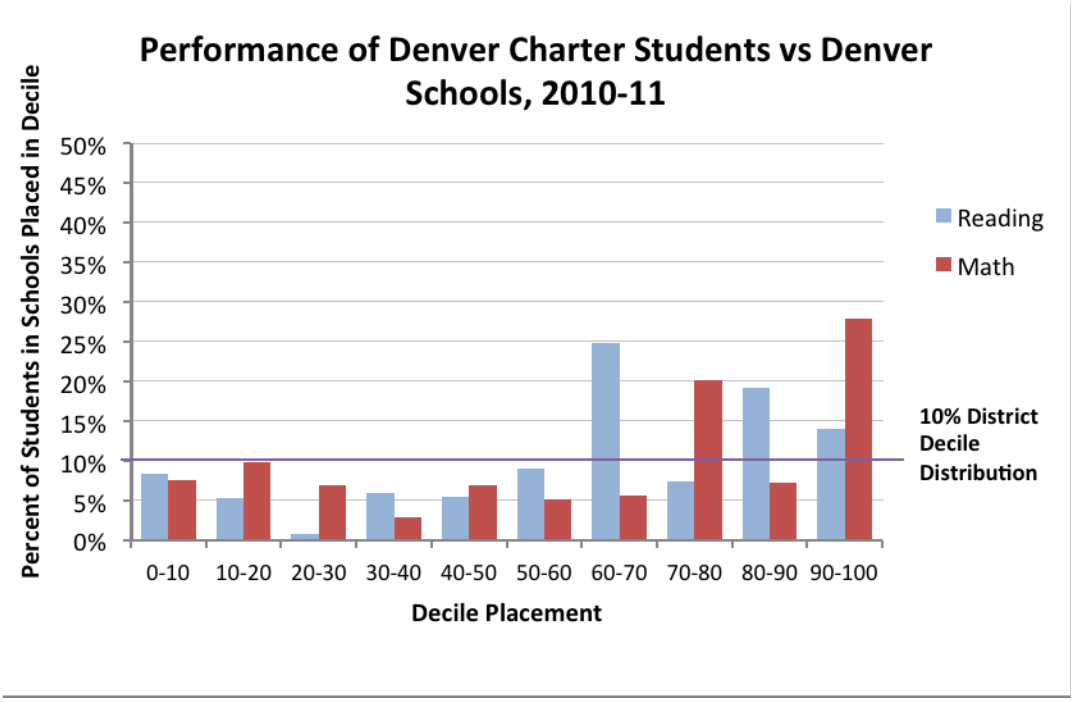
Chicago

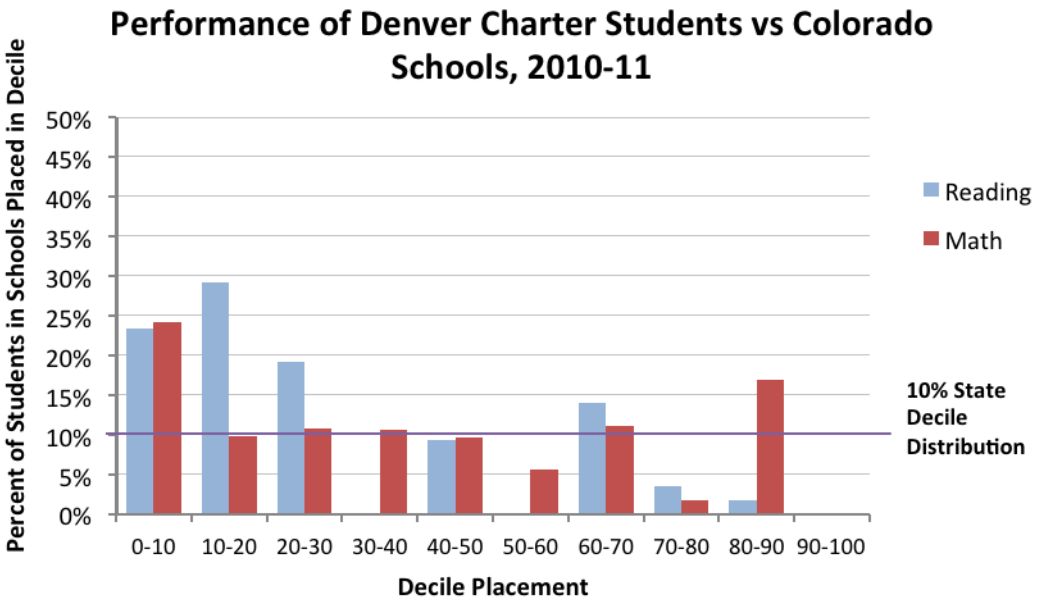

Performance of Chicago Charter Students vs Chicago Schools, 2010-11
Percent of Students in Schools Placed in Decile
50%
45%
40%
35%
30%
25%
20%
15%
10%
5%
0%
0-10
10-20
20-30
30-40
40-50
50-60
60-70
70-80
80-90
90-100
Decile Placement
Reading
Math
10% District Decile Distribution

