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THE MICHIGAN CONTEXT AND PERFORMANCE REPORT CARD: PUBLIC ELEMENTARY & MIDDLE SCHOOLS, 2013

By **Audrey Spalding**

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CAP

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By Audrey Spalding

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Executive Summary*

The Michigan Context and Performance Report Card measures school performance by adjusting standardized test scores to account for student background. Comparing schools using unadjusted test scores ignores the significant relationship between academic performance and student socioeconomic background — a dynamic outside a school's control.

The carefully adjusted "CAP Scores" in this report card allow parents, educators and the general public to better compare performance among schools serving the various student populations in, say, Saginaw, Ann Arbor and Escanaba. CAP Scores do not penalize schools in lower-income areas.

This report card ranks 2,362 Michigan elementary and middle schools and relies on methodology developed by researchers at the University of Arkansas. CAP Scores are developed through a statistical regression of the schools' average scores on the tests produced by the Michigan Educational Assessment Program and the percentage of the schools' students at the grade level tested who were eligible for free lunch under the federal government's National School Lunch Program. Eligibility for a federally subsidized free lunch is frequently used by education researchers to measure a student's family income.

This report card incorporated MEAP subject tests administered in years 2009, 2010, 2011 and 2012 to students in grades three through eight. Schools that serve primarily students with special needs were excluded from this analysis.

A school's actual performance on each MEAP exam was compared to the results predicted by the regression described above, and the school received a higher CAP Score when it exceeded expectations and a lower CAP Score when it lagged expectations (a CAP Score of 100 meant a school met expectations exactly). A school's CAP Score on each exam was then averaged together to create the school's "Overall CAP Score."

The Overall CAP Scores were used to generate letter grades for each school using a standard bell curve. Ten percent of schools received an A; 20 percent received a B; 40 percent, a C; 20 percent, a D; and 10 percent, an F.

Detroit City School District's Thirkell Elementary received the highest Overall CAP Score in the state (136.98) and earned an A. The next four schools among the top five were Iris Becker Elementary School (Dearborn), Crestwood Accelerated Program (a selective school in the Crestwood district), Webster Elementary School (Livonia) and Lowrey Middle School (Dearborn).

Burns Elementary-Middle School, formerly a Detroit City school and now under the oversight of the statewide Education Achievement Authority, had the lowest CAP Score in the state (73.27) and received an F. The next-lowest schools were EMAN Hamilton Academy (a

* Citations provided in the main text.

Detroit charter school), Trix Elementary (EAA), Stewart Elementary (EAA) and Bay City Academy-YMCA Campus. Four of these five schools had data only for 2012 and appear to have opened recently.

This report card also sorts schools by their "locale," using categories established by the U.S. Census Bureau and the National Center for Education Statistics. Schools were categorized as city, suburban, town or rural schools. Elementary and middle schools located in towns had the highest average Overall CAP Score (100.10), followed by suburban schools (100.09), city schools (99.90) and rural schools (99.86).

Introduction

The purpose of this report card is to present a clear, simple school performance measurement that adjusts for student socioeconomic background. Research has demonstrated that students' standardized test scores depend only in part on school performance; they also reflect other factors, particularly parental education, occupation and income.[1] Ranking schools purely on student academic achievement ignores this reality and provides an incomplete picture of school performance. This report card is designed to rate academic success without penalizing schools that serve students from disadvantaged backgrounds.

This paper builds upon the Michigan Public High School Context and Performance Report Card,[2] published in July 2012 by the Mackinac Center and based on a methodology developed at the University of Arkansas.[3] The present analysis provides similar "context and performance" scores for Michigan's public elementary and middle schools.

Broadly, a school's "CAP Score" was determined using a statistical model to predict the average student test scores at a school on a given test based solely on the percentage of its students who are eligible for free lunch through the National School Lunch Program.* Schools that received higher-than-projected scores were ranked above average, with a corresponding CAP Score above 100; schools that received lower-than-projected scores were ranked below average, with a corresponding CAP score below 100.

In addition, each school was assigned a letter grade based on its CAP Score. The grades were allotted using a standard grading distribution: Schools with CAP Scores in the top 10 percent of Michigan public schools received an A; in the next 20 percent of schools, a B; in the next 40 percent, a C; in the next 20 percent, a D; and in the bottom 10 percent, an F. The number of schools receiving each grade appears in Graphic 1.

Graphic 1: School Grading Distribution

Grade	Percentage of Schools	Number of schools
A	10%	237
B	20%	473
C	40%	945
D	20%	472
F	10%	235
Total	100%	2,362

* "National School Lunch Program," (United States Department of Agriculture, Food and Nutrition Service, 2012), http://goo.gl/9a3wC (accessed June 11, 2013). This is a slight departure from the High School Context and Performance Report Card, which predicted student academic performance using a weighted measurement of the percentage of students eligible for free lunch and reduced-price lunch. For more information, see Appendix B: Accounting for Student Background.

Data and Methods

The following sections describe various aspects of the process used to produce this report card: which test scores were used, how student socioeconomic status was measured and how the schools were labeled for purposes of comparison.

Test Scores Used

The Michigan Education Assessment Program annually tests Michigan public school students in grades three through nine. Up through grade eight, students take the MEAP math and reading tests every year, while writing, science and social studies tests are administered at varying grade levels.[4] Graphic 2 shows the MEAP tests administered for each grade.

Graphic 2: Subjects Tested by the Michigan Education Assessment Program, Grades Three Through Nine

Grade	Tests Administered
3	Math, reading
4	Math, reading, writing
5	Math, reading, science
6	Math, reading, social studies
7	Math, reading, writing
8	Math, reading, science
9	Social studies

Source: Michigan Department of Education, "Grade Levels & Content Areas Assessed," Michigan Department of Education, http://goo.gl/DTbHc.

A school's performance was based on average student scores on the MEAP exams administered in grades three through eight from 2009 through 2012.* A school's Overall CAP Score was then developed through a series of discrete steps. For each school, the average MEAP score on a particular test was adjusted for student socioeconomic background at that grade level, and a CAP Score was assigned. The CAP Scores for all the subjects at a given grade level in a given year were averaged to produce that year's CAP Score for that grade. These grade-level CAP Scores were then averaged to produce the school's CAP Scores for that year. Finally, a school's annual CAP Scores were averaged together to calculate a school's Overall CAP Score.†

* The MEAP writing test was changed in 2009, and the scores for that year are not comparable to those for writing tests in subsequent years. Hence, there were only three years of data available — 2010, 2011 and 2012 — for the writing subject test for both grades four and seven. For more on the change to the test, see Dave Murray, "MEAP essay exam sacked, but officials question if it's about money or problems with the test," (MLive, 2009), http://goo.gl/EBCc8 (accessed June 24, 2013).

† Each of the averages used in creating the CAP Scores involved equal weights.

For example, imagine that a school reported just one average MEAP test score in 2011 and just three in 2012, all at the same grade level. The single test score would count toward 100 percent of the school's 2011 CAP score, and each of the 2012 test scores would count toward one-third of the school's 2012 CAP score. To calculate the school's overall CAP score, the 2011 and 2012 average CAP scores would be averaged together.

For a single school, the largest possible number of average MEAP test scores by subject, grade and year was 66.* Of the 2,362 schools included in this analysis, only 155 had all 66 possible combinations. Nevertheless, the vast majority — 2,047 — had CAP scores for every year surveyed.† The average school's Overall CAP Score was based on approximately 33 average MEAP test scores.

This report is designed primarily to help parents, school officials and public policymakers assess schools currently in operation. Hence, schools that had 2011 or 2012 MEAP data were included in the report card, even if they lacked MEAP scores in 2009 and 2010. Schools that did not have 2011 or 2012 MEAP data were included only if they had MEAP scores for both 2009 and 2010.‡

Taking Student Socioeconomic Background Into Account

The National School Lunch Program provides free or reduced-price lunches to students from lower-income families. Free lunches are provided to students from families with incomes at or below 130 percent of the poverty level.[5] During the 2012-2013 school year, a student from a family of four with an income of $29,965 or less would have been eligible for free lunches.[6] The proportion of students eligible for free or reduced-price lunch under the NSLP is frequently used as a measure of a student's socioeconomic background and is generally correlated with a significant percentage of the variation in student test scores.[7]

This report card uses a slightly different methodology than the Mackinac Center's high school report card did. That report card predicted test scores based on NSLP-eligible students and weighted students who qualified for a free lunch more heavily than those who qualified for reduced-price lunch.[8] In contrast, this elementary and middle school report card uses just the percentage of students eligible for a free lunch. This single category proved to be a better predictor of average primary and middle school MEAP scores.§

To adjust MEAP scores for students' socioeconomic background, the extent of the correlation between the scores and student background first had to be determined. To measure the link between free-lunch student populations and average MEAP scores from 2009-2010 through

* Writing tests in 2009 could not be used in the analysis, reducing the number of possible MEAP tests by two.

† Just 315 schools had data for three years or less.

‡ This requirement excluded 150 schools. Another seven schools were excluded because no information was available about how many of their students were eligible for free lunch.

§ For a detailed explanation of the NSLP variable and its use in this report card and the high school report card, see "Appendix B: Accounting for Student Background."

2012-2013, free-lunch student headcount data from the Center for Educational Performance and Information were paired with building- and grade-level MEAP data posted by the Michigan Department of Education. Linear regression analysis was used to establish the extent of the relationship between student test scores in a particular grade in a specific year and the percentage of students eligible for free lunch in that grade during that year. The results of that analysis were utilized to predict student test scores on each exam, and the assignment of CAP Scores followed the procedure outlined above (see "Introduction" and "Test Scores Used").

School Identification

Though this report card includes only public schools, Michigan public schools vary both in terms of organizational structure and admission policies. Some districts also operate public schools that selectively enroll students based, for example, on previously demonstrated academic ability. Charter schools cannot selectively enroll students, but do have a different organizational structure than conventional public schools.

Schools were categorized as conventional, charter or selective schools. Data from the National Center for Education Statistics were used to identify charter schools. Schools that might restrict enrollment based on academic ability were identified by school name and then verified by interviewing local school officials or by checking the school's admissions policy online. Nine schools were identified as selective.*

Graphic 3 shows the number of conventional, charter and selective schools included in this report card. Conventional schools make up approximately 89 percent of schools included in this analysis. Charter schools amount to less than 11 percent of the sample, and the nine identified selective schools account for approximately 0.4 percent.

Graphic 3: Number of Conventional, Charter and Selective Public Elementary and Middle Schools in Michigan, School Years 2009-2010 Through 2012-2013

School Type	Number of Schools	Percentage of Schools
Conventional	2,100	88.9%
Charter	253	10.7%
Selective	9	0.4%
Total	2,362	100.0%

Source: Author's calculations based on personal research and data from "Build a Table: Common Core of Data (District/2010-2011/School-District Classification Information/Charter Schools and Magnet Schools)", (National Center for Education Statistics, Institute for Education Sciences), http://nces.ed.gov/ccd/bat/(accessed March 19, 2013).

* These selective schools were Blanford Nature Center, the Center for Economicology, City Middle/High School, Clippert Academy, Crestwood Accelerated Program, Handley School, Hemmeter Elementary School, John Ball Park Zoo School, and Saginaw Arts and Sciences Academy.

Schools were also categorized by "locale codes." These codes are generated by the federal government's National Center for Education Statistics and reflect how close a school's physical address is to a city.[9] Schools are classified as either "city," "suburb," "town" or "rural" schools, with subcategories that further divide these codes by population density and distance from an urbanized area.*

As Graphic 4 indicates, locale codes could be determined for all but 20 of the schools in the report card.† More than 60 percent of the Michigan schools in the report card are classified as either suburban (35.0 percent) or rural (29.0 percent). Nearly a quarter are classified as city schools.

Graphic 4: Number of Michigan Public Elementary and Middle Schools in the Report Card by Locale Code, 2009-2010 Through 2012-2013*

School Locale Type	Number of Schools	Percentage of Schools*
City	562	24.0%
Suburb	825	35.2%
Town	270	11.5%
Rural	685	29.2%
Total	2,342*	100.0%

Source: Author's calculations based on "Build a Table: Common Core of Data (District/2010-2011/ School-District Classification Information/Urban-centric Locale (School))," (National Center for Education Statistics, Institute for Education Sciences), http://nces.ed.gov/ccd/bat/ (accessed March 19, 2013) and "Public Data Sets (LEA School; PSA School)", (Center for Educational Performance and Information), http://goo.gl/mlxCX (accessed March 19, 2013).
**Not all schools in the report card were matched with a locale code. Percentage tallies are calculated based on the number of schools identified (2,342), not the number of schools included in the report card (2,362).*

Face Validity of Results

When abstract statistical methods are employed, the reader can reasonably wonder whether the results really provide what they are supposed to. For instance, did the adjustment of MEAP scores to reflect the students' socioeconomic background wind up "overcompensating" — that is, unfairly favoring schools with a higher percentage of students from low-income backgrounds?

* For more information on district and school locale codes, see "Appendix D: Locale Codes."

† Schools were first paired with locale codes using data provided by the NCES' Common Core of Data "Build A Table" tool. "Build a Table: Common Core of Data (District/2010-2011/School-District Classification Information/Urban-centric Locale (School))", (National Center for Education Statistics, Institute for Education Sciences), http://nces.ed.gov/ccd/bat/ (accessed March 19, 2013). Not all schools were matched, however. Unmatched schools were then paired with locale codes using "Educational Entity Master" data posted by the Center for Educational Performance and Information (see "Public Data Sets (LEA School; PSA School)", (Center for Educational Performance and Information), http://goo.gl/mlxCX (accessed March 19, 2013)). Unmatched newly opened charter schools that appeared to be located in Detroit were verified using the school's address and categorized as city schools.

