

The 2009 Broad Prize for Urban Education Summary of Data and Analysis Procedures

This document discusses the data collection and analysis procedures used to generate the summary tables created by MPR Associates for the 2009 Broad Prize and available at www.broadprize.org. First, it describes the criteria and data sources used to identify the eligible districts. Second, it reviews each of the achievement measures and the data on which they are based. Third, it explains the methodologies used to analyze the achievement data to measure performance and improvement. Finally, it describes the contents of each of the summary tables.

The Broad Prize for Urban Education selection process is based on the procedure developed in the inaugural year of the Prize. The winner is selected through a two-step process. First, a Review Board selects five finalists from an initial pool of 100 districts, based on a review of data collected from federal, state, and other sources. Second, a Selection Jury uses these data, augmented by qualitative information gathered through site visits to the five finalists, to choose the winner.

To support the selection of the five finalists, MPR Associates, Inc. collected extensive data on the pool of 100 districts, analyzed the data to develop multiple measures of performance and improvement, and prepared detailed profiles of each district as well as summary tables containing data on all districts.

This year, a number of changes have been made to the quantitative analyses, based on recommendations from a Methodology Panel of experts convened by The Broad Foundation in fall 2008. Significant methodological changes are shown in bold italics throughout this document.

1) Eligible Districts

For The 2008 Broad Prize, a pool of 100 eligible districts was identified based on data from the U.S. Department of Education. The same set of districts was eligible for The 2009 Broad Prize, with the exception that the 2008 winner, Brownsville Independent School District, was not eligible this year, while the 2005 winner, Norfolk Public Schools, was again eligible.¹ To be eligible for The Broad Prize, school districts must meet certain criteria set by The Broad Foundation related to size, poverty, and urbanicity. The criteria for eligibility are:

- All K–12 districts serving more than 100,000 students (25 districts).

¹ Winners from the previous three years were ineligible (including Boston Public Schools, New York City Department of Education, and Brownsville Independent School District).

- All K–12 districts serving between 35,000 and 99,999 students in which at least 40% of students are eligible for free or reduced-price school lunch (FRSL), in which at least 40% of students come from minority groups, and that have an urban designation (Locale Code 11, 12, or 21 in the CCD data²) (63 districts).
- The largest urban districts in states with no districts meeting the above criteria, as long as the district has at least 20,000 students (11 districts).
- The next largest districts in the nation meeting the criteria of 40% FRSL, 40% minority, and an urban designation. The purpose of this criterion was to bring the total number of districts to 100 (1 district).

For The 2008 Broad Prize, data on school district demographics obtained from the National Center for Education Statistics' Common Core of Data (CCD) for 2006 (the most recent year for which data were available) were used to determine the list of 100 eligible districts.

The 100 eligible school districts are located in 38 states and the District of Columbia (see Table 1.1 for a list of districts and a description of their demographic characteristics as of 2007). Twelve states—Delaware, Hawaii, Idaho, Maine, Massachusetts, Montana, New Hampshire, North Dakota, South Dakota, Vermont, West Virginia, and Wyoming—have no eligible districts this year. Hawaii is ineligible because it has a statewide school system.

2) Measures of Student Achievement

Detailed data on various measures of student achievement were obtained for each district, using federal, state, and other sources. Wherever possible, data were collected by grade level, race/ethnicity (African American, Asian, Hispanic, and White), and low-/non-low-income status. To provide context for these data, state data on student achievement on nationally standardized tests were also obtained. Measures of student achievement examined are:

- State scores on National Assessment of Educational Progress (NAEP) **and Northwest Evaluation Association (NWEA)** tests,
- Reading and mathematics proficiency rates as determined by state tests,
- High school graduation rates,
- College readiness measures, and
- Adequate Yearly Progress (AYP).

² As of 2007, CCD locale codes have changed: code 11 represents a large city; code 12 represents a mid-size city; and code 21 represents a large suburb. Sable, J. (2008). *Documentation to the NCES Common Core of Data Local Education Agency Universe Survey: School Year 2006-07 Version 1a* (NCES 2009-301). National Center for Education Statistics, Institute of Education Sciences, U.S. Department of Education. Washington, DC.

Performance measures generally reflect 2008 data, although they sometimes reflect the average of 2007 and 2008 data, where indicated. **Improvement or “average change” was calculated as the slope of the best fit line among available data points from 2005 to 2008, generally determined by regressing the relevant outcome measure on year.³ If only one data point was available, or if data were missing for both 2007 and 2008, average change was not calculated.**

State Scores on NAEP and NWEA Tests

On a regular basis, the NAEP, administered by the National Center for Education Statistics (NCES), publishes achievement scores for the nation for students in the 4th, 8th, and 12th grades, and achievement scores for participating states for students in the 4th and 8th grades. These scores are based on tests administered to samples of students at the national and state levels, respectively. State NAEP scores are presented here as a means of “calibrating” between states. The test is constructed to allow comparisons over time as well as across the states.

State NAEP data for the 4th- and 8th-grade reading and mathematics assessments are used here to report the percentage of students scoring at the proficient level or above (Table 2.1). The change between 2003 and 2007, and between 2005 and 2007, are also shown, including an indication of whether the change is statistically significant. These data are meant to show whether a district is located in a state that performs above or below the national average and whether the state’s improvement is above or below the national average. These data provide some context where test content and standards vary across states and state proficiency rates are not directly comparable.

NAEP Trial Urban District Assessment (TUDA) data for 2003, 2005, and 2007 are also presented. Eleven large urban school districts participated in at least two of the three NAEP TUDA administrations. All eleven are eligible Broad Prize districts or recent winners. As with the State NAEP, the percentage of students scoring at the proficient level or above (Table 2.2) is presented. The change between 2003 and 2007, and between 2005 and 2007, are also shown, as well as an indication of whether the change is statistically significant. These data provide a direct comparison of student achievement on a national achievement test for those districts participating in the TUDA.

Tables 2.3 and 2.4 show results from a 2006 NWEA study mapping state proficiency standards onto NWEA’s Measures of Academic Progress (MAP)⁴ scales for reading and mathematics.⁵ The scale score equivalents shown

³ When only two data points were available, the slope was equal to $(X_2 - X_1)/(Year_2 - Year_1)$.

⁴ MAP is a computerized assessment used for diagnostic and accountability purposes by schools and school systems in many states. Thirty-two states had enough students participate in both MAP and their state assessment to allow for estimating state cut score equivalents on the MAP scales for at least some grades.

represent the NWEA MAP scale scores that were determined to be equivalent to the states' proficiency standards for elementary (3-5), middle (6-8), and high school (10) in reading and math. They provide an indication of the relative stringency of the state proficiency standards. The states' score equivalents are ranked, with "1" indicating the highest score equivalent and most stringent state proficiency standards. Results may differ from a similar 2005 National Assessment of Educational Progress (NAEP) analysis presented for The 2008 Broad Prize, at minimum because different test years and grades were included in the analysis.⁶

Reading and Mathematics Proficiency as Determined by State Tests

Key indicators of student performance include scores on state-mandated achievement tests and trends in these scores over time. Test score data in reading and mathematics were collected from each state containing an eligible district for the period 2005 through 2008.⁷ These data were used to calculate the percentage of students in each district scoring at or above the proficient level on state tests in reading and mathematics in each grade 3 through 12, where available. Weighted by the number of test-takers at each grade level, these data on student achievement were aggregated across elementary grades (3–5), middle grades (6–8), and high school grades (9–12). These state assessment data were analyzed (using methods described below) to calculate actual versus expected performance (Tables 3.1–3.3), **direct comparisons of district and state performance (Tables 4.1–4.4)**, and gaps between low- and non-low-income students and between White and African American students and White and Hispanic students (Tables 5.1–5.5). **In the summary tables in Section 4, the percentage of students scoring below proficient, at the proficient level, and at the advanced level on state tests is also presented, as well as comparisons of district and state performance at these three levels.⁸** Test data were suppressed if they were deemed unreliable or if the subgroup being reported at a given level represented less than 5% of the test-takers at that level.