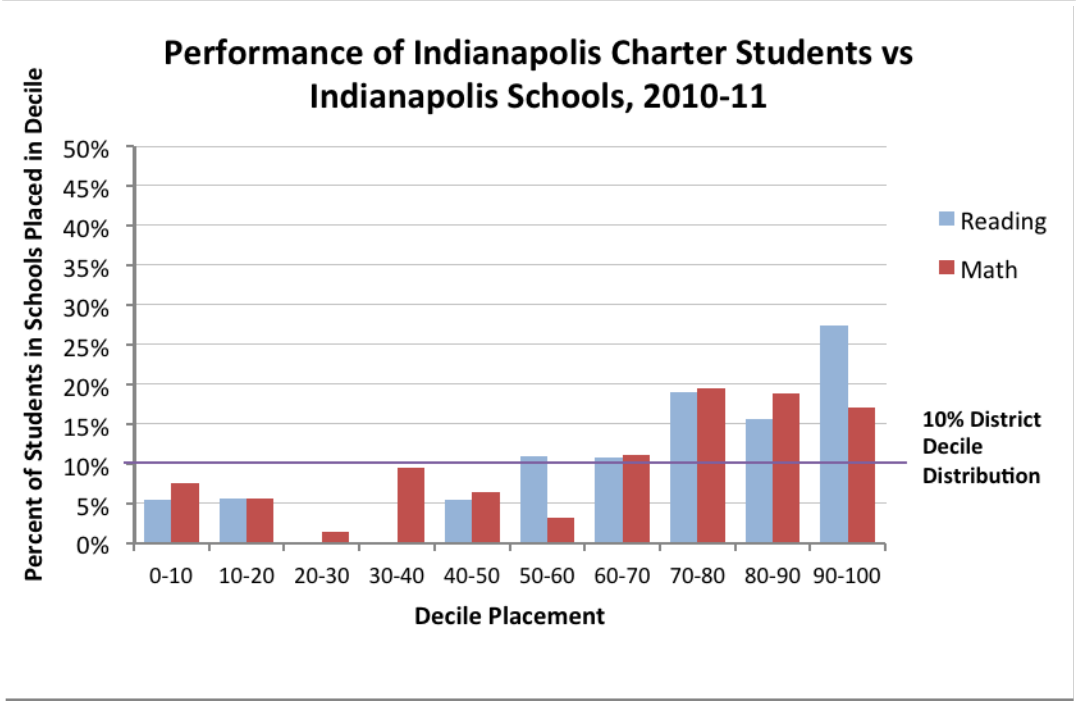

Performance of Chicago Charter Students vs Illinois Schools, 2010-11
Percent of Students in Schools Placed in Decile
50%
45%
40%
35%
30%
25%
20%
15%
10%
5%
0%
0-10
10-20
20-30
30-40
40-50
50-60
60-70
70-80
80-90
90-100
Decile Placement
Reading
Math
10% State Decile Distribution

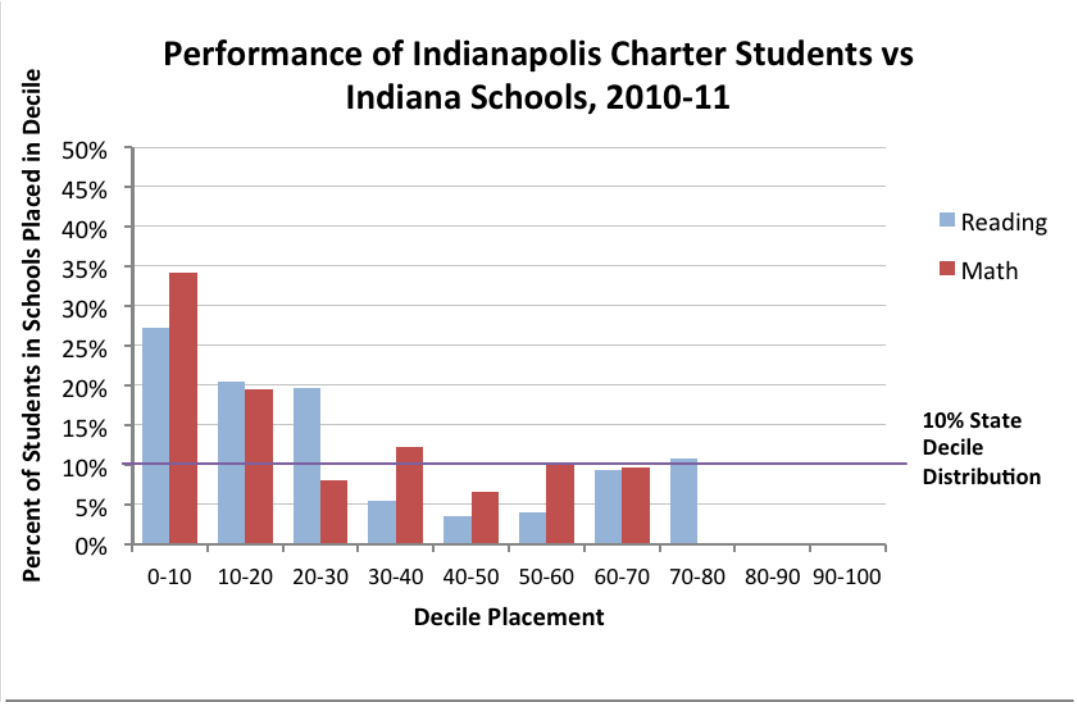

Performance of Cleveland Charter Students vs Cleveland Schools, 2010-11
Percent of Students in Schools Placed in Decile
50%
45%
40%
35%
30%
25%
20%
15%
10%
5%
0%
0-10
10-20
20-30
30-40
40-50
50-60
60-70
70-80
80-90
90-100
Decile Placement
Reading
Math
10% District Decile Distribution


Performance of Cleveland Charter Students vs Ohio Schools, 2010-11
Percent of Students in Schools Placed in Decile
50%
45%
40%
35%
30%
25%
20%
15%
10%
5%
0%
0-10
10-20
20-30
30-40
40-50
50-60
60-70
70-80
80-90
90-100
Decile Placement
Reading
Math
10% State Decile Distribution


Performance of Denver Charter Students vs Denver Schools, 2010-11
Percent of Students in Schools Placed in Decile
50%
45%
40%
35%
30%
25%
20%
15%
10%
5%
0%
0-10
10-20
20-30
30-40
40-50
50-60
60-70
70-80
80-90
90-100
Decile Placement
Reading
Math
10% District Decile Distribution


Performance of Denver Charter Students vs Colorado Schools, 2010-11
Percent of Students in Schools Placed in Decile
50%
45%
40%
35%
30%
25%
20%
15%
10%
5%
0%
0-10
10-20
20-30
30-40
40-50
50-60
60-70
70-80
80-90
90-100
Decile Placement
Reading
Math
10% State Decile Distribution


Performance of Indianapolis Charter Students vs Indianapolis Schools, 2010-11
Percent of Students in Schools Placed in Decile
50%
45%
40%
35%
30%
25%
20%
15%
10%
5%
0%
0-10
10-20
20-30
30-40
40-50
50-60
60-70
70-80
80-90
90-100
Decile Placement
Reading
Math
10% District Decile Distribution


Performance of Indianapolis Charter Students vs Indiana Schools, 2010-11
Percent of Students in Schools Placed in Decile
50%
45%
40%
35%
30%
25%
20%
15%
10%
5%
0%
0-10
10-20
20-30
30-40
40-50
50-60
60-70
70-80
80-90
90-100
Decile Placement
Reading
Math
10% State Decile Distribution

Appendix E: Policy Simulation

The graphs below show the impact of a targeted policy for improvement - closing low-performing schools and replicating high-performing schools over a five-year period in the five cities.

The graphs show how each city's overall charter sector performance would change if:

Year 1: the bottom 10 percent of schools are closed, while the top 10 percent of schools are replicated. We identified the bottom and top 10 percent of schools in each city based on the school-level average of reading and math pass rates. We evaluated elementary and middle school grade levels separately.