This does not appear to be the case. The 2012-2013 average percentage of students eligible for free lunch in the top-ranked 100 schools was 55.8 percent, compared to 67.4 percent of students in the bottom-ranked 100 schools.* Among the top half of schools, the average school had 45.4 percent of enrolled students eligible for free lunch in 2012-2013, compared to 48.7 percent for the bottom half of schools.† And even after accounting for student socioeconomic status, the selective schools all received A's, as one would expect given the superior academic performance of the students permitted to enroll.

The top-ranked school on the CAP report card was Detroit City School District's Thirkell Elementary, which was recently named by the nonprofit Excellent Schools Detroit as a top-rated Detroit-area school. Excellent Schools Detroit rated schools by examining test scores and conducting unannounced school visits.[10]

Many of the lowest-scoring districts are those that are struggling administratively. Our list of bottom-ranked schools included both the Highland Park and Muskegon Heights school districts, which have been taken over by emergency managers and converted to charter districts due to financial mismanagement.[11] All nine elementary and middle schools assigned to the statewide Education Achievement Authority due to poor performance received an F.[12]

Some of the top-ranked schools on the CAP Report Card received low rankings from the Michigan Department of Education on its Top-to-Bottom list. This is likely due to our efforts to control for student socioeconomic status.

Selected Results

The sheer volume of elementary and middle schools means that it is not feasible to list all schools in the pages below. Readers can find the full searchable and sortable database of elementary and middle school CAP scores at mackinac.org/CAP2013. The remainder of this report lists the top- and bottom-ranked schools in various categories.

In the discussion and the tables that follow, "rank" indicates a school's absolute numeric rank among the 2,362 elementary and middle schools included in this analysis. In the tables, the "Number of Scores" column indicates the number of grade-, subject- and year-adjusted scores that were used to create the school's Overall CAP Score. For example, a K-6 elementary school that had four years of MEAP scores in all 11 tests for third- through sixth-graders would have 43 in the "Number of Scores" column (since the data for the fourth-grade writing test was not included for 2009).

* There were no 2012-2013 free-lunch data available for 11 schools in the bottom-ranked 100 schools. This calculation of the average free-lunch percentage for low-scoring schools was based on the bottom-ranked 100 schools with 2012-2013 free-lunch data available.

† Calculations based on 2,338 schools for which there were 2012-2013 free-lunch data available. Twenty-four schools missing 2012-2013 free-lunch data were excluded from this calculation.

Some schools had only a few MEAP scores available. The overall ranking of schools with just a single year of CAP scores may not be as reliable a measure of school performance. Since MEAP tests are administered in the fall, the CAP scores of schools with only one year of data may instead indicate the performance of the students' previous schools. Schools with just 2012 data are indicated with an asterisk in the graphics below.

The Top 100 Public Elementary and Middle Schools

As shown in Graphic 5 on Page 9, the top-ranked school in the state among primary and middle schools is Thirkell Elementary, a conventional elementary school in the Detroit City School District. Thirkell had a CAP score of 136.98. Another seven Detroit City schools also made the Top 100 list: Davison Elementary-Middle (125.60), Ronald Brown Academy (116.0), Harms Elementary (115.08), the selective Clippert Academy (114.92), Pasteur Elementary (114.36), Chrysler Elementary (112.89) and Burton International School (111.99).

These eight schools stood out from other Detroit primary and middle schools. The average CAP score of the 86 Detroit City schools included in this analysis was 95.7, meaning that the Detroit City schools, on average, perform worse than expected given their percentage of free-lunch students. Of the bottom 100 schools, 25 were in the Detroit City School District.

Though schools in the Dearborn City School District make up just a little more than 1 percent of all schools included in this analysis, they make up 8 percent of the schools among the top 100. Dearborn City's Iris Becker Elementary is the second-highest-ranked elementary or middle school in the state, with a CAP score of 134.88.

Several schools in the Grand Rapids district also scored well. Of the 37 Grand Rapids schools included in this analysis, six scored in the top 100. The district's schools were just about evenly divided: 19 of the schools scored better than expected; 18 scored worse than expected.

Nine schools in the Ann Arbor school district scored in the top 100. Of the 25 Ann Arbor schools included in this analysis, 17 received an A. Only one Ann Arbor school did worse than expected given its students' socioeconomic status: The Mary D. Mitchell School had a CAP score of 96.95 and received a C, the lowest of any Ann Arbor school.

Of the top 100 schools, 79 were conventional public schools; 12 were charter schools; and nine were identified as selective schools. The percentage of conventional and charter schools occupying the top 100 list is generally similar to the overall mix of conventional and charter schools included in this analysis. All of the schools identified as selective appear in the top 100, and they are some of the highest-scoring schools within the dataset, even after controlling for student socioeconomic background.

Two of the charter schools on the Top 100 list were authorized by the Detroit City School District: Ross-Hill Academy and Martin Luther King, Jr. Education Center Academy. As noted above, all of the selective schools made the top 100 list.

City elementary and middle schools are disproportionately represented in the list of top performers: Of the top 100 schools, 52 are city schools — more than twice as many as expected, all things being equal. Of those schools, 37 are conventional elementary and middle schools. This diverges somewhat from the Mackinac Center's findings on high schools. Although city schools were also disproportionately represented among the top-ranked high schools in the Center's high school report card, most were charter or selective schools.[13]

In addition to the 100 schools listed below, another 137 schools received A's.

Graphic 5: Top 100 Public Elementary and Middle Schools Based on 2009-2012 Overall CAP Score

Top 100 Public Elementary and Middle Schools								
Table Rank	School Name	School Type	District or Municipality	Locale	Number of Scores	Overall CAP Values		
						Score	Percent Rank	Grade
1	Thirkell Elementary School	Conventional	Detroit City School District	City: Large	31	136.98	100.00%	A
2	Iris Becker Elementary School	Conventional	Dearborn City School District	City: Small	31	134.88	99.96%	A
3	Crestwood Accelerated Program	Selective	Crestwood School District	Suburb: Large	17	132.81	99.92%	A
4	Webster Elementary School	Conventional	Livonia Public Schools School District	City: Small	43	129.42	99.87%	A
5	Lowrey Middle School	Conventional	Dearborn City School District	City: Small	35	128.84	99.83%	A
6	Ross-Hill Academy-Elementary	Charter	Detroit	City: Large	55	128.61	99.79%	A
7	Glenwood Elementary	Conventional	Kentwood Public Schools	Suburb: Large	31	126.22	99.75%	A
8	Davison Elementary-Middle School	Conventional	Detroit City School District	City: Large	58	125.60	99.70%	A
9	Martin Luther King, Jr. Education Center Academy	Charter	Detroit	City: Large	66	125.36	99.66%	A
10	Center for Economicology	Selective	Grand Rapids Public Schools	City: Mid-size	12	124.85	99.62%	A
11	Saginaw Arts and Sciences Academy	Selective	Saginaw, School District of the City of	City: Small	35	124.46	99.58%	A
12	City Middle/High School	Selective	Grand Rapids Public Schools	City: Mid-size	23	123.79	99.53%	A
13	Lowrey Elementary School	Conventional	Dearborn City School District	City: Small	31	123.15	99.49%	A
14	Blandford Nature Center	Selective	Grand Rapids Public Schools	Suburb: Large	12	122.56	99.45%	A
15	Hamtramck Academy	Charter	Hamtramck	Suburb: Large	66	122.21	99.41%	A
16	North Godwin Elementary School	Conventional	Godwin Heights Public Schools	City: Small	19	121.95	99.37%	A
17	Robbie Hall Parker School	Conventional	Clintondale Community Schools	Suburb: Large	31	119.92	99.32%	A
18	Geer Park Elementary	Conventional	Dearborn City School District	City: Small	31	119.26	99.28%	A
19	Martin Luther King Elem. School	Conventional	Ann Arbor Public Schools	City: Mid-size	31	118.60	99.24%	A
20	Angell School	Conventional	Ann Arbor Public Schools	City: Mid-size	31	118.16	99.20%	A
21	Coit Arts Academy	Conventional	Grand Rapids Public Schools	City: Mid-size	31	117.80	99.15%	A
22	Hemmeter Elementary School	Selective	Saginaw Township Community Schools	Suburb: Mid-size	31	117.21	99.11%	A
23	Saginaw Preparatory Academy	Charter	Saginaw	Suburb: Mid-size	66	117.21	99.07%	A
24	Clague Middle School	Conventional	Ann Arbor Public Schools	City: Mid-size	35	116.83	99.03%	A
25	Burns Park Elementary School	Conventional	Ann Arbor Public Schools	City: Mid-size	31	116.48	98.98%	A

Top 100 Public Elementary and Middle Schools								
Table Rank	**School Name**	**School Type**	**District or Municipality**	**Locale**	**Number of Scores**	**Overall CAP Values**		
						Score	**Percent Rank**	**Grade**
26	Brown Elementary School	Conventional	Byron Center Public Schools	Suburb: Large	19	116.47	98.94%	A
27	John Ball Park Zoo School	Selective	Grand Rapids Public Schools	City: Mid-size	12	116.25	98.90%	A
28	Handley School	Selective	Saginaw, School District of the City of	City: Small	31	116.21	98.86%	A
29	Jamestown Elementary School	Conventional	Hudsonville Public School District	Rural: Fringe	31	116.16	98.82%	A
30	Brown, Ronald Academy	Conventional	Detroit City School District	City: Large	43	116.00	98.77%	A
31	Southwood Elementary	Conventional	Kentwood Public Schools	Suburb: Large	31	115.86	98.73%	A
32	Star International Academy	Charter	Dearborn Heights	Suburb: Large	66	115.69	98.69%	A
33	Detroit Merit Charter Academy	Charter	Detroit	City: Large	66	115.62	98.65%	A
34	Bemis Elementary School	Conventional	Troy School District	City: Small	31	115.50	98.60%	A
35	Kinloch Elementary School	Conventional	Crestwood School District	Suburb: Large	19	115.49	98.56%	A
36	Townline Elementary	Conventional	Kentwood Public Schools	Suburb: Large	31	115.20	98.52%	A
37	Harms Elementary School	Conventional	Detroit City School District	City: Large	31	115.08	98.48%	A
38	Clippert Academy	Selective	Detroit City School District	City: Large	47	114.92	98.43%	A
39	Salina Elementary P - 3	Conventional	Dearborn City School District	City: Small	8	114.91	98.39%	A
40	Mecosta Elementary School	Conventional	Chippewa Hills School District	Rural: Remote	19	114.90	98.35%	A
41	Academy of Southfield	Charter	Southfield	City: Small	66	114.64	98.31%	A
42	Pullman Elementary School	Conventional	Bloomingdale Public School District	Rural: Distant	31	114.55	98.26%	A
43	Woodworth Middle School	Conventional	Dearborn City School District	City: Small	35	114.45	98.22%	A
44	Maples Elementary School	Conventional	Dearborn City School District	City: Small	31	114.44	98.18%	A
45	Pasteur Elementary School	Conventional	Detroit City School District	City: Large	43	114.36	98.14%	A
46	Franklin Elementary School	Conventional	Cadillac Area Public Schools	Town: Remote	25	114.27	98.10%	A
47	Riverside Academy - West Campus	Charter	Dearborn	City: Small	35	114.13	98.05%	A
48	John Allen School	Conventional	Ann Arbor Public Schools	City: Mid-size	31	113.92	98.01%	A
49	Weidman Elementary School	Conventional	Chippewa Hills School District	Rural: Remote	19	113.90	97.97%	A
50	K.I. Sawyer Elementary School	Conventional	Gwinn Area Community Schools	Rural: Remote	40	113.79	97.93%	A
51	Kendon School	Conventional	Lansing Public School District	City: Mid-size	25	113.73	97.88%	A

Top 100 Public Elementary and Middle Schools								
Table Rank	School Name	School Type	District or Municipality	Locale	Number of Scores	Overall CAP Values		
						Score	Percent Rank	Grade
52	Crystal Lake Elementary School	Conventional	Benzie County Central Schools	Rural: Remote	31	113.66	97.84%	A
53	Covert Middle School	Conventional	Covert Public Schools	Rural: Distant	35	113.60	97.80%	A
54	North Ohio Elementary School	Conventional	Gaylord Community Schools	Town: Remote	8	113.50	97.76%	A
55	Discovery Elementary	Conventional	Kentwood Public Schools	Suburb: Large	31	113.46	97.71%	A
56	Reo School	Conventional	Lansing Public School District	City: Mid-size	25	113.38	97.67%	A
57	McDonald Elementary School	Conventional	Dearborn City School District	City: Small	31	113.27	97.63%	A
58	Detroit Service Learning Academy	Charter	Detroit	City: Large	66	113.25	97.59%	A
59	Pine Creek Elementary School	Conventional	West Ottawa Public School District	Suburb: Small	23	113.19	97.55%	A
60	Boulan Park Middle School	Conventional	Troy School District	City: Small	35	113.13	97.50%	A
61	Chrysler Elementary School	Conventional	Detroit City School District	City: Large	31	112.89	97.46%	A
62	Vandenberg Elementary School	Conventional	Southfield Public School District	City: Small	31	112.87	97.42%	A
63	Collins Elementary School	Conventional	Houghton Lake Community Schools	Rural: Fringe	8	112.87	97.38%	A
64	Godwin Heights Middle School	Conventional	Godwin Heights Public Schools	City: Small	41	112.74	97.33%	A
65	Onaway Elementary School	Conventional	Onaway Area Community School District	Rural: Remote	31	112.65	97.29%	A
66	Grayling Middle School	Conventional	Crawford AuSable Schools	Town: Remote	35	112.63	97.25%	A
67	Harrington Elementary School	Conventional	Albion Public Schools	Town: Distant	40	112.63	97.21%	A
68	Tappan Middle School	Conventional	Ann Arbor Public Schools	City: Mid-size	35	112.43	97.16%	A
69	Chippewa Middle School	Conventional	Okemos Public Schools	Suburb: Large	23	112.38	97.12%	A
70	Frostick School	Conventional	Croswell-Lexington Community Schools	Rural: Fringe	19	112.37	97.08%	A
71	Platte River Elementary School	Conventional	Benzie County Central Schools	Rural: Remote	43	112.36	97.04%	A
72	Uriah H. Lawton School	Conventional	Ann Arbor Public Schools	City: Mid-size	31	112.35	97.00%	A
73	Brookwood Elementary	Conventional	Kentwood Public Schools	Suburb: Large	31	112.28	96.95%	A
74	Berrien Springs Middle School	Conventional	Berrien Springs Public Schools	Town: Fringe	35	112.28	96.91%	A
75	Sister Lakes Elementary School	Conventional	Dowagiac Union School District	Rural: Distant	31	112.20	96.87%	A
76	Frank E. Bartlett School	Conventional	South Lyon Community Schools	Suburb: Mid-size	31	112.14	96.83%	A
77	Miller Elementary School	Conventional	Plymouth-Canton Community Schools	Suburb: Large	31	112.03	96.78%	A

