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## Executive Summary

It is generally acknowledged that completing high school represents a key milestone in an individual's schooling and social and economic advancement and that graduation rates are an important indicator of school system performance. Nevertheless, graduation rates have not been a major focus of educational statistics reporting in the past. At the very least, these measures have generated far less attention and interest than test scores. Since the No Child Left Behind Act (NCLB) became federal law in January 2002, high school graduation rates have gained an increasingly important place in educational policy circles. The federal law for the first time requires that high schools and school systems be held accountable in a meaningful way for graduation rates as well as performance on academic assessments. This important step in the evolution of federal accountability has generated a considerable amount of debate over a variety of issues including: the state of the nation with regard to this key measure of educational fitness; graduation levels among particular student subgroups (such as historically disadvantaged minorities); the ways in which states are implementing graduation rate accountability required under the law; and even the best methods for measuring graduation rates.

This study, the latest in a series of investigations conducted by the Urban Institute, contributes to the growing body of knowledge in this field of inquiry by providing the most extensive set of systematic empirical findings on public school graduation rates in the United States available to date. Detailed descriptive statistics and analytic results are presented for the nation as a whole, by geographic region, and for each of the states. This study also offers an exceptionally detailed perspective on the issue of high school completion by examining graduation rates for overall student population, for specific racial and ethnic groups, and by gender. We also analyze graduation rate patterns for particular types of school districts, with special attention to the systems in which the nation's most socioeconomically disadvantaged students are educated.

High school graduation rates are calculated using a measure called the Cumulative Promotion Index or CPI. This indicator, developed at the Urban Institute, offers several significant advantages over other commonly reported graduation rate statistics. Paired with data from the U.S. Department of Education's Common Core of Data (CCD), we are able to compute graduation rates for the high school class of 2001 in nearly every public school district in the nation.

The findings presented in this report do not paint a flattering portrait of high school graduation for public schools in the United States.
$>$ The national graduation rate is 68 percent, with nearly one-third of all public high school students failing to graduate.
$>$ Tremendous racial gaps are found for graduation rates.

- Students from historically disadvantaged minority groups (American Indian, Hispanic, Black) have little more than a fifty-fifty chance of finishing high school with a diploma.
- By comparison, graduation rates for Whites and Asians are 75 and 77 percent nationally.
> Males graduate from high school at a rate 8 percent lower than female students.
> Graduation rates for students who attend school in high poverty, racially segregated, and urban school districts lag from 15 to 18 percent behind their peers.
> A great deal of variation in graduation rates and gaps among student groups is found across regions of the country as well as the states.

These findings may strike many readers as surprising and troublesome. This study provides the most compelling evidence to date that the nation finds itself in the midst of a serious, broad-based, and (until recently) unrecognized crisis in high school completion. In part, this crisis has gone undetected for a lack of in-depth national investigations into the issue based on solid statistics and methods. Understanding the depth and breadth of a problem, however, is a crucial first step in devising a solution. The goal of the Urban Institute's work and the detailed analysis presented in this report is to help decision makers and the public to better understand the depth and breadth of the nation's apparent high school graduation crisis and the factors that are associated with low graduation rates. Armed with better knowledge, we will be more likely to identify and implement promising intervention strategies for struggling schools.

## 1. INTRODUCTION

High school graduation rates have gained increasing prominence as a key issue in educational policy circles since the No Child Left Behind Act (NCLB) was passed into law in January of 2002. For individuals, a high school diploma has long been recognized as an essential step towards economic and social well-being. Individuals with higher levels of education (and more advanced credentials) enjoy higher income, more stable employment, and less dependency on public assistance. Those with more education are also less likely to experience a variety of detrimental social outcomes, including early childbearing, reports of ill health, incarceration, or criminal victimization. For school systems, graduation rates also represent a key indicator of performance. Schools and districts in which more students earn high school diplomas are generally regarded as better performers. In truly highly-achieving school systems, of course, mastery over a meaningful body of knowledge and skills should also be a prerequisite for earning a diploma.

Despite nearly universal recognition that completing high school is a key milestone in an individual's schooling and an important indicator of system performance, graduation rates have not been a major focus of educational statistics reporting in the past. At the very least, these measures have generated far less attention and interest than test scores. The No Child Left Behind Act, however, has sparked a renewed interest in graduation rates. The federal law for the first time requires that high schools and school systems be held accountable in a meaningful way for graduation rates as well as performance on academic assessments. This important step in the evolution of federal accountability has generated a considerable amount of debate over a variety of issues including: the state of the nation with regard to this key measure of educational fitness; graduation levels among particular student subgroups (such as historically disadvantaged minorities); the ways in which states are implementing graduation rate accountability required under the law; and even the best methods for measuring graduation rates.

This report contributes to the growing body of knowledge in this field by providing the most extensive set of systematic empirical findings on public school graduation rates available to date for the nation as a whole and for each of the states. In this report, we calculate high school graduation rates using a measure called the Cumulative Promotion Index or CPI. This indicator, developed at the Urban Institute, offers several significant advantages over other commonly reported graduation rate statistics.
> The CPI method adheres to the definition of the high school graduation rate specified by NCLB, so it could be used for purposes of federal accountability.
> Calculating the graduation rate using CPI requires information on enrollment and diploma counts, and avoids the notoriously unreliable dropout data upon which some other methods rely.
> The CPI makes very modest demands on data systems, so it can be calculated for virtually every public school district in the country using information available to the general public.
> The CPI indicator can be calculated after only two years of data collection, as opposed to four years for most other methods.
> Since the CPI employs a focused one-year window of observation, it may be particularly desirable for application in accountability systems. Compared to other approaches, the CPI places a
stronger emphasis on current educational conditions and would be quicker to detect improvements related to on-going reform initiatives.

This study takes the CPI method and applies it to data from the Common Core of Data (CCD). This U.S. Department of Education database is the most comprehensive national source of information on public schools and local education agencies. The CCD also offers the only means of directly comparing graduation rates for school systems across the country using data defined and reported in a uniform manner. By pairing the CPI indicator with the CCD data, graduation rates for the high school class of 2001 can be computed for nearly all public school districts in the nation.

In general, the findings of this report do not paint an encouraging portrait of high school graduation for public schools in the United States. Nationwide, the overall graduation rate for the class of 2001 was 68 percent. As disconcerting as this national statistic may be, focusing on the this figure alone would fail to call attention to the truly troubling situation that describe the educational experiences for particular student groups. Results consistently point to certain areas that should be of grave concern to educators and policy makers. When results are broken down by race and ethnicity, we find that more than 75 percent of White and Asian students completed high school with a diploma. By stark contrast, however, the same could be said for barely half of students from historically disadvantaged minority groups. Graduation rates for Black, American Indian, and Hispanic students were 50, 51, and 53 percent respectively. Male students complete high school at consistently lower levels than females. Graduation rates are also substantially lower for students educated in highly-segregated, socio-economically disadvantaged, and urban school systems. Strong regional disparities consistently emerge from the findings, as does a tremendous amount of variation in the performance of individual states.