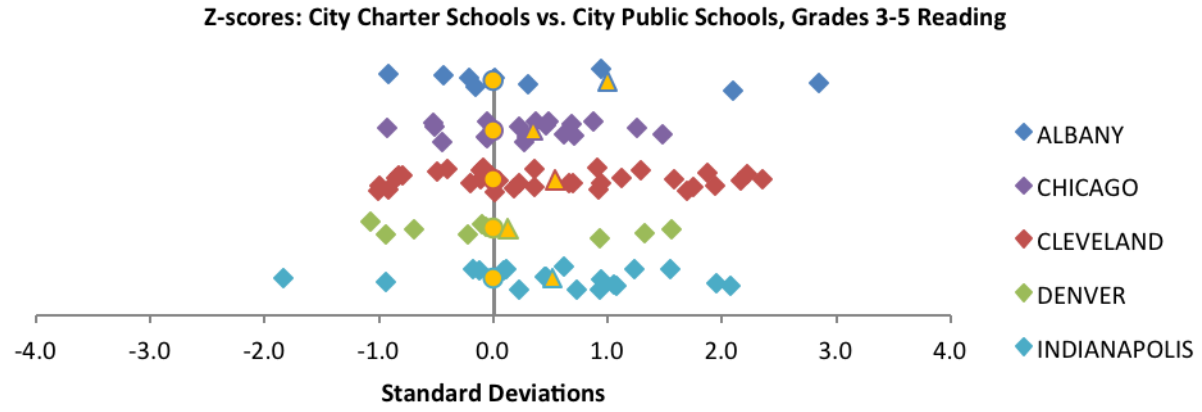
Year 2: no schools are closed, but the top schools are replicated more quickly – by four schools.

Years 3 through 5: six great new schools open in Year 3, eight in Year 4, and ten in Year 5.

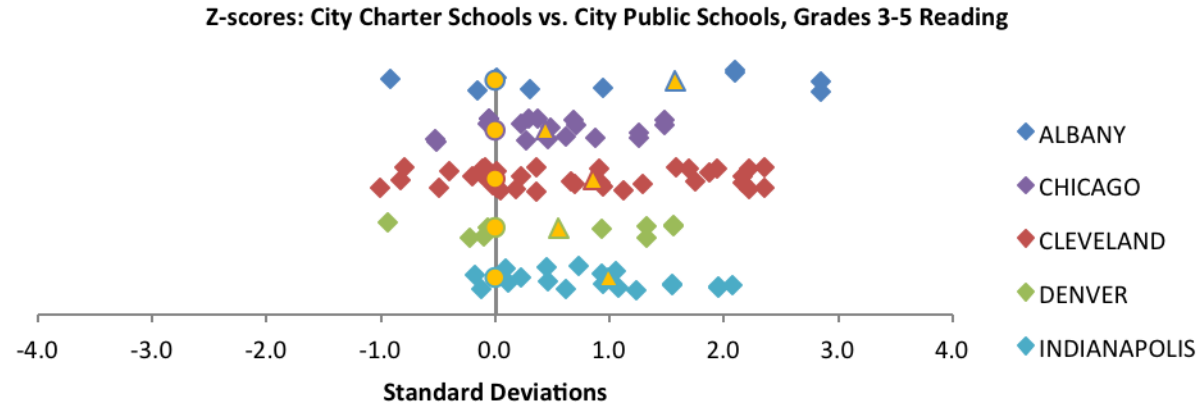
The following charts show the simulated changes over time for grades 3 to 5 reading pass rates. Simulations for grades 3 to 5 math; and grades 6-8 math and reading were also conducted and are available by request.

City Charter Schools vs. City Traditional Public Schools, Grades 3-5 Reading

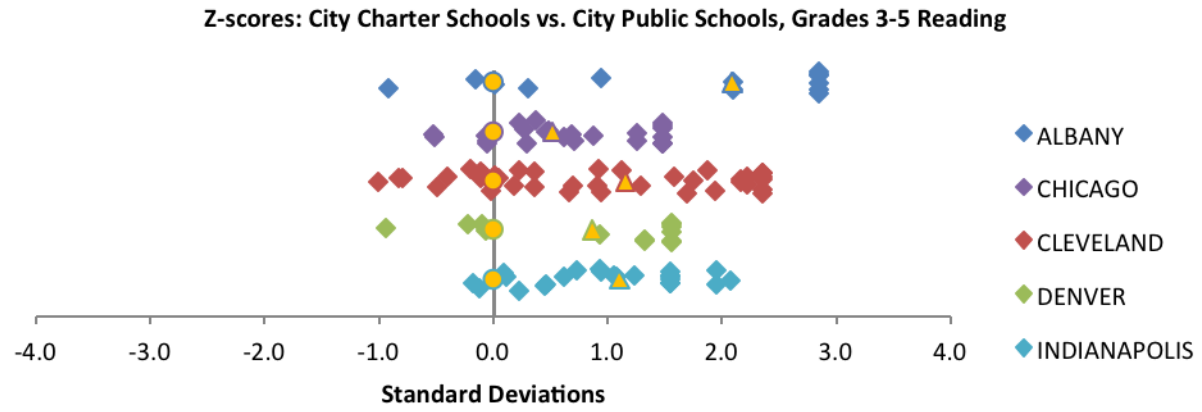
Current:



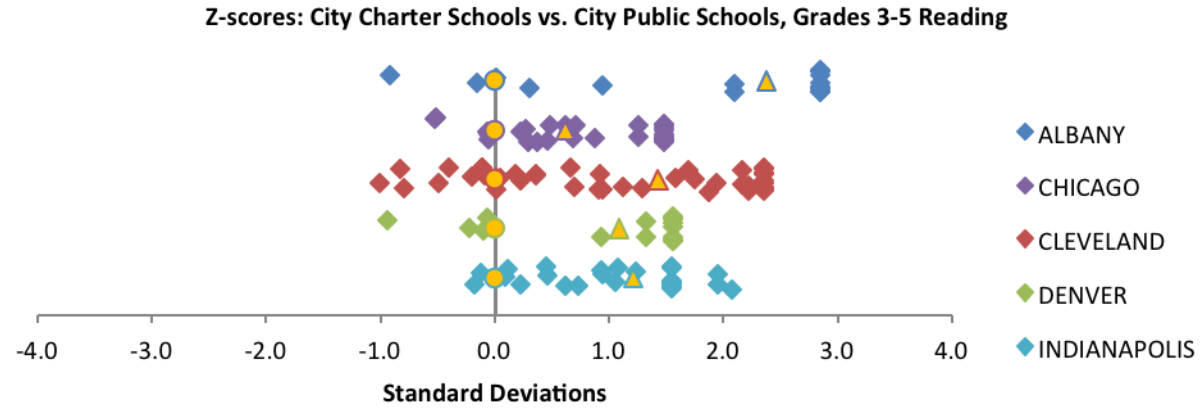
Eliminate Bottom 10%, Replicate top 10% (Year 1):