Top 100 Public Elementary and Middle Schools								
Table Rank	School Name	School Type	District or Municipality	Locale	Number of Scores	Overall CAP Values		
						Score	Percent Rank	Grade
78	Burton International School	Conventional	Detroit City School District	City: Large	66	111.99	96.74%	A
79	Slauson Middle School	Conventional	Ann Arbor Public Schools	City: Mid-size	35	111.98	96.70%	A
80	Charles C. McGlinnen School	Conventional	Clintondale Community Schools	Suburb: Large	31	111.98	96.66%	A
81	Novi Woods Elementary School	Conventional	Novi Community School District	City: Small	19	111.91	96.61%	A
82	Academy for Business and Technology Elementary	Charter	Dearborn	City: Small	31	111.89	96.57%	A
83	University Hills Elem. School	Conventional	Rochester Community School District	Suburb: Large	31	111.88	96.53%	A
84	Eberwhite School	Conventional	Ann Arbor Public Schools	City: Mid-size	31	111.87	96.49%	A
85	El-Hajj Malik El-Shabazz Academy	Charter	Lansing	City: Mid-size	43	111.82	96.45%	A
86	Fairview High School	Conventional	Fairview Area School District	Rural: Remote	26	111.81	96.40%	A
87	Palmer School	Conventional	Grand Rapids Public Schools	City: Mid-size	31	111.78	96.36%	A
88	Commerce Elementary School	Conventional	Walled Lake Consolidated Schools	Suburb: Large	31	111.77	96.32%	A
89	Hamilton Elementary School	Conventional	Troy School District	City: Small	31	111.77	96.28%	A
90	Lucile S. Patton Elem. School	Conventional	Roseville Community Schools	Suburb: Large	31	111.77	96.23%	A
91	Deckerville Elementary School	Conventional	Deckerville Community School District	Rural: Distant	43	111.73	96.19%	A
92	Leonard Elementary School	Conventional	Ovid-Elsie Area Schools	Rural: Distant	8	111.68	96.15%	A
93	City School	Conventional	Grand Blanc Community Schools	Suburb: Large	28	111.66	96.11%	A
94	East Kelloggsville School	Conventional	Kelloggsville Public Schools	Suburb: Large	23	111.66	96.06%	A
95	Madison Middle School	Conventional	Madison School District (Lenawee)	Rural: Fringe	35	111.65	96.02%	A
96	Lakeshore Elementary School	Conventional	West Ottawa Public School District	Suburb: Small	23	111.62	95.98%	A
97	Mary A. White School	Conventional	Grand Haven Area Public Schools	City: Small	28	111.59	95.94%	A
98	Musson Elementary School	Conventional	Rochester Community School District	Suburb: Large	31	111.49	95.90%	A
99	Benton Harbor Charter School	Charter	Benton Harbor	City: Small	66	111.37	95.85%	A
100	North Hill Elementary School	Conventional	Rochester Community School District	Suburb: Large	31	111.37	95.81%	A

The Bottom 100 Public Elementary and Middle Schools

For 68 schools in our dataset, only 2012 MEAP test scores were available. These schools appear to have opened recently. None of these new schools made the list of the top 100 schools, but 31 made the list of the bottom 100 (see Graphic 6).

Since these schools may have just opened, and since CAP scores are based on MEAP tests, which are administered in the fall, these schools' scores may primarily reflect their students' previous educational experience. These schools' scores are included to provide context for other schools' rankings and to supply a baseline for comparison in future publications of this report card. Judging these new schools based on their single year of CAP Scores is not recommended.

During 2012, the Education Achievement Authority — a statewide school district created to reform poorly performing schools — took control of 15 Detroit-area schools that had a history of poor student academic performance according to calculations by the Michigan Department of Education.[14] Six EAA schools are on the list below, and another three schools are associated with the Michigan Education Choice Center, part of the EAA.[15]

Some of these EAA schools, such as Trix Elementary and Brenda Scott Academy for Theater Arts, are represented twice in this report card. During the four-year period covered in this analysis, the schools were organized both as EAA schools with 2012 MEAP data and as conventional schools with earlier years of data.

Of the lowest-ranked schools with more than one year of data, 25 are conventional public schools run by the Detroit City School District. Twenty of the lowest-ranked schools, some of which had only 2012 data, are charter schools not affiliated with the EAA or the Detroit City School District — a larger percentage of such schools than the percentage appearing in the entire dataset.

Fifty-nine of the lowest-ranked schools are located in cities. This figure is higher than the number of city schools ranked in the top 100 and is more than twice the number that would be projected given the percentage of city schools in the dataset.

In addition to the 100 schools listed below, another 135 low-ranked schools received F's.

Graphic 6: Bottom 100 Public Elementary and Middle Schools Based on 2009-2012 Overall CAP Score

The Bottom 100 Public Elementary and Middle Schools								
Table Rank	School Name	School Type	District or Municipality	Locale	Number of Scores	Overall CAP Values		
						Score	Percent Rank	Grade
1	*Burns Elementary-Middle School	Conventional	Education Achievement System-EAS	City: Large	17	73.27	0.08%	F
2	EMAN Hamilton Academy	Charter	Detroit	City: Large	34	74.14	0.13%	F
3	*Trix Elementary	Conventional	Michigan Education Choice Center	City: Large	17	75.12	0.17%	F
4	*Stewart Elementary	Conventional	Michigan Education Choice Center	City: Large	17	76.00	0.21%	F
5	*Bay City Academy - YMCA Campus	Charter	Bay City	NA	2	76.72	0.25%	F
6	*Northern High School	Conventional	Flint, School District of the City of	City: Mid-size	6	76.91	0.30%	F
7	*Mary McLeod Bethune Elementary-Middle School	Conventional	Education Achievement System-EAS	City: Large	17	77.00	0.34%	F
8	*Nolan Elementary-Middle School	Conventional	Education Achievement System-EAS	City: Large	17	77.69	0.38%	F
9	EMAN Hamilton Academy	Conventional	Detroit City School District	City: Large	30	77.95	0.42%	F
10	*Law Elementary School	Conventional	Education Achievement System-EAS	City: Large	17	78.07	0.47%	F
11	*Murphy Elementary	Conventional	Michigan Education Choice Center	City: Large	17	79.01	0.51%	F
12	*Phoenix Elementary-Middle School	Conventional	Education Achievement System-EAS	City: Large	17	79.08	0.55%	F
13	*Brenda Scott Academy for Theatre Arts	Conventional	Education Achievement System-EAS	City: Large	17	79.36	0.59%	F
14	*Learn, Live, Lead Academy	Charter	Lansing	NA	2	79.48	0.63%	F
15	*Big Jackson Public School	Conventional	Big Jackson School District	Rural: Distant	3	79.66	0.68%	F
16	Brenda Scott Academy for Theatre Arts	Conventional	Detroit City School District	City: Large	42	79.99	0.72%	F
17	*International Preparatory Academy - MacDowell Campus	Charter	Detroit	City: Large	17	80.64	0.76%	F
18	Trix Elementary	Conventional	Detroit City School District	City: Large	49	81.50	0.80%	F
19	Beckham, William Academy	Conventional	Detroit City School District	City: Large	31	81.51	0.85%	F
20	*J.W. Sexton High School	Conventional	Lansing Public School District	City: Mid-size	6	81.60	0.89%	F
21	Noble Elementary-Middle School	Conventional	Detroit City School District	City: Large	66	81.70	0.93%	F
22	Henderson Academy	Conventional	Detroit City School District	City: Large	66	82.05	0.97%	F
23	*Benton Harbor Middle and High School	Conventional	Benton Harbor Area Schools	City: Small	3	82.26	1.02%	F

**Schools for which only 2012 test scores were available.*

The Bottom 100 Public Elementary and Middle Schools								
Table Rank	**School Name**	**School Type**	**District or Municipality**	**Locale**	**Number of Scores**	**Overall CAP Values**		
						Score	**Percent Rank**	**Grade**
24	Marquette Elementary-Middle School	Conventional	Detroit City School District	City: Large	66	82.27	1.06%	F
25	*Zeeland Quest	Conventional	Zeeland Public Schools	Suburb: Small	4	82.30	1.10%	F
26	*Muskegon Heights Middle School	Charter	Muskegon Heights	Suburb: Midsize	9	82.77	1.14%	F
27	Gros Cap School	Conventional	Moran Township School District	Rural: Distant	11	83.08	1.18%	F
28	Mary McLeod Bethune Elementary-Middle School	Conventional	Detroit City School District	City: Large	49	83.32	1.23%	F
29	*Leelanau Montessori Public School Academy	Charter	Suttons Bay	Rural: Distant	2	83.45	1.27%	F
30	*Northwestern High School	Conventional	Flint, School District of the City of	City: Mid-size	6	83.45	1.31%	F
31	Grattan Academy - Middle/High School	Charter	Greenville	Rural: Fringe	30	83.47	1.35%	F
32	Durfee Elementary-Middle School	Conventional	Detroit City School District	City: Large	66	83.52	1.40%	F
33	Lighthouse Academy	Charter	Grand Rapids	Suburb: Large	12	83.57	1.44%	F
34	Grattan Academy - Elementary	Charter	Belding	Rural: Fringe	26	83.61	1.48%	F
35	*Edgewood Elementary School	Charter	Muskegon Heights	NA	8	84.32	1.52%	F
36	STEAM Academy at MLK	Conventional	Benton Harbor Area Schools	City: Small	34	85.16	1.57%	F
37	Nolan Elementary-Middle School	Conventional	Detroit City School District	City: Large	49	85.36	1.61%	F
38	Mason Elementary School	Conventional	Detroit City School District	City: Large	40	85.44	1.65%	F
39	Fisher Magnet Upper Academy	Conventional	Detroit City School District	City: Large	47	85.44	1.69%	F
40	Longfellow School	Conventional	Saginaw, School District of the City of	City: Small	31	85.52	1.74%	F
41	Oakman Elementary / Orthopedic School	Conventional	Detroit City School District	City: Large	31	85.69	1.78%	F
42	Kensington Woods High School	Charter	Howell	Suburb: Mid-size	6	85.70	1.82%	F
43	*Rutherford Winans Academy	Charter	Detroit	City: Large	8	85.84	1.86%	F
44	Young, Coleman A. Elementary	Conventional	Detroit City School District	City: Large	31	85.85	1.90%	F
45	*Detroit Innovation Academy	Charter	Detroit	NA	8	85.89	1.95%	F
46	Potterville Elementary School	Conventional	Potterville Public Schools	Rural: Fringe	19	85.89	1.99%	F
47	Phoenix Science and Technology Center	Conventional	Buena Vista School District	Suburb: Mid-size	49	85.90	2.03%	F

**Schools for which only 2012 test scores were available.*

The Bottom 100 Public Elementary and Middle Schools								
Table Rank	School Name	School Type	District or Municipality	Locale	Number of Scores	Overall CAP Values		
						Score	Percent Rank	Grade
48	Dort School	Conventional	Flint, School District of the City of	City: Mid-size	43	85.95	2.07%	F
49	Jenison International Academy	Conventional	Jenison Public Schools	Suburb: Large	12	86.01	2.12%	F
50	Holmes, A.L. Elementary-Middle School	Conventional	Detroit City School District	City: Large	66	86.13	2.16%	F
51	American International Academy	Charter	Westland	NA	19	86.14	2.20%	F
52	*MacKenzie Elementary-Middle School	Conventional	Detroit City School District	City: Large	17	86.26	2.24%	F
53	Murphy Elementary	Conventional	Detroit City School District	City: Large	49	86.33	2.29%	F
54	*Adams Elementary School	Conventional	Zeeland Public Schools	Rural: Distant	8	86.36	2.33%	F
55	Brownell School	Conventional	Flint, School District of the City of	City: Mid-size	43	86.44	2.37%	F
56	Phoenix Elementary-Middle School	Conventional	Detroit City School District	City: Large	49	86.47	2.41%	F
57	Beecher Middle School Academy	Conventional	Beecher Community School District	Suburb: Large	23	86.49	2.45%	F
58	Litchfield High School	Conventional	Litchfield Community Schools	Rural: Distant	35	86.65	2.50%	F
59	GEE Edmonson Academy	Charter	Detroit	City: Large	14	86.72	2.54%	F
60	Gerald R. Ford Middle School	Conventional	Grand Rapids Public Schools	City: Mid-size	35	86.88	2.58%	F
61	*Oxford Virtual Academy	Conventional	Oxford Community Schools	Suburb: Large	17	86.95	2.62%	F
62	*Gardner Academy	Conventional	Lansing Public School District	City: Mid-size	17	87.04	2.67%	F
63	Muskegon Heights Middle School	Conventional	Muskegon Heights School District	Suburb: Mid-size	23	87.12	2.71%	F
64	Taylor International Academy	Charter	Southfield	City: Small	30	87.17	2.75%	F
65	Carver Elementary-Middle School	Conventional	Detroit City School District	City: Large	66	87.19	2.79%	F
66	Carleton Elementary School	Conventional	Detroit City School District	City: Large	31	87.20	2.84%	F
67	Aisha Shule/WEB Dubois Prep. Academy School	Charter	Detroit	City: Large	54	87.28	2.88%	F
68	Ann Visger K-5 Preparatory Academy	Conventional	River Rouge, School District of the City of	Suburb: Large	31	87.34	2.92%	F
69	Pontiac Middle School	Conventional	Pontiac City School District	City: Small	23	87.35	2.96%	F
70	Will Carleton Charter School Academy	Charter	Hillsdale	Rural: Fringe	49	87.45	3.00%	F
71	Dossin Elementary-Middle School	Conventional	Detroit City School District	City: Large	63	87.45	3.05%	F

