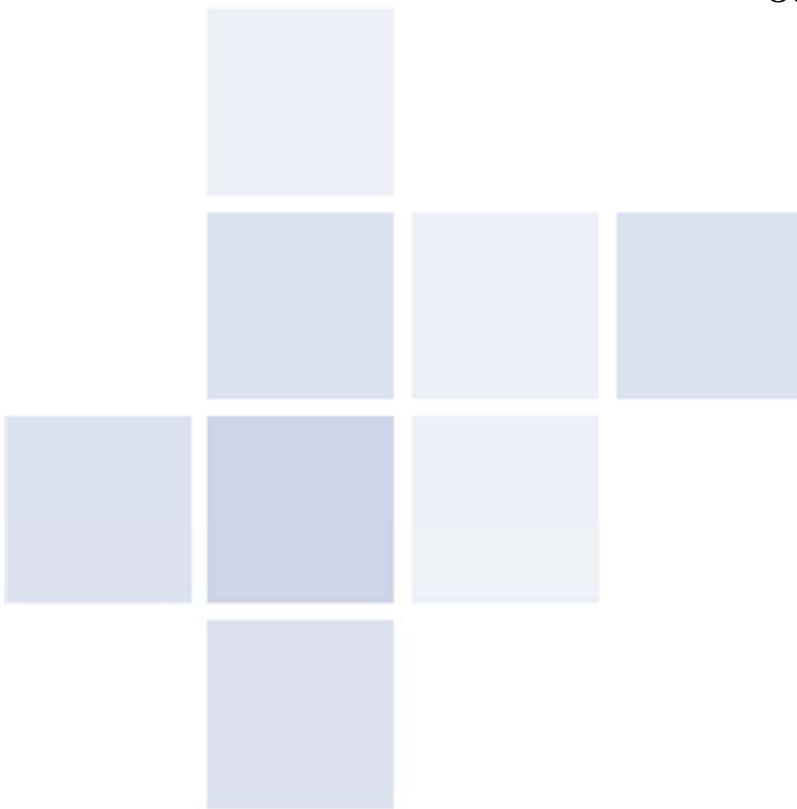




Charter Schools in Chicago: No Model for Education Reform

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N150 Walter Mondale Hall
229 South 19th Avenue
Minneapolis, MN 55455
Ph: (612) 625-8071 Fx: (612) 624-8890
www.law.umn.edu/metro

Introduction

Charter schools have become the cornerstone of school reform in Chicago and nationally. Arne Duncan, who led Chicago schools and was a strong proponent of charters, became secretary of Education.¹ As Secretary Duncan has championed policies to dramatically expand the use of charters throughout the United States. Chicago, however, remains one of the nation's lowest performing school districts. Sadly the charters schools, which on average score lower than the Chicago public schools, have not improved the Chicago school system, but perhaps made it even weaker. Further charters, which are even more likely to be single race schools than the already hyper segregated Chicago school system, have not increased interracial contact, an often-stated goal of charter systems. Finally, the fact that Chicago charters use expulsion far more often than public schools deserves further study. In the end it is unlikely that the Chicago charter school experience provides a model for improving urban education in other big city school districts.

Enrollments in Chicago charters increased by more than nine times between 2000 and 2013 and, with strong support from the current administrations in both Chicago and Washington D.C., the system continues to grow. Indeed, the system actually uses a loop-hole to bypass the 75 school limit included in the state's charter law and there are now more than 120 charters in Chicago. The legislature is now considering lifting the cap entirely.

This has happened despite the fact that very little research actually supports a central tenet of the charter school movement – the claim that charters enhance student performance. Prior work on this question in Chicago is mixed but most evaluations imply that students in charters do no better than their counterparts in traditional public schools. Most research also shows that charters increase racial separation in school systems.

This study, using comprehensive data for 2012-13, shows that, after controlling for the mix of students and challenges faced by individual schools, Chicago's charter schools actually underperform their traditional counterparts in most measurable ways. Reading and math pass rates, reading and math growth rates, and graduation rates are lower in charters, all else equal, than in traditional neighborhood schools. This is true despite the fact that, because students self-select into the charter system, student performance should exceed what one sees in traditional schools, *even if charters do no better at teaching their students*. Although there is some evidence that charter students score higher on ACT scores, the finding is statistically significant for only one of four indicators – hardly reason to continue the rapid expansion of the system.

Policy recommendations based on this evidence include potential actions at the local and state levels. At the local level, it is recommended that the Chicago Public School District establish a three-year moratorium on new charter schools and campuses and complete an impact study on how charter school policy has affected the district as a whole. State-level recommendations include returning policy and control powers to local authorities by eliminating the State Charter School Commission, removing the provision that exempts campus expansions from the charter school cap, ensuring that charter schools do not deepen racial segregation, expanding the training required of school board members to include research-based review of the potential effects of charters on segregation and student performance, more detailed information and reporting requirements from charter applicants on their performance in existing schools,

¹ This work was funded by project support from the Illinois Education Association, the Chicago Teacher's Union, the Illinois Federation of Teachers and by general support from the Ford Foundation and the McKnight Foundation.

stricter reporting standards for charters matching those for traditional schools, more detailed descriptions from existing and proposed charters regarding the education practices or innovations they use to improve student performance, and requirements to document continuing success in order to keep their charter.

Chicago School Characteristics, 2000-2013

Charter school enrollment has grown rapidly since 2000 – increasing by more than nine times from 5,400 in 2000 to 48,700 in 2013 (Chart 1). At the same time traditional school enrollments fell by 19 percent from 426,700 in 2000 to 345,200 in 2013. Charter school growth peaked in 2006, 2007 and 2009 – enrollments grew by nearly 30 percent in each of those years – but growth has declined in more recent years – falling to 12 percent and 8 percent in 2012 and 2013. In absolute terms, growth peaked in 2009 and 2011 when enrollments grew by 6,400 and 6,500, but, again, the most recent years showed smaller increases. In 2013, charter schools represented 12 percent of public school enrollments in the Chicago.²

The demographic profiles of the two parts of the system are similar and have changed little during the period. Black and Hispanic students were the dominant racial/ethnic groups in both traditional schools and charters. Combined, they represented 96 percent of enrollments in charters in both 2000 and 2013 (Chart 2) and 84 to 86 percent of enrollments in traditionals. These overwhelmingly large non-white shares mean that very few public schools in Chicago are racially diverse or integrated in the traditional sense. In 2013, only 40 of 527 traditional schools and no charter schools had non-white shares between 20 and 60 percent.

Charters spread across the city with racial mixes mirroring those in traditional schools (Maps 1 - 5). The overwhelming majority of charters essentially serve a single racial or ethnic group. In 2013 89 of 96 charters had more than 60 percent of their students from one group – 59 were predominantly black and 30 were predominantly Hispanic. Put another way, only 7 percent of charters (all of which were predominantly non-white) were *not* single race schools.

Racially/ethnically diverse schools were notably more common among traditional schools. In addition to the 40 schools with non-white shares between 20 and 60 percent, 89 traditional schools showed diverse mixes of non-white students – usually black and Hispanic students. Overall, nearly 20 percent of traditional schools showed some degree of racial diversity, compared to just 7 percent of charters.

² Charter school totals include only charters located in the city of Chicago. There are three charters located outside the city in southern Cook County, Lake County and Kane County – see Map 5. Enrollments in these three charters totaled 1,325 students in 2013. All data in this report uses separate campus-level data for multiple campus sites with one exception. All available data for the Youth Connections charter system, which included 18 campuses in 2012-13, reports data only for the full system and not for individual campuses.