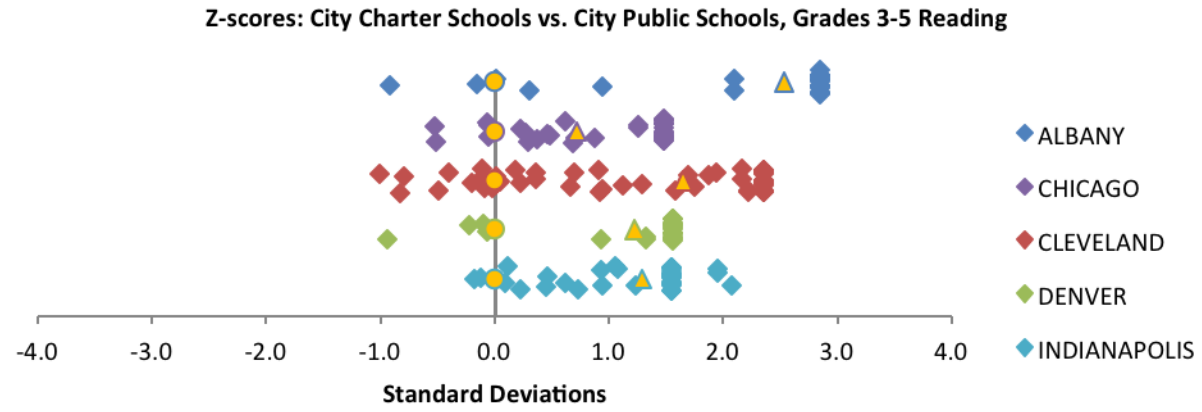
Add Four Great Schools (Year 2)



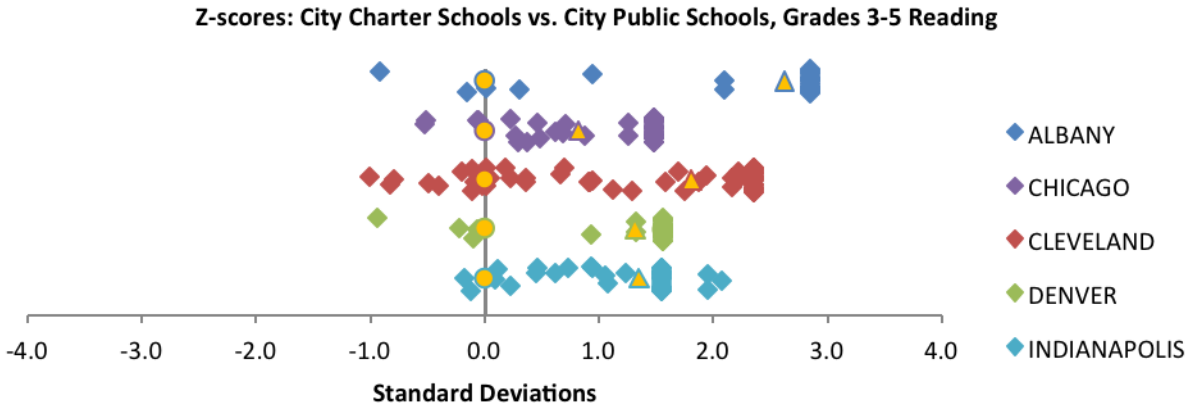
Add Six Great Schools (Year 3)



Add Eight Great Schools (Year 4)

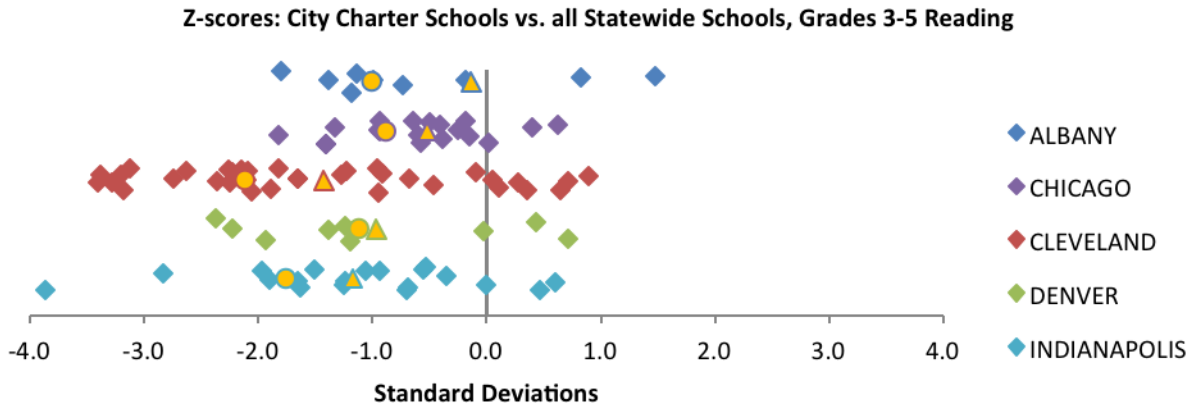


Add Ten Great Schools (Year 5)