**Schools for which only 2012 test scores were available.*

The Bottom 100 Public Elementary and Middle Schools								
Table Rank	School Name	School Type	District or Municipality	Locale	Number of Scores	Overall CAP Values		
						Score	Percent Rank	Grade
72	Barber Elementary School	Conventional	Highland Park City Schools	Suburb: Large	49	87.48	3.09%	F
73	Dryden High School	Conventional	Dryden Community Schools	Rural: Distant	23	87.50	3.13%	F
74	Beech Elementary	Conventional	Redford Union Schools, District No. 1	Suburb: Large	16	87.52	3.17%	F
75	Will L. Lee School	Conventional	Richmond Community Schools	Town: Fringe	19	87.61	3.22%	F
76	Mid Peninsula School	Conventional	Mid Peninsula School District	Rural: Distant	58	87.77	3.26%	F
77	Detroit Community Schools-Elementary	Charter	Detroit	City: Large	66	87.80	3.30%	F
78	Erie Elementary School	Conventional	Chippewa Valley Schools	Suburb: Large	31	87.81	3.34%	F
79	*Eastern High School	Conventional	Lansing Public School District	City: Mid-size	6	87.89	3.39%	F
80	*Starr Detroit Academy	Charter	Detroit	City: Large	8	87.90	3.43%	F
81	Riddle Elementary	Conventional	Lansing Public School District	City: Mid-size	25	87.92	3.47%	F
82	Patrick Henry Middle School	Conventional	Woodhaven-Brownstown School District	Suburb: Large	9	87.98	3.51%	F
83	Vanderbilt Area School	Conventional	Vanderbilt Area Schools	Rural: Distant	37	87.99	3.55%	F
84	George Long Elementary School	Conventional	Grass Lake Community Schools	Rural: Distant	31	88.16	3.60%	F
85	*Caniff Liberty Academy	Charter	Hamtramck	City: Large	17	88.19	3.64%	F
86	King, John R. Academic and Performing Arts Academy	Conventional	Detroit City School District	City: Large	66	88.22	3.68%	F
87	Morrice Area Elementary School	Conventional	Morrice Area Schools	Rural: Fringe	43	88.31	3.72%	F
88	Lincoln Elementary School	Conventional	Coldwater Community Schools	Town: Distant	18	88.35	3.77%	F
89	White Pine Academy	Charter	Leslie	Rural: Distant	26	88.50	3.81%	F
90	North Dickinson School	Conventional	North Dickinson County Schools	Rural: Remote	66	88.65	3.85%	F
91	*Lincoln-King Academy	Charter	Detroit	City: Large	17	88.74	3.89%	F
92	Madison Academy - High School	Charter	Burton	Suburb: Large	6	88.78	3.94%	F
93	Glenn W. Levey Middle School	Conventional	Southfield Public School District	City: Small	35	88.80	3.98%	F
94	Detroit Academy of Arts and Sciences Middle School	Charter	Detroit	City: Large	29	88.80	4.02%	F
95	Earhart Elementary-Middle School	Conventional	Detroit City School District	City: Large	34	88.81	4.06%	F

**Schools for which only 2012 test scores were available.*

The Bottom 100 Public Elementary and Middle Schools								
Table Rank	School Name	School Type	District or Municipality	Locale	Number of Scores	Overall CAP Values		
						Score	Percent Rank	Grade
96	Brewer Elementary-Middle School	Conventional	Detroit City School District	City: Large	66	88.86	4.10%	F
97	Alice M. Birney K-8 School	Conventional	Southfield Public School District	City: Small	51	88.87	4.15%	F
98	Garden City Middle School	Conventional	Garden City Public Schools	Suburb: Large	23	88.93	4.19%	F
99	*Lockwood Elementary School	Conventional	Eaton Rapids Public Schools	Town: Fringe	2	88.95	4.23%	F
100	Clark, J.E. Preparatory Academy	Conventional	Detroit City School District	City: Large	66	88.97	4.27%	F

**Schools for which only 2012 test scores were available.*

Locale-Specific Scores

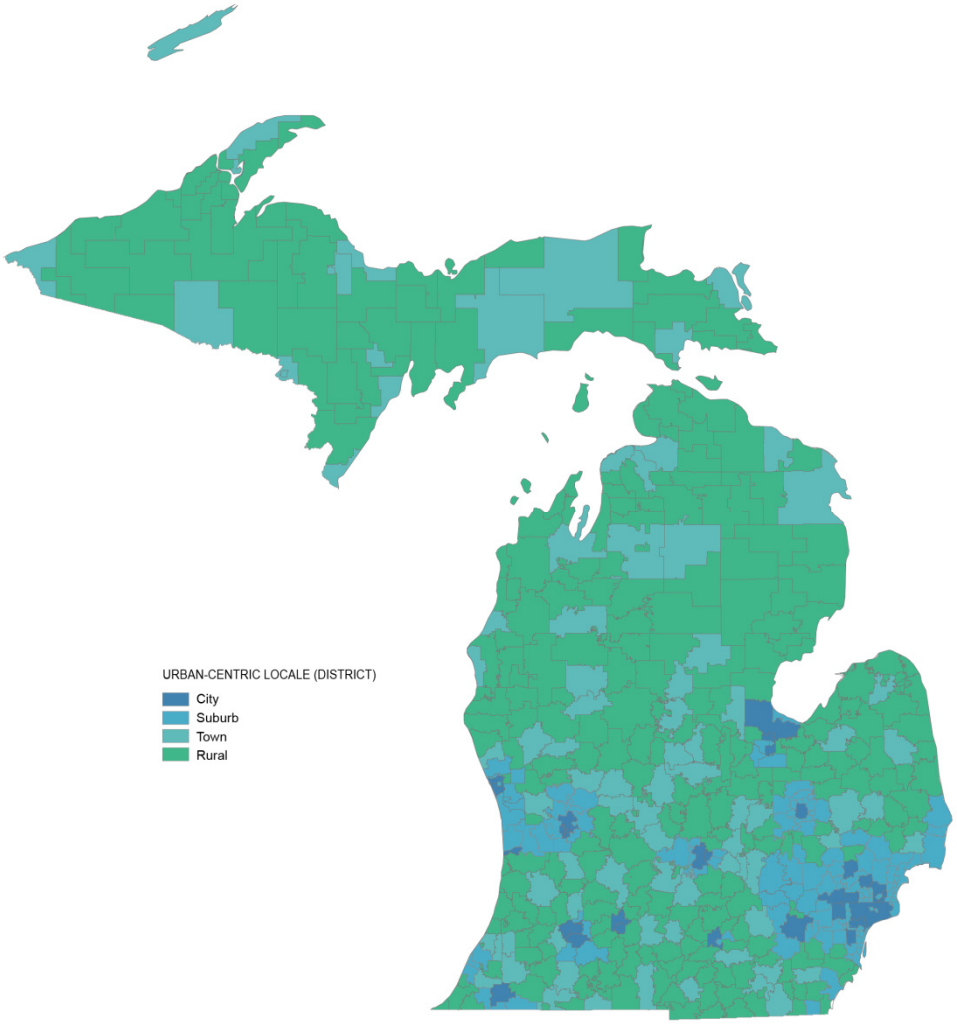
NCES locale data were available only for the 2010-2011 school year. The CAP dataset includes schools that opened during the 2012-2013 school year, however. As such, some schools could not be classified by locale code.* Conventional schools that could not be matched with school-level locale codes were assigned the locale code of their resident district.† This assignment, while reasonable, is not infallible. The locale code for a school can differ from that of its resident school district.

To provide a sense of what the NCES classifies as a city, suburb, town or rural area, a map of Michigan school districts classified by locale code is shown in Graphic 7 below. Areas in blue are city districts, with light blue indicating suburban districts, light green indicating town districts and green indicating rural districts. No school districts in Michigan's Upper Peninsula are categorized as city or suburban. Additional information about locale codes is provided in "Appendix D: Locale Codes."

* After schools were classified using NCES data, those that were not matched with NCES data were matched to data provided by the Center for Educational Performance and Information's Educational Entity Master dataset, which provides locale classification for some schools. Still, 20 schools remained unclassified.

† Charter schools missing locale codes were paired with a locale code only if they were located in the City of Detroit.

Graphic 7: Michigan School Districts by Locale Code, 2010-2011



Source: Author's representation based on "Build a Table: Common Core of Data (District/2010-2011/School-District Classification Information/Urban-centric Locale (District))", (National Center for Education Statistics, Institute for Education Sciences), http://nces.ed.gov/ccd/bat/ (accessed March 19, 2013).

Graphic 8 shows the average Overall CAP Scores for elementary schools and middle schools in each locale group. Town schools had the highest average (100.10), and of all subgroups, rural-remote schools had the highest average (102.14). Large-city schools scored worse than expected given student background, with an average score of 95.73; with one exception, Michigan's only large-city schools were located in Detroit.* Rural schools had the lowest average overall, at 99.86, despite the fact that rural-remote schools had the highest average Overall CAP Score of the 12 subgroups.

* One school, the Commonwealth Community Development Academy, was categorized as being in a large city though it was located in Hamtramck. This may be a data error.

Graphic 8: Average 2009-2012 Overall CAP Scores by Locale Group

Locale	Number of Schools	Average Overall CAP Score
City: Large	159	95.73
City: Midsize	142	101.10
City: Small	261	101.79
City: All	**562**	**99.90**
Suburb: Large	663	100.12
Suburb: Midsize	82	99.43
Suburb: Small	80	100.52
Suburb: All	**825**	**100.09**
Town: Fringe	54	98.78
Town: Distant	119	100.25
Town: Remote	97	100.65
Town: All	**270**	**100.10**
Rural: Fringe	274	99.79
Rural: Distant	294	99.01
Rural: Remote	117	102.14
Rural: All	**685**	**99.86**
Total	**2,342***	

Source: Author's calculations based on "Build a Table: Common Core of Data (District/2010-2011/School-District Classification Information/Urban-centric Locale (School))", (National Center for Education Statistics, Institute for Education Sciences), http://nces.ed.gov/ccd/bat/ (accessed March 19, 2013).
** As noted earlier, not all schools in the report card were matched with a locale code. Average Overall CAP Scores are calculated based on the schools with identified locales (2,342), not the total number of schools included in the report card (2,362).*

Graphic 9 shows the top 5 percent of city elementary and middle schools. Of these 28 schools, eight are located in Detroit and categorized as large-city schools. Eight are located in midsize cities, and 12 are located in small cities.

Eighteen of the top 5 percent of city schools are conventional schools; six are selective schools; and four are charter schools. Several districts are represented multiple times: Dearborn has six schools on this list; Detroit City School District, five; Grand Rapids, four; and Ann Arbor, four. Of the 562 city schools, 98 received an A. This is 17 percent, nearly twice the number expected, given that only 10 percent of schools in the state were awarded an A.