Many readers will find these results surprising and troublesome. This study provides the most compelling evidence to date that the nation finds itself in the midst of a serious, broad-based, and (until recently) unrecognized crisis in high school completion. In part, this crisis has gone undetected for a lack of indepth national investigations into the issue based on solid statistics and methods. Understanding the depth and breadth of a problem, however, is a crucial first step in devising a solution. The goal of the Urban Institute's work and the detailed analysis presented in this report is to help decision makers and the public to better understand the depth and breadth of the nation's apparent high school graduation crisis and the factors that are associated with low graduation rates. Armed with such knowledge, we will be more likely to identify and implement promising intervention strategies for struggling schools.

Following this introduction (Section 1), the remainder of this report is organized as follows.
$>$ Section 2 provides a discussion of the Data and Method used in this study.
$>$ Section 3 offers an overview of the study's descriptive findings. An emphasis is placed on graduation rate results for the student population as a whole, and results disaggregated for racial-ethnic subgroups and by gender. Graduation rates for different kinds of school districts are also examined.
$>$ Section 4 conducts more sophisticated bivariate and multivariate statistical analyses in order to investigate the linkages between graduation rates and district context, particularly relating to levels of socio-economic disadvantage and segregation.
$>$ Section 5 offers a brief conclusion to the analytic portion of the study.
$>$ Section 6 comprises the bulk of this document. Here we present a series of individual data profiles for the Nation, Regions of the country, and the 50 States plus the District of Columbia. These profiles contain a summary of graduation rate findings, broken down by student subgroups and district characteristics. The state profiles include results for the 10 largest school systems under their respective jurisdictions. Demographic data are also included in these profiles, which is essential for placing graduation rate findings into an appropriate social and educational context.

## 2. Data and Methods

### 2.1 The Common Core of Data (CCD)

The analyses performed for this study are based on data from the Common Core of Data (CCD). Conducted by the U.S. Department of Education, the CCD is a census of public sector local educational agencies (districts) and schools for the fifty states, the District of Columbia and several other non-state jurisdictions. ${ }^{1}$ The CCD data collection is intended to capture all settings in which a free public education is provided at the elementary and secondary levels. Annual surveys of basic demographic and educational information at the state, district, and school levels are completed by staff of the respective state education agencies. Detailed methodological descriptions of the CCD can be found in technical documentation published by the National Center for Education Statistics (see NCES 2003a, 2003b).

As a census data collection, the CCD must strike a balance between breadth and depth. On the one hand, the information obtained by the CCD is somewhat limited in terms of its level of detail. The generic nature of the variable definitions and categories employed by CCD are specifically intended to provide uniformity in the way it characterizes the diverse settings in which public education is provided around the nation. As a result of this generalist approach, the CCD represents the most comprehensive source of statistics on basic school and district demographics, high school completion, and dropout currently available. Individual state-operated data systems may contain information similar to the CCD and in many cases have far richer collections of variables. But because states often employ different definitions and methods when collecting and reporting their data, there is no guarantee that the information generated by such state systems will be comparable to one another.

Two principal features of the CCD recommend it for the current study of graduation rates. The first, as suggested above, is its inclusiveness and the systematic nature of the data. The CCD reports data according to common definitions and requires some level of standardization in the data collection procedures used across the states. In fact, it is the only database from which it is possible to calculate graduation rates that can be compared across states with confidence. Our second consideration is the public nature of the CCD database. The CCD is a well-known, frequently-used database that exits in the public domain. As such, the results from this study can be replicated using information readily available to other researchers, policy makers, educators, and the public at large. ${ }^{2}$ State accountability and administrative data systems do not typically offer this level of accessibility.

All analyses reported in this study were performed at the district level. This essentially bottom-up analytic strategy was devised in order to provide a more direct examination of local conditions and dynamics than is available in other recently published reports that present only national or state-level results. In situations where findings in the current study are reported for higher levels of aggregation (e.g., the states

[^0]or nation as a whole), district data have been weighted according to size of enrollment in order to produce results representative of the student populations of those broader educational units. Subgroup-specific results are weighted according to subgroup-specific enrollment.

Although this study adopts a strong district level focus, some of the information needed for our investigation appears only on the school surveys in the CCD. Where necessary, we construct district indicators by aggregating school-level data upward. For instance, calculating the Cumulative Promotion Index (CPI) measure of graduation rates requires information from both the school and district CCD surveys. As described in more detail below, the CPI uses enrollment counts for specific grades (reported in the CCD at the school level) and diploma counts (reported at the district level) to calculate a district's graduation rate. District enrollment counts by grade are calculated by summing together enrollments for all of the schools in the district. The fact that information about the number of students completing high school is only reported at the district level, however, means that the district is the most basic unit of analysis for which graduation rates can be calculated using the CCD.

### 2.2 The District Sample

During the focal year for our analysis (the 2000-01 academic year), there were 14,935 regular school districts in operation throughout the fifty states and the District of Columbia, as reported in the Common Core of Data. In defining our target population for analytic purposes, however, it will be necessary to introduce several additional conditions or restrictions. Our objective is to identify districts that (1) are eligible for the calculation of a graduation rate and (2) should in theory have the necessary reliable information needed to calculate such a rate. It is reasonable to assume, for instance, that we can only calculate a meaningful graduation rate for districts that contain a full complement of secondary level grades (9 through 12). Roughly one-quarter of regular school districts in the country do not meet this criteria, the majority of which possess only an elementary level grade span or have ungraded enrollment.

In addition, some level of district stability is required in order for a reliable graduation rate to be produced. Districts that have been in operation for less than four years, for instance, would not have graduated a full cohort of students (i.e., a group of students progressing from $9^{\text {th }}$ grade through graduation). Of the districts serving students during the 2000-01 school year, a small fraction were not in operation during at least some part of this prior four-year period. In additional, about one percent of districts had undergone a significant change in boundaries over this period. Such events could effectively alter the identity of a particular district organization and its student body. This is likely to produce large year-to-year fluctuations in enrollments and demographics, resulting in invalid estimates of graduation rates. Taking all of these selection criteria into consideration, we arrived at a target population of 11,110 school districts for which valid graduation rates can be calculated.

### 2.3 A Note on Data Verification

The CCD is a voluntary data collection system operated as a collaborative enterprise between the U.S. Department of Education and state education agencies (SEAs). Once surveys from the states are received, the National Center for Education Statistics engages in a variety of mechanical procedures to clean the raw data. Otherwise, however, the federal agency's operating assumption is that these data are accurate as reported to the states by local agencies through their own established administrative data systems. No provisions exist for routine verification of the data reported to the CCD with local school
system personnel. Barring exceptional circumstances, the information provided by the SEAs is assumed to be accurate.

Under most circumstances there is no reason to suspect that significant problems with data quality exist within the CCD, at least if the state administrative systems from which the data originate take steps to assure the accuracy of reported information at the source. In an enormous data system like the CCD consisting of information from over 95,000 schools and 17,000 local education agencies - the odd undetected reporting error may exist. These isolated irregularities will have a negligible impact on largescale empirical analyses such as those presented in this report. However, to the extent that certain forms of information (e.g., dropout counts) tend to be systematically misreported (e.g., undercounted), the CCD data will also reflect these biases. ${ }^{3}$

This study has taken steps to assure that reported findings are based on the most complete and reliable information available. For instance, the method we employ and recommend to measure graduation rates avoids using dropout data, which may be of questionable accuracy. Throughout this report, we also adopt a reporting convention that reflects data quality and completeness. Specifically, we do not present results that are based on low levels of coverage of the student population. In situations where CPI graduation rate estimates represent less than half of the target student population, results are not reported and a notation is provided indicating low coverage. Estimates based on 50 to 75 percent of the student population are reported but flagged as reflecting a moderate level of coverage. Estimates covering over 75 percent of students in the target population are reported without notation. ${ }^{4}$ Given a richer data source, more sophisticated indicators could be developed to capture other characteristics of the districts examined. While admittedly rudimentary, the reporting criteria linked to student population coverage used here provide a basic but important indication of data quality.