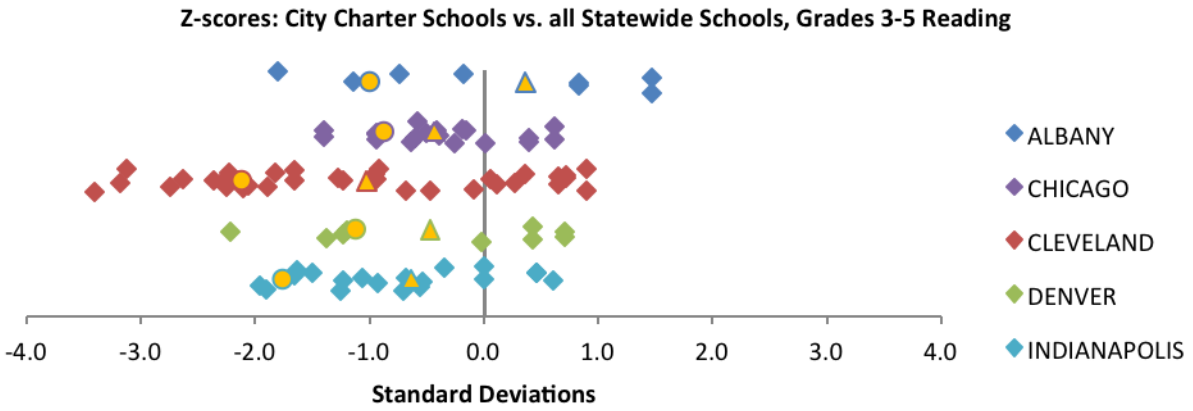


City Charter Schools vs. All Statewide Schools, Grades 3-5 Reading

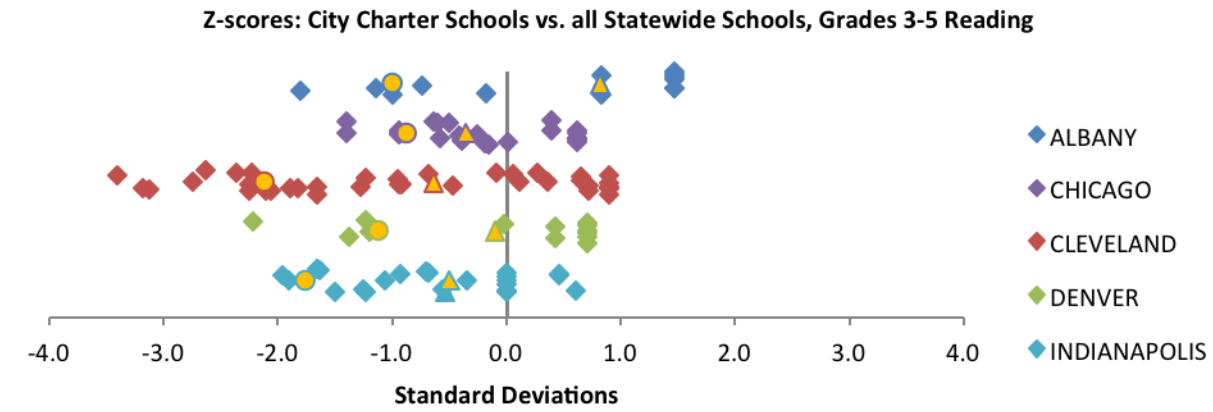
Current:



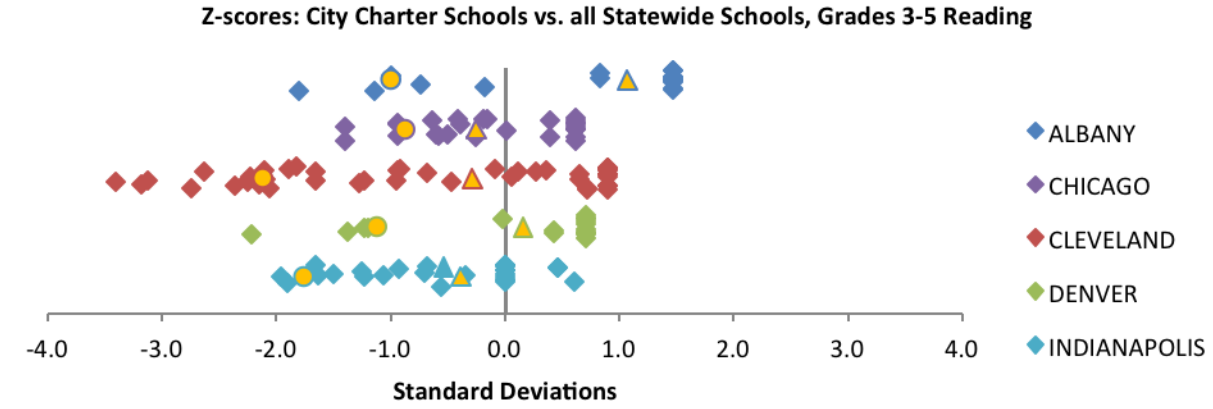
Eliminate Bottom 10%, Replicate top 10% (Year 1):



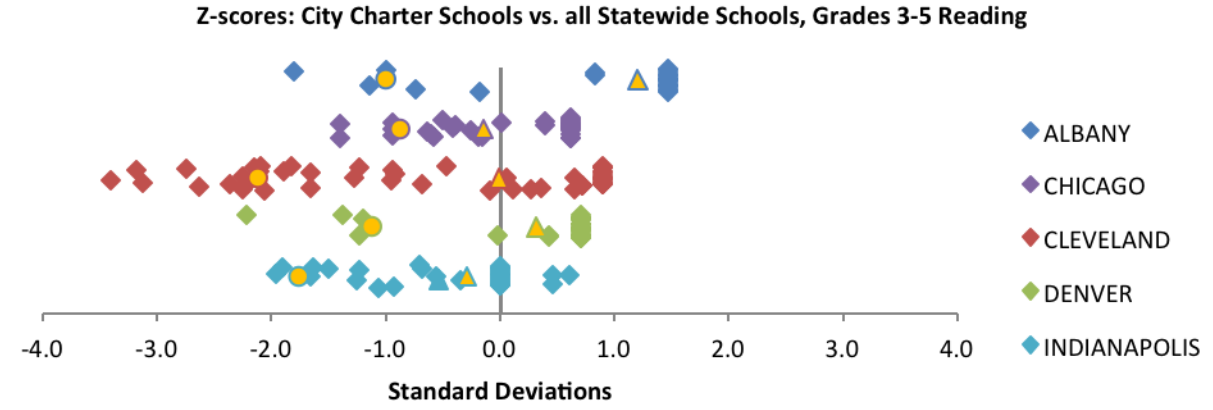
Add Four Great Schools (Year 2)



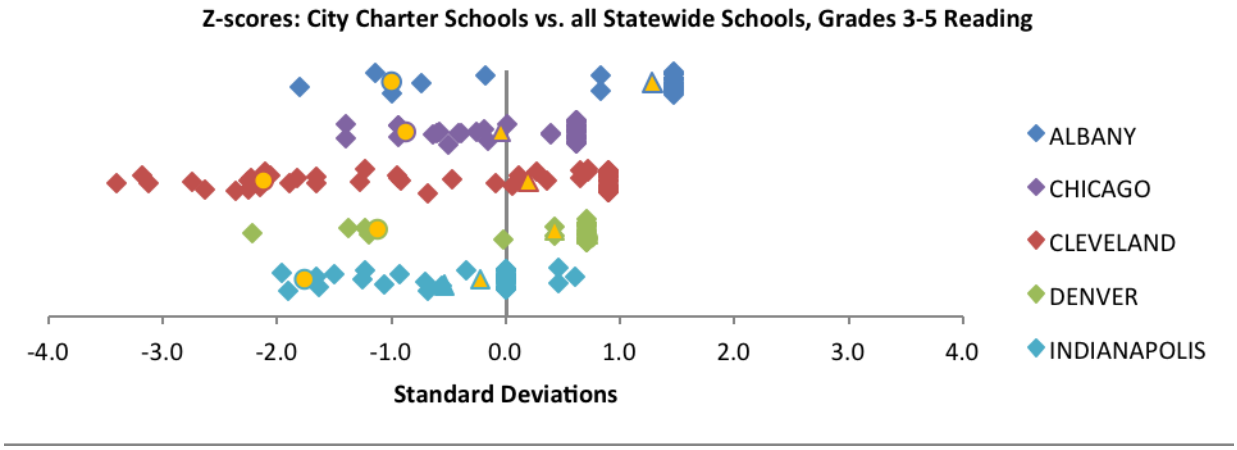
Add Six Great Schools (Year 3)



Add Eight Great Schools (Year 4)



Add Ten Great Schools (Year 5)