It is important to note that standardized tests differ across states in a number of respects. These differences include test standards (some are more rigorous than others as indicated in Tables 2.3 and 2.4), proficiency requirements, cut points, grades tested, testing requirements for English language learners and students with disabilities, and many other details. Thus, meeting proficiency requirements is not an indicator that can be readily compared across states.

⁵ A similar study mapping 2007 state proficiency standards onto the 2007 NAEP scales is not yet available.

⁶ The NAEP analysis compared state tests with the NAEP as of 2005, and included only grades 4 and 8.

⁷ The data were provided directly by state agencies or downloaded from their websites.

⁸ In cases where the state has multiple levels above proficient, the "advanced" level is the highest level above proficient on the state test, and "proficient" is all levels at or above proficient and below the highest level.

Moreover, many state tests changed during the period from 2005 to 2008, including changes in grades tested, test standards, proficiency cut points, and population inclusion policies. Table 1.2 summarizes state test comparability and indicates which years and grades were included in our analyses.

High School Graduation Rates

Another key measure of student performance is graduation rates. There are several ways to estimate graduation rates, and three are presented here (Tables 6.2–6.4). An additional table averages the three graduation rate measures (Table 6.1). The data needed for these calculations, which were obtained from the CCD, included total and subgroup enrollment figures and diploma counts for each district for the high school classes of 2003 through 2006 (the most recent years available). Data were suppressed if they were deemed unreliable or if the subgroup being reported represented less than 5% of the district's enrollment. Additional information is provided in the next section on data analysis methods.

College Readiness Measures

District measures of the college readiness of their students include SAT and ACT mean scores and participation rates. These two tests are designed to assess readiness for college-level work. Scale scores for each subject (reading and math) of the SAT range from 200 to 800. Scale scores for the composite ACT test (covering English, mathematics, reading, and science) range from 1 to 36. With district permission, the College Board and ACT provided mean test scores for each district for 2005 through 2008 (Tables 7.1 and 7.3), along with the number of seniors who had taken the test (regardless of when they took the test during high school).⁹ Participation rates were calculated using CCD enrollment data for 12th-graders in the relevant year as the denominator (Tables 7.2 and 7.4).

Another measure of college readiness is the extent to which students take and pass Advanced Placement (AP) examinations. These examinations provide a standardized measure of student performance in college-level courses taken while in high school. AP grades are reported on a 5-point scale:

- 5 = Extremely well qualified
- 4 = Well qualified
- 3 = Qualified (equivalent to passing)
- 2 = Possibly qualified
- 1 = No recommendation

Again with permission from each district, the College Board provided data for 2005 through 2008 on the percentage of AP examinations with scores of 3 or above, overall and by AP subject, taken by juniors and seniors in the district. The

⁹ Where students had taken the test more than once, the most recent score was reported.

summary tables include AP performance for *all* tests (Table 7.5) as well as performance in *core* AP subjects (Table 7.7).¹⁰ The College Board also provided the number of juniors and seniors who took the AP test; these numbers were used to calculate participation rates, which used CCD enrollment data for 11th- and 12th-graders in the relevant year as the denominator (Table 7.6). The number of tests taken in each AP subject was used to calculate participation in core AP subjects (Table 7.8).

Data were suppressed if they were deemed unreliable. Test scores were suppressed if they were based on the performance of fewer than 15 students, as required by the College Board. Participation rates were suppressed if a subgroup represented less than 5% of enrollment in the relevant grades. Participation rates for subgroups were suppressed if subgroup enrollment data summed to less than 95% of total district enrollment for the relevant grades (that is, incomplete enrollment data). ***In addition, subgroup results were suppressed if data on the number of test takers whose race/ethnicity was identified represented less than 90% of the total number of test takers for a given test and year.***¹¹ Finally, participation rates were suppressed if they were greater than 100%.

Adequate Yearly Progress (AYP)

Under the accountability provisions in the No Child Left Behind (NCLB) Act of 2001, districts and schools are evaluated annually for Adequate Yearly Progress (AYP). Baseline performance standards for reading/language arts and mathematics are determined using each state's adaptation of the methodology required in NCLB. The Act requires all students to be proficient by 2013–14. In addition to the performance requirement, districts and schools must meet test participation standards. High schools must also meet a graduation rate requirement, and states must identify an additional measure for evaluating elementary and middle schools.

The data presented indicate the percentage of schools in each eligible district and the percentage of schools in the state that met federal AYP requirements in 2005 through 2008 under the No Child Left Behind (NCLB) Act, where the data were available (Table 8.1). Also presented is an indicator of whether the district met their overall AYP target. These data were obtained from state and local education agency websites.

It is important to note that AYP requirements differ across states in a number of respects. These differences include the proficiency requirements and the rate at which the proficiency requirements are “ramped up” over time; the number of students required in a subgroup for that subgroup to be counted; testing

¹⁰ Core subjects include Biology, Calculus AB and BC, Chemistry, Computer Science A and AB, English Language and Literature, Environmental Science, Physics B and C, and Statistics.

¹¹ Race/ethnicity is self-reported in SAT, ACT, and AP, and the amount of missing race/ethnicity data varies by district and year.

requirements for English language learners and students with disabilities; the use of confidence intervals; and many other details. Thus, meeting AYP requirements is not an indicator that can be readily compared across states.

3) Data Analysis Methods

The summary tables include data collected on district characteristics (Table 1.1), background on state tests (Tables 1.2 and 1.3) and AYP (Table 8.1). The data on student achievement described above were analyzed to develop measures of the following:

- Performance and improvement on state tests, taking into consideration differences in state tests and the proportion of low-income students in the districts.
- **Comparing the performance of all students, African American, Hispanic, and low-income students in a district with their state peers, at the proficient or above level, and at the below proficient, proficient, and advanced levels on state tests.**
- Achievement gaps between Whites and other racial/ethnic groups—particularly, African Americans and Hispanics—and between low-income and non-low-income students, and the progress that is being made in closing these gaps.
- High school graduation rates.
- Performance on and participation in college readiness exams.

Performance and Improvement on State Tests

Restricting Analyses to Local School Districts

Test files obtained from states often contain results for all educational agencies in the state. Beginning with The 2009 Broad Prize year, state test data files and analyses used in The Broad Prize were restricted to local school districts, defined as Common Core of Data (CCD) district types 1 or 2 (local school districts). In contrast, supervisory union administrative centers, regional education services agencies, state- and federally operated institutions serving special-needs populations, and other agencies not fitting the mentioned categories were removed from The 2009 Broad Prize data files and analyses.