In the end, however, we (like NCES) have no recourse to independent verification of the CCD data and must generally accept the information reported at face value. This fact should be kept in mind particularly when reviewing results presented for specific school districts. In a small number of cases, data on graduation rates at the level of the individual district may seem non-intuitive (higher or lower than one might have expected). It is possible that reporting error is at work in such situations. But it is also possible that changes in local educational environment (e.g., a change in policy on retention or new graduation requirements) may have been introduced. Without additional external information there is no practical way to distinguish between these two alternatives. In this context of a large research study such as this - which presents results for the nation, regions, states, and hundreds of individual school districts - it will not be possible to provide an explanation for every seeming irregularly. However, we do invite readers to delve into further into the experiences of individual states and districts and use the findings of this study as a starting point for further investigations.
${ }^{3}$ There is considerable agreement that dropout counts tend to be underreported on average. This does not mean, however, that these undercounts are intentional. Students who dropout of school are often part of highly mobile populations and their enrollment status may be genuinely difficult to ascertain. It should, of course be the goal of every school system to maintain an accurate accounting of the students it serves and of those who leave school.
${ }^{4}$ The same procedures are employed for aggregate graduation rates (for all students) and for results disaggregated by race and ethnicity, gender, and race-by-gender categories. In isolated instances, a district or school may report information for CCD data fields used to calculate aggregate rates but disaggregated data may be missing. As a result, estimates for disaggregated graduation rates (e.g., for female Asian students in a particular state) may be based on a slightly different set of districts than aggregated results (e.g., for all Asian students). Where this occurs, disaggregated results may not strictly summarize to the aggregate figures, although differences will tend to be small. The most direct valid comparisons can be made within categories (e.g., relative graduation rates among racial-ethnic groups) rather than across categories or levels of aggregation (e.g., Hispanic males versus all Asians).

### 2.4 The Cumulative Promotion Index (CPI)

This report employs the Cumulative Promotion Index (CPI) to measure high school graduation rates. The value of the CPI indicator approximates the probability that a student entering the $9^{\text {th }}$ grade will complete high school on time with a regular diploma. It does this by representing high school graduation as a stepwise process composed of three grade-to-grade promotion transitions ( 9 to 10,10 to 11, and 11 to 12) in addition to the ultimate high school graduation event (grade 12 to diploma). It should be emphasized that this measure counts only students receiving regular high school diplomas as graduates. This definition of a graduate is consistent with the provisions of the No Child Left Behind Act. The law clearly stipulates that for purposes of federal accountability the recipients of a regular standards-based state diploma are counted as graduates while those who obtain other state-issued credentials (e.g., certificates of attendance) or the GED are not to be considered graduates.

The equation below illustrates the formula for calculating the CPI using the class of 2001 as an example. The most recent high school completion data available in the CCD are from the 2000-01 academic year.

$$
C P I=\left[\frac{E_{2002}^{10}}{E_{2001}^{9}}\right] *\left[\frac{E_{2002}^{11}}{E_{2001}^{10}}\right] *\left[\frac{E_{2002}^{12}}{E_{2001}^{11}}\right] *\left[\frac{G_{2001}}{E_{2001}^{12}}\right]
$$

where
$G_{2001} \quad$ is the count of students who graduated with a regular high school diploma during the 2000-2001 school year,
$E_{2001}^{9} \quad$ is the count of students enrolled in grade 9 at the beginning of the 2000-01 school year, and
$E_{2002}^{10} \quad$ is the count of students enrolled in grade 10 at the beginning of the 2001-02 school year.

By multiplying grade-specific promotion ratios together, the CPI estimates the likelihood that a ninth grader from a particular school system will complete high school with a regular diploma in four years given the conditions prevailing in that school system during the 2000-01 school year.

To demonstrate the method for calculating the CPI we use a simplified example. Let us suppose that a particular school district currently has 100 students enrolled in each grade from 9 through 12. Further, we will hypothesize that 5 percent of students currently in grades 9,10 , and 11 will drop out of school this year and also that 5 percent of seniors will fail to earn a diploma at the end of the year. So, for example, we would count 100 ninth graders at our starting point but only 95 tenth graders the following fall. Carrying out the calculation (shown below), we would estimate a graduation rate of 81.5 percent for this district. Given conditions in this hypothetical district (an effective 5 percent annual attrition rate for
students at each grade level), only about 82 out of every 100 entering ninth graders would be expected to finish school with a diploma.

$$
C P I=\left[\frac{95}{100}\right] *\left[\frac{95}{100}\right] *\left[\frac{95}{100}\right] *\left[\frac{95}{100}\right]=.815
$$

Statistical indicators often have a theoretical range in which their values should fall. For percentage statistics this range would be zero to 100 percent. The CPI indicator's value is not constrained to fall within this range by virtue of its mathematical definition. So in certain circumstances it is possible that the CPI could produce a value greater than 100 percent, as a result of misreported data or other factors. This is not a unique property of the CPI, rather it is shared by many other statistical indicators. In such cases, however, operational rules must be developed for handling situations in which the calculated value exceeds the theoretical bounds. We accomplish this for the CPI through a combination of trimming and censoring of the measure's grade-specific promotion ratio components. Promotion ratio values that exceeded the theoretical value by only a small margin (10 percent) and could reasonably be attributed to reporting error were trimmed to the maximum possible value ( 100 percent). Cases with more extreme values were censored and assigned missing values. Although the need to censor CPI data was rare, these procedures serve an important quality control function by identifying cases where significant errors may exist or where reported enrollment patterns shifted dramatically over the course of a single year. It is unlikely that reliable graduation rates could be calculated in either of these circumstances, so censoring the data represents a responsible and methodologically appropriate course of action.

The data available in the CCD are cross-sectional and reported at aggregate levels, representing snapshots of schools and district agencies at particular points in time. So, for example, we know how many ninth graders were enrolled in a district in 2000 and how many tenth graders were enrolled in 2001. But we cannot track these students individually over time. The CPI statistics reported in this study are, therefore, based on estimated grade-level cohorts from the CCD rather than true cohorts of individual students from a longitudinal database. This may represent a technical limitation in some respects. However for the purposes of this study, the advantage of the CCD (and a very important one) is that the database provides systematic information that can be used to calculate comparable graduation rates for every school district in the nation. It would be possible to apply the CPI calculation method described here to longitudinal data as well. At present, however, few states have the established student tracking systems necessary to generate such data.

The most common strategy for estimating graduation rates when longitudinal data are not available (as is the case for the current study) is to follow a single estimated cohort over a four year period of time. Typically this will involve identifying a focal group of ninth graders and comparing data on that group to the students who are twelfth graders (or graduates) three years later. The strategy employed in the CPI method, however, turns this common approach on its head by instead following four separate estimated cohorts over a brief one year period of time.