Appendix F – Compilation of charters and characteristics

City	Charter school name	Grade Span, 2010-11	Years Open, including 2010-11	Enrollment, 2010-11	% Black , 2010-11	% Hispanic, 2010-11	% Economic Disadvantaged, 2010-11	Academic Performance, 2010-11				Management Organization, 2010-11	Sponsor, 2010-11
								3-5 Reading	3-5 Math	6-8 Reading	6-8 Math		
Albany	Achievement Academy Charter School	5-8	5	252	64%	9%	89%	Mediocre	Mediocre	Mediocre	Mediocre	Freestanding*	Charter School Institute at SUNY
Albany	Albany Community Charter School	K-4	4	296	87%	8%	92%	Excellent	Excellent			Freestanding	Charter School Institute at SUNY
Albany	Albany Preparatory Charter School	5-8	5	214	76%	14%	95%	Bad	Good	Terrible	Mediocre	Freestanding*	Charter School Institute at SUNY
Albany	Brighter Choice Charter Middle School for Boys	5	1	50	86%	12%	78%	Mediocre	Excellent			Freestanding	Charter School Institute at SUNY
Albany	Brighter Choice Charter Middle School for Girls	5	1	42	88%	12%	91%	Mediocre	Mediocre			Freestanding	Charter School Institute at SUNY
Albany	Brighter Choice Charter School for Boys	K-4	9	255	83%	9%	88%	Excellent	Excellent			Brighter Choice Charter Schools	New York Board of Regents
Albany	Brighter Choice Charter School for Girls	K-4	9	247	79%	15%	86%	Good	Excellent			Brighter Choice Charter Schools	New York Board of Regents
Albany	Henry Johnson Charter School	K-4	4	366	81%	10%	68%	Mediocre	Mediocre			Freestanding	Charter School Institute at SUNY
Albany	KIPP Tech Valley Charter School	5-8	5	286	91%	5%	77%	Mediocre	Good	Excellent	Good	KIPP Foundation	Charter School Institute at SUNY
Chicago	Amandla Elem Charter Sch	5-7	3	299	100%	0%	87%	Mediocre	Bad	Mediocre	Mediocre	Freestanding	City of Chicago Sd 299
Chicago	Aspira Charter High School	6-12	8	1486	6%	89%	91%			Bad	Mediocre	ASPIRA Association	City of Chicago Sd 299
Chicago	Bronzeville Lighthouse Elem Chrtr	K-8	5	471	98%	1%	90%	Mediocre	Good	Mediocre	Mediocre	Lighthouse Academies	City of Chicago Sd 299
Chicago	Catalyst Circle Rock Elem School	K-8	1	30	97%	3%	3%	Bad	Bad	Mediocre	Mediocre	Catalyst Schools	City of Chicago Sd 299
Chicago	Catalyst Elem Charter School	K-8	5	495	99%	1%	95%	Bad	Bad	Bad	Bad	Catalyst Schools	City of Chicago Sd 299
Chicago	Chicago International Charter	K-12	14	8589	70%	24%	85%	Mediocre	Good	Mediocre	Mediocre	N/A	City of Chicago Sd 299
Chicago	Chicago Math & Sci Elem Charter	6-12	7	596	23%	62%	88%			Mediocre	Good	Concept Schools	City of Chicago Sd 299
Chicago	Chicago Virtual Elem Charter Schl	K-12	5	565	57%	13%	56%	Mediocre	Mediocre	Good	Mediocre	K12 Inc.	City of Chicago Sd 299
Chicago	Erie Elem Charter School	K-6	6	296	18%	78%	88%	Mediocre	Mediocre	Mediocre	Mediocre	Freestanding	City of Chicago Sd 299
Chicago	Galapagos Elem Charter School	K-8	6	350	99%	1%	91%	Mediocre	Bad	Mediocre	Bad	Galapagos Charter	City of Chicago Sd 299
Chicago	Kipp Ascend Elem Charter School	K-8	8	430	94%	5%	87%	Bad	Bad	Mediocre	Mediocre	Kipp Foundation	City of Chicago Sd 299
Chicago	LEARN Elem Charter School	PK-8	10	1312	98%	3%	98%	Good	Good	Good	Mediocre	Freestanding	City of Chicago Sd 299
Chicago	Legacy Elem Charter School	PK-7	6	402	100%	3%	94%	Good	Good	Mediocre	Mediocre	Freestanding	City of Chicago Sd 299
Chicago	Locke A Elem Charter Academy	PK-8	12	500	100%	1%	94%	Good	Good	Good	Good	Freestanding	City of Chicago Sd 299
Chicago	Namaste Elem Charter School	K-7	7	418	6%	81%	83%	Good	Good	Good	Good	Freestanding	City of Chicago Sd 299
Chicago	Passages Elem Charter School	PK-7	8	352	56%	17%	90%	Mediocre	Mediocre	Mediocre	Mediocre	American Quality Schools	City of Chicago Sd 299
Chicago	Perspectives Charter High School	5-12	13	2226	92%	6%	85%			Mediocre	Mediocre	Perspective Charter schools	City of Chicago Sd 299
Chicago	Polaris Elem Charter Academy	K-5	4	282	92%	7%	88%	Mediocre	Good			Freestanding	City of Chicago Sd 299
Chicago	Providence-Englewood Elem Charter	K-8	5	392	97%	3%	79%	Good	Good	Good	Good	Freestanding	City of Chicago Sd 299
Chicago	Shabazz International Chrtr Schls	K-12	12	1012	99%	1%	89%	Mediocre	Mediocre	Mediocre	Bad	Betty Shabazz International Charter School	City of Chicago Sd 299
Chicago	Univ of Chicago Elem Charter Schl	PK-12	13	1638	100%	1%	86%	Good	Good	Mediocre	Mediocre	Freestanding	City of Chicago Sd 299
Chicago	UNO Network Elementary School	K-11	13	3861	3%	94%	93%	Mediocre	Mediocre	Mediocre	Mediocre	United Neighborhood Organization	City of Chicago Sd 299
Chicago	Young Womens Leadership Chartr HS	7-12	11	329	78%	14%	84%			Mediocre	Mediocre	Freestanding	City of Chicago Sd 299