Regression Analysis and Calculation of Standardized Residuals

An ordinary least squares regression analysis was conducted to determine the extent to which each district performed better or worse than other districts in its state given the district's percentage of low-income students. Specifically, the dependent variable in the regression analysis was the percentage of test-takers in each of the three grade-level groupings (elementary, middle, and high school) in the district who were proficient or above on the state test. The independent

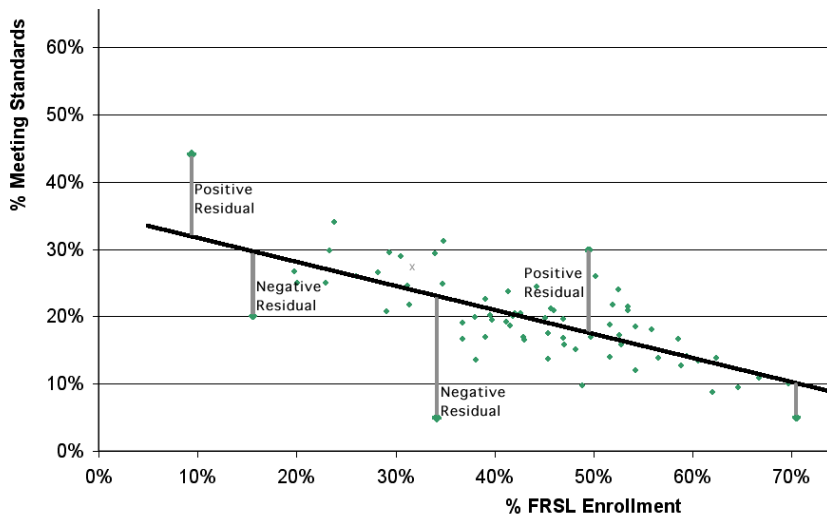
variable was the percentage of test-takers in each grade-level group in the district who were low income.

Beginning with The 2009 Broad Prize year, the regressions were weighted by district size, as measured by enrollment. This change gives greater weight in the regressions to larger districts, and avoids possible undue influence of very small districts on the regression results.

Running the regressions required data for all districts in the state, as well as data on the percentage of test-takers who were low income. In a few cases where data were available for the state and eligible district, but not for all districts in the state, or where data on the proportion of test-takers who were low income were not available, the regressions could not be run.¹²

Each district's expected or predicted proficiency level was calculated based on the regression. The difference between the district's actual percentage of students who tested at the proficient or above level and the predicted or expected value is the residual. A positive residual indicates that the district is performing better than expected on the state test given the percentage of poor children taking the test, while a negative residual indicates performance lower than expected. Figure 1 (below) illustrates this approach.

Figure 1



To allow for year-to-year comparisons, separate regressions for each year of data were calculated. **Beginning with The 2009 Broad Prize year, subgroup**

¹² Regressions could not be run for Iowa prior to 2007, because only data for the district (Des Moines) and state were readily available, not for all districts in the state. Regressions also could not be run for Mississippi, because the state does not release data needed to compute the percentage of test takers who were low income. Regressions could not be run for DC, because it is a single-district "state."

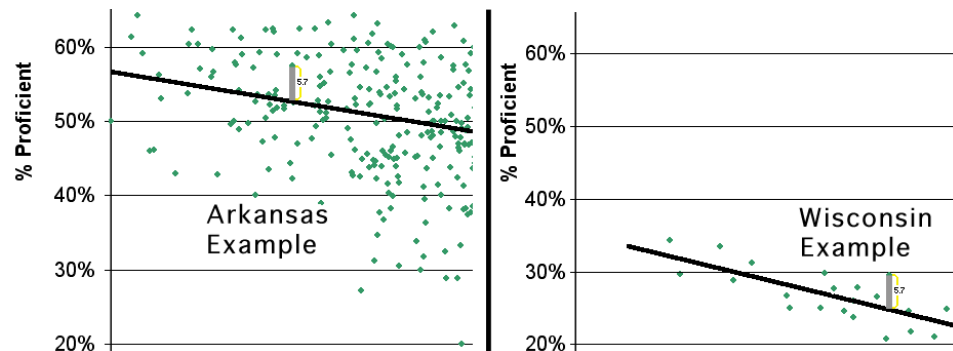
regressions (for African American, Hispanic, and low-income students) were not run, because it was determined that they were not meaningful.¹³

Some states change tests over the period under review, and tests differ from state to state. Consequently, the interpretation of residuals varies. In order to have a measure with greater comparability, The Broad Prize methodology uses “standardized residuals.” A district’s standardized residual is typically calculated by dividing its residual by the standard deviation of all residuals from the state regression.¹⁴

It should be emphasized that residuals are *relative* performance measures. A district’s performance was assessed relative to that of other districts in the state, not in absolute terms.

This point is illustrated in Figure 2. As an example, a district in Arkansas may have a residual in elementary reading of 5.7 (meaning that they had 5.7% more students reach the benchmark than their “expected level” given their district’s poverty). At the same time, a district in Wisconsin may also have a residual of 5.7 in elementary reading. The assessment of how well each district is performing, however, may not be the same even though both have the same residual. If the majority of districts in Arkansas are within 6 percentage points of the expected level, while the majority of districts in Wisconsin are within 2 percentage points of the expected level, the Wisconsin district is performing much better compared to its peers than the Arkansas district is compared to its peers. Standardizing the residuals helps account for differences in variability.

Figure 2



¹³ The model for the previous subgroup regressions involved regressing the subgroup proficiency rate on the percentage of “all students” in the district who were low income. The Methodology Panel determined that, to be meaningful, these regressions would have to include as the independent variable the percentage of the “subgroup” who were low income. These data are generally not publicly available.

¹⁴ When weighting the regressions by district size for The 2009 Broad Prize, standardized residuals were calculated by formula.

Caution must be exercised in comparing these standardized residuals across states. For example, a district performing above average in a state that ranks below the national average on NAEP may be performing no better than a district performing below average in a state that ranks above the NAEP national average. To see which states perform below or above the national average, it may be helpful to consult the state-by-state NAEP data in Table 2.1.

Residuals were suppressed if the overall regression (as represented by the F statistic) was not significant, if the regression produced implausible (out-of-range) predicted values for the eligible district, or if the underlying data were determined to be unreliable.

Calculating Performance and Improvement Measures

Separate standardized residuals were calculated for each subject (reading and mathematics), level (elementary, middle, and high school), and year (2005, 2006, 2007, and 2008), for a total of 24 possible regressions for each state. ***Based on recommendations from the Methodology Panel, the practice of averaging residuals across the last two years to produce a current performance measure was abandoned. Instead, 2008 residuals are presented in Table 3.1 for purposes of comparing the magnitude of standardized residuals within a state. In order to compare districts across states, decile ranks based on standardized residuals for all districts in a state regression were computed and the average decile ranks for 2007 and 2008 are presented (Table 3.2). Decile ranks 1–5, which represent the top half of residuals in the state, are highlighted.¹⁵ These average decile ranks were calculated separately by level (elementary, middle, and high school) and subject, and then averaged to produce a single performance measure for each eligible district.***

Improvement or “average change” was calculated as the slope of the best fit line among the available data points for 2005 through 2008 (Table 3.3). The slope was generally determined by regressing the available standardized residuals on year. If only one data point was available, or if residuals were missing for both 2007 and 2008, average change was not calculated.

Standardized residuals were used in improvement or “average change” calculations regardless of any changes in state tests from 2005 to 2008, as long as the test change was implemented statewide. This practice was followed because of the relative nature of the measure. Standardized residuals indicate a district’s performance relative to that of other districts in the state, regardless of the particular test administered in a given year. In the rare case where a test change was implemented differently across districts in the state, residuals in the affected years were suppressed and not included in improvement calculations.

¹⁵ Decile ranks range from 1 for the largest positive residuals to 10 for the largest negative residuals in a state.

Just as the performance measure is based on relative performance, the improvement measure is based on improvement in relative performance. Thus, a district whose scores improved, but more slowly than those of other districts in the state, could find itself moving upward on the graph from year to year more slowly than the upward movement of the regression line. Such a district would show negative (relative) improvement in the analysis.