Chart 1: Chicago Charter Schools Enrollment, 2000 to 2013

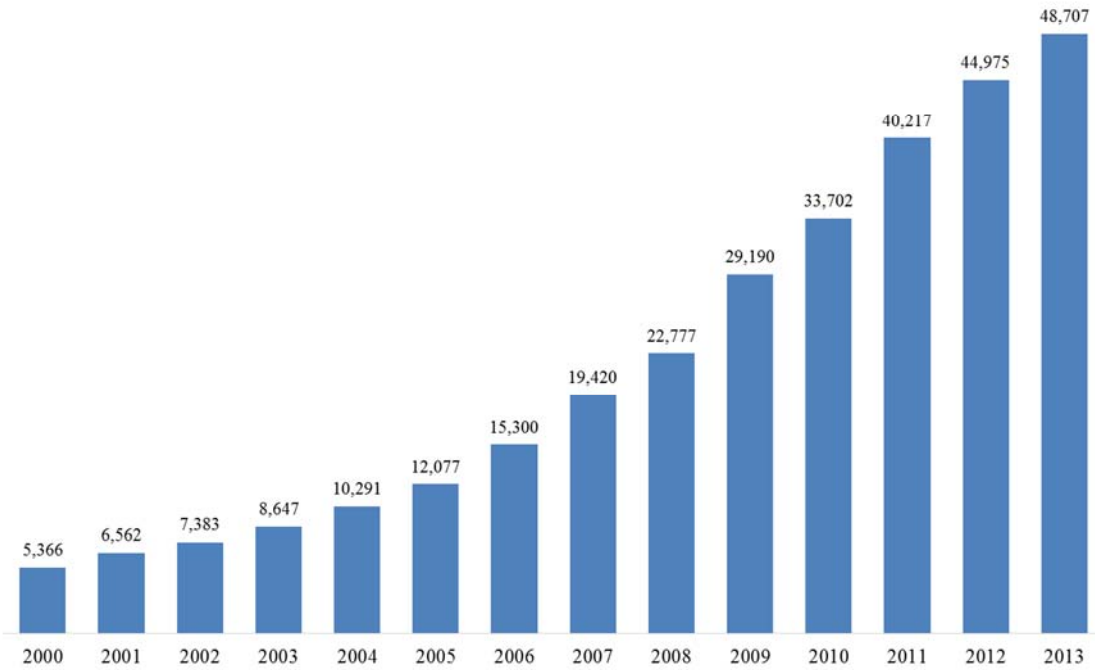
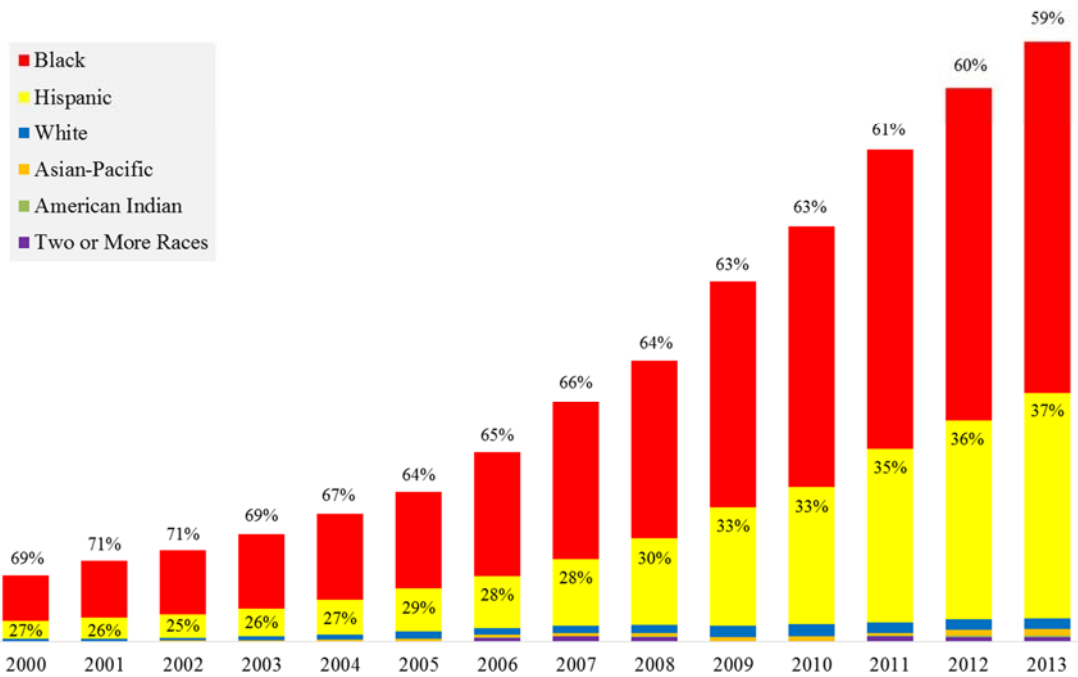
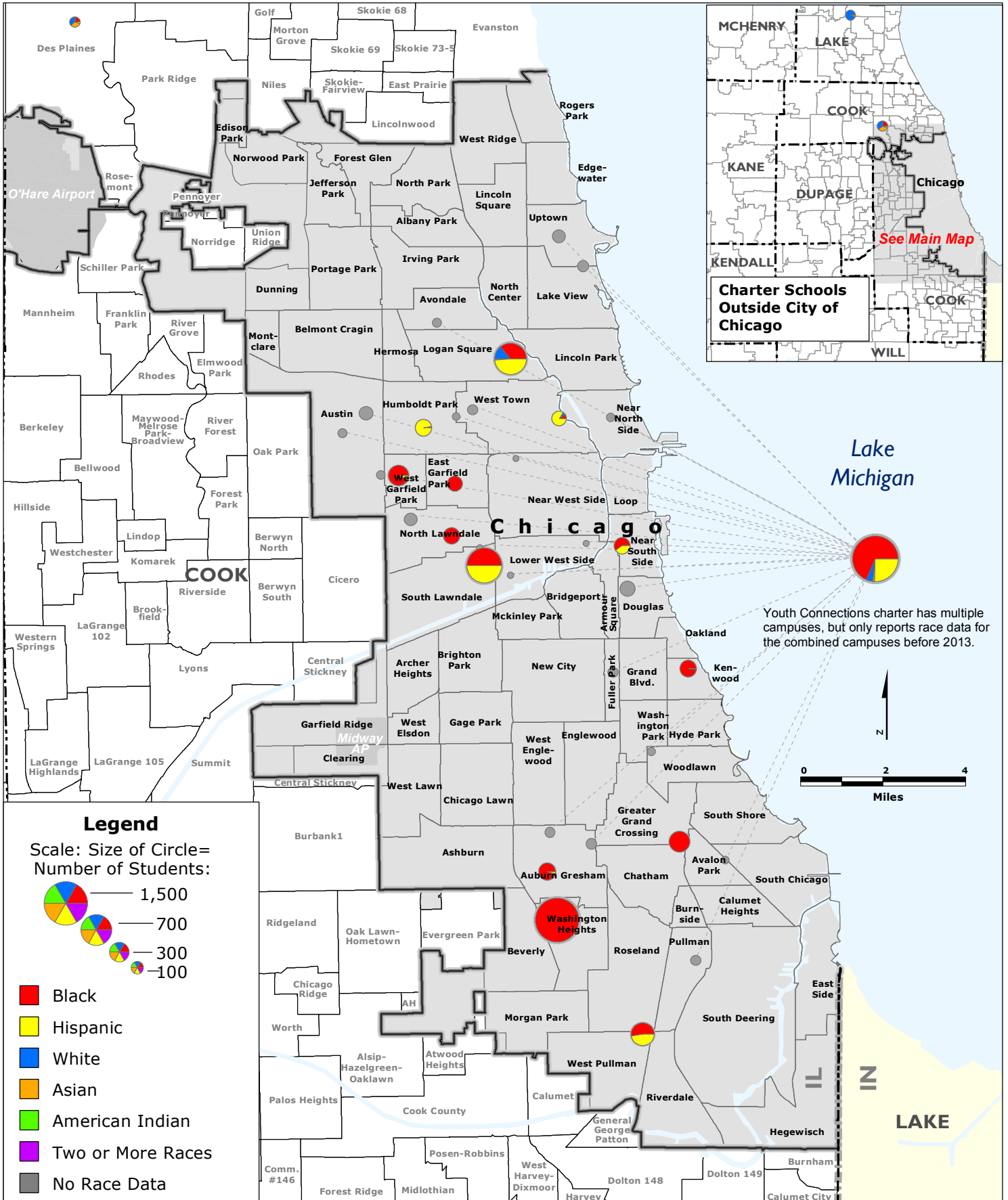


Chart 2: Enrollment by Race and Ethnicity in Chicago Charter Schools, 2000 to 2013



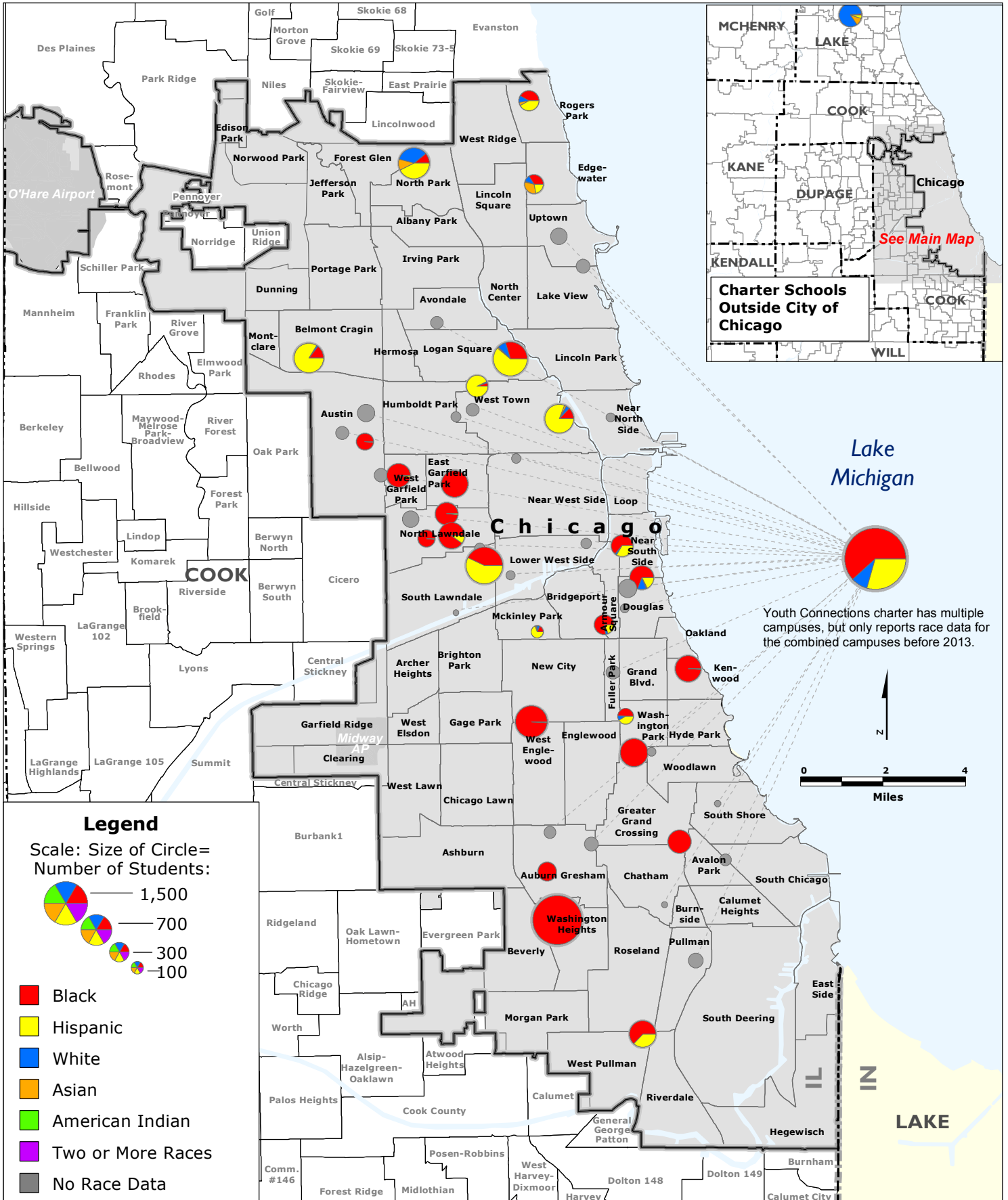
Map 1: CITY OF CHICAGO AND SURROUNDING SUBURBS Race and Ethnicity in Charter School Sites, 1999-2000