Cleveland	Apex Academy	K-8	7	635	100%	0%	93%	Mediocre	Mediocre	Good	Mediocre	National Heritage Academies	ESC of Lake Erie West
Cleveland	Arts and Science Preparatory Academy	K-8	5	207	84%	8%	100%	Bad	Bad	Good	Bad	Mosaica Education, Inc.	St. Aloysius Orphanage
Cleveland	Bella Academy of Excellence	K-6	2	254	92%	***	84%	Mediocre	Mediocre	Good	Bad	Imagine Schools	St. Aloysius Orphanage
Cleveland	Citizens Academy	K-5	11	409	99%	0%	71%	Excellent	Excellent			Breakthrough Schools	Cleveland Municipal School District
Cleveland	Cleveland Arts and Social Sciences Academy	K-8	6	362	96%	***	98%	Mediocre	Bad	Mediocre	Bad	Mosaica Education, Inc.	Ohio Council of Community Schools
Cleveland	Cleveland College Preparatory School	K-8	1	239	88%	***	35%	Mediocre	Good	Good	Mediocre	N/A	Educational Resource Consultants of Ohio
Cleveland	Cleveland Community School	K-4	6	198	95%	***	99%	Bad	Mediocre			Lighthouse Academies	Ohio Department of Education
Cleveland	Cleveland Entrepreneurship Preparatory School	6-8	5	345	92%	***	85%			Good	Good	Breakthrough Schools	Cleveland Municipal School District
Cleveland	Constellation Schools: Madison Community Elementary	K-8	7	283	19%	32%	90%	Good	Good	Good	Good	Constellation Schools, LLC	ESC of Lake Erie West
Cleveland	Constellation Schools: Old Brooklyn Community Elementary	K-4	13	290	***	10%	46%	Excellent	Excellent			Constellation Schools, LLC	ESC of Lake Erie West
Cleveland	Constellation Schools: Old Brooklyn Community Middle	Data unavailable						Good	Excellent	Excellent	Excellent	Constellation Schools, LLC	Buckeye Community Hope Foundation
Cleveland	Constellation Schools: Puritas Community Elementary	K-4	8	200	13%	19%	67%	Good	Excellent			Constellation Schools, LLC	ESC of Lake Erie West
Cleveland	Constellation Schools: Puritas Community Middle	Data unavailable						Good	Good	Good	Mediocre	Constellation Schools, LLC	Buckeye Community Hope Foundation
Cleveland	Constellation Schools: Stockyard Community Elementary	K-6	7	285	10%	40%	84%	Mediocre	Mediocre	Mediocre	Bad	Constellation Schools, LLC	ESC of Lake Erie West
Cleveland	Constellation Schools: Stockyard Community Middle	Data unavailable								Mediocre	Mediocre	Constellation Schools, LLC	ESC of Lake Erie West
Cleveland	Constellation Schools: Westpark Community Elementary	K-4	10	290	***	14%	33%	Good	Good			Constellation Schools, LLC	Buckeye Community Hope Foundation
Cleveland	Constellation Schools: Westpark Community Middle	Data unavailable						Good	Good	Good	Good	Constellation Schools, LLC	ESC of Lake Erie West
Cleveland	Constellation Schools: Westside Community School of the Arts	K-6	4	221	16%	35%	90%	Good	Good	Good	Excellent	Constellation Schools, LLC	Buckeye Community Hope Foundation
Cleveland	Elite Academy of the Arts	K-8	4	232	100%	0%	100%	Mediocre	Bad	Mediocre	Bad	Freestanding*	Ohio Department of Education
Cleveland	Harvard Avenue Community School	K-8	4	646	100%	0%	91%	Mediocre	Mediocre	Good	Mediocre	Imagine Schools	St. Aloysius Orphanage
Cleveland	Hope Academy Cathedral Campus	K-8	13	519	100%	0%	86%	Bad	Bad	Mediocre	Bad	White Hat Management	Buckeye Community Hope Foundation
Cleveland	Hope Academy Chapelside Campus	K-8	13	443	100%	0%	92%	Mediocre	Mediocre	Good	Mediocre	White Hat Management	Buckeye Community Hope Foundation
Cleveland	Hope Academy Cuyahoga Campus	K-8	10	439	31%	28%	89%	Good	Good	Mediocre	Mediocre	White Hat Management	St. Aloysius Orphanage
Cleveland	Hope Academy East Campus	K-8	8	342	100%	0%	77%	Mediocre	Mediocre	Mediocre	Mediocre	White Hat Management	St. Aloysius Orphanage
Cleveland	Hope Academy Lincoln Park	K-8	12	218	72%	11%	77%	Mediocre	Mediocre	Mediocre	Bad	White Hat Management	Buckeye Community Hope Foundation
Cleveland	Hope Academy Northcoast	K-8	9	274	64%	***	94%	Mediocre	Mediocre	Good	Mediocre	White Hat Management	St. Aloysius Orphanage
Cleveland	Hope Academy Northwest Campus	K-8	7	429	42%	37%	94%	Good	Good	Mediocre	Mediocre	White Hat Management	Ohio Council of Community Schools
Cleveland	Horizon Science Academy Cleveland Elementary School	K-5	3	149	88%	***	80%	Good	Good			Concept Schools, Inc.	Buckeye Community Hope Foundation
Cleveland	Horizon Science Academy Denison Elementary School	K-5	3	172	45%	23%	94%	Mediocre	Bad			Concept Schools, Inc.	Buckeye Community Hope Foundation
Cleveland	Horizon Science Academy-Cleveland Middle School	6-8	6	167	89%	8%	88%			Good	Good	Concept Schools, Inc.	ESC of Lake Erie West
Cleveland	Horizon Science Academy-Denison Middle School	1-8	7	321	48%	31%	90%	Mediocre	Mediocre	Good	Good	Concept Schools, Inc.	ESC of Lake Erie West