The CPl's shortened window of observation has a number of potential advantages. Over shorter periods of time, large changes in migration rates or grade retention patterns that could potentially undermine the accuracy of a graduation rate indicator are less likely to occur. The CPI indicator can also be estimated very quickly, after two waves of data collection conducted over a one-year period. From an accountability perspective, the CPI's strategy of heavily weighting contemporary conditions may offer a more appealing
(and perhaps even a more legitimate) basis for determining current levels of educational system performance and, also, for implementing sanctions that are experienced in the present. Finally, the measure's one-year time frame may offer an attractive opportunity for a state or other educational agency to move incrementally from a cross-sectional data system towards an ultimate goal of implementing a comprehensive student tracking system. Existing data systems might be modified, for instance, in order to incorporate limited kinds of longitudinal information collected over short periods of time (e.g., one year). Such a middle-range solution might greatly improve estimates of graduation rates or other outcomes like achievement growth, without incurring the financial and political costs of implementing a full-fledged, longterm student tracking system.

The Cumulative Promotion Index offers a flexible and intuitive method for measuring graduation rates, and one that is consistent with the requirements of No Child Left Behind. Using data from the CCD and the CPI, aggregate graduation rates for all students can be calculated for nearly every district in the nation. The CCD database also provides the necessary information about enrollment and high school completers to compute disaggregated graduation rates for student subgroups defined on the basis of race and ethnicity, gender, and race-by-gender categories. In this report the CPI indicator is calculated in the same manner both in the aggregate or for disaggregated subgroups, given the availability of graduation and grade-specific enrollment counts for those groups.

### 2.5 District Characteristics

The analyses presented in this study make use of information about various district characteristics. These data are used to provide a demographic context for the findings and to explore the relationship between graduation rates and certain aspects of the local educational environment. These particular district features have been selected in order to examine longstanding dimensions of socioeconomic and educational inequality and to draw attention to conditions in the school systems that disproportionately serve the nation's most at-risk youth.

Information on the following district characteristics, obtained from the Common Core of Data, appear in the study. At some points in the study, distinctions are drawn between districts displaying a "high" versus "low" level of a particular characteristic. In these situations, we use the national student average for the respective district variable as the cut-off point between the high and low categories.

Free or Reduced Lunch (FRL) Eligibility The percent of students in a district who are eligible to participate in either the Free or Reduced Price Lunch programs under the National School Lunch Act. Eligibility for these programs is based on family size and income. In educational research, FRL eligibility is widely employed as a proxy measure for the level of poverty and socioeconomic disadvantage. High FRL districts are those where the proportion of students eligible for the lunch programs is above the national average of 38 percent.

Racial and Ethnic Composition The percentage of minority (non-White) students enrolled in the district. The five reporting categories for race-ethnicity used in the CCD are: American Indian/Alaskan Native, Asian/Pacific Islander, Hispanic, Black (not Hispanic), and White (not Hispanic). Some analyses in this report use the overall percentage of minority students. In other places, to simplify the presentation of results, we distinguish between districts where the majority of students are White versus those in which racial-ethnic minorities make up the majority of the student population.

Segregation Index An indicator of the level of segregation between racial-ethnic minorities and White students in the school district. This measure is calculated using school level enrollment data and captures the extent to which minority students are socially isolated from White students. The value of this index ranges from 0 to 1 with higher values indicating a greater level of racial isolation. The mathematical formula for this district level minority isolation index appears below. A detailed description of this measure can be found in Massey and Denton (1988).

$$
x P x=\sum_{i=1}^{n}\left[\frac{x_{i}}{X_{i}}\right] *\left[\frac{x_{i}}{t_{i}}\right]
$$

where:

$$
\begin{array}{ll}
x P x & \text { is the value of the Segregation Index for a particular district } \\
x_{i} & \text { is the number of minority students in school } i \\
X & \text { is the total number of minority student in the district; and } \\
t_{i} & \text { is the total number of students in school } i .
\end{array}
$$

Limited English Proficiency (LEP) The percent of students in the district who are being served in language assistance programs, where the language being learned is English. These programs might include: English as a Second Language, High Intensity Language Training, or bilingual education. Students classified as LEP are typically individuals: who are born outside the United States; whose native language is something other than English; who come from areas where languages other than English are dominant; or who live in areas where other languages have a significant impact on their level of English proficiency. Since many LEP students are born outside the United States, this measure also serves as a proxy for the percent of immigrant students in a district. In some parts of this study, we draw a distinction between High and Low LEP districts. This categorization uses a cutoff point of 9 percent, the proportion of all students nationally who are identified as LEP based on data from the CCD.

Special Education The percentage of students in a district who have a written Individualized Education Program (IEP) under IDEA-Part B. A district identified as displaying a High level of Special Education has a proportion of students with IEP's greater than the national average of 13 percent.

Per Pupil Expenditures Total amount of district expenditures divided by total student membership. This measure refers to the 1999-2000 school year, the most recent time point for which CCD fiscal survey data are available.

District Size The total number of students served by the district at the elementary and secondary levels. Large agencies are often of particular significance for national and state education politics. The largest districts also typically include disadvantaged urban systems, although this is not always the case. Some state education systems organize school districts as county-wide agencies. Large districts, therefore, display considerable diversity and may potentially include rural or affluent suburban agencies.

Location A description of a district's locale classified according to its general level of urbanization or population density, expressed in terms of four mutually-exclusive categories: Central City, Suburb, Town, and Rural. The classifications used in this study are derived from the NCES Locale Code included in the CCD. The Common Core of Data defines a district's locale based on the prevailing pattern of school
locations and student enrollment within district boundaries. Detailed definitions for each of this study's locale categories appears below.

Central City: a central city of Consolidated Metropolitan Statistical Area (CMSA). This definition combines NCES Locale Codes for large and mid-size central cities.

Suburb: any incorporated place, Census Designated Place, or non-place territory within a CMSA or MSA of a large or mid-size city and defined as urban by the Census Bureau. This definition combines NCES Locale Codes for urban fringes of large and mid-size cities.

Town: an incorporated place or Census Designated Place with a population greater than or equal to 2,500 and located outside a CMSA or MSA. This definition combines NCES Locale Codes for large and small towns.

Rural: any incorporated place, Census Designated Place, or non-place territory and defined as rural by the Census Bureau. A rural area may be within or outside of a CMSA or MSA of a large or mid-size city.

Except where otherwise noted, district characteristics are measured for the 2001 school year. In the CCD the district characteristics described above are reported for the total student population rather than specifically by educational level (e.g., elementary vs. high school). Since these district characteristics are not reported separately by grade level, a more narrow focus on the secondary school population is not possible. ${ }^{5}$

[^1]
## 3. Highlights of Empirical Findings

### 3.1 The National Graduation Rate - Using the CPI Method

Table 1 reports the graduation rate for the public high school class of 2001 calculated according to the Cumulative Promotion Index (CPI) method described in the preceding section. Using this approach, we find a national graduation rate of 68 percent, indicating that nearly one-third of ninth graders fail to complete high school with a regular diploma within a four-year period. Nationally, graduation rates have remained relatively stable in recent years. For instance, the graduation rate increased by about only one percent (from 67 percent) between 2000 and 2001 (see Swanson 2003a). Prior to that, graduation rates had hovered between 65 and 66 percent since the mid 1990s. At the national level, at least, there does not appear to have been much change in high school graduation rates in recent years.