The analysis provides information on both performance and improvement. In theory, districts with high performance levels initially might be expected to have lower levels of improvement. A district that performed consistently above expectations during all four years, but did not improve, could still be thought of as consistently high-performing.

Because states use different tests and different standards of proficiency, individual states may be subject to “floor effects” or “ceiling effects.” If proficiency levels are generally very high in a state (near 90%, for example), then high-performing districts may not be able to demonstrate their relative advantage because their proficiency level cannot increase above 100%. Similarly, if state proficiency levels are very low, then the relative advantage of higher performers may again be understated because lower performing districts cannot fall below 0%. Table 1.3 shows state proficiency rates over the period from 2005 to 2008. This table can help identify possible floor and ceiling effects associated with the state tests.

Comparisons of District and State Performance

This analysis compares the performance of four subgroups (all students, African American, Hispanic, and low-income students) in a district with their state peers. Unlike the preceding regression analyses, these analyses directly compare district and state performance and do not take into account district poverty levels. These comparisons focus on the proficient or above level and the advanced level on state tests.¹⁶ The number of times when the district’s four subgroups outperformed their state peers at these two levels is shown in Tables 4.1 and 4.3, respectively.¹⁷

The “state” proficiency rates against which the district proficiency rates were compared in this section generally excluded the district’s results. That is, unless otherwise indicated, district proficiency rates were removed from state averages to produce “rest of state” proficiency rates for comparison purposes. This approach was particularly important in cases where very large eligible districts enrolled a significant proportion of the population in a

¹⁶ The detailed data reports for each eligible district show the percentage of students at the below proficient, proficient, and advanced levels, as well as at the proficient or above level, on the state test. The “advanced” level was defined as the highest performance level above “proficient” on a state’s test.

¹⁷ Generally, a larger district percentage compared with the state percentage is counted as a case of outperformance. However, in the district data reports, smaller district percentages compared with the state percentages at the “below proficient” level are counted as outperformances.

state and would otherwise have been compared largely to itself. In states with multiple eligible districts, the “state” proficiency rates will vary, because each district was compared separately with all other districts in the state except itself.

Improvement or “average change” for the proficient or above level and for the advanced level was calculated as the slope of the best fit line among the available data points for 2005 through 2008 (Tables 4.2 and 4.4, respectively). The slope was generally determined by regressing the available proficiency rates on year. If only one data point was available, or if data were missing for both 2007 and 2008, average change was not calculated. Improvement at the advanced level may be particularly useful in states with high average proficiency rates and possible ceiling effects.

Test data were suppressed if they were deemed unreliable or if the subgroup being reported at a given level represented less than 5% of the test-takers at that level.

Achievement Gaps

Three achievement gaps were calculated:

- African American vs. White gap: This compares the performance of African American students to White students.
- Hispanic vs. White gap: This compares the performance of Hispanic students to White students.
- Low-income vs. non-low-income gap: This compares the performance of low-income students to non-low-income students.

Achievement gaps are represented by negative numbers in the district data reports, and the closing of gaps is represented by positive numbers. For example, if a district’s African American students perform 30 percentage points below the district’s White students, this gap is represented by -30. If the gap decreases to -10 in subsequent years, then the magnitude of the gap closure is the later year’s gap minus the earlier year’s gap (-10 minus -30 equals +20).

Gaps were measured in three different ways:

Internal District Gap

This measure was used to compare the performance of different subgroups within the district. Some caution must be exercised in comparing internal gaps across districts because these comparisons may be distorted by the following factors:

- The relative absence of one of the subgroups in some districts (e.g., few White or non-low-income students). To address this issue, internal gaps were not calculated in districts where either of the groups being compared was less than 5% of the district's test-takers.
- Differences between districts in the composition of analogous groups (e.g., high-income Whites in one district and moderate-income Whites in another).
- Higher than average performance or improvement by the advantaged group in some districts and lower than average performance or improvement by the advantaged group in others (which could cause districts with lower performing advantaged students to appear to be doing a better job of "closing the gap").
- Ceiling or floor effects (discussed above), which can distort the comparison of gaps across states.

An internal district gap was considered to be closing if the district's disadvantaged group proficiency was increasing and the district's advantaged group proficiency was either steady or increasing. The gap was closing because the district's disadvantaged group proficiency was increasing at a faster rate than the district's advantaged group proficiency.

Internal District Versus Internal State Gap

This measure was used to calculate the *district's* internal gap minus the *state's* internal gap. ***As described above, the "state" internal gaps against which district internal gaps were compared generally excluded the district's results. That is, unless otherwise indicated, district proficiency rates were removed from state averages to produce "rest of state" values for comparison purposes. This approach was particularly important in cases where very large eligible districts enrolled a significant proportion of the population in a state and would otherwise have been compared largely to itself. In states with multiple eligible districts, the "state" values will vary, because each district was compared separately with all other districts in the state except itself.***

Positive numbers indicate that the district outperformed the state on the measure. For example, if the district's Hispanic students are performing 10 percentage points below the district's White students, but the state's Hispanic students are performing 15 percentage points below the state's White students, then the district's gap is 5 percentage points smaller than the state's gap. This is shown in tables in the district data reports as a district gap minus state gap of +5 percentage points (-10 minus -15 equals +5).

By similar reasoning, a positive change in this measure over time for Hispanic students would indicate that the district's Hispanics are improving faster relative to

the district's Whites than the state's Hispanics are improving relative to the state's Whites.

An internal district vs. internal state gap was considered to be closing if the district's disadvantaged group proficiency was increasing, the district's advantaged group proficiency was either steady or increasing, and the internal district gap was closing at a faster rate than the state internal gap.

External Gap: District Disadvantaged Versus State Advantaged

This measure was used to compare the performance of the *district's disadvantaged* group with that of the *state's advantaged* group. ***Again, the "state's" advantaged proficiency against which the district's disadvantaged group was compared generally excluded the district's results. That is, unless otherwise indicated, district proficiency rates were removed from state averages to produce "rest of state" values for comparison purposes. This approach was particularly important in cases where very large eligible districts enrolled a significant proportion of the population in a state and would otherwise have been compared largely to itself. In states with multiple eligible districts, the "state" proficiency rates and gaps will vary, because each district was compared separately with all other districts in the state except itself.***

If 30% of District A's Hispanic students, 40% of District B's Hispanic students, and 50% of the state's White students are proficient on the state test, District A's external gap for Hispanics is 30% minus 50% (or -20 percentage points), and District B's external gap is 40% minus 50% (or -10 percentage points). A negative number indicates the district's disadvantaged group proficiency was lower than the states' advantaged group proficiency. External gap statistics are generally negative numbers, but improvement in external gaps (improvement in the performance of the district's disadvantaged students relative to the state's advantaged students) will show up as positive numbers.

An external gap was considered to be closing if the district's disadvantaged group proficiency was increasing at a faster rate than the state's advantaged group proficiency.

An illustration of the three achievement gap measures follows.

	2005 Proficiency Rate		2008 Proficiency Rate	
	District	State	District	State
Low-income students	20	25	35	30
Non-low-income students	50	60	55	65

In this example, the gap measures would be:

Internal District Gap

- 2005 internal gap: -30 (equals 20 minus 50)
- 2008 internal gap: -20 (equals 35 minus 55)
- 2005–2008 change in internal gap: +10. This means that the district has closed its income gap by 10 percentage points since 2005.