								Academic Performance, 2010-11					
City	Charter school name	Grade Span, 2010-11	Years Open, including 2010-11	Enrollment, 2010-11	% Black , 2010-11	% Hispanic, 2010-11	% Economic Disadvantaged, 2010-11	3-5 Reading	3-5 Math	6-8 Reading	6-8 Math	Management Organization, 2010-11	Sponsor, 2010-11
Cleveland	Intergenerational School, The	K-8	11	221	89%	***	63%	Excellent	Excellent	Excellent	Excellent	Breakthrough Schools	ESC of Lake Erie West
Cleveland	Lion of Judah Academy	K-8	5	140	97%	***	98%	Mediocre	Bad			Freestanding	Ohio Department of Education
Cleveland	Marcus Garvey Academy	K-8	9	192	98%	0%	96%	Bad	Bad	Mediocre	Bad	Freestanding*	N/A
Cleveland	Northeast Ohio College Preparatory School	K-8	1	225	68%	19%	45%	Good	Good	Good	Good	N/A	Educational Resource Consultants of Ohio
Cleveland	Phoenix Village Academy Primary	3-5	6	65	100%	0%	95%	Good	Good			Freestanding	Ohio Department of Education
Cleveland	Villaview Community School	5-8	4	101	96%	***	99%	Bad	Bad	Bad	Bad	Lighthouse Academies	Ohio Department of Education
Cleveland	Virtual Schoolhouse, Inc.	K-12	7	313	87%	***	99%	Bad	Bad	Bad	Bad	Freestanding	ESC of Lake Erie West
Denver	Cesar Chavez Academy Denver	K-8	2	415	1%	87%	86%	Mediocre	Mediocre	Mediocre	Bad	Cesar Chavez School Network	Denver County 1
Denver	Denver School of Science and Technology	6-12	7	874	26%	35%	44%			Good	Excellent	Freestanding	Denver County 1
Denver	Denver School of Science and Technology- GVR	6	1	141	33%	43%	60%			Good	Excellent	Freestanding	Denver County 1
Denver	Girls Athletic Leadership School	6-7	1	120	17%	43%	62%			Good	Mediocre	Freestanding	Denver County 1
Denver	Highline Academy Charter School	K-8	7	504	28%	14%	30%	Good	Good	Good	Good	Freestanding	Denver County 1
Denver	KIPP Sunshine Peak Academy	5-8	9	369	0%	97%	96%	Bad	Mediocre	Mediocre	Good	Kipp Foundation	Denver County 1
Denver	Manny Martinez Middle School	6-8	2	224	8%	88%	94%			Bad	Bad	Edison Learning	Denver County 1
Denver	Northeast Academy Charter School	K-8	7	416	51%	41%	88%	Bad	Terrible	Bad	Bad	Freestanding	Denver County 1
Denver	Odyssey Charter Elementary School	K-8	13	226	15%	14%	28%	Good	Good	Good	Good	Freestanding	Denver County 1
Denver	Omar D Blair Charter School	K-8	7	800	33%	38%	54%	Good	Good	Mediocre	Good	Edison Learning	Denver County 1
Denver	Pioneer Charter School	PK-6	15	361	6%	91%	94%	Bad	Bad	Bad	Mediocre	Freestanding	Denver County 1
Denver	Vanguard Classical School	K-8	4	508	15%	52%	56%	Mediocre	Bad	Mediocre	Bad	Freestanding	Denver County 1
Denver	Venture Prep*	6-7, 9-11	2	357	46%	41%	89%			Bad	Bad	Freestanding	Denver County 1
Denver	West Denver Prep- Federal Campus	6-8	5	108	4%	88%	94%			Mediocre	Good	Freestanding	Denver County 1
Denver	West Denver Prep- Harvey Park Campus	6-7	2	85	8%	85%	93%			Good	Excellent	Freestanding	Denver County 1
Denver	West Denver Prep- Highland Campus	6	1	322	0%	97%	93%			Mediocre	Good	Freestanding	Denver County 1
Denver	West Denver Prep- Lake Campus	6	1	218	0%	91%	90%			Mediocre	Good	Freestanding	Denver County 1
Denver	Wyatt-Edison Charter Elementary School	K-8	12	677	23%	73%	85%	Mediocre	Mediocre	Mediocre	Mediocre	Edison Learning	Denver County 1
Indianapolis	Andrew Academy	K-7	1	150	95%	3%	61%	Good	Bad	Good	Mediocre	Freestanding	Mayor of Indianapolis Office
Indianapolis	Andrew J Brown Academy	K-8	8	633	81%	0%	85%	Good	Good	Good	Good	National Heritage Academies	Mayor of Indianapolis Office
Indianapolis	Charles A Tindley Accelerated School	6-12	7	463	13%	0%	59%			Good	Good	Freestanding	Mayor of Indianapolis Office
Indianapolis	Christel House Academy	K-9	9	524	20%	31%	90%	Good	Good	Good	Good	Freestanding	Mayor of Indianapolis Office
Indianapolis	Fall Creek Academy	K-12	9	375	89%	0%	86%	Mediocre	Good	Mediocre	Good	GEO Foundation	Ball State University
Indianapolis	Flanner House Elementary School	K-6	9	209	96%	0%	72%	Mediocre	Good	Mediocre	Bad	Freestanding	Mayor of Indianapolis Office
Indianapolis	Fountain Square Academy	5-12	6	269	26%	10%	91%	Mediocre	Good	Good	Good	GEO Foundation*	Ball State University
Indianapolis	Hoosier Academy - Indianapolis	K-12	3	509	12%	4%	28%	Good	Good	Good	Good	K12 Inc.	Ball State University
Indianapolis	Imagine Indiana Life Sciences Academy - East	K-7	3	816	81%	14%	92%	Bad	Terrible	Bad	Bad	Imagine Schools	Ball State University
Indianapolis	Imagine Life Sciences Academy - West	K-7	2	541	72%	22%	89%	Bad	Bad	Good	Mediocre	Imagine Schools	Ball State University
Indianapolis	Indiana Math and Science Academy - Indianapolis	K-11	4	502	66%	15%	77%	Good	Good	Good	Good	Concept Schools	Ball State University
Indianapolis	Indiana Math and Science Academy - North	K-7	1	316	77%	2%	76%	Good	Good	Good	Mediocre	Concept Schools	Mayor of Indianapolis Office
Indianapolis	Indianapolis Lighthouse Charter School	PK-10	6	631	58%	8%	55%	Mediocre	Mediocre	Good	Good	Lighthouse Academies	Mayor of Indianapolis Office
Indianapolis	Irvington Community School	K-12	9	890	12%	4%	54%	Excellent	Good	Good	Good	Freestanding	Mayor of Indianapolis Office
Indianapolis	KIPP Indianapolis College Preparatory	5-8	8	247	94%	0%	94%	Mediocre	Good	Mediocre	Good	KIPP Foundation	Mayor of Indianapolis Office
Indianapolis	Monument Lighthouse Charter School	K-8	4	541	92%	4%	59%	Mediocre	Mediocre	Good	Mediocre	Lighthouse Academies	Mayor of Indianapolis Office
Indianapolis	Padua Academy	K-7	1	135	4%	83%	90%	Good	Mediocre	Good	Good	Freestanding	Mayor of Indianapolis Office
Indianapolis	Paramount School of Excellence	K-8	1	372	60%	6%	84%	Mediocre	Mediocre	Mediocre	Bad	Freestanding	Mayor of Indianapolis Office
Indianapolis	Southeast Neighborhood School of Excellence (SENSE)	K-6	7	300	7%	17%	30%	Good	Mediocre	Good	Bad	Freestanding	Mayor of Indianapolis Office
Indianapolis	The Challenge Foundation Academy	K-5	5	475	1%	1%	81%	Good	Mediocre			Freestanding	Mayor of Indianapolis Office

NOTES: Enrollment and demographic data are from Appendix B, table B.1. from Public Impact's analysis. Fordham compiled grade spans, years open, management organization, sponsorship data. Academic performance ratings are based on Public Impact's analysis. The categories are as follows: Terrible: < -2.0 standard deviations (s.d.); Bad: -2.0 < x < -0.5 s.d.; Mediocre: -0.5 < x < 0.5 s.d.; Good: 0.5 < x < 2.0 s.d.; Excellent: > 2.0 s.d. Management organizations and sponsors are available at the National Alliance for Public Charter Schools online dashboard. (*) denotes extant reports to indicate that the charter has closed since 2010-11. (***) indicates that the state subgroup data were censored for privacy (only for Ohio data).

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