Graphic 9: Top 5 Percent of City Schools Based on 2009-2012 Overall CAP Score

Top 5 Percent of City Schools								
Table Rank	School Name	School Type	District or Municipality	Locale	Number of Scores	Overall CAP Values		
						Score	Percent Rank	Grade
1	Thirkell Elementary School	Conventional	Detroit City School District	City: Large	31	136.98	100.00%	A
2	Iris Becker Elementary School	Conventional	Dearborn City School District	City: Small	31	134.88	99.96%	A
3	Webster Elementary School	Conventional	Livonia Public Schools School District	City: Small	43	129.42	99.87%	A
4	Lowrey Middle School	Conventional	Dearborn City School District	City: Small	35	128.84	99.83%	A
5	Ross-Hill Academy-Elementary	Charter	Detroit	City: Large	55	128.61	99.79%	A
6	Davison Elementary-Middle School	Conventional	Detroit City School District	City: Large	58	125.60	99.70%	A
7	Martin Luther King, Jr. Education Center Academy	Charter	Detroit	City: Large	66	125.36	99.66%	A
8	Center for Economicology	Selective	Grand Rapids Public Schools	City: Mid-size	12	124.85	99.62%	A
9	Saginaw Arts and Sciences Academy	Selective	Saginaw, School District of the City of	City: Small	35	124.46	99.58%	A
10	City Middle/High School	Selective	Grand Rapids Public Schools	City: Mid-size	23	123.79	99.53%	A
11	Lowrey Elementary School	Conventional	Dearborn City School District	City: Small	31	123.15	99.49%	A
12	North Godwin Elementary School	Conventional	Godwin Heights Public Schools	City: Small	19	121.95	99.37%	A
13	Geer Park Elementary	Conventional	Dearborn City School District	City: Small	31	119.26	99.28%	A
14	Martin Luther King Elem. School	Conventional	Ann Arbor Public Schools	City: Mid-size	31	118.60	99.24%	A
15	Angell School	Conventional	Ann Arbor Public Schools	City: Mid-size	31	118.16	99.20%	A
16	Coit Arts Academy	Conventional	Grand Rapids Public Schools	City: Mid-size	31	117.80	99.15%	A
17	Clague Middle School	Conventional	Ann Arbor Public Schools	City: Mid-size	35	116.83	99.03%	A
18	Burns Park Elementary School	Conventional	Ann Arbor Public Schools	City: Mid-size	31	116.48	98.98%	A
19	John Ball Park Zoo School	Selective	Grand Rapids Public Schools	City: Mid-size	12	116.25	98.90%	A
20	Handley School	Selective	Saginaw, School District of the City of	City: Small	31	116.21	98.86%	A
21	Brown, Ronald Academy	Conventional	Detroit City School District	City: Large	43	116.00	98.77%	A
22	Detroit Merit Charter Academy	Charter	Detroit	City: Large	66	115.62	98.65%	A
23	Bemis Elementary School	Conventional	Troy School District	City: Small	31	115.50	98.60%	A
24	Harms Elementary School	Conventional	Detroit City School District	City: Large	31	115.08	98.48%	A

Top 5 Percent of City Schools								
Table Rank	School Name	School Type	District or Municipality	Locale	Number of Scores	Overall CAP Values		
						Score	Percent Rank	Grade
25	Clippert Academy	Selective	Detroit City School District	City: Large	47	114.92	98.43%	A
26	Salina Elementary P - 3	Conventional	Dearborn City School District	City: Small	8	114.91	98.39%	A
27	Academy of Southfield	Charter	Southfield	City: Small	66	114.64	98.31%	A
28	Woodworth Middle School	Conventional	Dearborn City School District	City: Small	35	114.45	98.22%	A

Of the bottom 5 percent of city schools, 14 — half of the 28 — had just one year of data available (see Graphic 10). Twenty-five are conventional schools. Eleven of the bottom schools are Detroit City schools, and nine are EAA-affiliated schools (all of which have just one year of data available).

The worst-scoring schools on this list with four years of MEAP tests are comprised of six Detroit City schools and one Benton Harbor school: William Beckham Academy (81.51), Noble Elementary-Middle School (81.70), Henderson Academy (82.05), Marquette Elementary-Middle (82.27), Durfee Elementary-Middle (83.52), Benton Harbor's STEAM Academy at MLK (85.16) and Mason Elementary School (85.44).

All of the bottom 5 percent of city schools received an F. In addition to the 28 schools listed below, another 71 city schools had F's.

Graphic 10: Bottom 5 Percent of City Schools Based on 2009-2012 Overall CAP Score

Bottom 5 Percent of City Schools								
Table Rank	School Name	School Type	District or Municipality	Locale	Number of Scores	Overall CAP Scores		
						Score	Percent Rank	Grade
1	*Burns Elementary-Middle School	Conventional	Education Achievement System-EAS	City: Large	17	73.27	0.08%	F
2	EMAN Hamilton Academy	Charter	Detroit	City: Large	34	74.14	0.13%	F
3	*Trix Elementary	Conventional	Michigan Educational Choice Center	City: Large	17	75.12	0.17%	F
4	*Stewart Elementary	Conventional	Michigan Educational Choice Center	City: Large	17	76.00	0.21%	F
5	*Northern High School	Conventional	Flint, School District of the City of	City: Mid-size	6	76.91	0.30%	F
6	*Mary McLeod Bethune Elementary-Middle School	Conventional	Education Achievement System-EAS	City: Large	17	77.00	0.34%	F
7	*Nolan Elementary-Middle School	Conventional	Education Achievement System-EAS	City: Large	17	77.69	0.38%	F
8	EMAN Hamilton Academy	Conventional	Detroit City School District	City: Large	30	77.95	0.42%	F
9	*Law Elementary School	Conventional	Education Achievement System-EAS	City: Large	17	78.07	0.47%	F

**Schools for which only 2012 test scores were available.*

Bottom 5 Percent of City Schools								
Table Rank	**School Name**	**School Type**	**District or Municipality**	**Locale**	**Number of Scores**	**Overall CAP Scores**		
						Score	**Percent Rank**	**Grade**
10	*Murphy Elementary	Conventional	Michigan Educational Choice Center	City: Large	17	79.01	0.51%	F
11	*Phoenix Elementary-Middle School	Conventional	Education Achievement System-EAS	City: Large	17	79.08	0.55%	F
12	*Brenda Scott Academy for Theatre Arts	Conventional	Education Achievement System-EAS	City: Large	17	79.36	0.59%	F
13	Brenda Scott Academy for Theatre Arts	Conventional	Detroit City School District	City: Large	42	79.99	0.72%	F
14	*International Preparatory Academy - MacDowell Campus	Charter	Detroit	City: Large	17	80.64	0.76%	F
15	Trix Elementary	Conventional	Detroit City School District	City: Large	49	81.50	0.80%	F
16	Beckham, William Academy	Conventional	Detroit City School District	City: Large	31	81.51	0.85%	F
17	*J.W. Sexton High School	Conventional	Lansing Public School District	City: Mid-size	6	81.60	0.89%	F
18	Noble Elementary-Middle School	Conventional	Detroit City School District	City: Large	66	81.70	0.93%	F
19	Henderson Academy	Conventional	Detroit City School District	City: Large	66	82.05	0.97%	F
20	*Benton Harbor Middle and High School	Conventional	Benton Harbor Area Schools	City: Small	3	82.26	1.02%	F
21	Marquette Elementary-Middle School	Conventional	Detroit City School District	City: Large	66	82.27	1.06%	F
22	Mary McLeod Bethune Elementary-Middle School	Conventional	Detroit City School District	City: Large	49	83.32	1.23%	F
23	*Northwestern High School	Conventional	Flint, School District of the City of	City: Mid-size	6	83.45	1.31%	F
24	Durfee Elementary-Middle School	Conventional	Detroit City School District	City: Large	66	83.52	1.40%	F
25	STEAM Academy at MLK	Conventional	Benton Harbor Area Schools	City: Small	34	85.16	1.57%	F
26	Nolan Elementary-Middle School	Conventional	Detroit City School District	City: Large	49	85.36	1.61%	F
27	Mason Elementary School	Conventional	Detroit City School District	City: Large	40	85.44	1.65%	F
28	Fisher Magnet Upper Academy	Conventional	Detroit City School District	City: Large	47	85.44	1.69%	F

**Schools for which only 2012 test scores were available.*

Graphic 11 displays the top 5 percent of suburban schools. Of the 826 suburban schools included in this analysis, 69 received an A. This is 8.4 percent, slightly less than expected, given that 10 percent of schools received an A. Of the 41 suburban schools listed below, 33 are conventional schools; five are charter schools; and three are selective schools. The highest-ranked suburban school is a selective school run by the Crestwood School District. Of just four schools included in our dataset from the Clintondale school district, two made it onto this list.

Graphic 11: Top 5 Percent of Suburban Schools Based on 2009-2012 Overall CAP Score

Top 5 Percent of Suburban Schools								
Table Rank	School Name	School Type	District or Municipality	Locale	Number of Scores	Overall CAP Values		
						Score	Percent Rank	Grade
1	Crestwood Accelerated Program	Selective	Crestwood School District	Suburb: Large	17	132.81	99.92%	A
2	Glenwood Elementary	Conventional	Kentwood Public Schools	Suburb: Large	31	126.22	99.75%	A
3	Blandford Nature Center	Selective	Grand Rapids Public Schools	Suburb: Large	12	122.56	99.45%	A
4	Hamtramck Academy	Charter	Hamtramck	Suburb: Large	66	122.21	99.41%	A
5	Robbie Hall Parker School	Conventional	Clintondale Community Schools	Suburb: Large	31	119.92	99.32%	A
6	Hemmeter Elementary School	Selective	Saginaw Township Community Schools	Suburb: Mid-size	31	117.21	99.11%	A
7	Saginaw Preparatory Academy	Charter	Saginaw	Suburb: Mid-size	66	117.21	99.07%	A
8	Brown Elementary School	Conventional	Byron Center Public Schools	Suburb: Large	19	116.47	98.94%	A
9	Southwood Elementary	Conventional	Kentwood Public Schools	Suburb: Large	31	115.86	98.73%	A
10	Star International Academy	Charter	Dearborn Heights	Suburb: Large	66	115.69	98.69%	A
11	Kinloch Elementary School	Conventional	Crestwood School District	Suburb: Large	19	115.49	98.56%	A
12	Townline Elementary	Conventional	Kentwood Public Schools	Suburb: Large	31	115.20	98.52%	A
13	Discovery Elementary	Conventional	Kentwood Public Schools	Suburb: Large	31	113.46	97.71%	A
14	Pine Creek Elementary School	Conventional	West Ottawa Public School District	Suburb: Small	23	113.19	97.55%	A
15	Chippewa Middle School	Conventional	Okemos Public Schools	Suburb: Large	23	112.38	97.12%	A
16	Brookwood Elementary	Conventional	Kentwood Public Schools	Suburb: Large	31	112.28	96.95%	A
17	Frank E. Bartlett School	Conventional	South Lyon Community Schools	Suburb: Mid-size	31	112.14	96.83%	A
18	Miller Elementary School	Conventional	Plymouth-Canton Community Schools	Suburb: Large	31	112.03	96.78%	A
19	Charles C. McGlinnen School	Conventional	Clintondale Community Schools	Suburb: Large	31	111.98	96.66%	A
20	University Hills Elem. School	Conventional	Rochester Community School District	Suburb: Large	31	111.88	96.53%	A

Top 5 Percent of Suburban Schools								
Table Rank	School Name	School Type	District or Municipality	Locale	Number of Scores	Overall CAP Values		
						Score	Percent Rank	Grade
21	Commerce Elementary School	Conventional	Walled Lake Consolidated Schools	Suburb: Large	31	111.77	96.32%	A
22	Lucile S. Patton Elem. School	Conventional	Roseville Community Schools	Suburb: Large	31	111.77	96.23%	A
23	City School	Conventional	Grand Blanc Community Schools	Suburb: Large	28	111.66	96.11%	A
24	East Kelloggsville School	Conventional	Kelloggsville Public Schools	Suburb: Large	23	111.66	96.06%	A
25	Lakeshore Elementary School	Conventional	West Ottawa Public School District	Suburb: Small	23	111.62	95.98%	A
26	Musson Elementary School	Conventional	Rochester Community School District	Suburb: Large	31	111.49	95.90%	A
27	North Hill Elementary School	Conventional	Rochester Community School District	Suburb: Large	31	111.37	95.81%	A
28	Hart Middle School	Conventional	Rochester Community School District	Suburb: Large	35	111.29	95.73%	A
29	Central Elementary School	Conventional	Davison Community Schools	Suburb: Large	19	110.90	95.34%	A
30	Kinawa School	Conventional	Okemos Public Schools	Suburb: Large	21	110.64	95.05%	A
31	Van Hoosen Middle School	Conventional	Rochester Community School District	Suburb: Large	35	110.59	95.01%	A
32	Long Meadow Elementary School	Conventional	Rochester Community School District	Suburb: Large	31	110.49	94.75%	A
33	Bennett Woods Elementary School	Conventional	Okemos Public Schools	Suburb: Large	19	110.35	94.41%	A
34	Amerman Elementary School	Conventional	Northville Public Schools	Suburb: Large	31	110.32	94.37%	A
35	Eagle Crest Charter Academy	Charter	Holland	Suburb: Small	66	110.15	94.33%	A
36	Dickinson East Elementary School	Conventional	Hamtramck, School District of the City of	Suburb: Large	43	109.99	94.08%	A
37	Ada Elementary School	Conventional	Forest Hills Public Schools	Suburb: Large	19	109.92	94.03%	A
38	Millennium Middle School	Conventional	South Lyon Community Schools	Suburb: Mid-size	35	109.92	93.99%	A
39	Northern Hills Middle School	Conventional	Forest Hills Public Schools	Suburb: Large	23	109.90	93.91%	A
40	Hill Elementary School	Conventional	Davison Community Schools	Suburb: Large	19	109.90	93.86%	A
41	Universal Learning Academy	Charter	Dearborn Heights	Suburb: Large	49	109.55	93.53%	A

Of the bottom 5 percent of suburban elementary and middle schools, 34 are conventional schools and seven are charter schools. As shown in Graphic 12, five of these lowest-scoring schools had only one year of test data available.

Muskegon Heights Middle School appears twice on this list because it was organized as a conventional school before it was converted to a charter school for the 2012-2013 school year.[16] Two Highland Park schools also appear twice, having been organized as conventional schools before being converted to charter schools for the 2012-2013 school year.[17]

All of the bottom 5 percent of suburban schools received an F. In addition to the 41 schools listed below, another 19 suburban schools had F's.