Internal District Versus Internal State Gap

- 2005 internal state gap: -35 (equals 25 minus 60)
- 2008 internal state gap: -35 (equals 30 minus 65)
- 2005–2008 change in internal state gap: 0. This means that the state's income gap has not changed since 2005.
- 2005 internal district vs. internal state gap: +5 [equals -30 minus (-35)]
- 2008 internal district vs. internal state gap: +15 [equals -20 minus (-35)]
- 2005–2008 change in internal district vs. internal state gap: +10. This means that the district's low-income gap has improved 10 percentage points more than the state's gap since 2005.

External Gap: District Disadvantaged Versus State Advantaged

- 2005 external gap: -40 (equals 20 minus 60)
- 2008 external gap: -30 (equals 35 minus 65)
- 2005–2008 change in external gap: +10. This means that the district's low-income performance has improved relative to the performance of the state's non-low-income group by 10 percentage points since 2005.

Note that the calculations for the change in gap magnitudes described above are simplified here for illustration only. **Gap closures were calculated based on average change in the gaps between 2005 and 2008. Improvement or "average change" was calculated as the slope of the best fit line among the available data points for 2005 through 2008, generally determined by regressing the gap in proficiency rates on year. If only one data point was available, or if data were missing for both 2007 and 2008, average change was not calculated.**

Table 5.1 shows a summary of gap closures for each of the three subgroups and overall. Tables 5.2–5.4 show detail on each gap type (internal district, internal district vs. internal state, external) for the three subgroups of

interest (low-income, African American, Hispanic, respectively). Table 5.5 shows the number of gaps for each district that were among the smallest 20% of gaps in the state. To identify districts with the smallest gaps, decile ranks based on gaps for all districts in a state were computed and gaps that had a decile rank of 1 or 2 were highlighted.¹⁸ Decile ranks could only be calculated for internal district gaps.

Important Note Regarding Achievement Gap Data

The same cautions must be exercised in comparing gaps across states as were discussed earlier for regression residuals. Also, additional caution must be used because the three gap types are not “standardized” and are even more vulnerable to ceiling and floor effects than are standardized measures. Table 1.3 shows state proficiency rates over the period from 2005 to 2008, and can help identify possible floor and ceiling effects associated with the state tests.

High School Graduation Rates

There are a number of ways of estimating high school graduation rates. The binder includes calculations using three different methods:

1. The Averaged Freshman Graduation Rate (AFGR)
2. Urban Institute Graduation Rate (Cumulative Promotion Index or CPI)
3. Manhattan Institute Graduation Rate (Greene’s Graduation Indicator or GGI)

Graduation rates were calculated using district enrollment data (for different grades and years) and district diploma counts, according to the equations below. Enrollments and diploma counts were obtained from the National Center for Education Statistics’ Common Core of Data (CCD). For each of the three measures, graduation rates were suppressed if needed enrollments summed to less than 95% or greater than 100% of total district enrollment. Graduation rates were also suppressed as implausible if they exceeded 100%. Finally, graduation rates were suppressed for racial/ethnic groups that made up less than 5% of the district’s enrollment. ***Additional suppression rules specific to the CPI and GGI rates are described below.***

The methodology for each of these is briefly explained below.

Averaged Freshman Graduation Rate (AFGR)

This method divides the number of students graduating in Year y by an average of the 8th-grade enrollment in Year $y - 4$, 9th-grade enrollment in Year $y - 3$, and 10th-grade enrollment in Year $y - 2$:

¹⁸ Decile ranks range from 1 for the smallest gaps to 10 for the largest gaps in a state.

$$\text{Graduation Rate} = \frac{G_y}{(S_{8,y-4} + S_{9,y-3} + S_{10,y-2})/3}$$

Where: G = Number of graduates receiving a regular diploma

y = School year

Denominator = Smoothed estimator for first-time 9th-grade enrollment

Urban Institute Graduation Rate (Cumulative Promotion Index or CPI)

Also known as Swanson's Cumulative Promotion Index (SCPI), this method assumes that graduation is a process composed of three grade-to-grade promotion transitions (9 to 10, 10 to 11, and 11 to 12) in addition to the graduation event (grade 12 to diploma). Each of the transitions is calculated as a probability, dividing the enrollment of the following year by the enrollment of the current year for the grade in question. These separate probabilities are then multiplied to produce the probability that a student in that school system will graduate within four years of entering 9th grade.

$$\text{Graduation Rate} = \frac{S_{10,y+1}}{S_{9,y}} * \frac{S_{11,y+1}}{S_{10,y}} * \frac{S_{12,y+1}}{S_{11,y}} * \frac{G_y}{S_{12,y}}$$

Where: S_{grade} = Number of students in a specified grade

y = School year

G = Number of graduates receiving a regular diploma

As recommended by Swanson¹⁹ and the National Center for Education Statistics (NCES),²⁰ the following quality controls were followed. When data were missing for any grade 9–12 for either of the two consecutive years required to calculate the rate, the graduation rate was reported as missing. In addition, promotion rates greater than 100% but not exceeding 110% were “trimmed” to 100% before calculating the graduation rate. Promotion rates exceeding 110% were suppressed, as was the resulting graduation rate.

Manhattan Institute Graduation Rate (Greene's Graduation Indicator or GGI)

The number of students who receive a diploma is divided by the product of a measure of high school population change over time and an estimate of the

¹⁹ Swanson, C. (2003). *Who Graduates? Who Doesn't? A Statistical Portrait of Public High School Graduation, Class of 2001*. New York: Urban Institute.

²⁰ Seastrom, M., Chapman, C., Stillwell, R., McGrath, D., Peltola, P., Dinkes, R., and Xu, Z. (2006). *User's Guide to Computing High School Graduation Rates, Volume 1: Review of Current and Proposed Graduation Indicators* (NCES 2006-604). U.S. Department of Education, National Center for Education Statistics. Washington, DC: U.S. Government Printing Office, and by the same authors, *Volume 2: Technical Evaluation of Proxy Graduation Indicators* (NCES 2006-605).

number of first-time 9th-graders. The population change quantity adjusts for enrollment variability due to student mobility among districts and states rather than dropping out.

Graduation Rate =

$$\frac{G_y}{\left(1 + \frac{(S_{9,y} + S_{10,y} + S_{11,y} + S_{12,y}) - (S_{9,y-3} + S_{10,y-3} + S_{11,y-3} + S_{12,y-3})}{S_{9,y-3} + S_{10,y-3} + S_{11,y-3} + S_{12,y-3}}\right)} * \left(\frac{S_{8,y-4} + S_{9,y-3} + S_{10,y-2}}{3}\right)$$

Where: G = Number of graduates receiving a regular diploma

y = School year

S_{grade} = Number of students in a specified grade

As recommended by Greene and Winter²¹ and the National Center for Education Statistics (NCES),²² the following quality controls were followed. Rates for districts with fewer than 200 9th graders in a given year were suppressed, as were rates for districts with population changes greater than 30%, and districts with fewer than 2,000 9th graders and a population change of more than 20%.

The cited NCES study reported that when calculating a statewide graduation rate, the Averaged Freshman Graduation Rate came closest to approximating a longitudinal graduation rate. The different methodologies sometimes lead to very different results, because each uses different types of data from different years. All three have strengths and weaknesses but are considered acceptable methodologies. It should be remembered that all three measures are estimates of the true longitudinal graduation rate. The smaller the district, state, or student group being analyzed, the less precisely the three graduation rates estimate the true longitudinal graduation rate.