Total Charter Schools and Campuses = 36



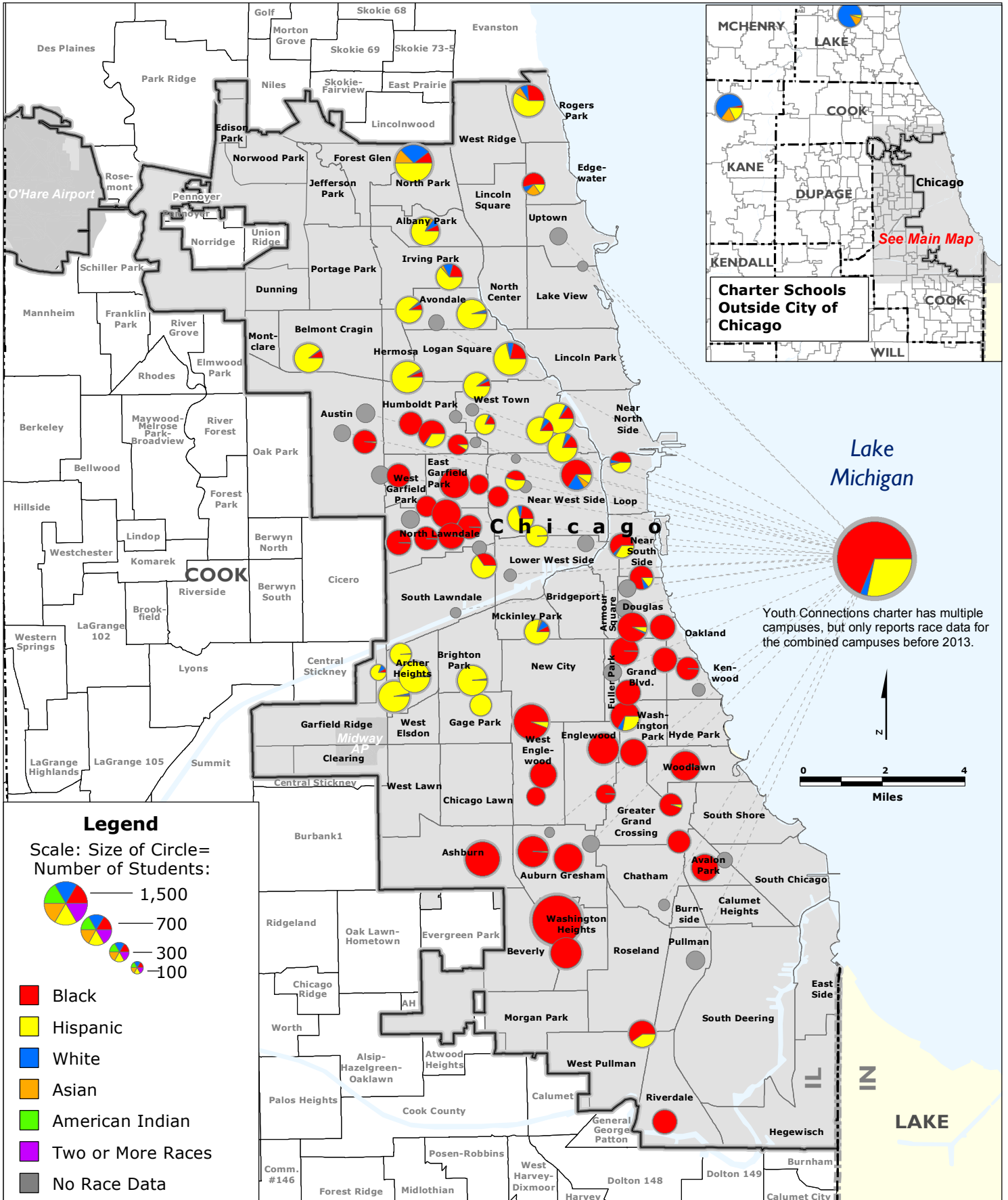
Map 2: CITY OF CHICAGO AND SURROUNDING SUBURBS Race and Ethnicity in Charter School Sites, 2004-2005

Total Charter Schools and Campuses = 52



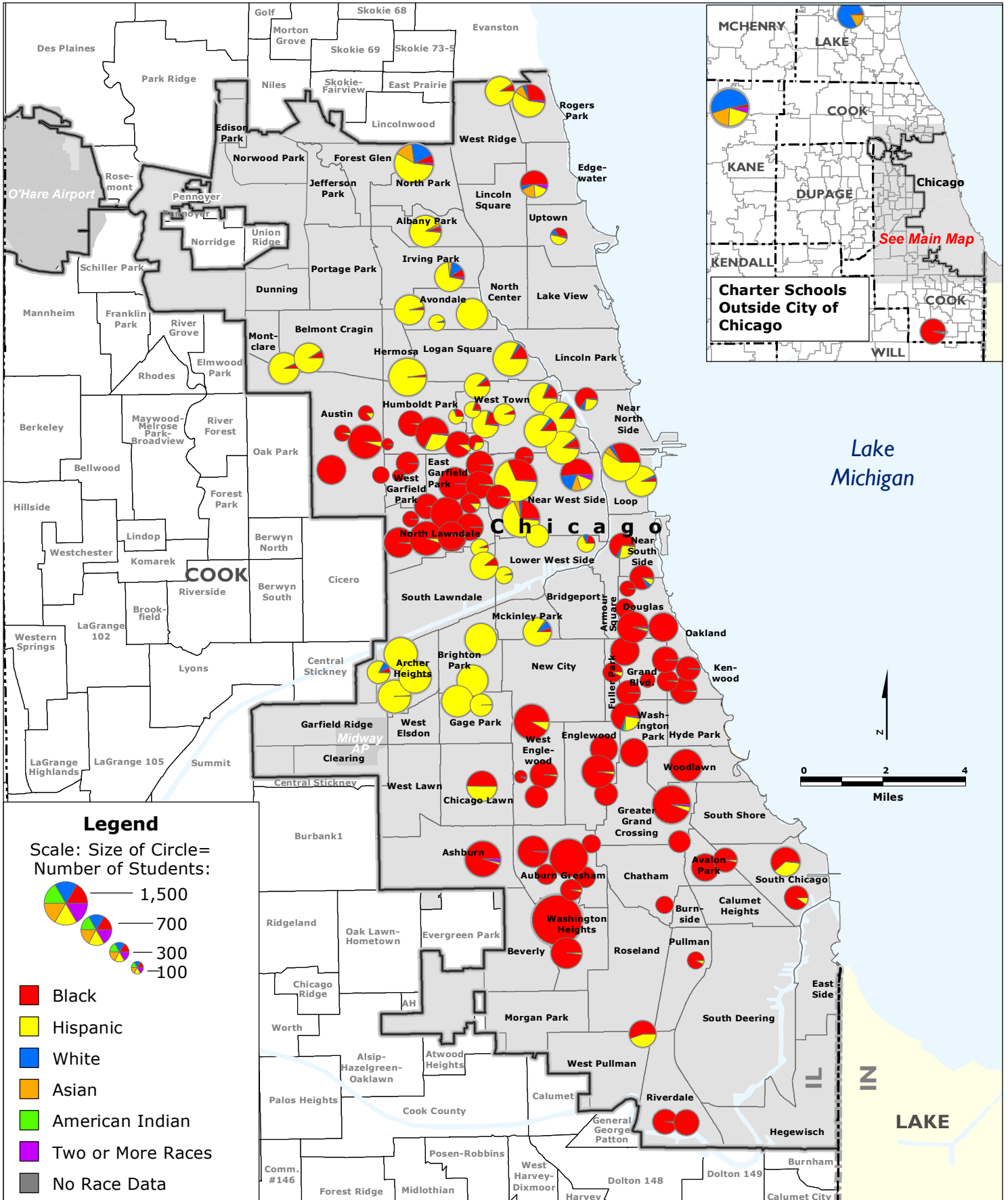
Map 3: CITY OF CHICAGO AND SURROUNDING SUBURBS Race and Ethnicity in Charter School Sites, 2009-2010

