



Michigan Public High School Context and Performance Database Key

June 27, 2011

S2011-05

Introduction

The Michigan Public High School Context and Performance Database has been assembled by the Mackinac Center for Public Policy using data from a variety of reports issued by the Michigan Department of Education, the National Center for Education Statistics and the Michigan Office of the State Budget's Center for Educational Performance and Information. This searchable online database provides information from the 2006-2007 school year (the earliest year for which relevant high school achievement data are available) through the 2009-2010 school year (the most recent year for which the same data are available).

This “context and performance” (“CAP”) database contains a unique combination of data for each standard Michigan public high school: graduation rates, recent ACT® and Michigan Merit Exam test scores, and information that helps provide context for each school’s academic results. For instance, this database lists the percentage of a school’s students eligible for financial assistance under the National School Lunch Program — a figure frequently used to estimate the socioeconomic advantages and disadvantages experienced by a school’s student population. School enrollment and school locale codes[†] are also included to allow users to more easily compare schools to each other.

The following briefly discusses details about the data contained in the Michigan Public High School CAP Database.

* As discussed later in the text, this database is designed to exclude “alternative” high schools, which typically serve former dropouts, expelled students or other students whose academic and disciplinary needs have not been met by traditional high schools. The database is also designed to exclude special-population schools, such as the Michigan School for the Deaf, and schools that do not provide general education services.

[†] School locale codes describe schools as urban, suburban, town or rural, and the codes subdivide the schools within each of these categories. The methodology for assigning the codes is discussed later in the text.

List of High Schools

This database includes only public schools that provide general education to ninth-, 10th-, 11th- or 12th-grade students and that were open and active in the 2010-2011 school year. (“Alternative” high schools were therefore excluded; see first footnote, previous page.) CEPI’s online Educational Entity Master database was used to determine that 723 schools, including charter schools, met these criteria.¹

Upon closer inspection, however, some of these schools appeared to have been misidentified within the EEM database. Ultimately, 34 schools were removed from the list after verifying that they did not serve high school students, that they served only ninth-grade students or that they were alternative schools of some kind. Eleven more schools from the EEM database have no 2007-2010 data publicly available, presumably because they had just opened in 2010-2011. The CAP Database therefore contains 678 Michigan high schools. Note that some of the schools have selective admissions policies.

Locale Code

Some have argued that urban schools face unique challenges; others have said the same for rural schools. Hence, locale codes are included in the CAP Database to provide context.

The NCES assigns locale codes to each school in the country based on a methodology developed by the Census Bureau in 2005.² This methodology is “urban-centric”; it classifies urban locales (cities and suburbs) by their size, and it classifies nonurban locales (towns and rural regions) based on their proximity to “urban clusters” and “urbanized areas.”³ The NCES describes these areas as follows:

The Census Bureau defines an urban area as a densely settled core of census block groups and census blocks that meet minimum population density requirements, along with adjacent densely settled surrounding census blocks. When a core area contains a population of 50,000 or more, it is classified as an urbanized area (UA). Core areas with population between 2,500 and 50,000 are classified as urban clusters (UC).⁴

Below is a table that contains verbatim the NCES’ definitions of the 12 locale codes used in the CAP Database:

NCES Locale Code Definitions (Verbatim From Original)⁵	
Locale Code	Definition
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

In the CAP Database, locale codes were included for each school from school years 2006-2007 to 2009-2010. Note that locale codes for particular schools can change from year to year. The 2007-2010 “average locale” was defined as the locale code assigned to a school most frequently from 2006-2007 through 2009-2010.*

Enrollment

CEPI provides data on school enrollment in its “Public Student Counts” database.⁶ These school enrollment numbers are based on a head count from the fall of each school year.[†]

* Lighthouse Academy, a public charter school in Kent County, was assigned locale codes in only 2009 and 2010, and each code was different. The school’s 2010 locale code was used for the school’s 2007-2010 “average.” This was the only school where a single locale code did not predominate.

[†] Note that these figures do not represent full-time equivalent student counts, which are based on two count days.

Some schools did not have counts for each year from 2006-2007 to 2009-2010, so figures listed as the 2007-2010 average enrollment for some schools were based on only one, two or three years of data.

Percentage of Students Eligible for a Free or Reduced-Price Lunch

The percentage of a school's students eligible for school lunch subsidies from the federal government is included in the CAP Database because the figure is a common gauge of the socioeconomic status — that is, the social and economic well-being — of a student population. A lower percentage generally suggests socioeconomic advantages, while a higher percentage generally suggests socioeconomic disadvantages. Education researchers have repeatedly found a statistical relationship between student academic achievement and student socioeconomic status.

The CEPI “Free and Reduced Lunch Counts” database⁷ includes the number of students eligible for a free or reduced-price lunch under the National School Lunch Program.* The annual percentage of students eligible for a free or reduced-price lunch was calculated using the data contained in this CEPI database.