Graphic 12: Bottom 5 Percent of Suburban Schools Based on 2009-2012 Overall CAP Score

Bottom 5 Percent of Suburban Schools								
Table Rank	School Name	School Type	District or Municipality	Locale	Number of Scores	Overall CAP Values		
						Score	Percent Rank	Grade
1	*Zeeland Quest	Conventional	Zeeland Public Schools	Suburb: Small	4	82.30	1.10%	F
2	*Muskegon Heights Middle School	Charter	Muskegon Heights	Suburb: Midsize	9	82.77	1.14%	F
3	Lighthouse Academy	Charter	Grand Rapids	Suburb: Large	12	83.57	1.44%	F
4	Kensington Woods High School	Charter	Howell	Suburb: Mid-size	6	85.70	1.82%	F
5	Phoenix Science and Technology Center	Conventional	Buena Vista School District	Suburb: Mid-size	49	85.90	2.03%	F
6	Jenison International Academy	Conventional	Jenison Public Schools	Suburb: Large	12	86.01	2.12%	F
7	Beecher Middle School Academy	Conventional	Beecher Community School District	Suburb: Large	23	86.49	2.45%	F
8	*Oxford Virtual Academy	Conventional	Oxford Community Schools	Suburb: Large	17	86.95	2.62%	F
9	Muskegon Heights Middle School	Conventional	Muskegon Heights School District	Suburb: Mid-size	23	87.12	2.71%	F
10	Ann Visger K-5 Preparatory Academy	Conventional	River Rouge, School District of the City of	Suburb: Large	31	87.34	2.92%	F
11	Barber Elementary School	Conventional	Highland Park City Schools	Suburb: Large	49	87.48	3.09%	F
12	Beech Elementary	Conventional	Redford Union Schools, District No. 1	Suburb: Large	16	87.52	3.17%	F
13	Erie Elementary School	Conventional	Chippewa Valley Schools	Suburb: Large	31	87.81	3.34%	F
14	Patrick Henry Middle School	Conventional	Woodhaven-Brownstown School District	Suburb: Large	9	87.98	3.51%	F
15	Madison Academy - High School	Charter	Burton	Suburb: Large	6	88.78	3.94%	F
16	Garden City Middle School	Conventional	Garden City Public Schools	Suburb: Large	23	88.93	4.19%	F
17	American Montessori Academy Upper Elementary	Charter	Redford	Suburb: Large	33	89.44	4.57%	F

**Schools for which only 2012 test scores were available.*

Bottom 5 Percent of Suburban Schools								
Table Rank	School Name	School Type	District or Municipality	Locale	Number of Scores	Overall CAP Values		
						Score	Percent Rank	Grade
18	Mohawk Elementary School	Conventional	Chippewa Valley Schools	Suburb: Large	31	89.44	4.61%	F
19	Farmington 5-6 Campus	Conventional	Garden City Public Schools	Suburb: Large	18	89.47	4.66%	F
20	Lindemann Elementary School	Conventional	Allen Park Public Schools	Suburb: Large	31	89.50	4.74%	F
21	Oak Park Preparatory Academy	Conventional	Oak Park, School District of the City of	Suburb: Large	20	89.55	4.87%	F
22	*Henry Ford Academy	Charter	Highland Park	Suburb: Large	17	89.66	4.95%	F
23	Owen Intermediate School	Conventional	Van Buren Public Schools	Suburb: Large	32	89.69	4.99%	F
24	Henry Ford Academy	Conventional	Highland Park City Schools	Suburb: Large	49	89.75	5.12%	F
25	GrandPort Elementary Academy	Conventional	Ecorse Public Schools	Suburb: Large	46	89.86	5.33%	F
26	Hyatt Elementary	Conventional	Linden Community Schools	Suburb: Large	31	89.89	5.37%	F
27	*Barber Elementary School	Charter	Highland Park	Suburb: Large	17	90.20	5.84%	F
28	Dean A. Naldrett School	Conventional	Anchor Bay School District	Suburb: Large	31	90.22	5.92%	F
29	Dailey Elementary School	Conventional	Beecher Community School District	Suburb: Large	43	90.88	6.47%	F
30	Amanda Moore Elementary School	Conventional	Romeo Community Schools	Suburb: Large	31	90.92	6.56%	F
31	Kelly Middle School	Conventional	East Detroit Public Schools	Suburb: Large	29	90.96	6.64%	F
32	Erving Elementary School	Conventional	Woodhaven-Brownstown School District	Suburb: Large	23	90.98	6.69%	F
33	Douglas Elementary 3-4 Campus	Conventional	Garden City Public Schools	Suburb: Large	15	91.07	6.94%	F
34	Gudith Elementary School	Conventional	Woodhaven-Brownstown School District	Suburb: Large	23	91.07	6.98%	F
35	Einstein Elementary School	Conventional	Oak Park, School District of the City of	Suburb: Large	40	91.23	7.24%	F
36	Pleasantview Elementary School	Conventional	East Detroit Public Schools	Suburb: Large	37	91.24	7.28%	F
37	Cheyenne Elementary School	Conventional	Chippewa Valley Schools	Suburb: Large	31	91.28	7.45%	F
38	Lakeland Elementary School	Conventional	Pinckney Community Schools	Suburb: Mid-size	19	91.40	7.58%	F
39	John R. Kment Elementary School	Conventional	Roseville Community Schools	Suburb: Large	43	91.44	7.62%	F
40	Willow Ridge Elementary School	Conventional	Grand Ledge Public Schools	Suburb: Large	40	91.45	7.66%	F
41	Thomas Jefferson Elem. School	Conventional	South Redford School District	Suburb: Large	31	91.52	7.74%	F

**Schools for which only 2012 test scores were available.*

Of the 270 town elementary and middle schools included in our dataset, just 15 received an A. The top-scoring 5 percent of town schools — 14 in all — are listed in Graphic 13. All of these schools are conventional schools. This list includes two schools each from the Berrien Springs, Cadillac and Crawford-Ausable school districts. These schools represent all the schools from Berrien Springs and Crawford-Ausable included in this study, but only one-third of those from Cadillac.[18]

Graphic 13: Top 5 Percent of Town Schools Based on 2009-2012 Overall CAP Score

Table Rank	School Name	School Type	District or Municipality	Locale	Number of Scores	Overall CAP Values		
						Score	Percent Rank	Grade
1	Franklin Elementary School	Conventional	Cadillac Area Public Schools	Town: Remote	25	114.27	98.10%	A
2	North Ohio Elementary School	Conventional	Gaylord Community Schools	Town: Remote	8	113.50	97.76%	A
3	Grayling Middle School	Conventional	Crawford AuSable Schools	Town: Remote	35	112.63	97.25%	A
4	Harrington Elementary School	Conventional	Albion Public Schools	Town: Distant	40	112.63	97.21%	A
5	Berrien Springs Middle School	Conventional	Berrien Springs Public Schools	Town: Fringe	35	112.28	96.91%	A
6	Andrews Elementary School	Conventional	Three Rivers Community Schools	Town: Distant	31	110.87	95.30%	A
7	Lybrook Elementary School	Conventional	Eau Claire Public Schools	Town: Fringe	31	110.66	95.09%	A
8	Grayling Elementary School	Conventional	Crawford AuSable Schools	Town: Remote	31	110.07	94.16%	A
9	Gordon Elementary School	Conventional	Marshall Public Schools	Town: Fringe	25	110.04	94.12%	A
10	Sylvester Elementary School	Conventional	Berrien Springs Public Schools	Town: Fringe	31	109.84	93.82%	A
11	C.L.K. Elementary School	Conventional	Public Schools of Calumet	Town: Remote	31	109.59	93.69%	A
12	Riverview Elementary School	Conventional	Big Rapids Public Schools	Town: Remote	19	109.33	93.19%	A
13	Kenwood Elementary School	Conventional	Cadillac Area Public Schools	Town: Remote	25	109.31	93.14%	A
14	Traverse Heights Elem. School	Conventional	Traverse City Area Public Schools	Town: Remote	31	108.70	92.13%	A

Of the bottom 5 percent of town schools, all 14 received an F (see Graphic 14). Two of the five schools from the Coldwater school district included in this dataset were among the lowest-scoring town schools. (The other Coldwater schools received C and D grades.) Both of the Richmond school district schools included in this dataset were among the bottom 5 percent of town schools, and both received an F. Richmond's Will L. Lee School was the lowest-ranked town school.

Town elementary and middle schools tended to have middling grades. Just 5 percent of town schools received an F; all 14 are listed below. This is half of the number expected, since 10 percent of all schools received an F. Similarly, fewer than 6 percent of town schools received A's. However, 71.5 percent of town schools received a B or C, a larger percentage than the 60 percent of all Michigan schools that were awarded those grades.

Graphic 14: Bottom 5 Percent of Town Schools Based on 2009-2012 Overall CAP Score

Table Rank	School Name	School Type	District or Municipality	Locale	Number of Scores	Overall CAP Values		
						Score	Percent Rank	Grade
1	Will L. Lee School	Conventional	Richmond Community Schools	Town: Fringe	19	87.61	3.22%	F
2	Lincoln Elementary School	Conventional	Coldwater Community Schools	Town: Distant	18	88.35	3.77%	F
3	*Lockwood Elementary School	Conventional	Eaton Rapids Public Schools	Town: Fringe	2	88.95	4.23%	F
4	Dundee Elementary School	Conventional	Dundee Community Schools	Town: Distant	19	89.54	4.82%	F
5	Richmond Middle School	Conventional	Richmond Community Schools	Town: Fringe	47	89.80	5.16%	F
6	Creative Technologies Academy	Charter	Cedar Springs	Town: Fringe	64	89.89	5.42%	F
7	Jefferson Elementary School	Conventional	Coldwater Community Schools	Town: Distant	18	90.00	5.50%	F
8	Sutton Elementary School	Conventional	Tecumseh Public Schools	Town: Distant	19	90.09	5.63%	F
9	Perry East Elementary	Conventional	Perry Public Schools	Town: Fringe	28	90.46	6.05%	F
10	TCAPS Montessori School	Conventional	Traverse City Area Public Schools	Town: Remote	43	90.75	6.39%	F
11	*Yes Academy	Conventional	Manistee Area Public Schools	Town: Remote	6	91.77	8.46%	F
12	Pansophia Academy	Charter	Coldwater	Town: Distant	63	91.79	8.55%	F
13	Newberry Middle School	Conventional	Tahquamenon Area Schools	Town: Remote	35	91.99	9.27%	F
14	Rogers City Elementary School	Conventional	Rogers City Area Schools	Town: Remote	31	92.35	9.90%	F

** Schools for which only 2012 test scores were available.*

Graphic 15 shows the top 5 percent of rural elementary and middle schools. All but one of the 34 schools listed below are conventional schools. Three of the five Chippewa Hills schools included in our dataset were in the top 5 percent of rural schools, as were three of the five Benzie County schools. Both of the two Walkerville schools included in the dataset were in the top 5 percent, too.

Of the 37 rural charter schools included in our dataset, seven received an A or a B, with just two receiving A's — Countryside Academy-Elementary in Benton Harbor and Canton Charter Academy.

Graphic 15: Top 5 Percent of Rural Schools Based on 2009-2012 Overall CAP Score

Top 5 Percent of Rural Schools								
Table Rank	School Name	School Type	District or Municipality	Locale	Number of Scores	Overall CAP Values		
						Score	Percent Rank	Grade
1	Jamestown Elementary School	Conventional	Hudsonville Public School District	Rural: Fringe	31	116.16	98.82%	A
2	Mecosta Elementary School	Conventional	Chippewa Hills School District	Rural: Remote	19	114.90	98.35%	A
3	Pullman Elementary School	Conventional	Bloomingdale Public School District	Rural: Distant	31	114.55	98.26%	A
4	Weidman Elementary School	Conventional	Chippewa Hills School District	Rural: Remote	19	113.90	97.97%	A
5	K.I. Sawyer Elementary School	Conventional	Gwinn Area Community Schools	Rural: Remote	40	113.79	97.93%	A
6	Crystal Lake Elementary School	Conventional	Benzie County Central Schools	Rural: Remote	31	113.66	97.84%	A
7	Covert Middle School	Conventional	Covert Public Schools	Rural: Distant	35	113.60	97.80%	A
8	Collins Elementary School	Conventional	Houghton Lake Community Schools	Rural: Fringe	8	112.87	97.38%	A
9	Onaway Elementary School	Conventional	Onaway Area Community School District	Rural: Remote	31	112.65	97.29%	A
10	Frostick School	Conventional	Croswell-Lexington Community Schools	Rural: Fringe	19	112.37	97.08%	A
11	Platte River Elementary School	Conventional	Benzie County Central Schools	Rural: Remote	43	112.36	97.04%	A
12	Sister Lakes Elementary School	Conventional	Dowagiac Union School District	Rural: Distant	31	112.20	96.87%	A
13	Fairview High School	Conventional	Fairview Area School District	Rural: Remote	26	111.81	96.40%	A
14	Deckerville Elementary School	Conventional	Deckerville Community School District	Rural: Distant	43	111.73	96.19%	A
15	Leonard Elementary School	Conventional	Ovid-Elsie Area Schools	Rural: Distant	8	111.68	96.15%	A
16	Madison Middle School	Conventional	Madison School District (Lenawee)	Rural: Fringe	35	111.65	96.02%	A
17	Rankin Elementary School	Conventional	Carman-Ainsworth Community Schools	Rural: Fringe	31	111.20	95.64%	A
18	Walkerville Middle School	Conventional	Walkerville Public Schools	Rural: Remote	35	110.73	95.18%	A
19	Arenac Eastern Middle/High School	Conventional	Arenac Eastern School District	Rural: Remote	35	110.59	94.96%	A
20	Whittemore-Prescott Area Middle School	Conventional	Whittemore-Prescott Area Schools	Rural: Remote	35	110.52	94.92%	A
21	Siple Elementary School	Conventional	Davison Community Schools	Rural: Fringe	19	110.50	94.79%	A
22	Frankfort Elementary School	Conventional	Frankfort-Elberta Area Schools	Rural: Remote	43	110.45	94.58%	A
23	Houghton Lake Middle School	Conventional	Houghton Lake Community Schools	Rural: Fringe	46	110.39	94.46%	A
24	White Cloud Upper Elementary School	Conventional	White Cloud Public Schools	Rural: Distant	23	110.13	94.29%	A

Top 5 Percent of Rural Schools								
Table Rank	School Name	School Type	District or Municipality	Locale	Number of Scores	Overall CAP Values		
						Score	Percent Rank	Grade
25	Jeffers Elementary School	Conventional	Spring Lake Public Schools	Rural: Fringe	19	110.07	94.24%	A
26	Countryside Academy-Elementary	Charter	Benton Harbor	Rural: Fringe	31	109.77	93.78%	A
27	Gaylord Middle School	Conventional	Gaylord Community Schools	Rural: Fringe	23	109.75	93.74%	A
28	Walkerville Elementary School	Conventional	Walkerville Public Schools	Rural: Remote	31	109.58	93.65%	A
29	Lake Ann Elementary School	Conventional	Benzie County Central Schools	Rural: Distant	31	109.55	93.57%	A
30	Bloomingdale Elementary School	Conventional	Bloomingdale Public School District	Rural: Distant	31	109.53	93.48%	A
31	Roscommon Middle School	Conventional	Roscommon Area Public Schools	Rural: Distant	44	109.45	93.36%	A
32	Deerfield Elementary School	Conventional	Novi Community School District	Rural: Fringe	19	109.42	93.31%	A
33	Glen Lake Elementary School	Conventional	Glen Lake Community Schools	Rural: Remote	43	109.33	93.23%	A
34	Barryton Elementary School	Conventional	Chippewa Hills School District	Rural: Remote	19	109.23	93.06%	A

Of the bottom 5 percent of rural schools, six were charter schools (see Graphic 16). Five of these charter schools had more than one year of data available. Big Jackson Public School, a conventional school and the lowest-scoring rural school, had just 2012 data available.