Total Charter Schools and Campuses = 98

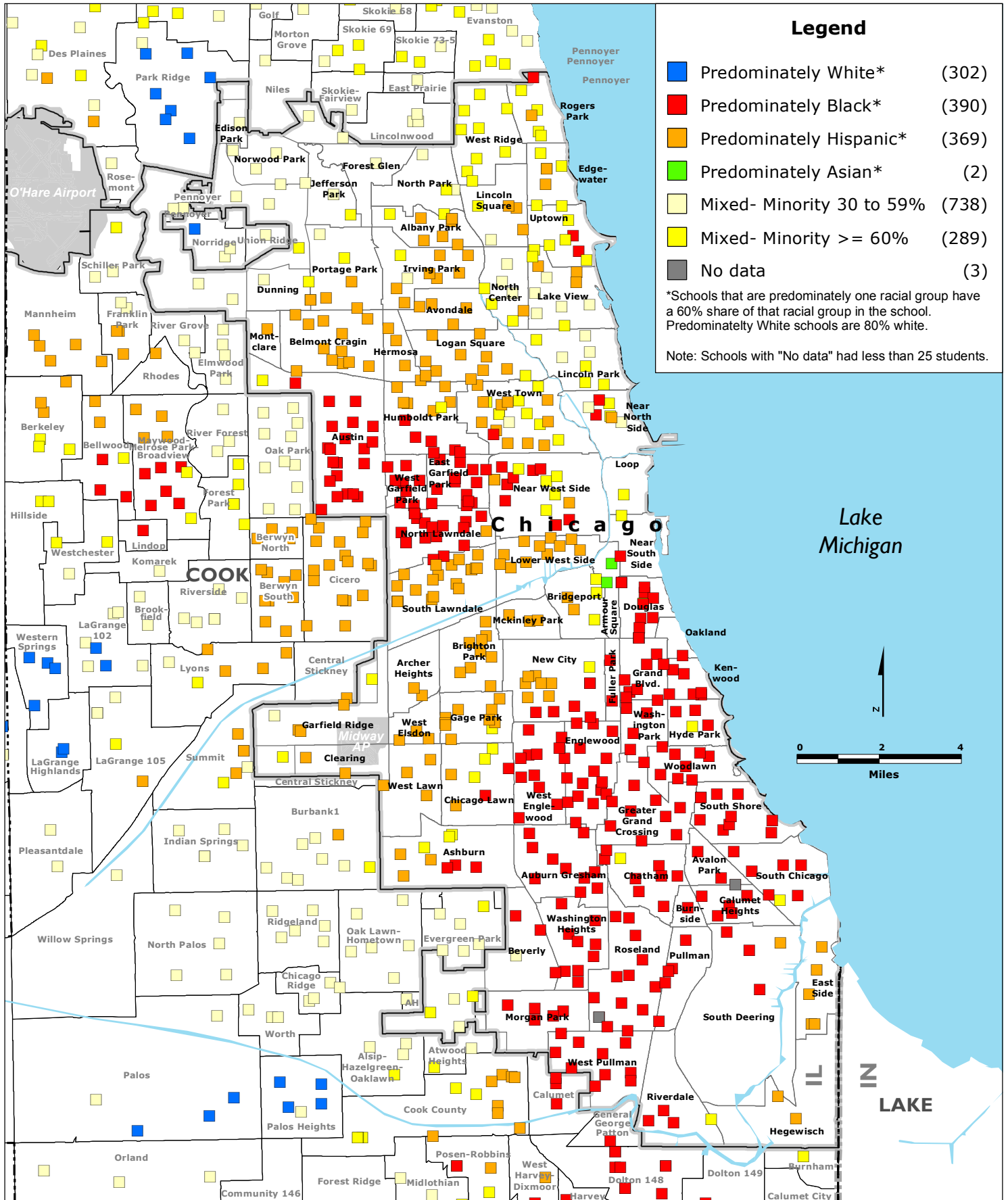


Map 4: CITY OF CHICAGO AND SURROUNDING SUBURBS Race and Ethnicity in Charter School Sites, 2012-2013

Total Charter Schools and Campuses = 119



Map 5: CITY OF CHICAGO AND SURROUNDING SUBURBS Racial Predominance in Traditional Public Schools, 2012-2013



Comparing Charters to other School Types

The Chicago School District offers several types of schools to students in addition to traditional neighborhood schools (“traditionals”) and charters. Table 1 compares charters and traditionals to the three alternative school types serving significant numbers of students. – selective schools, schools for “gifted” students and magnet schools.² The indicators, selected from the data provided by the Illinois and Chicago Boards of Education, include racial mixes and a number of variables often associated with student performance in the empirical studies of school performance.

Traditional neighborhood schools serve the largest numbers of students by far – 76 percent in 2013 – with charters coming in a distant second at 12 percent. However, selective, gifted and magnet programs serve nearly as many students as charters, with a combined total of 44,650 students (4,000 fewer than charters). Magnets, a part of the system often compared to charters because the students in both come from lotteries among applicants, represent 26,500 students on their own.

Traditionals and charters serve a similar mix of students by race. Traditionals show a higher share of white students, but, as noted above, the most salient racial characteristic of these parts of the system are the large non-white shares – 93 percent for traditionals and 98 percent for charters. Selective, gifted and magnet schools serve a more mixed, but still highly diverse, group of students. Non-white student shares for these groups of schools range from 68 to 84 percent.

Traditionals and charters are also roughly comparable for most of the other selected indicators. Traditionals serve significantly more limited English students, a bit higher share of special education students and show substantially greater mobility rates (a factor often cited as a negative influence on school achievement rates). Attendance rates are higher overall in charters. The two school groups show very similar rates in the other dimensions, including low-income, homeless and chronic truancy rates.

Selective, gifted and magnet schools, on the other hand show significantly more advantageous characteristics for most indicators. Low-income, homeless, special education, limited English, mobility and chronic truancy rates are markedly lower in selective and gifted schools especially. Magnets generally look more similar to traditionals and charters but still differ in significant ways.

The overall message from Table 1 is that simple comparisons among the school types could be misleading. Selective, gifted and magnet schools clearly differ from the other two school types. Although charters and traditionals show similar profiles in many ways, they also differ in significant ways. In particular, they differ in ways with potentially important effects on comparisons of student performance.

Table 2 shows another set school characteristics relating to the strategies (available from the Illinois and Chicago Boards of Education) that schools may use to maintain or enhance student performance. The indicators include some school policies that could potentially affect real performance rates – the number of days in the school year, minutes per day spent on math,

² The district also has a variety of other classifications including five schools classified as military schools (but with only 2,271 students in 2013).

Table 1: School Characteristics by Type of School: City of Chicago in 2012-2013

<u>School Characteristic</u>	<u>All Schools</u>	<u>All Non-charters</u>	<u>Traditional</u>	<u>Selective</u>	<u>Gifted</u>	<u>Magnet</u>	<u>Charters</u>	Charter - <u>All non-charters</u>	<u>Charter - Trad.</u>	<u>Charter - Magnet</u>
% White	7	7	7	16	32	16	2	-6	-6	-14
% Black	54	54	53	52	38	46	61	8	8	15
% Hispanic	35	35	36	22	17	30	33	-1	-3	4
% Asian	2	2	2	6	7	5	1	-2	-2	-4
% Other races	2	2	2	3	6	3	3	1	1	0
% Limited English	13	13	15	0	5	8	9	-4	-6	2
% Special Educ.	14	14	15	5	7	10	12	-2	-3	2
% Low Income	86	86	88	61	39	65	91	5	3	26
% Homeless	6	6	6	2	1	2	5	-1	-1	3
Attendance Rate	92	92	92	92	95	95	95	2	3	0
Mobility Rate	22	22	26	3	7	7	13	-10	-13	5
Chronic Truants (%)	33	33	36	34	17	16	31	-3	-5	15
Total Enrollment	395,198	345,173	300,523	10,979	7,193	26,478	48,700			
Enrollment per School	596	609	594	1,220	719	630	521			
Number	663	567	506	9	10	42	96			
Share of Total Students	100	87	76	3	2	7	12			

Sources: Illinois State Board of Education; Chicago Board of Education.

science and social studies (SOS), average class sizes by grade – and others that might improve measured student performance by affecting the pool of students actually taking the tests, or remaining in a school – the percentage students taking the tests, suspension rates and expulsion rates.

The most dramatic differences between charters and other school types in the first group of indicators – policies with the potential to directly affect performance – are in the number of school days and class time spent on math. Charters show longer school years on average (by five days) and significantly more time spent on math (as high as 25 percent more). Differences between traditionals and selective, gifted or magnet schools are much narrower.

The second group of indicators – characteristics that might affect measured achievement – show a similar pattern. Charters differ significantly from the other four types. The percentage of students not taking the reading, math and science tests are roughly twice as high in charters. While this does not necessarily mean that more low-performing students are not included in the test results, it does mean that the potential exists. However, the absolute percentages are small enough – in the 1.1 to 1.3 percent range – to limit any effects.

The suspension and expulsion data show dramatic differences between charters and the other categories as well. Charters use expulsions much more extensively than the other school types. The average expulsion rate is more than 10 times greater in charters than in traditionals. However, charters use suspensions much less extensively than the other school types. This is especially true of traditionals which show suspension rates more than 20 times the average for charters.

In sum, the available data for both student and school characteristics show clear potential for actual and measured differences in student performance between charters and other types of schools. The data also make it clear simple comparisons that do not control for different mixes of students in different school types are unlikely to be accurate.

Table 2: School Characteristics: City of Chicago in 2012-2013

<u>School Characteristic</u>	<u>All Schools</u>	<u>All Non-charters</u>	<u>Traditional</u>	<u>Selective</u>	<u>Gifted</u>	<u>Magnet</u>	<u>Charters</u>	Charter - <u>All non-charters</u>	<u>Charter - Trad.</u>	<u>Charter - Magnet</u>
School Days / Year	182	181	181	181	181	181	186	5	5	5
Math - min./day 3rd grade	57	57	57		53	60	65	7	8	4
Math - min./day 6th grade	62	62	61		59	63	76	15	15	14
Math - min./day 8th grade	62	61	61	51	59	63	77	16	16	14
Science - min./day 3rd grade	33	33	33		28	36	28	-5	-5	-8
Science - min./day 6th grade	48	48	48		43	47	47	-1	-2	-1
Science - min./day 8th grade	31	31	31		29	33	31	0	0	-1
SOS - min./day 3rd grade	43	43	43		41	42	46	3	3	4
SOS - min./day 6th grade	44	43	43	45	41	43	52	8	8	9
SOS - min./day 8th grade	25	25	25		26	25	25	0	0	0
Avg. Class Size	23	23	23	21	28	24	22	-1	0	-2
Avg. Class Size - K	24	24	24		30	25	26	2	2	1
Avg. Class Size - Grade 1	24	24	24		28	25	25	1	1	0
Avg. Class Size - Grade 2	24	24	24		29	25	25	2	2	1
Avg. Class Size - Grade 3	24	24	24		29	25	25	1	1	0
Avg. Class Size - Grade 4	24	24	24		28	25	26	2	2	1
Avg. Class Size - Grade 5	25	25	25		31	26	24	-1	-1	-2
Avg. Class Size - Grade 6	24	24	24	26	27	25	21	-3	-3	-4
Avg. Class Size - Grade 7	25	25	25	25	29	25	22	-3	-3	-3
Avg. Class Size - Geade 8	18	18	18	21	0	21	19	1	2	-2
% of Students not taking reading test	0.6	0.6	0.6	0.5	0.0	0.3	1.2	0.6	0.6	0.9
% of Students not taking math test	0.6	0.6	0.6	0.5	0.0	0.2	1.1	0.6	0.5	0.9
% of Students not taking science test	0.7	0.7	0.7	0.5	0.2	0.2	1.3	0.6	0.5	1.0
Suspension Rate (per 1,000 students)	19	22	24	9	7	12	1	-21	-23	-11
Expulsion Rate (per 1,000 students)	0.15	0.05	0.06	0.00	0.01	0.03	0.68	0.63	0.63	0.65

Sources: Illinois State Board of Education; Chicago Board of Education.