In order to generate an average percentage of students eligible for a free or reduced-price lunch at each school from 2007 to 2010, the annual percentages were weighted using the enrollment figures described above. Since not all schools reported free and reduced-price lunch counts for each year from 2006-2007 through 2009-2010, some of these weighted averages represent only one, two or three years of data.

As reported by CEPI, the free and reduced-price lunch counts for school years 2006-2007 through 2008-2009 are calculated using both a fall and spring head count. The free and reduced-price lunch count for 2009-2010, however, is based only on the fall 2009 head count. At the time of this writing, CEPI had not provided a 2009-2010 figure using both head counts.⁸

Graduation Rate

The CAP Database uses the four-year “cohort” graduation rate provided in CEPI's Michigan Cohort Graduation and Dropout Reports for individual schools.⁹ A cohort refers to a single class of students as it moves from ninth through 12th grade (with adjustments for student transfers).

* Currently, students from families with income less than 185 percent of the federal poverty level are eligible for the program. "Eligibility Manual for School Meals," (U.S. Department of Agriculture, 2008), <http://www.fns.usda.gov/cnd/Governance/notices/iegs/EligibilityManual.pdf> (accessed March 22, 2011). For more information about the program, please see: "National School Lunch Program," (United States Department of Agriculture), <http://www.fns.usda.gov/cnd/lunch/AboutLunch/NSLPFactSheet.pdf> (accessed March 22, 2011).

The 2007-2010 average graduation rate was calculated by taking the total number of students who graduated in four years from each cohort as a percent of the total number of students in each cohort for those same years. Some high schools had graduation rate data for only one, two or three years.* These high schools' 2007-2010 average graduation rates were based only on the years in which data are available for those schools.†

ACT® Test Scores

Since 2007, all 11th-graders in the state's public high schools have been required to take the ACT® test, a college admissions exam, in the spring of each school year.¹⁰ The MDE provides schools' average ACT® test scores for English, mathematics, reading, science, writing and "English+writing."¹¹ Except for writing, which uses a scale of 2 to 12 (low to high), all subjects, including English+writing, are scored on a scale from 1 to 36 (low to high).¹² For each student, the ACT® test also generates a composite score, which is an average of the student's English, mathematics, reading and science scores.‡

In the Michigan Public High School CAP Database, a school's four-year average on an ACT® subject test is weighted by the number of the school's students who took that ACT® subject test each year. If ACT® test scores were not available for each year from 2007 to 2010 for schools, their average ACT® score is based on one, two or three years of data, and this fact is noted in the CAP Database query results. Note that the MDE does not report ACT® school data for a subject whenever a school has fewer than 10 students assessed in that subject area.¹³

Michigan Merit Examination Scores

Since 2007, all 11th-graders in Michigan public schools have been required to take the Michigan Merit Examination each spring. The MDE is the source for MME test results.¹⁴ MME data for 2007 were not included, however, since the MDE has advised that these data are unreliable.¹⁵

* In some cases, this was due to a school having fewer than 10 students in a cohort or on-track graduated group. CEPI's database does not report the actual number if it is less than 10, so it was impossible to calculate a four-year average for schools where this was the case.

† One anomaly appeared in the graduation rate data. Benzie Central Sr. High School reported a 2009 graduation rate of 96 percent; CEPI showed it at 4 percent. The CAP Database uses the figure provided by Benzie Central Sr. High School.

‡ "Understand Your Scores," (ACT Inc., 2011), <http://actstudent.org/scores/understand/index.html> (accessed April 8, 2011). Questions on the ACT® are not "weighted," so all correct answers are treated equally. Incorrect responses on the ACT® do not lower a student's score any more than an unanswered question does.

The MME tests students in mathematics, reading, writing, science and social studies.* The MME reports English scores as well, although these are simply an average of the writing and reading scores.† MME scores scale from a low of 950 to a high of 1250.‡

Some high schools did not have scores for each of the three years used in calculating the average 2008-2010 MME score. Also note that as with the ACT® scores, no MME school data is reported by the MDE whenever a school has fewer than 10 students assessed by an MME exam.¹⁶ Hence, some schools' 2008-2010 average MME scores are based on only one or two years of data.

Percent Ranks

The CAP Database provides a “percent rank” for each public high school based on its ACT® scores and its MME scores. This percent rank shows the percentage of other schools statewide that scored less than the school being ranked did.§ Thus, the high school with the highest score in a particular subject would have a percent rank of 100 percent in that subject, while the high school with the lowest score would have a percent rank of 0 percent in that subject. The percent ranks for 2010 test scores are calculated using only schools that reported data that year, while percent ranks for the average 2007-2010 score are calculated using only schools that reported data for at least one of the years during that period.

* "Michigan Merit Examination: Guide to Reports," (Michigan Department of Education, 2011), 9, http://michigan.gov/documents/mde/2011_MME_GTR_Final_355746_7.pdf (accessed April 8, 2011). The MME assigns different weights to different questions. Correct answers on items considered more difficult produce more points for test-takers than other correct responses. Ibid., 11. Incorrect responses on the MME do not lower a student's score any more than an unanswered question does. Ibid., 7.