In addition to the 34 rural schools listed below, 20 more received an F.

Graphic 16: Bottom 5 Percent of Rural Schools Based on 2009-2012 Overall CAP Score

Bottom 5 Percent of Rural Schools								
Table Rank	School Name	School Type	District or Municipality	Locale	Number of Scores	Overall CAP Values		
						Score	Percent Rank	Grade
1	*Big Jackson Public School	Conventional	Big Jackson School District	Rural: Distant	3	79.66	0.68%	F
2	Gros Cap School	Conventional	Moran Township School District	Rural: Distant	11	83.08	1.18%	F
3	*Leelanau Montessori Public School Academy	Charter	Suttons Bay	Rural: Distant	2	83.45	1.27%	F
4	Grattan Academy - Middle/High School	Charter	Greenville	Rural: Fringe	30	83.47	1.35%	F
5	Grattan Academy - Elementary	Charter	Belding	Rural: Fringe	26	83.61	1.48%	F
6	Potterville Elementary School	Conventional	Potterville Public Schools	Rural: Fringe	19	85.89	1.99%	F
7	*Adams Elementary School	Conventional	Zeeland Public Schools	Rural: Distant	8	86.36	2.33%	F
8	Litchfield High School	Conventional	Litchfield Community Schools	Rural: Distant	35	86.65	2.50%	F
9	Will Carleton Charter School Academy	Charter	Hillsdale	Rural: Fringe	49	87.45	3.00%	F
10	Dryden High School	Conventional	Dryden Community Schools	Rural: Distant	23	87.50	3.13%	F
11	Mid Peninsula School	Conventional	Mid Peninsula School District	Rural: Distant	58	87.77	3.26%	F
12	Vanderbilt Area School	Conventional	Vanderbilt Area Schools	Rural: Distant	37	87.99	3.55%	F
13	George Long Elementary School	Conventional	Grass Lake Community Schools	Rural: Distant	31	88.16	3.60%	F
14	Morrice Area Elementary School	Conventional	Morrice Area Schools	Rural: Fringe	43	88.31	3.72%	F
15	White Pine Academy	Charter	Leslie	Rural: Distant	26	88.50	3.81%	F
16	North Dickinson School	Conventional	North Dickinson County Schools	Rural: Remote	66	88.65	3.85%	F
17	Morrice Area High School	Conventional	Morrice Area Schools	Rural: Fringe	23	89.07	4.36%	F
18	Pittsford Area Elem. School	Conventional	Pittsford Area Schools	Rural: Distant	43	89.23	4.49%	F
19	Landmark Academy	Charter	Kimball	Rural: Fringe	66	89.63	4.91%	F
20	Pittsford Area High School	Conventional	Pittsford Area Schools	Rural: Distant	23	89.69	5.04%	F
21	Laingsburg Elementary School	Conventional	Laingsburg Community Schools	Rural: Distant	31	89.83	5.25%	F
22	Lakeview Elementary School	Conventional	Lakeview Community Schools (Montcalm)	Rural: Distant	12	89.96	5.46%	F
23	Laingsburg Middle School	Conventional	Laingsburg Community Schools	Rural: Distant	35	90.17	5.71%	F
24	Climax-Scotts Elementary School	Conventional	Climax-Scotts Community Schools	Rural: Distant	31	90.20	5.80%	F

**Schools for which only 2012 test scores were available.*

Bottom 5 Percent of Rural Schools								
Table Rank	School Name	School Type	District or Municipality	Locale	Number of Scores	Overall CAP Values		
						Score	Percent Rank	Grade
25	Armada Middle School	Conventional	Armada Area Schools	Rural: Distant	35	90.22	5.88%	F
26	Summerfield Junior/Senior High School	Conventional	Summerfield Schools	Rural: Distant	12	90.44	6.01%	F
27	Litchfield Elementary School	Conventional	Litchfield Community Schools	Rural: Distant	31	90.63	6.18%	F
28	Summerfield Elementary School	Conventional	Summerfield Schools	Rural: Distant	43	90.68	6.26%	F
29	Ontonagon Area Jr/Sr High School	Conventional	Ontonagon Area Schools	Rural: Remote	35	90.71	6.31%	F
30	Pickford Elementary School	Conventional	Pickford Public Schools	Rural: Distant	66	90.91	6.52%	F
31	Potterville Middle School	Conventional	Potterville Public Schools	Rural: Fringe	47	90.95	6.60%	F
32	Philip Latendresse School	Conventional	Baraga Area Schools	Rural: Remote	43	91.00	6.77%	F
33	Engadine Schools	Conventional	Engadine Consolidated Schools	Rural: Remote	51	91.02	6.81%	F
34	Shaftsburg Early Childhood Center	Conventional	Perry Public Schools	Rural: Fringe	14	91.02	6.86%	F

**Schools for which only 2012 test scores were available.*

Appendix A: Data Acquisition and Organization

Two sources of information were combined to create the dataset used for this study: the Fall 2012 MEAP four-year proficiency detail dataset posted by the Michigan Department of Education and annual building-level free and reduced-price lunch count data posted by the Center for Educational Performance and Information. Datasets from both of these sources were matched by year, school building and grade.[19]

The original MEAP dataset contains records for school districts and for ninth-graders. These records were removed, as were records for which no average scale score information was available in any year. The resulting preliminary dataset contained 24,654 records.

The dataset was further filtered by removing schools that were listed as closed according to the Educational Entity Master dataset posted by CEPI. Schools labeled as "Alternative/other school" or "Vocational schools" by the NCES were also removed.

NCES records alone, however, were not relied upon to identify "special education" schools. Previous experience with the Center's high school report card indicated that the special education categorizations reported by NCES were unreliable in some cases. For this report card, schools labeled "special education" by NCES datasets were removed only when the school names also indicated they were likely to specialize in serving students with special needs. Beacon Day Treatment Center, for example, was not included in the dataset because its name indicated that the NCES had correctly labeled it as a special education school.

In contrast, schools were retained in the dataset if the NCES labeled them as "special education," but their names did not contain words such as "special," "treatment" or "development." In our final dataset, 232 records are from schools labeled by the NCES as "special education," since the school names do not indicate that the schools have special education as their primary focus. (This does not mean, however, that our dataset includes 232 *schools* that were categorized as special education schools. Each record does not represent a single school.) *

In the Center's high school report card, records were retained as long as they included at least one year of data. A different approach was taken in this analysis, however. Schools were still included if they had records for either 2011 or 2012; a goal of this paper is to provide information to parents considering a variety of schools for their children, and schools with records from these years are still likely to be open. But if schools did not have records for one of these two years, they were retained only if they had records for *both* of the preceding two years — that is, both 2009 and 2010. This requirement allowed valuable information to be retained

* A school can be represented by multiple records. One school, for example, could have eight records for a single year, since a record is generated for each subject-grade combination.

for the analysis, but excluded schools whose data was sparse and dated. A total of 470 records (not schools) were removed from the dataset using these criteria.

Our dataset, after filtering for school types, missing data, etc., contained 21,607 records.

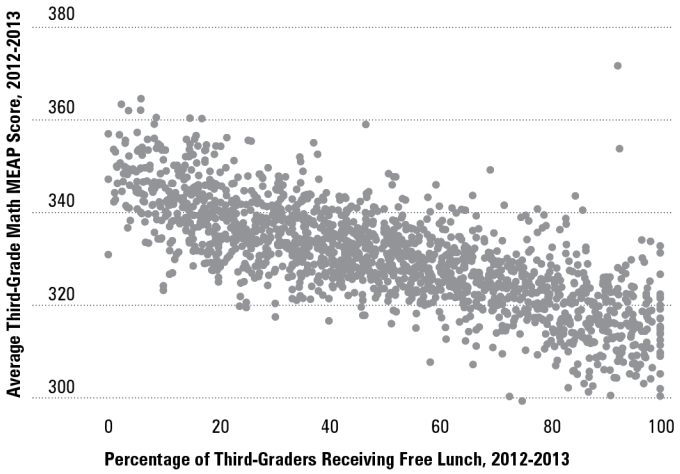
Appendix B: Accounting for Student Background

In calculating a school's socioeconomic status in the high school report card, students eligible for free lunch were given twice as much weight as students eligible for reduced-price lunch. Hence, the following equation was used: [20]

$$Weighted\ FRL\ Measure\ for\ the\ High\ School\ Report\ Card = 100 * \frac{[2 * (Free\text{–}Lunch\ Eligible) + 1 * (Reduced\text{–}Lunch\ Eligible)]}{Total\ School\ Head\ Count}$$

During the research for the elementary and middle school report card, it was discovered that the percentage of students eligible for free lunch was a better predictor of student MEAP test scores than a formula including the percentage of students eligible for reduced-price lunch. As illustrated in Graphic 17, the percentage of students eligible for free lunch has a clear negative linear relationship with MEAP test scores. Schools with a larger proportion of students eligible for free lunch tended to have lower test scores on average.

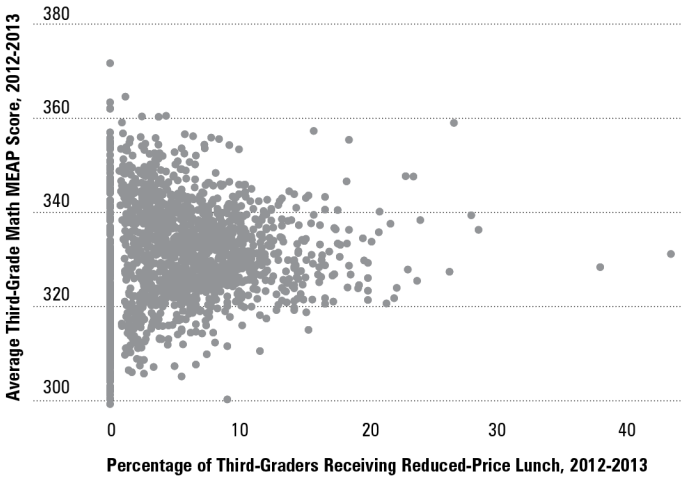
Graphic 17: 2012-2013 MEAP Mean Scale Scores in Mathematics vs. Percentage of Students Eligible for Free Lunch, by School, for Third-Graders



Source: Author's representation of data in "MEAP Downloadable Data Files," (Michigan Department of Education, 2013), http://goo.gl/uexp2 (accessed March 21, 2013); "Free and Reduced Lunch Counts," (Center for Educational Performance and Information, 2013), http://goo.gl/kopSa (accessed March 21, 2013).

Meanwhile, there appears to be no correlation between the percentage of students eligible for reduced-price lunch and MEAP test scores. Graphic 18 shows a wide variation in average third-grade math scores among schools with similar percentages of students eligible for reduced-price lunch.

Graphic 18: 2012-2013 MEAP Mean Scale Scores in Mathematics vs. Percentage of Students Eligible for Reduced-Price Lunch, by School, for Third-Graders



Source: Author's representation of data in "MEAP Downloadable Data Files," (Michigan Department of Education, 2013), http://goo.gl/uexp2 (accessed March 21, 2013); "Free and Reduced Lunch Counts," (Center for Educational Performance and Information, 2013), http://goo.gl/kopSa (accessed March 21, 2013).

Graphic 19 provides detailed information to compare two linear regression models using ordinary least squares. In the first, schools' average third-grade mathematics test scores in 2012 are regressed against the percentage of third-graders eligible for free lunch that year. The relationship is negative, and the model has an adjusted R-squared value of 0.58.

In the second model, the same test scores are regressed against the school's percentage of third-graders eligible for reduced-price lunch. The relationship is slightly positive, and the model has an adjusted R-squared value of 0.01, meaning that the model provides little explanatory value.

Graphic 19: Ordinary Least Squares Models Using Free Lunch and Reduced-Price Lunch as Independent Variables

	Model	
	Percent of students eligible for free lunch	Percent of students eligible for reduced-price lunch
Coefficient Estimate		
Constant	346.29	329.66
	(0.39)	(0.51)
Independent variable	-0.31	0.22
	(0.01)	(0.58)
Additional Information		
N	1620	1620
Adjusted R-squared	0.58	0.01

Source: Author's calculations based on "MEAP Downloadable Data Files," (Michigan Department of Education, 2013), http://goo.gl/uexp2 (accessed March 21, 2013); "Free and Reduced Lunch Counts," (Center for Educational Performance and Information, 2013), http://goo.gl/kopSa (accessed March 21, 2013).

Appendix C: Regression Analysis

Data Normalization

Average school test scores from the different subjects, grades and test years needed to be normalized in order to generate an overall ranking for all schools, because MEAP scores are not directly comparable.