Student Performance

Charter school advocates most often cite improved student performance as the primary rationale for establishing and expanding charter school systems. Charter school parents and students actively choose their school in lieu of their assigned traditional public school and charter schools get no students by default – they must attract them in some way. Both of these factors suggest that superior achievement rates might be expected in charters.

In reality, the findings from an extensive (and growing) research literature show decidedly mixed results on this issue. This is true for individual city or state studies (including those on Chicago charters) as well as multi-state studies. To some extent, this reflects how challenging it is to isolate the effects of charters.³

The primary methodological issue affecting charter studies stems from the fact that charter students are self-selected, creating what is usually called “selection bias.” The way that parents and students select charters virtually guarantees that, as a group, charter students have greater parental concern for and participation in their education than do students in traditional, assigned schools. By definition, charter parents cared enough to go to the trouble of enrolling their kids in a school other than one assigned to them by the school district. While many parents of kids in traditional schools care and participate just as much, you can't say that they have *all* demonstrated the same level of concern. This matters because active participation by parents in their child's education is an important contributing factor to student achievement.⁴

What this means is that we should expect student achievement to be greater, all else equal, in charter schools, *even if charters do no better at educating kids*. This is true whether charters are selective in other ways (“creaming” the best students) or must accept all applying students as long as space is available (as in Chicago). Charter advocates often imply that charters actually operate at a disadvantage in this way because charter schools in many places are more likely to serve children from low-income or homeless households, or kids with other characteristics associated with lower school achievement. However factors like these can usually be observed and accounted for statistically while parental values or motivation cannot.

³ Ni, Yongmei and Andrea K. Rorrer, Twice Considered: Charter Schools and Student Achievement in Utah,” *Economics of Education Review*, 31(5), 835–849.

⁴ “Correlational studies have found modest associations between various [parental involvement] variables and student academic achievement, with some of the most consistent relationships being reported for (a) parents talking with their child about school . . . (b) parents holding high expectations for students' academic achievement . . . and (c) parents employing an authoritative (not authoritarian) parenting style.” Valerie J. Shute, Eric G. Hansen, Jody S. Underwood & Rim Razzouk, *A Review of the Relationship Between Parental Involvement and Secondary School Students' Academic Achievement*, 2011 Education Research International (2011). “The results indicated that the relationship between parental involvement and academic achievement was positive, regardless of a definition of parental involvement or measure of achievement.” Sandra Wilder, *Effects of Parental Involvement on Academic Achievement: A Meta-Synthesis*, Educational Review (forthcoming 2014). “We also find that charter schools tend to be established in areas with above-average proportions of involved parents, and we find suggestive evidence that, within in those areas, more involved parents tend to select into charter schools.” Robert Bifulco and Helen F. Ladd, *Institutional Change and Coproduction of Public Services: The Effect of Charter Schools on Parental Involvement*, 16 *Journal of Public Administration Research and Theory* 553, 554 (2005). “Much of the available research linking parental involvement to school choice indicates that parents who participate in school choice (both public and private school choice) are likely to be more involved in their children's education when compared to parents who do not participated in the choice marketplace.” Ellen Goldring and Kristie J.R. Phillips, *Parent Preferences & Parent Choices: The Public-Private Decision about School Choice*, 23 *Journal of Education Policy* 209 (2008).

Prior Work on Charter School Performance in Chicago

The largest studies of charter performance in Chicago illustrate the diversity of findings in this field. A study by the Rand Corporation in 2009⁵ found no consistent charter school effect on student achievement, either positive or negative. An initial study by the Center for Research and Education Outcomes (CREDO) in 2009 came to similar conclusions but a follow-up in 2013⁶ found positive outcomes for charters.

The Rand study used student-level data to evaluate the types of students drawn to charters and whether charter schools were producing achievement gains (measured by test scores, graduation rates, ACT scores and college enrollment rates). Much of the analysis was limited to students who attended both a traditional and a charter school during the years covered by the data. This meant that students could be compared to themselves – their performance in a traditional school compared to how they did in a charter – in order to control for selection bias issues. The drawback of this approach is that it greatly limits the group of students to be included in the comparisons.

The analysis found that charters attracted a group of students that were roughly representative of the traditional schools they left. Achievement levels for charter students prior to entering charters were higher than those in the schools they left but the differences were relatively small. Similarly the racial and ethnic composition of charter schools resembled the traditional schools they left.⁷

The results for achievement gains measured by test results in grades 3 through 8 were similarly minor. Only small achievement differences were found between charters and traditional schools and the directions of the differences were inconsistent. Achievement in charters lagged behind traditional schools in reading, especially for Hispanic and Asian students and in math for Asian students, while black students did slightly better in charters in math. The analysis also found that charters had negative effects on student performance in their first year of operation but that this deficit disappeared in the second year of operation and beyond.⁸

Finally, the results for the high school achievement measures – ACT scores, graduation rates and college enrollment – suggested that charter high schools may produce positive outcomes in these measures. However, positive results were limited to students with extended attendance in charters that included both middle and high school grades, a category which included only four charters at the time of the study.⁹

The two CREDO studies match charter school students to traditional public school students who are as similar as possible and then compare achievement rates for each pair. The results from the 2009 were mixed. In some comparisons, students in Chicago charters under-

⁵ Booker, Kevin, Brian Gill, Ron Zimmer and Tim R. Bass, “Achievement and Attainment in Chicago Charter Schools,” Rand Corporation, 2009.

⁶ Center for Research on Education Outcomes, “Charter School Performance in Illinois,” Stanford University, 2009 and Center for Research on Education Outcomes, “Charter School Performance in Illinois,” Stanford University, 2013.

⁷ Booker et al, pp. 5-7.

⁸ Ibid, pp. 12-13.

⁹ Ibid, pp. 19-21.

performed their traditional school peers; in others there were no discernable differences; and in a few comparisons charter school students out-performed their peers. The 2013 results were more positive for charters, with most comparisons showing charter students out-performing their traditional school peers.

However, there are reasons to worry about the CREDO results. The studies match charter students with traditional school students based on race/ethnicity, gender, English proficiency, free/reduced price lunch status, special education status and grade level. The method is designed to control for selection bias by creating a control group like those used in randomized experiments, but the list of matching variables does not include anything that reliably captures parental engagement, a primary source of selection bias in charter studies.¹⁰ This compromises the findings that are positive for charters – they may simply be the result of selection bias – but strengthens the findings that are negative for charters – they are negative in spite of the positive bias. In addition, the method typically does not generate a good match for every charter student, limiting the sample. In Chicago, CREDO found traditional school matches for roughly 90 percent of charter students. (The reported results provide no way of examining the characteristics of the omitted students to see if they are representative of the overall mix of students or not.)

A variety of other smaller scale studies provide further mixed results. Work by Northwestern’s Medill Data Project found that a greater percentage of traditional school students than charter students exceeded the state standards in math and reading testing.¹¹ A review of state report cards by the Chicago Tribune found many struggling charters.¹² And newly released data shows substantially higher expulsion rates for charter schools.¹³ An analysis of recent data by the Chicago Sun Times also suggests that neighborhood schools have improved greatly in reading, and are now out-performing charters by significant margins.¹⁴ Charter advocates counter with

¹⁰ In his review of a CREDO study in Michigan, Andrew Maul notes: “The larger issue with the use of any matching-based technique is that it depends on the premise that the matching variables are sufficient to account for all relevant differences between students; that is, once students are matched on the aforementioned seven variables, there remain no meaningful unobserved differences between students in charter and traditional public schools (other than their school type). School-choice systems always implicate unobservable differences among parents (i.e., parents of charter school students are necessarily sufficiently engaged with their children’s education to actively select a charter school). To the extent to which a reader finds it implausible that the seven variables have captured these and all other important differences, she will be unconvinced that these methods can provide true estimates of causal effects.” In other words, the CREDO methods are likely to bias comparisons of student performance in charter and traditional schools in favor of charters. Maul, Andrew, “Review of *Charter School Performance in Michigan*,” National Education Policy Center, 2013. See Miron, G. & Applegate, B. (2009). *Review of “Multiple choice: Charter school performance in 16 states.”* Boulder and Tempe: Education and the Public Interest Center & Education Policy Research Unit. Retrieved July 15, 2014 from <http://epicpolicy.org/thinktank/review-multiple-choice> for another review of CREDO’s methods.

¹¹ Mihalopoulos, Dan and Darnell Little, “Charter Check,” Chicago Sun Times, April 7, 2014.