† The database provided by the MDE containing the 2010 MME scores does not contain an English score. In the CAP Database, a high school's English scores were calculated by averaging the school's reading and writing scores. To some extent, this calculation represents only an estimate of the school's average English score, since this score would ideally be based on the average of the English scores achieved by students who took both the reading and writing exams, not just students who took one exam or the other. The number of students who took both exams is not reported by the MDE, however.

‡ "Michigan Merit Examination: Guide to Reports," (Michigan Department of Education, 2011), 9, http://michigan.gov/documents/mde/2011_MME_GTR_Final_355746_7.pdf (accessed April 8, 2011). The MME uses a “criterion-referenced” scoring methodology, meaning that individual scores are not compared to the performance of other test-takers, but rather to an established standard — in this case, the Michigan high school content standards. Ibid., 7.

§ This percent rank is based on Microsoft Excel's PERCENTRANK function. The results produced by this computation differ slightly from those produced by traditional percentile rank calculations.

Note that school ACT® scores, MME scores and percent ranks have not been adjusted to reflect the socioeconomic status of each school’s student population. Student socioeconomic status is statistically linked with student achievement on standardized tests, however. Users should bear this in mind when comparing high school test scores — a key reason that the CAP Database includes each school’s free and reduced-price lunch student population, which is frequently used to measure socioeconomic status.

Endnotes

¹ "Center for Educational Performance and Information: Educational Entity Master," (State of Michigan, Office of the State Budget, 2011), Educational Entity Master, <http://cepi.state.mi.us/eem/Default.aspx> (accessed June 19, 2011). The specific filters used to generate this list using the EEM included: 1) Actual educational setting contained "General Education"; 2) School emphasis contained "General Education"; 3) Actual grades served contained ninth grade, 10th grade, 11th grade, or 12th grade; 4) Type of entity was equal to "ISD School," "LEA School" or "PSA School."

² Tai Phan and Mark Glander, "Documentation to the NCES Common Core of Data Local Education Agency Locale Code File: School Year 2005-06" (National Center for Education Statistics, 2007), 1, <http://nces.ed.gov/ccd/pdf/al051agen.pdf> (accessed Feb. 22, 2011).

³ Ibid., 5.

⁴ Ibid., 9-10.

⁵ Ibid., 3-4.

⁶ "Public Student Counts (Headcount Data)," (Michigan State Budget Office, Center for Educational Performance and Information, 2011), http://michigan.gov/cepi/0,1607,7-113-21423_30451_30460---,00.html (accessed June 21, 2011).

⁷ "Free and Reduced Lunch Counts," (Michigan State Budget Office, Center for Educational Performance and Information, 2011), http://www.michigan.gov/cepi/0,1607,7-113-21423_30451_36965---,00.html (accessed June 21, 2011).

⁸ Ibid.

⁹ "Michigan Cohort Graduation and Dropout Reports," (Michigan State Budget Office, Center for Educational Performance and Information, 2011), http://www.michigan.gov/cepi/0,1607,7-113-21423_30451_51357---,00.html (accessed June 21, 2011).

¹⁰ "MME: Michigan Merit Examination," (Michigan Department of Education, 2011), http://michigan.gov/mde/0,1607,7-140-22709_35150---,00.html (accessed June 17, 2011).

¹¹ "Michigan Merit Examination: Guide to Reports," (Michigan Department of Education, 2011), 8, http://michigan.gov/documents/mde/2011_MME_GTR_Final_355746_7.pdf (accessed April 8, 2011).

¹² "Writing Test Scores," (ACT Inc., 2011), <http://www.actstudent.org/writing/scores/> (accessed June 17, 2011); "How to Calculate Your Combined English/Writing Score," (ACT Inc., 2011), <http://www.actstudent.org/writing/scores/combined.html> (accessed June 17, 2011); "Understand Your Scores," (ACT Inc., 2011), <http://actstudent.org/scores/understand/index.html> (accessed April 8, 2011).

¹³ "Michigan Merit Examination: Guide to Reports," (Michigan Department of Education, 2011), 4, http://michigan.gov/documents/mde/2011_MME_GTR_Final_355746_7.pdf (accessed April 8, 2011).

¹⁴ See "MDE - Downloadable Data Files," (Michigan Department of Education), http://michigan.gov/mde/0,1607,7-140-22709_35150_47475---,00.html (accessed June 21, 2011).

¹⁵ Eric Imhoff, Mackinac Center for Public Policy, phone interview with Steve Viger, Manager of Measurement Research and Psychometrics, Michigan Department of Education, July 15, 2010.

¹⁶ "Michigan Merit Examination: Guide to Reports," (Michigan Department of Education, 2011), 4, http://michigan.gov/documents/mde/2011_MME_GTR_Final_355746_7.pdf (accessed April 8, 2011).