The second set of results presents the CPI graduation rate calculated separately for each of the four major regions of the country, as defined by the U.S. Census Bureau. ${ }^{6}$ The regional results display a moderate degree of variation around the overall national average. Graduation rates vary over 12 percent across the regions, with the highest graduation rates found in the Midwest ( 75 percent) and the lowest in the South ( 62 percent). The average graduation rate in the West is nearly identical to the nation as a whole, while levels in the Northeast are somewhat higher at about 71 percent.

Graduation rates also differ dramatically from state-to-state (Table 1). In the highest performing states, we estimated that about 80 percent of all students complete high school with a diploma. ${ }^{7}$ New Jersey, Idaho, North Dakota, South Dakota, and Minnesota all have graduation rates around this level. By contrast, in other states slightly more than half of students complete high school. Graduation rates in South Caroline, Florida, and Nevada are below 55 percent. This constitutes a gap of nearly 30 point between the highest- and lowest-performing states. It should be stressed that these results pertain to the student population of these states as a whole. As we will see later in this report, members of certain student subgroups often graduate at rates well below the overall average.

[^2]Table 1: 2001 CPI Graduation Rates, for All Students - Nation, Region, State

|  | Graduation Rate | Gap (Region or State - Nation) | State Rank (out of 51) |
| :---: | :---: | :---: | :---: |
| NATIONAL AVERAGE | 68.0 | --- |  |
| REGIONS |  |  |  |
| Northeast | 71.0 | 3.0 |  |
| South | 62.4 | -5.6 |  |
| Midwest | 74.5 | 6.5 |  |
| West | 68.2 | 0.2 |  |
| STATES |  |  |  |
| Alabama | 61.4 | -6.6 | 43 |
| Alaska | 64.2 | -3.8 | 40 |
| Arizona | 67.3 | -0.7 | 33 |
| Arkansas | 70.5 | 2.5 | 29 |
| California | 68.9 | 0.9 | 32 |
| Colorado | 69.0 | 1.0 | 31 |
| Connecticut | 77.0 | 9.0 | 12 |
| Delaware | 64.3 | -3.7 | 39 |
| Dist. of Columbia | 65.2 | -2.8 | 36 |
| Florida | 53.0 | -15.0 | 50 |
| Georgia | 55.5 | -12.5 | 48 |
| Hawaii | 66.0 | -2.0 | 34 |
| Idaho | 79.6 | 11.6 | 2 |
| Illinois | 75.0 | 7.0 | 15 |
| Indiana | 72.4 | 4.4 | 23 |
| Iowa | 78.2 | 10.2 | 7 |
| Kansas | 74.1 | 6.1 | 16 |
| Kentucky | 65.3 | -2.7 | 35 |
| Louisiana | 64.5 | -3.5 | 38 |
| Maine | 72.1 | 4.1 | 25 |
| Maryland | 75.3 | 7.3 | 14 |
| Massachusetts | 71.0 | 3.0 | 26 |
| Michigan | 74.0 | 6.0 | 17 |
| Minnesota | 78.9 | 10.9 | 5 |
| Mississippi | 58.0 | -10.0 | 46 |
| Missouri | 72.9 | 4.9 | 22 |
| Montana | 77.1 | 9.1 | 11 |
| Nebraska | 77.3 | 9.3 | 10 |
| Nevada | 54.7 | -13.3 | 49 |
| New Hampshire | 73.9 | 5.9 | 18 |
| New Jersey | $86.3^{\dagger}$ | 18.3 | 1 |
| New Mexico | 61.2 | -6.8 | 45 |
| New York | 61.4 | -6.6 | 43 |
| North Carolina | 63.5 | -4.5 | 41 |
| North Dakota | 79.5 | 11.5 | 3 |
| Ohio | 70.7 | 2.7 | 27 |
| Oklahoma | 69.8 | 1.8 | 30 |
| Oregon | 73.6 | 5.6 | 20 |
| Pennsylvania | 75.5 | 7.5 | 13 |
| Rhode Island | 73.5 | 5.5 | 21 |
| South Carolina | 50.7 | -17.3 | 51 |
| South Dakota | 79.4 | 11.4 | 4 |
| Tennessee | 57.5 | -10.5 | 47 |
| Texas | 65.0 | -3.0 | 37 |
| Utah | 78.3 | 10.3 | 6 |
| Vermont | 77.9 | 9.9 | 9 |
| Virginia | 73.8 | 5.8 | 19 |
| Washington | 62.6 | -5.4 | 42 |
| West Virginia | 70.7 | 2.7 | 27 |
| Wisconsin | 78.2 | 10.2 | 7 |
| Wyoming | 72.4 | 4.4 | 23 |

Source: Common Core of Data Local Educational Agency and School Surveys, National Center for Education Statistics.
nr Value not calculated because necessary data field(s) not reported in CCD.

* Low Coverage - Rate not reported because statistic covers less than 50 percent of student population.
${ }^{\dagger}$ Moderate Coverage - Rate covers between 50 and 75 percent of student population.

An examination of graduation rate rankings will certainly suggest a variety of possible explanations for the relative standing of the states (see Figure 1). It will not be surprising that the lowest performing states, many of which are located in the South, tend to serve predominantly minority and socioeconomically disadvantaged student populations. Just the opposite pattern is found among states that lead the nation. To cite just one comparison, over half of all students attending public school in Mississippi are Black and the majority are eligible to participate in the National Free or Reduced Price Lunch (FRL) programs (51 and 64 percent respectively), whereas in Idaho 86 percent of students are White and only 35 percent are FRL eligible. As we might expect, Mississippi's graduation rate ( 58 percent) lags far behind Idaho's 80 percent.

That states differ so much from one another in ways that impact their performance is certainly not a new discovery.
 However, the fact that states with some of the most challenging educational conditions and student populations find themselves so far behind the rest of the nation has important implications. In an era of performance-based accountability - where failure to make adequate progress towards high educational standards carries serious consequences for struggling schools - these states are not only starting from behind but they may also face a particularly difficult uphill climb in the race to achieve educational excellence.

### 3.2 A Comparison of Alternative Methods

A national graduation rate of 68 percent may strike many readers as surprising low, particularly given the much higher rates that often appear in government reports and other frequently cited sources. ${ }^{8}$ Those sources, of course, rely on various methods for determining the graduation rate. To provide a point of comparison for the CPI statistic, Table 2 reports results generated using three other approaches for estimating the high school graduation rate. These alternative estimates were calculated using the Common Core of Data, the same data source upon which the CPI analyses are based. Along with the graduation rate, we also provide a basic quality indicator for each method - the inclusiveness of its estimate. This estimate coverage is captured by the percent of districts and the student population nationwide for which a value can be calculated using the Common Core of Data. ${ }^{9}$ As was noted earlier, the CCD is the most comprehensive and systematic source of basic information about schools and school districts currently available.