¹² Hood, Joel and Noreen S. Ahmed-Ullah, “Report Finds Charters Struggling Like Other CPS Schools,” Chicago Tribune, November 30, 2011.

¹³ Anderson, Mark, “CPS Acknowledges Higher Expulsion Rates for Charters,” <http://www.nbcchicago.com/ward-room/CPS-Acknowledges-Higher-Expulsion-Rates-for-Charters-247269121.html>.

¹⁴ Golab, Art, Betsy Schlikerman and Lauren Fitzpatrick, “CPS Outpaces Charter Schools in Improvements, Especially in Reading,” Chicago Sun Times, August 29, 2014.

their own take on the data – “Debunking Myths about Charter Schools”¹⁵; “Charter Deliver Results”¹⁶; and “Measuring Up to the Model”¹⁷.

The work reported here cannot fully settle the debate. The type of data and the resources needed to fully account for selection bias are not available for this work. This means that the statistical results will be biased in favor of charter schools. In other words, the results are more likely to show that charter school students out-perform their traditional school counterparts, all else equal. It will be necessary to account for this bias when evaluating the findings.

What the analysis described here can do is update the comparisons to the most recent year available (2012-13) and provide comparisons that include all students and all charter schools in the Chicago public school system. The completeness of the data set also allows comparison of how other parts of the traditional system – selective or gifted-student schools and magnets – compare to traditional and charter schools. Finally, the available data make it possible to look at a range of achievement measures, including standardized test pass rates, student growth rates, graduation rates and college entrance exam (ACT) scores.

Student Performance by School Type in 2012-13

Previous sections make it clear that simple comparisons of student performance are likely to be inadequate. Accurate comparisons must control for differences in types of students served by different schools. However, it is worth summarizing the simple differences as measured by the data use in this analysis to provide a baseline for comparison to other work using simple statistics.

Table 3 provides this baseline summary, showing a range of performance measures to be used in the multivariate analysis below. The included student performance measures include test pass rates in reading and math compiled by race and income, annual growth rates in reading and math, four and five year graduation rates, and ACT scores in English, Math and Science.¹⁸

The comparisons reflect the diversity of findings in other work. Charters tend to show slightly lower average student performance when compared to all non-charters and slightly higher indicators when compared to neighborhood schools alone (removing selective, gifted and magnets from the non-charter averages). Charters also compare poorly to magnet schools.

The simple comparisons illustrate the need to account for differences in the populations served by the different school types. Magnet schools, for instance, serve a very different, generally less disadvantaged, group of students than charters and traditionals (Table 1). The

¹⁵ <http://www.pcachicago.org/debunking-myths-about-charter-schools/>.

¹⁶ Illinois Network of Charter Schools, http://incschools.org/charters/why_charter_schools/charters_deliver_results/.

¹⁷ <http://www.publiccharters.org/get-the-facts/law-databases/states/il/>.

¹⁸ Pass rates represent the percentage of students meeting or exceeding standards. The indicators in Table 3 are school-level averages. Test results broken out by grade (and race) are also available and will be used in the multivariate analysis. Annual growth rates represent the measured difference between performance early in the school year and late in the school year. Only school-wide averages are available for annual growth, graduation rates and ACT scores.

Table 3: Traditional and Charter School Performance: City of Chicago in 2012-2013

	All Schools	All Non-charter	Traditional	Gifted or Selective	Magnet	Charters	Charter - All non-charters	Charter - Trad.	Charter - Magnet
<u>Reading Pass Rate</u>									
All Students	44	44	41	86	63	41	-3	0	-22
Black Students	39	39	36	80	57	39	0	3	-18
Hispanic Students	49	49	42	88	66	46	-3	4	-20
Low-income Students	45	45	43	76	57	46	1	3	-11
<u>Math Pass Rate</u>									
All Students	44	45	42	82	65	42	-3	0	-23
Black Students	37	37	33	75	69	36	-1	2	-33
Hispanic Students	51	51	48	86	68	51	-1	3	-17
Low-income Students	46	47	45	75	60	46	0	2	-14
Reading Growth Rate	101	101	101	111	105	100	-2	-1	-5
Math Growth Rate	102	102	102	110	106	99	-3	-3	-7
4 Year Graduation Rate	67	68	65	89	86	66	-2	1	-20
5 Year Graduation Rate	83	86	84	97	96	76	-10	-8	-21
ACT Comp	17	17	16	24	20	17	0	1	-2
ACT English	17	16	15	25	20	17	0	2	-3
ACT Math	18	17	17	24	19	18	1	1	-1
ACT Science	18	18	17	24	20	18	0	1	-2

Sources: Illinois State Board of Education; Chicago Board of Education.

better performance indicators therefore do not necessarily indicate that magnets do a superior job of developing the skills of their students.

Similarly, the charter/traditional comparison is susceptible to several confounding factors. Traditionals must deal with greater challenges than charters in several dimensions – mobility, chronic truancy and limited English rates for instance – and lesser ones in others – such as the small difference in poverty rates. In addition, the mix of challenges varies in complicated ways from school to school.

Table 4 shows how the student performance differs between charters and traditionals after using multivariate analysis (multiple regression analysis) to control for all of the characteristics shown in Table 1.¹⁹ Each number represents the measured difference from a separate analysis for the indicated performance measure and student group. Negative numbers indicate that charters under-perform their traditional counterparts after controlling for differences in the characteristics of student populations. For instance, the -3.9 in the top row of the second column indicates that reading pass rates for black students are 3.9 percentage points lower in charters on average, after controlling for the effects of all of the student characteristics shown in Table 1. (The double asterisk means that the measured effect is statistically significant at the 95 percent confidence level.)

The top panel shows the results for reading and math pass rates using separate pass rates for each racial or income group in each grade where the test is given (grades 3, 4, 5, 6, 7, 8 and 11). The second panel shows the results for the same measures using school-wide averages (rather than pooled individual grade results). The remaining panels show results using school-wide data for all racial/ethnic/income groups combined. (The data for these indicators do not include breakouts by race, grade or income.)

The results show that charters consistently underperform traditionals in reading and math pass rates, reading and math growth rates, and graduation rates. There is some suggestion that the deficits are smaller for math scores, perhaps reflecting the extra time charters devote to math (Table 2). Among these indicators, only one multiple regression model indicated a positive result for charters – the school-level regression for math pass rates for Hispanic students – but even that result was not statistically significant. In contrast, 15 of the 19 negative results were statistically significant. It is only in ACT scores that models show positive outcomes for charters and only one of the four models (the one for math scores) yields a statistically significant difference.²⁰

The fact that these results are likely to be biased in favor of charter schools (because of selection bias) strengthen the implication that charters actually underperform their traditional counterparts. Despite the fact that all of the negative coefficients in Table 4 are very likely to be biased toward zero, the results in most cases support that proposition that the charter effect is negative.

¹⁹ The models also control for the grade level of the test (for the pooled grade-level models) and for the mix of grades taught in each school (for the school-level models). See Appendix 1 for the full results.

²⁰ The full results (shown in Appendix 1) also show that selective, gifted and magnets out-perform both traditionals and charters in more cases than not, with charters faring better in math than reading. All of the models shown in the Appendix were also estimated with separate dummy variables for charters in their first year of operation and for those more than one year old. The results varied from model to model with no consistent finding. In some cases, new charters under-performed traditionals while older ones did not; in other cases, the reverse was true. The results from the models using a single charter dummy are shown for simplicity.

Table 4: Charter Performance Compared to Traditional Schools

	Student Group							
	<u>All</u>		<u>Black</u>	<u>Hispanic</u>	<u>Low-Income</u>			
<u>Grade - level Models</u>								
Reading Pass Rate	-2.5	**	-3.9	**	-2.1	*	-1.9	**
Math Pass Rate	-2.3	**	-3.5	**	-1.7		-2.0	**
<u>School- level Models</u>								
Reading Pass Rate	-2.2	*	-3.3	*	-1.6		-3.1	*
Math Pass Rate	-0.8		-0.7		0.5		-4.0	**
Reading Growth Rate	-3.7	**						
Math Growth Rate	-4.3	**						
Four Year Graduation Rate	-13.2	**						
Five Year Graduation Rate	-29.1	**						
ACT Composite Score	0.4							
ACT English Score	0.4							
ACT Math Score	1.1	**						
ACT Science Score	0.1							

Comparisons represent regression coefficients from multiple regressions that control for school racial mixes; test grade level; whether schools were classified as "selective", "gifted," or magnets; the percentage of students in the school in limited English programs; the percentage in independent educational programs; the percentage who were low income; the percentage who were homeless; the school attendance rate; the school mobility rate; the school chronic truancy rate; and total school enrollment. See Appendix 1 for full multiple regression results.

*: Estimate significant at 90% confidence level.

** : Estimate significant at 95% confidence level.

Conclusions and Recommendations

Chicago's charter system continues to grow rapidly despite the fact little evidence supports the claim that students perform better in charter schools than in traditional counterparts. This study adds another piece to the pile of research that implies that students in fact perform at lower levels in charters than traditionals. The clear implication is that it is time to reevaluate where the system is headed and to ensure that all of the information needed to evaluate existing and proposed new charters is available.

Based on the evidence cited in this report, it is recommended that the Chicago Public School District institute a three-year moratorium on new charter schools and campuses and complete an impact study on how charter school policy has affected the district as a whole.

It is also recommended that Illinois should move forward with the following statewide reforms.