For example, the average 2012-2013 MEAP math score for third-graders was 332.0, but the same score for fourth-graders was 431.3. To include both third- and fourth-grade scores in an overall score, these two scores needed to be normalized, so that an average-level school's third-grade score is the same as an average-level school's fourth grade score.

To achieve this, the distribution of each exam for each year and for each grade was adjusted so that the distribution had a standard deviation of 15 and the average score — defined as the "adjusted performance" score — was equal to 100. This score can be compared among schools across grades, subjects and years.

The equation below shows this in detail:

$$Adjusted\ Performance = 100 + 15 * \left(\frac{School\ Avg. - State\ Avg.}{Std. Dev. of\ State\ Avg.}\right)$$

Regression Model

After each subset of the dataset was normalized, ordinary least squares regressions were used to control for students' socioeconomic backgrounds, with schools' test scores as the dependent variable and the proportion of students eligible for free lunch as the independent variable. This is described in the equation below:

$$Adj_Perf_{s,t,m,g} = \beta_0 + \beta_1 * Free\ Lunch\ Eligible_{s,t,m,g} + \mu_{s,t,m,g}$$

where $Adjusted\ Performance_{s,t,m,g}$ is the normalized average test score at school *s* in year *t* on subject *m* in grade *g*,

β_0 is a constant,

β_1 is a coefficient representing the estimated impact of the proportion of students eligible for free lunch on a school's average score,

$Free\ Lunch\ Eligible_{s,t,m,g}$ is the proportion of students eligible for free lunch at school *s* in year *t* on subject *m* in grade *g*, and

$\mu_{s,t,m,g}$ is the error term.

The regression controls for the impact that a larger share of students eligible for free lunch has on school test scores. For example, if the coefficient β_1 is -0.5, the adjusted score on a given

MEAP test for a school with 100 percent of students eligible for free lunch is, on average, 50 points lower than for a school where no students are eligible for free lunch.

We used the adjusted performance scores created for each school's set of subject exams for each year to create "Context and Performance Scores." CAP Scores are simply the comparison of a school's actual performance to its predicted performance. Mathematically, this is accomplished by dividing a school's actual performance by its predicted performance and then multiplying by 100 to reduce the number of places after the decimal point:

$$CAP\ Score = 100 * \frac{Actual\ Performance}{Predicted\ Performance}$$

For a given school in a given year, the CAP Score for a particular grade was calculated by determining the average of the subject CAP Scores in that grade, with all subjects weighted equally. To then calculate the CAP Score for a particular year, the grade-level CAP Scores were averaged, with the CAP Scores for each grade weighted equally. A school's Overall CAP Score was then determined by averaging the CAP Scores for each available year, with all years weighted equally. Thus, in a case where all the data for a particular school came from just one year, the school's annual CAP Score became the Overall CAP Score.

For example, recall that the only MEAP exams given to third-graders are in math and reading, while the MEAP exams given to fourth-graders are in math, reading and writing. Under the method employed in this report card, the math and reading CAP Scores each count for half of the third-grade CAP Score, while the math and reading CAP Scores each count for just one-third of the fourth-grade CAP Score (which includes the writing CAP Score as well).

Regression Results

As indicated above, CAP Scores were based on a linear regression of adjusted grade-level student academic performance on a particular MEAP subject test against the grade-level percentage of students eligible for free lunch. All regression results listed below indicate a negative relationship between adjusted student test scores and the percentage of students eligible for free lunch.

The charts below show regression results by subject, grade and year. The MEAP mathematics results generally show the explanatory power of the model increasing in recent years.* The adjusted R-squared value for the 2012 third-grade MEAP mathematics test was 0.58, up from 0.53 in 2009. The adjusted R-squared values for the other four subject tests, however, do not appear to follow a pattern. Adjusted R-squared values range from 0.49 for 2009 and 2010 sixth-grade math to 0.72 for 2012 seventh-grade reading.

* In the high school report card, it was noted that the explanatory power of the model was higher in recent years. Van Beek, Bowen, and Mills, "The Michigan Public High School Context and Performance Report Card," (Mackinac Center for Public Policy, 2012), 70, http://goo.gl/tGTbP (accessed June 11, 2013).

All of the variables (Pct Free and the Constant) were statistically significant at the 1 percent level.

Graphic 20: Coefficient Estimates for the Model

Test		Grade 3	4	5	6	7	8
Math, 2009							
	Coefficient Estimate						
	Constant	118.59	117.98	118.08	119.15	121.64	120.00
		(0.55)	(0.58)	(0.64)	(0.85)	(0.78)	(0.82)
	Pct Free	-41.61	-40.90	-40.69	-41.72	-49.03	-47.22
		(1.07)	(1.14)	(1.18)	(1.59)	(1.49)	(1.70)
	Additional Information						
	N	1564	1547	1419	881	786	768
	Adjusted R-squared	0.53	0.50	0.50	0.49	0.63	0.56
Math, 2010							
	Coefficient Estimate						
	Constant	119.81	119.93	119.70	120.28	121.78	122.16
		(0.56)	(0.59)	(0.53)	(0.86)	(0.84)	(0.81)
	Pct Free	-41.58	-42.26	-41.85	-41.17	-46.00	-48.79
		(1.08)	(1.11)	(1.14)	(1.55)	(1.58)	(1.56)
	Additional Information						
	N	1584	1577	1472	937	819	804
	Adjusted R-squared	0.53	0.55	0.53	0.49	0.57	0.61
Math, 2011							
	Coefficient Estimate						
	Constant	120.32	120.35	120.67	120.90	122.78	121.20
		(0.55)	(0.57)	(0.63)	(0.89)	(0.82)	(0.89)
	Pct Free	-41.84	-42.11	-43.08	-41.32	-46.08	-44.76
		(1.02)	(1.03)	(1.13)	(1.51)	(1.50)	(1.66)
	Additional Information						
	N	1593	1586	1482	966	848	833
	Adjusted R-squared	0.56	0.54	0.56	0.49	0.58	0.55

Test		Grade 3	4	5	6	7	8
Math, 2012							
	Coefficient Estimate						
	Constant	121.01	120.83	120.89	122.81	122.37	122.65
		(0.53)	(0.52)	(0.58)	(0.79)	(0.83)	(0.78)
	Pct Free	-42.61	-43.18	-42.90	-44.65	-44.68	-46.38
		(1.00)	(0.98)	(1.03)	(1.37)	(1.52)	(1.49)
	Additional Information						
	N	1618	1594	1484	996	874	865
	Adjusted R-squared	0.58	0.60	0.58	0.58	0.56	0.60

Test		Grade 3	4	5	6	7	8
Reading, 2009							
	Coefficient Estimate						
	Constant	120.05	121.00	121.40	122.03	123.09	120.91
		(0.44)	(0.41)	(0.42)	(0.60)	(0.57)	(0.69)
	Pct Free	-44.87	-47.79	-48.17	-48.05	-52.30	-49.37
		(0.99)	(0.92)	(0.94)	(1.36)	(1.30)	(1.58)
	Additional Information						
	N	1564	1547	1419	881	786	768
	Adjusted R-squared	0.61	0.69	0.70	0.65	0.71	0.61
Reading, 2010							
	Coefficient Estimate						
	Constant	122.02	122.08	122.4	124.40	123.79	122.56
		(0.44)	(0.44)	(0.44)	(0.55)	(0.65)	(0.70)
	Pct Free	-46.23	-46.84	-47.62	-49.60	-50.25	-49.66
		(0.90)	(0.90)	(0.93)	(1.15)	(1.34)	(1.53)
	Additional Information						
	N	1586	1577	1472	936	819	805
	Adjusted R-squared	0.66	0.67	0.69	0.70	0.68	0.64
Reading, 2011							
	Coefficient Estimate						
	Constant	122.16	122.69	123.00	125.11	124.03	121.71
		(0.43)	(0.42)	(0.44)	(0.55)	(0.67)	(0.75)
	Pct Free	-45.63	-46.96	-48.91	-49.65	-48.62	-45.83
		(0.89)	(0.86)	(0.92)	(1.11)	(1.31)	(1.68)

Test		Grade 3	4	5	6	7	8
	Additional Information						
	N	1592	1587	1484	966	847	833
	Adjusted R-squared	0.66	0.68	0.69	0.71	0.65	0.57
Reading, 2012							
	Coefficient Estimate						
	Constant	122.91	122.35	123.02	124.32	125.43	122.45
		(0.42)	(0.43)	(0.87)	(0.58)	(0.55)	(0.70)
	Pct Free	-46.45	-46.33	-47.28	-47.60	-50.77	-45.96
		(0.86)	(0.84)	(0.87)	(1.21)	(1.14)	(1.53)
	Additional Information						
	N	1616	1594	1484	996	874	865
	Adjusted R-squared	0.68	0.69	0.70	0.66	0.72	0.58

		Grade 4	7
Writing, 2010			
	Coefficient Estimate		
	Constant	120.05	120.49
		(0.54)	(0.84)
	Pct Free	-42.71	-43.53
		(1.05)	(1.73)
	Additional Information		
	N	1557	813
	Adjusted R-squared	0.56	0.50
Writing, 2011			
	Coefficient Estimate		
	Constant	119.80	121.59
		(0.56)	(0.78)
	Pct Free	-40.98	-43.69
		(1.06)	(1.57)
	Additional Information		
	N	1586	847
	Adjusted R-squared	0.52	0.52

		Grade	
		4	**7**
Writing, 2012			
	Coefficient Estimate		
	Constant	120.16	121.47
		(0.52)	(0.78)
	Pct Free	-41.79	-42.88
		(1.00)	(1.56)
	Additional Information		
	N	1594	874
	Adjusted R-squared	0.56	0.52

		Grade	
		5	**8**
Science, 2009			
	Coefficient Estimate		
	Constant	120.56	122.21
		(0.42)	(0.55)
	Pct Free	-46.26	-52.44
		(0.96)	(1.28)
	Additional Information		
	N	1420	768
	Adjusted R-squared	0.65	0.69
Science, 2010			
	Coefficient Estimate		
	Constant	122.70	122.28
		(0.42)	(0.67)
	Pct Free	-48.23	-49.06
		(0.86)	(1.42)
	Additional Information		
	N	1472	804
	Adjusted R-squared	0.71	0.62

	Grade 5	Grade 8
Science, 2011		
Coefficient Estimate		
Constant	122.94	122.31
	(0.44)	(0.65)
Pct Free	-47.81	-47.10
	(0.87)	(1.46)
Additional Information		
N	1482	833
Adjusted R-squared	0.69	0.60
Science, 2012		
Coefficient Estimate		
Constant	122.59	122.93
	(0.46)	(0.61)
Pct Free	-46.38	-46.94
	(0.94)	(1.38)
Additional Information		
N	1486	866
Adjusted R-squared	0.68	0.61

	Grade 6
Social Studies, 2009	
Coefficient Estimate	
Constant	122.57
	(0.55)
Pct Free	-49.13
	(1.20)
Additional Information	
N	882
Adjusted R-squared	0.68
Social Studies, 2010	
Coefficient Estimate	
Constant	123.79
	(0.56)
Pct Free	-48.30
	(1.15)

		Grade 6
	Additional Information	
	N	937
	Adjusted R-squared	0.67
Social Studies, 2011		
	Coefficient Estimate	
	Constant	124.14
		(0.57)
	Pct Free	-47.73
		(1.17)
	Additional Information	
	N	966
	Adjusted R-squared	0.65
Social Studies, 2012		
	Coefficient Estimate	
	Constant	125.09
		(0.52)
	Pct Free	-49.10
		(1.03)
	Additional Information	
	N	996
	Adjusted R-squared	0.70

Appendix D: Locale Codes*

The locale codes used in this paper come directly from the National Center for Education Statistics. Locale codes represent how far away a particular school is from an urbanized area, and are based on a school's physical street address.[21] According to the NCES, the geographic information used to create locale codes is updated for about one-third of communities every year.

Verbatim definitions of each locale code category are below:

Graphic 21: NCES Locale Code Definitions (Verbatim From Original)[22]

Locale Code	Verbatim NCES Description
City: Large	Territory inside an urbanized area and inside a principal city with population of 250,000 or more
City: Midsize	Territory inside an urbanized area and inside a principal city with population less than 250,000 and greater than or equal to 100,000.
City: Small	Territory inside an urbanized area and inside a principal city with population less than 100,000.
Suburb: Large	Territory outside a principal city and inside an urbanized area with population of 250,000 or more.
Suburb: Midsize	Territory outside a principal city and inside an urbanized area with population less than 250,000 and greater than or equal to 100,000.
Suburb: Small	Territory outside a principal city and inside an urbanized area with population less than 100,000.
Town: Fringe	Territory inside an urban cluster that is less than or equal to 10 miles from an urbanized area
Town: Distant	Territory inside an urban cluster that is more than 10 miles and less than or equal to 35 miles from an urbanized area.
Town: Remote	Territory inside an urban cluster that is more than 35 miles from an urbanized area.
Rural: Fringe	Census-defined rural territory that is less than or equal to 5 miles from an urbanized area, as well as rural territory that is less than or equal to 2.5 miles from an urban cluster.
Rural: Distant	Census-defined rural territory that is more than 5 miles but less than or equal to 25 miles from an urbanized area, as well as rural territory that is more than 2.5 miles but less than or equal to 10 miles from an urban cluster.
Rural: Remote	Census-defined rural territory that is more than 25 miles from an urbanized area and is also more than 10 miles from an urban cluster.

* Some of this language also appears in previously published Mackinac Center studies. See ibid; Michael Van Beek, "Revenues and Spending of Michigan's Urban, Suburban, Town and Rural School Districts: 2004-2010," (Mackinac Center for Public Policy, 2011), http://goo.gl/SUoij (accessed June 14, 2013).

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