Tables 6.2 to 6.4 show district results on the three graduation rate measures for the classes of 2003 through 2006,²³ and Table 6.1 shows the average of the three graduation rates. **Improvement or “average change” was calculated as the slope of the best fit line among available data points from 2003 to 2006, generally determined by regressing the relevant outcome measure on year.²⁴ If only one data point was available, or if data were missing for both 2005 and 2006, average change was not calculated.**

²¹ Greene, J. and Winters, M. (2005). *Public High School Graduation and College-Readiness Rates: 1991–2002*. Education Working Paper No. 8. Manhattan Institute. February.

²² Ibid.

²³ At the time of these analyses, diploma counts data were not yet available for 2007 and 2008.

²⁴ When only two data points were available, the slope was equal to $(X_2 - X_1)/(Year_2 - Year_1)$.

College Readiness

Three district-level indicators of the college readiness of their students were taken into account:

- SAT
- ACT
- AP tests

Two main types of measures were calculated for each of the three college readiness exams: 1) test score performance, and 2) participation rates. With regard to test score performance, the mean total SAT score was calculated by summing the mean reading and math scores provided by the College Board.²⁵ In contrast, ACT provided mean composite scores (including English, mathematics, reading, and science), which are used. For the AP exam, the percentage of AP tests taken (overall and in the core subjects)²⁶ that received scores of 3 or higher—equivalent to passing rates—was calculated. These performance measures are shown in Tables 7.1, 7.3, 7.5, and 7.7.

With regard to participation rates, data provided by the College Board and ACT on the number of students taking the different tests, as well as data on district enrollments obtained from the Common Core of Data (CCD) were used. SAT and ACT participation rates were based on the number of 12th-graders who took the tests, divided by 12th-grade enrollment for the district in that year (Tables 7.2 and 7.4). The overall AP participation rate was based on the number of 11th- and 12th-graders who took the test, divided by the sum of 11th- and 12th-grade enrollments for the district in that year (Table 7.6). The number of students taking core AP subject exams was not available, so Table 7.8 shows the number of core AP tests taken per 100 students, using the number of AP tests taken in core subjects as the numerator and 11th- and 12th-grade enrollments for the district as the denominator, which quotient was multiplied by 100. It should be noted that 2008 enrollment data were not yet available, so 2007 enrollments were used as an estimate of 2008 enrollments in the calculation of participation rates for 2008.

The SAT and ACT participation rates cannot be added together to obtain an overall participation rate in college entrance examinations. Students sometimes take both tests, so adding participation rates together may result in double counting. In addition, some schools do not provide access to both tests, and low participation rates in one or the other test should not penalize a district.

In the summary tables in Section 7, data are presented for each district for the following student groups: All students, African Americans, Hispanics, and White

²⁵ The College Board provided data only for students who took both the reading and math portions of the test. The writing test was not included in this analysis, because test scores were only available for the two most recent years.

²⁶ As mentioned earlier, core subjects include Biology, Calculus AB and BC, Chemistry, Computer Science A and AB, English Language and Literature, Environmental Science, Physics B and C, and Statistics.

students. **Improvement or “average change” was calculated as the slope of the best fit line among available data points from 2005 to 2008, generally determined by regressing the relevant outcome measure on year.²⁷ If only one data point was available, or if data were missing for both 2007 and 2008, average change was not calculated.**

Data were suppressed if they were deemed unreliable. Test scores were suppressed if they were based on the performance of fewer than 15 students, as required by the College Board. Participation rates were suppressed if a subgroup represented less than 5% of enrollment in the relevant grades. **In addition, subgroup results were suppressed if data on the number of test takers whose race/ethnicity was identified represented less than 90% of the total number of test takers for a given test and year.²⁸**

4) Summary Tables

Summary tables are categorized into eight sections: 1) Eligible Districts and State Tests; 2) State Test Rigor; 3) Standardized Residuals; 4) Comparisons of District and State Performance; 5) Achievement Gaps; 6) High School Graduation Rates; 7) College Readiness; and 8) Adequate Yearly Progress (AYP).

Trend data as well as performance and improvement measures are presented where appropriate. A national average or eligible district average is included at the top of the tables where an average was available or could be calculated.

Section 1: Eligible Districts and State Tests

For The 2008 Broad Prize, data on school district demographics were obtained from the National Center for Education Statistics' Common Core of Data (CCD) for 2006 (the most recent year for which data were available) and used to determine a pool of eligible districts meeting size, poverty, and urbanicity criteria. The same set of districts is eligible for The 2009 Broad Prize, with the exception that the 2008 winner, Brownsville Independent School District, was not eligible this year, while the 2005 winner, Norfolk Public Schools, was again eligible.

Detailed data on various measures of student achievement were obtained for each district, using federal, state, and other sources. Test score data in reading and mathematics were collected from each state containing an eligible district for the period 2005 through 2008.

Table 1.1: Description of Eligible Districts: 2007

²⁷ When only two data points were available, the slope was equal to $(X_2 - X_1)/(Year_2 - Year_1)$.

²⁸ Race/ethnicity is self-reported in SAT, ACT, and AP, and the amount of missing race/ethnicity data varies by district and year.

This table lists the eligible districts and describes their demographic characteristics as of 2007. Some data that were missing from, or unreliable in, the CCD were obtained from state education agencies.

Table 1.2: Test Changes and Grades Included in Analysis, by State

This table summarizes state test comparability over the period from 2005 to 2008 and indicates which years and grades were included in analyses in Sections 3 through 5. Non-comparable test years were not included in trend analyses in Sections 4 and 5.

Table 1.3: State Proficiency Rates

This table shows state-level proficiency rates over the period from 2005 to 2008, as well as average change in these rates, and can help identify possible floor and ceiling effects associated with the state tests. Only comparable test years were included in the average change calculations in the table.

Section 2: State Test Rigor

The National Assessment of Educational Progress (NAEP), also known as “the Nation’s Report Card,” is the only nationally representative and continuing assessment of what America’s students know and can do in various subject areas. Since 1969, assessments have been conducted periodically in reading, mathematics, science, writing, U.S. history, civics, geography, and the arts. The State NAEP is structured to be representative of participating states, and is voluntary. As of 2007, 43 states and DC opted to participate. State NAEP scores for the 4th- and 8th-grade reading and mathematics assessments are presented here as a means of “calibrating” between states. For example, if a state performs poorly relative to other states on NAEP, but the districts in that state perform very well on the state test, this might suggest that the state test is not very rigorous. As mentioned above under Measures of Student Achievement, NAEP Trial Urban District Assessment (TUDA) data for 4th- and 8th-grade reading and mathematics for 11 large urban school districts are also presented.

NAEP defines three achievement levels, which are established by the National Assessment Governing Board (NAGB):

- Basic: Denotes partial mastery of prerequisite knowledge and skills that are fundamental for proficient work at each grade.
- Proficient: Represents solid academic performance for each grade assessed. Students reaching this level have demonstrated competency over challenging subject matter, including subject-matter knowledge, application of such knowledge to real-world situations, and analytical skills appropriate to the subject matter.

- Advanced: Signifies superior performance.

NAEP reports four performance categories: Below Basic, Basic, Proficient, and Advanced. The tables in this section include the percentage of students scoring proficient or above.

As mentioned above under Measures of Student Achievement, results from a 2006 Northwest Evaluation Association (NWEA) study mapping state proficiency standards onto NWEA's Measures of Academic Progress (MAP)²⁹ scales for reading and mathematics are also presented.³⁰

Table 2.1: State NAEP—Percent of students scoring at or above proficient

This table lists the percentage of students scoring proficient or above on the 2003, 2005, and 2007 NAEP assessments for grades 4 and 8 in reading and mathematics. The table also shows the change in the proficiency rate from 2003 to 2007 and from 2005 to 2007.