- 1) The State Charter School Commission should be eliminated and policy and control decisions should be returned to local authorities who are vested with the education of students in their jurisdiction.
- 2) The charter school law (105ILCS 5/27A-5) should be changed to remove the provision that exempts campus expansions by charter schools established before 2003 for the purposes of maintaining the charter school cap in Illinois.
- 3) In light of the finding that charter schools increase racial segregation in a district already struggling with racial separation, the state should study this effect and design policies that charter schools must follow in order to ensure racial segregation is mitigated. At a minimum, charters should be required to more closely match district-wide racial diversity.
- 4) The training required of all school board members (105 ILCS 5/10-16a and 105ILCS5/34-3.2) should include a research-based review of the potential effects of charter schools on racial segregation and student performance.
- 5) School districts considering a charter school should be required to include as part of the public hearing a detailed analysis of the applicant's performance in regard to racial diversity in existing schools and student performance in existing schools. The charter school applicant should be required to produce data in accordance with specified methods and data to ensure that information is unbiased. The data and information should be made public through posting on the district website 30 days prior to the hearing with notices of the posting going to interested parties, including affected bargaining units and nearby neighborhood organizations.
- 6) Charter schools should be held to the same reporting standards as traditional schools and districts, including financial reporting and reporting to Illinois State Board of Education for the Illinois State Report Card.
- 7) Existing and new Charter schools should be required to describe the educational practices or experiments that distinguish them from already-available programs in traditional schools (including special schools like selective schools and magnets run by the school district), set goals for improved student performance, demonstrate success in meeting

those goals within five years, and continue to demonstrate success every two years in order to retain the charter.

Appendix: Multiple Regression Results

Table A.1: Multiple Regression Results: Reading Pass Rates

Variable	All Students (by Grade)			Black Students (by Grade)			Hispanic Students (by Grade)			Low-income (by Grade)		
	Coefficient	t	Statistic	Coefficient	t	Statistic	Coefficient	t	Statistic	Coefficient	t	Statistic
Constant	-36.86	-2.88	**	-64.59	-3.87	**	-31.05	-1.27		-25.30	-1.97	**
% Students Black	-0.01	-0.20		0.40	6.21	**	0.03	0.80		0.04	1.31	
% Students Hispanic	0.05	1.54		0.31	4.07	**	0.06	1.53		0.10	2.89	**
% Students Asian	0.33	7.16	**	0.73	6.90	**	0.21	3.43	**	0.40	8.00	**
% Students Other Non-white	0.44	3.76	**	0.61	3.48	**	0.50	2.77	**	0.44	3.50	**
% Students Limited English	-0.18	-5.85	**	0.02	0.37		-0.29	-9.00	**	-0.17	-5.30	**
% Students Ind. Educ. Prog.	-0.14	-2.60	**	-0.33	-4.12	**	-0.01	-0.11		-0.23	-3.97	**
% Students Low-income	-0.44	-18.02	**	-0.55	-14.49	**	-0.29	-8.23	**	-0.33	-12.27	**
% Students Homeless	-0.23	-5.78	**	-0.19	-4.13	**	-0.09	-0.54		-0.22	-5.34	**
Mobility Rate	-0.12	-6.42	**	-0.12	-5.17	**	-0.35	-6.07	**	-0.13	-6.15	**
Chronic Truancy Rate	-0.05	-3.02	**	-0.06	-2.70	**	-0.02	-0.67		-0.05	-2.72	**
Attendance Rate	1.27	9.42	**	1.31	7.77	**	1.06	4.12	**	0.99	7.32	**
Total School Enrollment	0.00	1.94	*	0.00	1.78	*	0.00	1.39		0.00	1.38	
"Selective" School	28.37	7.82	**	27.99	6.33	**	32.06	8.59	**	31.25	8.02	**
Magnet School	0.34	0.36		-0.73	-0.56		-0.45	-0.35		-1.48	-1.42	
"Gifted" School	3.49	2.05	**	4.44	1.72	*	3.00	1.26		-0.80	-0.40	
Grade 3	5.72	3.98	**	3.67	1.94	*	6.74	3.43	**	5.71	3.67	**
Grade 4	4.86	3.38	**	2.13	1.12		6.43	3.27	**	4.87	3.13	**
Grade 5	3.04	2.12	**	-1.37	-0.73		6.73	3.43	**	3.12	2.01	**
Grade 6	8.78	6.13	**	4.76	2.53	**	12.08	6.19	**	9.39	6.06	**
Grade 7	10.66	7.49	**	6.82	3.66	**	15.16	7.84	**	11.50	7.47	**
Grade 8	11.44	8.05	**	7.55	4.06	**	15.87	8.17	**	12.55	8.17	**
Charter School	-2.50	-3.09	**	-3.90	-3.40	**	-2.11	-1.83	*	-1.86	-2.12	**
Adjusted R ²	0.65			0.51			0.61			0.50		
N	3,063			1,940			1,471			2,971		

Table A.1: Multiple Regression Results: Reading Pass Rates

Variable	All Students (by School)			Black Students (by School)			Hispanic Students (by School)			Low Income (by School)		
	Coefficient	t Statistic		Coefficient	t Statistic		Coefficient	t Statistic		Coefficient	t Statistic	
Constant	-7.46	-0.44		-21.09	-0.91		-31.51	-1.12		18.37	0.66	
% Students Black	0.03	0.69		0.31	3.27	**	0.15	2.63	**	0.12	2.09	**
% Students Hispanic	0.07	1.23		0.20	1.89	*	0.12	1.98	**	0.16	2.44	**
% Students Asian	0.34	4.18	**	0.54	3.71	**	0.28	2.86	**	0.50	5.41	**
% Students Other Non-white	0.41	2.20	**	0.50	1.83	*	0.56	1.98	**	0.43	1.96	*
% Students Limited English	-0.12	-2.66	**	0.07	0.87		-0.26	-4.82	**	-0.20	-3.18	**
% Students Ind. Educ. Prog.	-0.25	-3.01	**	-0.38	-3.32	**	-0.18	-1.53		-0.15	-1.36	
% Students Low-income	-0.50	-12.34	**	-0.53	-8.83	**	-0.37	-7.24	**	-0.36	-7.16	**
% Students Homeless	-0.18	-2.87	**	-0.17	-2.21	**	-0.11	-0.64		-0.26	-3.22	**
Mobility Rate	-0.08	-3.79	**	-0.08	-3.09	**	-0.28	-4.02	**	-0.22	-4.32	**
Chronic Truancy Rate	-0.09	-3.24	**	-0.13	-3.54	**	-0.05	-0.97		-0.06	-1.81	*
Attendance Rate	1.01	5.76	**	0.96	4.15	**	1.10	3.76	**	0.65	2.25	**
Total School Enrollment	0.00	1.57		0.00	1.56		0.00	1.07		0.01	2.96	**
"Selective" School	27.90	7.92	**	26.44	6.14	**	32.06	8.69	**	16.87	2.15	**
Magnet School	1.14	0.70		1.14	0.53		-0.88	-0.45		-2.52	-1.30	
"Gifted" School	2.28	0.73		5.71	1.21		0.98	0.26		2.37	0.68	
Grade 3	12.38	4.16	**	12.50	2.98	**	16.25	3.35	**	4.29	1.19	
Grade 4	-9.95	-2.65	**	-10.55	-1.93	*	-7.11	-1.20		-8.35	-1.86	*
Grade 5	-0.60	-0.19		0.54	0.12		-4.85	-1.02		-2.67	-0.73	
Grade 6	0.64	0.31		-2.85	-0.93		0.01	0.00		-0.45	-0.19	
Grade 7	-3.45	-0.93		-3.01	-0.56		3.64	0.54		-6.17	-1.37	
Grade 8	6.95	2.00	**	4.99	1.02		2.14	0.32		5.57	1.31	
Charter School	-2.21	-1.79	*	-3.34	-1.90	*	-1.62	-1.05		-3.10	-1.84	*
Adjusted R ²	0.79			0.69			0.80			0.62		
N	647			464			345			528		

Grade dummy variables (Grade3 - Grade8) denote whether a grade is taught in the school or not.

Table A.2: Multiple Regression Results: Math Pass Rates

Variable	All Students (by Grade)			Black Students (by Grade)			Hispanic Students (by Grade)			Low-income (by Grade)		
	Coefficient	t Statistic		Coefficient	t Statistic		Coefficient	t Statistic		Coefficient	t Statistic	
Constant	-75.27	-4.80	**	-88.47	-4.43	**	-95.96	-3.25	**	-63.71	-4.10	**
% Students Black	-0.10	-3.01	**	0.20	2.55	**	0.07	1.53		-0.05	-1.41	
% Students Hispanic	0.01	0.33		0.16	1.77	*	0.09	1.85	*	0.07	1.70	*
% Students Asian	0.33	6.00	**	0.56	4.39	**	0.20	2.68	**	0.42	6.94	**
% Students Other Non-white	0.18	1.27		0.26	1.21		0.32	1.46		0.27	1.79	*
% Students Limited English	-0.20	-5.45	**	-0.13	-1.70	*	-0.25	-6.53	**	-0.21	-5.20	**
% Students Ind. Educ. Prog.	-0.14	-2.10	**	-0.35	-3.72	**	0.10	0.99		-0.20	-2.93	**
% Students Low-income	-0.35	-11.60	**	-0.41	-8.99	**	-0.28	-6.52	**	-0.23	-6.86	**
% Students Homeless	-0.22	-4.52	**	-0.20	-3.66	**	-0.05	-0.22		-0.21	-4.21	**
Mobility Rate	-0.06	-2.72	**	-0.06	-2.15	**	-0.26	-3.84	**	-0.07	-2.91	**
Chronic Truancy Rate	-0.03	-1.65	*	-0.03	-1.05		-0.07	-1.79	*	-0.04	-1.73	*
Attendance Rate	1.63	9.85	**	1.54	7.63	**	1.72	5.52	**	1.34	8.14	**
Total School Enrollment	0.00	1.57		0.00	0.77		0.00	2.54	**	0.00	1.30	
"Selective" School	29.94	6.74	**	32.78	6.19	**	31.59	7.00	**	33.21	7.04	**
Magnet School	3.58	3.07	**	3.37	2.15	**	1.02	0.65		1.68	1.34	
"Gifted" School	3.28	1.57		3.64	1.18		2.12	0.73		-1.65	-0.68	
Grade 3	3.82	2.17	**	4.96	2.19	**	0.42	0.18		2.92	1.55	
Grade 4	11.80	6.71	**	13.24	5.83	**	8.87	3.74	**	11.40	6.06	**
Grade 5	9.97	5.68	**	9.58	4.24	**	8.79	3.70	**	9.78	5.21	**
Grade 6	12.25	6.99	**	12.01	5.32	**	12.19	5.16	**	12.35	6.58	**
Grade 7	13.70	7.86	**	14.25	6.38	**	13.18	5.64	**	14.03	7.53	**
Grade 8	14.51	8.34	**	14.00	6.29	**	14.81	6.31	**	15.20	8.17	**
Charter School	-2.34	-2.35	**	-3.51	-2.56	**	-1.74	-1.24		-1.99	-1.87	*
Adjusted R ²	0.56			0.41			0.49			0.43		
N	3,064			1,941			1,471			2,973		