Table 2: 2001 National Graduation Rates, using the CPI and Alternative Methods

| Method for Calculating Graduation Rate | District <br> Coverage <br> $(\%)$ | Student <br> Coverage <br> $(\%)$ | States <br> Covered <br> (out of 51)* | Graduation <br> Rate <br> Estimate |
| :--- | :---: | :---: | :---: | :---: |
| Cumulative Promotion Index (CPI) | 84.9 | 93.5 | 51 | $\mathbf{6 8 . 0}$ |
| Basic Completion Ratio (BCR) | 96.3 | 99.2 | 51 | $\mathbf{6 8 . 3}$ |
| National Center for Education Statistics (NCES-G) | 53.7 | 44.8 | 34 | $\mathbf{8 0 . 4}{ }^{\dagger}$ |
| Inverse Dropout Promotion Rate (IDP) | 53.9 | 45.1 | 34 | $\mathbf{8 2 . 1}^{\dagger}$ |

Source: Common Core of Data Local Educational Agency and School Surveys, National Center for Education Statistics.

* Count of states included the District of Columbia.
$\dagger$ Estimate should not be considered representative of the nation as a whole due to low levels of indicator coverage .

The first row of results in Table 2 indicates that the CPI estimate displays a very high level of coverage. The CPI can be calculated for 85 percent of school districts, which serve over 93 percent of the national high school population. In addition, estimates can be calculated for each of the 50 states and the District of Columbia. The relatively higher level of student coverage (compared to district coverage) found here suggests that the CPI is somewhat more likely to be available for larger school districts.

[^3]Perhaps one of the simplest and most intuitive approaches for approximating a graduation rate is the Basic Completion Ratio. The BCR estimate is calculated by dividing the number of graduates in a given year by the number of ninth graders three school years before (e.g., spring 2001 graduates divided by ninth graders in the fall of 1997). Although limited in some respects, this method can be valuable for producing a rough estimate of the graduation rate in the aggregate where very limited data are available.

$$
B C R=\frac{G_{y}}{E_{y-3}^{9}}
$$

where:

| $G_{y}$ | is the count of students who graduated with a regular high school diploma during <br> the $\mathbf{y}$ school year, and |
| :--- | :--- |
| $E_{y-3}^{9}$ | is the count of students enrolled in grade 9 in year $\mathbf{y}-3$. |

Using data from the CCD we find a BCR rate of 68.3 percent for the class of 2001. This value is very close to the CPI estimate of 68.0 percent reported above. Estimate coverage for the BCR method is also somewhat higher than CPI due largely to its very minimal data demands. While the CPI and BCR methods produce similar results on a broad national level, this similarity will not necessarily carry downward to more local units of analysis. The BCR approach will tend to be less stable at more localized levels in part because changes in the student population (e.g., due to population growth and migration) over the indicator's four-year window of observation will affect the accuracy of the BCR estimate. The CPI method, by contrast, minimizes the potential bias introduced by population change by using two data points separated by a short one-year period of observation. Over such a short period of time, large shifts in student demographics are highly unlikely.

One of the most commonly cited high school completion measures in circulation today was developed by the National Center for Education Statistics. This statistic, often described as a "leaver rate," approximates the high school graduation rate by calculating the percent of students who leave high school as completers versus dropping out (Young \& Hoffman 2002). Most states are currently incorporating a modified version of this statistic into their NCLB-mandated accountability plans, in which only regular diploma recipients are counted as graduates (Swanson 2003b, 2003c). This modified indicator will be identified as NCES-G in this report to distinguish it from the agency's official statistic.

$$
\operatorname{NCESG}_{y}=\frac{G_{y}}{G_{y}+D_{y}^{12}+D_{y-1}^{11}+D_{y-2}^{10}+D_{y-3}^{9}}
$$

where:
$G_{y} \quad$ is the count of students who graduated with a regular high school diploma during the $y$ school year, and
$D_{y}^{12} \quad$ is the count of students who dropped out of grade $\mathbf{1 2}$ during the $\mathbf{y}$ school year.

It should first be noted that the NCES-G statistic displays very low levels of national coverage. The NCES-G statistic can be computed for only 54 percent of districts and 45 percent of the national student population. This coverage pattern indicates that the NCES-G estimate is disproportionately unavailable for larger school districts (the opposite of the pattern found for CPI). For the class of 2001, the NCES-G measure can only be estimated for 34 states. The poor coverage for the NCES-G indicator can be traced to a large amount of missing data on high school dropouts. As the formula above suggests, dropout data are essential for calculating the statistic. In past years, many states either have not reported dropout data to CCD or have done so in a manner that does not conform with standards established by the National Center for Education Statistics. ${ }^{10}$ However, even when the NCES-G rate can be computed, it produces results that are systematically higher than the CPI indicator. For instance, Table 2 reports an NCES-G graduation rate of about 80 percent for the districts for which estimates are available, a level about 12 percent higher than either the CPI or BCR estimates. ${ }^{11}$ Due to the low level of indicator coverage, however, this NCES-G rate should not be considered representative of the nation as a whole.

A final alternative approach examined in this study - the Inverse Dropout Promotion method (IDP) estimates the graduation rate by multiplying together the inverse of the grade-specific dropout rates for an estimated cohort over a four year period. This IDP method is essentially a serial promotion rate, where the percent of students promoted is approximated by taking one minus the dropout rate.

$$
I D P_{y}=\left[1-D_{y-3}^{9}\right] *\left[1-D_{y-2}^{10}\right] *\left[1-D_{y-1}^{11}\right] *\left[1-D_{y}^{12}\right]
$$

where:

$$
D_{y-3}^{9} \quad \text { is the annual dropout rate for grade } 9 \text { in year } \boldsymbol{y}-\mathbf{3} \text {. }
$$

This estimation strategy is rather rudimentary. Unlike the other measures compared above, IDP does not directly measure high school graduates and effectively assumes that students who do not dropout should be counted as high school graduates. No distinction, for instance, is made between diploma recipients and those receiving other credentials (e.g., completion certificates or the GED). Nevertheless, it could still be argued that such allowances are reasonable, at least if the objective is producing a rough estimate of the true graduation rate. Despite the obvious limitations of this method, several states have been authorized to employ similar indicators as part of their NCLB accountability plans (see Swanson 2003b). Again using data from the CCD, we find that levels of IDP indicator coverage here are quite low (54 percent of districts and 45 percent of students). As was the case for the NCES-G indicator the low coverage is due to the IDP measure's reliance on dropout data. The Inverse Dropout Promotion method

[^4]projects a graduation rate of 82 percent. This value exceeds the results for the CPI by a considerable margin, although it is quite similar to the NCES-G estimate.

Findings for the NCES-G and IDP measures have both produced estimates of the graduation rate that: (1) offer poor coverage of the national student population and (2) point towards a graduation rate considerably higher than the CPI and BCR. As discussed above, the low levels of coverage are a product of states failing to collect and report dropout data consistent with the CCD's technical standards. Increasing numbers of states are now providing such data. However because the NCES-G and IDP measures require four consecutive years of dropout counts, it will be several years before coverage for these indicators improves substantially.

The apparent overestimation of the graduation rate produced by both of these indicators (compared to the CPI ), however, is the result of a separate set of complicating factors for which a resolution is unlikely in the near future. The NCES and IDP methods rely primarily on information about the prevalence of high school dropout in order to indirectly estimate the graduation rate. Researchers have long argued that dropout data are notoriously unreliable. In particular, counts of dropouts tend to be systematically underreported. As a result, when dropout data are used to indirectly estimate the graduation rate, graduation rates tends to be inflated.