Table 2.2: NAEP Trial Urban Districts Assessment (TUDA)—Percent of students scoring at or above proficient

Similar to table 3.1, this table lists the percentage of students scoring proficient or above on the 2003, 2005, and 2007 NAEP assessments for grades 4 and 8 in reading and mathematics for the 11 districts that participated in the TUDA. The table also shows the change in the proficiency rate from 2003 to 2007 and from 2005 to 2007.

Tables 2.3 and 2.4: Average NWEA scale scores equivalent to state proficiency standards

These tables present results from a 2006 Northwest Evaluation Association (NWEA) study mapping state proficiency standards onto NWEA's Measures of Academic Progress (MAP) scales for reading and mathematics, respectively. The scale score equivalents represent the NWEA MAP scale scores that were determined to be equivalent to the states' proficiency standards for elementary (grades 3-5), middle (6-8), and high school (10) in reading and math. They provide an indication of the relative stringency of the state proficiency standards. Each states' score equivalents are ranked, with "1" indicating the highest score equivalent and most stringent state proficiency standards. Thirty-two states had enough students participate in both MAP and their state assessment to allow for estimating state cut score equivalents on the MAP scales for at least some grades. Although results vary by grade level and subject, consistently high-ranking states in the study include South Carolina, California, Massachusetts, and

²⁹ MAP is a computerized assessment used for diagnostic and accountability purposes by schools and school systems in many states.

³⁰ A similar study mapping 2007 state proficiency standards onto the 2007 NAEP scales is not yet available.

Maine. Among those states with available data, consistently low-ranking states include Georgia, Michigan, North Dakota, and Wisconsin. For some states, NWEA was not able to calculate a scale score equivalent at specific education levels (indicated by —). The table also indicates the latest year that the test mapping was undertaken. Results may differ from a similar 2005 National Assessment of Educational Progress (NAEP) analysis presented for The 2008 Broad Prize, because, at minimum, different test years and grades were included in the analysis.³¹

Section 3: Standardized Residuals

Tables in Section 3 present standardized residuals (as described above under Data Analysis Methods) for all eligible districts, where available. Residuals for each district are presented by school level (elementary, middle, high school) for reading and math for all students in the district.

Table 3.1: Actual vs. Expected Performance—PERFORMANCE residuals for ALL STUDENTS: 2008

This table is presented for purposes of comparing the magnitude of standardized residuals within a state. The table shows the standardized residuals for all students in reading and math, separately by school level (elementary, middle, and high school), followed by the number of positive and available residuals for the district, and the percentage of available residuals that were positive. A district with 5 “positive residuals” out of 6 “available residuals” is performing above expectations in 5 out of the 6 (or 83 percent of the) possible comparisons. Residuals for “All Students” indicate the number of standard deviations above or below the district’s expected performance, based on the district’s percentage of test-takers eligible for free or reduced-price lunch (FRSL) at each school level and in each subject. Positive residuals are shaded in orange and indicate that the district performs above expectations compared with districts in the same state with similar percentages of low-income students at a given school level and subject.

Table 3.2: Actual vs. Expected Performance—AVERAGE DECILE RANK of residuals for ALL STUDENTS: AVERAGE of 2007 and 2008

Average decile ranks for 2007 and 2008 are presented in this table, based on standardized residuals for all districts in the state regressions for the relevant years. The table shows six average decile ranks for reading and math at the elementary, middle, and high school levels, followed by the average of these six averages. The next two columns show the count of the first six average decile ranks that had values ranging from 1 to 5 and the count of available average

³¹ The NAEP analysis compared state tests with the NAEP as of 2005, and included only grades 4 and 8.

decile ranks.³² The final column shows the percentage of available ranks that had values of 1 to 5.

Table 3.3: Actual vs. Expected Performance—AVERAGE CHANGE in residuals for ALL STUDENTS: 2005–2008

This table shows the average change in residuals for All Students in reading and math at the elementary, middle, and high school levels, followed by the number of positive and available average change values and the percentage of available values that were positive.

Section 4: Comparisons of District and State Performance

Tables in Section 4 compare the performance of four subgroups (all students, African American, Hispanic, and low-income students) in a district with their state peers. As noted above in Data Analysis Methods, unlike the residuals analyses, the analyses in this section directly compare district and state performance and do not take into account district poverty levels. These comparisons focus on the proficient or above level and the advanced level on state tests.³³

Table 4.1: Outperformance—Total number of times district subgroups OUTPERFORMED their state peers at the proficient level or above: 2008

This table shows the number of times selected district subgroups (all students, African American, Hispanic, and low-income students) performed better than their peers in the rest of the state, in reading and math at the proficient level or above in 2008. In the *first four columns* under each subject, counts of “outperformances” appear for all students (All), African American students (AA), Hispanic students (Hisp), and low-income students (LI). The *fifth column* indicates the total number of outperformance for the four subgroups (Total) and the *sixth column* indicates the available number of valid comparisons (Avail.). The *final column* shows the percentage of available comparisons that were considered outperformances (%).

Table 4.2: Outperformance—Total number of times district subgroups OUT-IMPROVED their state peers at the proficient level or above: Average change 2005–2008

This table shows the number of times selected district subgroups (all students, African American, Hispanic, and low-income students) improved more than their

³² Decile ranks range from 1 for the largest positive residuals to 10 for the largest negative residuals in a state.

³³ The detailed data reports for each eligible district show the percentage of students at the below proficient, proficient, and advanced levels, as well as at the proficient or above level, on the state test. The “advanced” level was defined as the highest performance level above “proficient” on a state’s test. The “proficient” level was defined as all levels at or above proficient but below the highest performance level.

peers in the rest of the state, in reading and math at the proficient level or above between 2005 and 2008. Improvement or “average change” was calculated as described above. In the *first four columns* under each subject, counts of “out-improvements” appear for all students (All), African American students (AA), Hispanic students (Hisp), and low-income students (LI). The *fifth column* indicates the total number of out-improvements for the four subgroups (Total) and the *sixth column* indicates the available number of valid comparisons (Avail.). The *final column* shows the percentage of available comparisons that were considered out-improvements (%).

Table 4.3: Outperformance—Total number of times district subgroups OUTPERFORMED their state peers at the advanced level: 2008

This table shows the number of times selected district subgroups (all students, African American, Hispanic, and low-income students) performed better than their peers in the rest of the state, in reading and math at the advanced level in 2008. In the *first four columns* under each subject, counts of “outperformances” appear for all students (All), African American students (AA), Hispanic students (Hisp), and low-income students (LI). The *fifth column* indicates the total number of outperformance for the four subgroups (Total) and the *sixth column* indicates the available number of valid comparisons (Avail.). The *final column* shows the percentage of available comparisons that were considered outperformances (%).

Table 4.4: Outperformance—Total number of times district subgroups OUT-IMPROVED their state peers at the advanced level: Average change 2005–2008

This table shows the number of times selected district subgroups (all students, African American, Hispanic, and low-income students) improved more than their peers in the rest of the state, in reading and math at the advanced level between 2005 and 2008. Improvement or “average change” was calculated as described above. In the *first four columns* under each subject, counts of “out-improvements” appear for all students (All), African American students (AA), Hispanic students (Hisp), and low-income students (LI). The *fifth column* indicates the total number of out-improvements for the four subgroups (Total) and the *sixth column* indicates the available number of valid comparisons (Avail.). The *final column* shows the percentage of available comparisons that were considered out-improvements (%).