Table A.2: Multiple Regression Results: Math Pass Rates

Variable	All Students (by School)			Black Students (by School)			Hispanic Students (by School)			Low Income (by School)		
	Coefficient	t Statistic		Coefficient	t Statistic		Coefficient	t Statistic		Coefficient	t Statistic	
Constant	-30.22	-1.43		-13.87	-0.51		-96.49	-2.72	**	-33.77	-1.02	
% Students Black	-0.04	-0.60		0.22	1.99	**	0.17	2.33	**	0.03	0.42	
% Students Hispanic	0.08	1.15		0.17	1.35		0.17	2.25	**	0.11	1.49	
% Students Asian	0.41	4.07	**	0.61	3.55	**	0.32	2.57	**	0.50	4.54	**
% Students Other Non-white	0.17	0.73		0.25	0.79		0.28	0.79		0.28	1.06	
% Students Limited English	-0.19	-3.24	**	-0.13	-1.30		-0.26	-3.85	**	-0.22	-2.87	**
% Students Ind. Educ. Prog.	-0.21	-2.07	**	-0.37	-2.74	**	-0.02	-0.11		-0.17	-1.26	
% Students Low-income	-0.42	-8.29	**	-0.46	-6.50	**	-0.37	-5.68	**	-0.26	-4.33	**
% Students Homeless	-0.15	-1.97	**	-0.16	-1.80	*	0.06	0.29		-0.29	-3.00	**
Mobility Rate	-0.04	-1.51		-0.06	-1.89	*	-0.19	-2.15	**	-0.17	-2.74	**
Chronic Truancy Rate	-0.10	-2.88	**	-0.12	-2.88	**	-0.12	-1.85	*	-0.04	-1.09	
Attendance Rate	1.18	5.39	**	0.80	2.94	**	1.75	4.76	**	1.17	3.39	**
Total School Enrollment	0.00	1.44		0.00	0.17		0.00	1.96	*	0.01	2.71	**
"Selective" School	29.09	6.61	**	30.85	6.08	**	32.48	7.00	**	17.90	1.91	*
Magnet School	3.50	1.72	*	3.76	1.48		0.67	0.27		0.47	0.20	
"Gifted" School	1.82	0.47		3.37	0.61		0.08	0.02		1.32	0.32	
Grade 3	16.20	4.36	**	20.13	4.07	**	14.68	2.41	**	5.00	1.16	
Grade 4	-9.64	-2.06	**	-12.08	-1.87	*	-6.97	-0.94		-7.13	-1.33	
Grade 5	-0.54	-0.14		-1.43	-0.27		-1.12	-0.19		-3.11	-0.71	
Grade 6	0.27	0.10		-1.29	-0.36		-1.31	-0.39		-1.49	-0.51	
Grade 7	-2.15	-0.46		-0.13	-0.02		-0.60	-0.07		-6.08	-1.13	
Grade 8	6.42	1.48		6.26	1.08		4.48	0.54		6.51	1.29	
Charter School	-0.78	-0.50		-0.67	-0.32		0.53	0.27		-3.98	-1.98	**
Adjusted R ²	0.73			0.63			0.71			0.54		
N	647			464			345			528		

Grade dummy variables (Grade3 - Grade8) denote whether a grade is taught in the school or not.

Table A.3: Multiple Regression Results: Growth Rates

Variable	Reading (by School)			Math (by School)		
	Coefficient	t	Statistic	Coefficient	t	Statistic
Constant	60.39	3.51	**	29.10	1.37	
% Students Black	0.02	0.58		0.01	0.17	
% Students Hispanic	-0.02	-0.51		0.03	0.61	
% Students Asian	0.08	1.80	*	0.14	2.41	**
% Students Other Non-white	0.23	1.76	*	0.26	1.63	
% Students Limited English	0.07	2.11	**	0.03	0.66	
% Students Ind. Educ. Prog.	0.05	0.98		0.02	0.35	
% Students Low-income	-0.12	-4.62	**	-0.12	-3.73	**
% Students Homeless	-0.02	-0.46		-0.06	-1.21	
Mobility Rate	-0.02	-0.87		0.04	1.24	
Chronic Truancy Rate	-0.02	-1.24		0.00	-0.19	
Attendance Rate	0.55	3.05	**	0.84	3.81	**
Total School Enrollment	0.00	2.80	**	0.00	2.07	**
"Selective" School	2.30	0.61		2.28	0.49	
Magnet School	-0.82	-0.85		0.22	0.18	
"Gifted" School	2.44	1.41		0.83	0.39	
Grade 3	1.30	0.55		4.59	1.57	
Grade 4	-3.29	-1.26		-4.84	-1.51	
Grade 5	-3.28	-1.69	*	-3.87	-1.61	
Grade 6	2.68	2.11	**	4.47	2.84	**
Grade 7	2.57	1.02		0.47	0.15	
Grade 8	-2.45	-1.05		-0.70	-0.24	
Charter School	-3.65	-3.24	**	-4.31	-3.10	**
Adjusted R ²	0.40			0.36		
N	494			494		

Grade dummy variables (Grade3 - Grade8) denote whether a grade is taught in the school or not.

Table A.4: Multiple Regression Results: Graduation Rates

<u>Variable</u>	<u>Four-year Grad Rate</u>			<u>Five-Year Grad Rate</u>		
	<u>Coefficient</u>	<u>t Statistic</u>		<u>Coefficient</u>	<u>t Statistic</u>	
Constant	47.34	1.12		-206.00	-3.78	**
% Students Black	0.13	0.42		0.47	1.77	*
% Students Hispanic	0.18	0.53		0.55	1.89	*
% Students Asian	0.45	0.65		0.89	1.54	
% Students Other Non-white	1.22	1.29		1.88	2.24	**
% Students Limited English	-0.88	-2.10	**	-0.61	-1.70	*
% Students Ind. Educ. Prog.	0.01	0.02		0.56	2.31	**
% Students Low-income	0.11	0.55		0.07	0.35	
% Students Homeless	0.06	0.41		-0.17	-1.20	
Mobility Rate	-0.14	-3.08	**	0.06	1.41	
Chronic Truancy Rate	-0.20	-1.80	*	0.21	1.78	*
Attendance Rate	0.18	0.51		2.53	4.91	**
Total School Enrollment	0.00	0.48		0.00	1.29	
"Selective" School	5.90	0.79		6.31	0.94	
Magnet School	4.32	0.54		2.74	0.38	
Charter School	-13.22	-2.98	**	-29.11	-7.19	**
Adjusted R ²	0.36			0.45		
N	131			116		

Table A.5: Multiple Regression Results: ACT Scores

Variable	ACT Comp			ACT English			ACT Math			ACT Science		
	Coefficient	t Statistic		Coefficient	t Statistic		Coefficient	t Statistic		Coefficient	t Statistic	
Constant	23.04	4.89	**	19.06	3.08	**	26.35	5.39	**	22.48	4.94	**
% Students Black	0.01	0.37		0.03	0.82		0.03	1.32		-0.01	-0.31	
% Students Hispanic	0.05	1.84	*	0.07	2.10	**	0.08	2.87	**	0.03	1.09	
% Students Asian	0.18	3.54	**	0.21	3.18	**	0.24	4.50	**	0.14	2.74	**
% Students Other Non-white	0.07	0.97		0.11	1.14		0.01	0.09		0.08	1.13	
% Students Limited English	-0.17	-5.59	**	-0.21	-5.22	**	-0.17	-5.26	**	-0.14	-4.85	**
% Students Ind. Educ. Prog.	-0.03	-1.33		-0.03	-1.11		-0.02	-0.64		-0.03	-1.46	
% Students Low-income	-0.07	-4.05	**	-0.09	-4.19	**	-0.07	-4.17	**	-0.04	-2.57	**
% Students Homeless	0.01	0.35		0.00	0.12		0.01	0.59		0.01	0.62	
Mobility Rate	-0.02	-2.73	**	-0.03	-3.12	**	-0.02	-2.18	**	-0.02	-3.08	**
Chronic Truancy Rate	-0.02	-1.73	*	-0.02	-1.10		-0.03	-2.53	**	-0.01	-1.10	
Attendance Rate	0.00	-0.08		0.04	0.69		-0.06	-1.33		0.00	-0.07	
Total School Enrollment	0.00	-0.06		0.00	0.28		0.00	0.06		0.00	-0.29	
"Selective" School	2.99	5.48	**	2.91	4.05	**	3.02	5.32	**	2.82	5.35	**
Magnet School	-0.82	-1.39		-0.74	-0.96		-1.01	-1.66	*	-0.32	-0.57	
Charter School	0.43	1.27		0.36	0.81		1.12	3.21	**	0.09	0.26	
Adjusted R ²	0.85			0.83			0.81			0.82		
N	125			125			125			125		