The reasons underlying underreported dropout counts are certainly multiple and complicated. On the one hand, it is possible that certain schools or school systems could intentionally manipulate dropout data. Blatant attempts to distort the true dropout and graduation rates, however, are likely to be the exception rather than the rule. After all, it is important to recognize that information on dropouts is inherently challenging to collect, certainly posing more difficulty than obtaining enrollment data or even counts of graduates. For instance, ascertaining the status of a ninth grader who attended a particular school during the Spring one academic year but who is no longer in attendance the following Fall requires that this student's status be tracked in some fashion over time. This student may have dropped out, moved to a different school in the same district, transferred out of state, switched to a private school, or may have even died over the course of the summer. Determining which of these possibilities actually occurred may be difficult, particularly in situations where: a systematic student tracking system is not in place or has a limited scope; student populations are highly mobile; or the administrative offices responsible for tracking such students are overworked, understaffed, under-resourced, and have other pressing responsibilities. Conditions such as these certainly exist to a greater or lesser extent in districts around the country. The more serious these problems are, the more likely it will be that school systems are unable to determine the status of no-longer-enrolled students, perhaps even after a good-faith attempt has been made to locate those individuals.

At some point, school systems must make decisions regarding how to classify students with an effectively "unknown" status. Formal (or informal) procedures typically exist to govern the disposition of such individuals in administrative records and sometimes rules are also in place to specify how such students will be counted (or not) when computing official dropout or graduation rates. School systems may recategorize these Unknown student as Dropouts, classify them as Transfers, or may retain them in a residual Unknown status. Little systematic information is available about key features of these processes around the country. We have little way of knowing: which re-classification strategies are more prominent; whether these re-assignments are the product of formal administrative rules or informal shop floor practices; whether these decisions are made at the school or district level; or how much these practices might affect the accuracy of reported data on dropouts. Given the obvious incentives for underreporting and disincentives for overreporting dropouts, however, it seems very likely that the kinds of ambiguity described above will continue to contribute to the systematic undercounting of dropouts.

If these suppositions are accurate, we would expect to find deflated dropout rates and inflated graduation rates, at least when the latter rely on dropout data to produce an estimate. The findings reported in Table 2 are consistent with these expectations. The dropout-dependent NCES and IDP rates are considerably higher than those produced by both the CPI and BCR approaches, neither of which employs dropout data. As a result, we believe that methods for indirectly estimating graduation rates using dropout data should be avoided or at the very least viewed with considerable caution unless the reliability of the dropout data can be certified with confidence. Unfortunately, extensive databases like the CCD or many statewide data systems may provide few rigorous mechanisms to positively verify and safeguard the quality of data reported by the local systems. By utilizing information that is less susceptible to biased reporting (e.g., graduation and enrollment counts), we believe that the CPI approach is able to provide a more accurate estimate of the true graduation rate than other methods in wide use today.

### 3.3 CPI Graduation Rates for Major Student Subgroups

The analyses above described aggregate graduation rates for the overall student population. To the extent possible given the data available in the CCD, we also calculated disaggregated rates for the main reporting subgroup categories required under the accountability provisions of the No Child Left Behind Act (NCLB). According to the terms of the federal law, states, districts and schools are required to report performance measures for their overall student population and to disaggregate results separately for student subgroups defined on the basis of: race and ethnicity, gender, English language proficiency, socioeconomic status, and special education classification. ${ }^{12}$ These federally-mandated performance indicators include achievement test scores and the graduation rate at the high school level.

Calculating the CPI rate for a particular student group requires data on graduation counts and gradespecific enrollment for that group. As suggested earlier, the strength of the CCD as a database lies in its breadth of coverage not in the depth of information it provides. Nevertheless, with the CCD it is possible to disaggregate the CPI graduation rates separately for racial and ethnic subgroups, by gender, and even for race-by-gender categories. Results for these student groups are reported immediately below for the nation as a whole and for the four major U.S. Census regions. The following section of this report considers the other NCLB subgroups indirectly via the composition of a district's student body. That is, we will examine the aggregate graduation rates for districts categorized on the basis of the proportion of students who are Limited English Proficient (LEP), of low socioeconomic status, or receive special education services. The CCD does not collect the separate graduation or enrollment data for these groups that would be needed to compute true disaggregated rates.

### 3.3.1 Graduation Rates by Race and Ethnicity

The Common Core of Data collects information on graduation and enrollment separately for five major racial-ethnic categories: American Indian/Alaska Native, Asian/Pacific Islander, Hispanic, Black (not Hispanic), and White (not Hispanic). ${ }^{13}$ National and regional CPI graduation rates disaggregated by race

[^5]and ethnicity are reported in Table 3. (A state-by-state summary of race-specific graduation rates appears in Table 4). At the national level, we find dramatic disparities in the performance of individual racial-ethnic groups, with Whites and Asians graduating at much higher rates than the other, historically disadvantaged minority groups. On the one hand, graduation rates for White and Asian students far exceed the national average, completing high school at rates of 75 and 77 percent respectively. By contrast, graduation rates for American Indian, Hispanic, and Black students barely break the fifty-fifty mark, ranging from just above 50 to only 53 percent. This constitutes a racial gap in high school graduation of about 25 percent between the higher-performing and lower-performing subgroups. Although this finding is consistent with well-known performance disparities in tested achievement, a graduation gap of this magnitude is certainly large by any standard of comparison and should be cause for concern among educational systems committed to achieving equity across student subgroups.

Table 3: 2001 National and Regional CPI Graduation Rates, by Race and Ethnicity

|  |  | Census Region |  |  |  |
| :--- | :---: | :---: | :---: | :---: | :---: |
|  | Nation | Northeast | South | Midwest | West |
| All Students |  |  |  |  |  |
| Race/Ethnicity | 68.0 | 71.0 | 62.4 | 74.5 | 68.2 |
| American Indian/AK Nat | $51.1^{\dagger}$ |  |  |  |  |
| Asian/Pacific Islander | 76.8 | $31.8^{\dagger}$ | $58.1^{\dagger}$ | $40.1^{\dagger}$ | $50.7^{\dagger}$ |
| Hispanic | 53.2 | $65.2^{\dagger}$ | 81.9 | $75.5^{\dagger}$ | 78.8 |
| Black | 50.2 | $35.6^{\dagger}$ | 55.4 | $53.1^{\dagger}$ | 55.9 |
| White | 74.9 | 43.8 | 52.3 | 46.5 | 54.2 |
|  |  | 78.7 | 68.9 | 78.7 | 75.0 |

Source: Common Core of Data Local Educational Agency and School Surveys, National Center for Education Statistics.
$\dagger$ Moderate Coverage - Rate covers between 50 and 75 percent of student population.

When graduation rates are viewed across regions, we find considerable variability in the performance of specific racial-ethnic subgroups. The performance of students from a particular group - both in an absolute sense and relative to Whites - depends very much on the region of the country in which the students live. Nationwide the graduation rate for Asian students is very similar to, actually slightly higher than, that for Whites ( 77 versus 75 percent). This near-parity on the national stage, however, belies large differences from one region to another. Graduation rates for Asian students in the West and South reach as high as 79 and 82 percent. In fact, in these parts of the country Asians constitute the highestperforming racial-ethnic group and outpace their White peers by margins of 4 and 14 percent respectively. The situation in the Midwest and Northeast, on the other hand, proves to be nearly a perfect mirror image. Here White students achieve the highest graduation rates, with Asians lagging behind by about 3 percent in the Midwest and 13 percent in the Northeast. The regional differences between graduation rates for Asians and Whites, while often quite large, are symmetrical in their magnitude and pattern. As a result, these often striking regional differences effectively cancel each other out when results are aggregated to the national level.
terminology used in the original data collection instruments (i.e., the CCD surveys).