Section 5: Achievement Gaps

Tables in Section 5 provide information on each district’s achievement gaps. As noted above in Data Analysis Methods, three gap types were measured:

- **Internal District Gap:** This measure calculates the gap in performance between the *district’s* disadvantaged and the *district’s* advantaged students.

- **Internal District vs. Internal State Gap:** This measure calculates the *district's* internal gap minus the *state's* internal gap.
- **External Gap:** This measure calculates the gap in performance between the *district's* disadvantaged students and the *state's* advantaged students.

For each of the above gap types, three subgroup comparisons were made:

- **Income Gaps:** These compared the performance of 1) low-income students with non-low-income students.
- **Racial/Ethnic Gaps:** These compared the performance of 2) African American students with White students and 3) Hispanic students with White students.

Table 5.1: Achievement Gaps—Total number and percent of achievement gaps closing, by subgroup: 2005–2008

This table shows a **summary of gap closures** for all three gap types for the Low-Income, African American, and Hispanic subgroups compared with their Non-Low-Income and White peers. The total possible number of achievement gap closures is 54, with 18 per subgroup. For each student subgroup and for the final set of Total columns, the *first column* under “Clos.” indicates how many total gaps were closing. The *second column* under “Avail.” indicates for how many of the gaps data were available. The *third column* under “Pct.” indicates the percentage of available gaps that were closing.

Tables 5.2 through 5.4: Achievement Gaps—Number and percent of gaps closing between subgroups: 2005–2008

These tables show **detail on each of the three gap types for the three subgroups** of interest (low-income, African American, Hispanic, respectively). *Table 5.2* summarizes achievement gap closures between low-income and non-low-income students. *Table 5.3* summarizes achievement gap closures between African American and White students. *Table 5.4* summarizes achievement gap closures between Hispanic and White students. For each gap type in the tables, the *first column* under “Clos.” indicates how many total gaps were closing. The *second column* under “Avail.” indicates for how many of the gaps data were available. The *third column* under “Pct.” indicates the percentage of available gaps that were closing.

Table 5.5: Achievement Gaps—Total number of gaps that are among the smallest in the state, by subgroup: 2008

This table shows a summary of 2008 gaps for the three subgroups (low-income, African American, and Hispanic students) that were among **the smallest 20**

percent of gaps in the state (with decile ranks of 1 or 2).³⁴ For each student subgroup and for the final set of Total columns, the *first column* under “Small” represents the number of 2008 gaps with decile ranks of 1 or 2. The *second column* under “Avail.” represents the number of available gaps with decile ranks. The *third column* under “Pct.” represents the percent of eligible district gaps that had decile ranks of 1 or 2.

Section 6: High School Graduation Rates

The tables in Section 6 present graduation rates for the classes of 2003 through 2006 for all students, African American students, Hispanic students, and White students.³⁵ Table 6.1 shows the average of the three graduation rate estimates calculated for The Broad Prize. Tables 6.2 to 6.4 show the graduation rates calculated by each method: Averaged Freshman Graduation Rate (AFGR), Urban Institute Method, and Manhattan Institute Method, respectively. Note that graduation rates for the minority subgroups may be particularly volatile due to small sample sizes across years.

For each table and student group, the first column contains the 2006 graduation rate and the second column contains the average change in the graduation rate, as described above under Data Analysis Methods.

Table 6.1: Graduation Rate—Average of the three graduation rate measures

This table presents an average of the three following graduation rate estimates, giving equal weight to each available measure, for all students and for African-American, Hispanic and white students. Under each student group, the first column shows the graduation rate for the class of 2006 and the second column shows improvement in the graduation rate from 2003 to 2006.

Tables 6.2 through 6.4: Graduation rate using different methods

These tables show graduation rates computed using one of the three methods described above for all students and for African-American, Hispanic and white students. Under each student group, the first column shows the graduation rate for the class of 2006 and the second column shows improvement in the graduation rate from 2003 to 2006.

³⁴ To identify districts with the smallest gaps, decile ranks based on gaps for all districts in a state were computed. Decile ranks could only be calculated for internal district gaps and ranged from 1 for the smallest gaps to 10 for the largest gaps in a state. Gaps that had a decile rank of 1 or 2 were considered to be “small.”

³⁵ Diploma counts data were not yet available for 2007 and 2008. The most recent data available on district diploma counts were for the graduating class of 2006, so graduation rates were calculated for the classes of 2003 through 2006.

Section 7: College Readiness

The tables in Section 7 present college readiness measures based on three different assessments: SAT, ACT, and Advanced Placement (AP) examinations. Data are presented for each district for the following student groups: All students, African American students, Hispanic students, and White students.

Table 7.1: College Readiness—SAT Reasoning Test mean total score (reading and mathematics)

This table shows the average combined reading and math score for seniors in 2008 as well as the average change in these scores from 2005 to 2008.

Table 7.2: College Readiness—SAT Reasoning Test participation rates (reading and mathematics)

This table shows the SAT participation rates for seniors in 2008, as well as the average change in these rates from 2005 to 2008.

Table 7.3: College Readiness—ACT mean composite score (English, reading, mathematics, and science)

This table shows the average composite ACT score for seniors in 2008, as well as the average change in these scores from 2005 to 2008.

Table 7.4: College Readiness—ACT participation rate (English, reading, mathematics, and science)

This table shows the ACT participation rates for seniors in 2008, as well as the average change in these rates from 2005 to 2008.

Table 7.5: College Readiness—Advanced Placement (AP) percent of tests taken with scores of 3 or above in ALL subjects

This table shows the percentage of AP exams taken by juniors and seniors in 2008 that received passing scores of 3 or above, as well as the average change in these passing rates from 2005 to 2008.

Table 7.6: College Readiness—Advanced Placement (AP) participation rate in ALL subjects

This table shows the participation rate for juniors and seniors who took AP exams in 2008, as well as the average change in these participation rates from 2005 to 2008.

Table 7.7: College Readiness—Advanced Placement (AP) percent of tests taken with scores of 3 or above in CORE subjects

This table shows the percentage of tests taken in core AP subjects by juniors and seniors in 2008 that received a score of 3 or above, as well as the average change in these passing rates from 2005 to 2008.³⁶

Table 7.8: College Readiness—Advanced Placement (AP) average number of tests taken in CORE subjects per 100 students

Data on the number of students who took AP exams in core subjects were not available. Instead, the College Board provided the number of tests taken (and their scores) in each core subject. This table shows the average number of tests taken in core AP subjects in 2008 per 100 students in the district. The average per 100 students is shown, because the simple average number of tests taken is very small. Multiplying by 100 makes it easier to interpret the results and is consistent across districts. The table also shows the average change in these test-taking rates from 2005 to 2008.

Section 8: Adequate Yearly Progress

The data presented in this section indicate the percentage of schools in each eligible district and the percentage of schools in the state that met federal AYP requirements in 2005 through 2008 under the No Child Left Behind (NCLB) Act, where the data were available. Also presented is an indicator of whether the district met their overall AYP target. These data were obtained from state and local education agency websites.

Table 8.1: Adequate Yearly Progress (AYP)

This table shows AYP results for 2005, 2006, 2007, and 2008, where available. For each year, the *first column* shows the percentage of schools in each district that met AYP targets; the *second column* shows the percentage of schools in the district's state that met AYP targets; and the *third column* indicates whether the district met its overall AYP target (“Yes” or “No”).

³⁶ Core AP subjects include Biology, Calculus AB and BC, Chemistry, Computer Science A and AB, English Language, English Literature, Environmental Science, Physics B and C, and Statistics.