Table 4: 2001 National and State CPI Graduation Rates - for All Students and by Race-Ethnicity

|  | All <br> Students | American Indian | Asian | Hispanic | Black | White |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| NATIONAL AVERAGE | 68.0 | 51.1 | 76.8 | 53.2 | 50.2 | 74.9 |
| Alabama | 61.4 | 68.6 | $66.3{ }^{\dagger}$ | $43.8{ }^{\dagger}$ | 54.0 | 65.8 |
| Alaska | 64.2 | $46.5{ }^{\dagger}$ | 71.4 | 58.3 | 66.3 | 66.3 |
| Arizona | 67.3 | --- ${ }^{\text {r }}$ | ---nr | ---nr | ---nr | --- ${ }^{\text {nr }}$ |
| Arkansas | 70.5 | $69.3{ }^{\dagger}$ | $76.8{ }^{\dagger}$ | ---* | 62.7 | 74.4 |
| California | 68.9 | $49.7{ }^{\dagger}$ | 82.0 | 57.0 | 55.3 | 75.7 |
| Colorado | 69.0 | $40.7{ }^{\dagger}$ | $72.6{ }^{\dagger}$ | 47.6 | 49.0 | 75.2 |
| Connecticut | 77.0 | $42.9{ }^{\dagger}$ | $73.7{ }^{\dagger}$ | 50.1 | 60.7 | 81.9 |
| Delaware | 64.3 | ---* | ---* | $42.2{ }^{\dagger}$ | 53.4 | 69.7 |
| Dist. of Columbia | 65.2 | ---* | ---* | 56.1 | 60.4 | ---* |
| Florida | 53.0 | $47.9^{\dagger}$ | 79.9 | 52.2 | 41.0 | 57.9 |
| Georgia | 55.5 | $34.3{ }^{\dagger}$ | $79.8{ }^{\dagger}$ | 43.2 | 43.7 | 62.4 |
| Hawaii | 66.0 | 70.9 | 66.8 | 59.9 | 60.7 | 64.7 |
| Idaho | 79.6 | --- ${ }^{\text {nr }}$ | ---8r | ---n | --- ${ }^{\text {nr }}$ | ---nr |
| Illinois | 75.0 | ---* | 88.8 | 57.8 | 47.8 | 82.9 |
| Indiana | 72.4 | $33.9{ }^{\dagger}$ | ---* | $50.4{ }^{\dagger}$ | $52.9{ }^{\dagger}$ | 74.9 |
| Iowa | 78.2 | ---* | $66.2^{\dagger}$ | $40.5{ }^{\dagger}$ | $48.0^{\dagger}$ | 79.3 |
| Kansas | 74.1 | ---* | $48.0{ }^{\dagger}$ | $47.6{ }^{\dagger}$ | 52.1 | 78.9 |
| Kentucky | 65.3 | --- ${ }^{\dagger}$ | $63.3{ }^{\dagger}$ | $62.8{ }^{\dagger}$ | 47.5 | 68.5 |
| Louisiana | 64.5 | $58.1{ }^{\dagger}$ | 74.2 | $74.2^{\dagger}$ | $57.7^{\dagger}$ | 68.0 |
| Maine | 72.1 | $33.0{ }^{\dagger}$ | $35.2{ }^{\dagger}$ | ---* | ---* | 72.3 |
| Maryland | 75.3 | ---* | 92.9 | 71.2 | 64.8 | 79.9 |
| Massachusetts | 71.0 | $25.4{ }^{\dagger}$ | 60.5 | 36.1 | 49.4 | 73.7 |
| Michigan | 74.0 | $39.5{ }^{\dagger}$ | ---* | $36.3^{\dagger}$ | ---* | 76.6 |
| Minnesota | 78.9 | $35.7{ }^{\dagger}$ | $66.3^{\dagger}$ | ---* | $51.0^{\dagger}$ | 81.4 |
| Mississippi | 58.0 | --- | $45.6{ }^{\dagger}$ | ---* | 52.6 | 63.3 |
| Missouri | 72.9 | $22.7{ }^{\dagger}$ | $73.4{ }^{\dagger}$ | ---* | 52.3 | 76.1 |
| Montana | 77.1 | 45.8 | ---* | $56.8{ }^{\dagger}$ | $71.4{ }^{\dagger}$ | 79.3 |
| Nebraska | 77.3 | $32.3{ }^{\dagger}$ | ---* | $46.9^{\dagger}$ | 45.2 | 81.7 |
| Nevada | 54.7 | 47.8 | 75.1 | 37.6 | 40.5 | 62.0 |
| New Hampshire | 73.9 | --- ${ }^{\text {nr }}$ | --- ${ }^{\text {nr }}$ | --- ${ }^{\text {nr }}$ | --- ${ }^{\text {nr }}$ | ---- ${ }^{\text {nr }}$ |
| New Jersey | $86.3^{\dagger}$ | ---* | $83.3{ }^{\dagger}$ | ---* | $62.3{ }^{\dagger}$ | 86.4 |
| New Mexico | 61.2 | 60.0 | $64.2{ }^{\dagger}$ | 54.7 | $55.9{ }^{\dagger}$ | 67.8 |
| New York | 61.4 | $36.2^{\dagger}$ | 61.2 | 31.9 | 35.1 | 75.3 |
| North Carolina | 63.5 | $33.8{ }^{\dagger}$ | 68.3 | $58.4{ }^{\dagger}$ | 53.6 | 69.2 |
| North Dakota | 79.5 | $52.6{ }^{\dagger}$ | $30.6{ }^{\dagger}$ | ---* | $72.1{ }^{\dagger}$ | 84.1 |
| Ohio | 70.7 | $22.4{ }^{\dagger}$ | ---* | $43.2{ }^{\dagger}$ | 39.6 | 75.9 |
| Oklahoma | 69.8 | $63.9{ }^{\dagger}$ | ---* | $56.2^{\dagger}$ | 52.8 | 72.1 |
| Oregon | 73.6 | $42.4{ }^{\dagger}$ | $78.4{ }^{\dagger}$ | $56.2^{\dagger}$ | 58.0 | 71.4 |
| Pennsylvania | 75.5 | $24.9{ }^{\dagger}$ | $63.5{ }^{\dagger}$ | 40.9 | 45.9 | 81.3 |
| Rhode Island | 73.5 | ---* | $53.8{ }^{\dagger}$ | 67.7 | 84.1 | 73.8 |
| South Carolina | 50.7 | ---nr | --- ${ }^{\text {nr }}$ | ---nr | --- ${ }^{\text {nr }}$ | ---nr |
| South Dakota | 79.4 | $32.1{ }^{\dagger}$ | $61.2^{\dagger}$ | ---* | ---* | 83.4 |
| Tennessee | 57.5 | ---nr | ---nr | ---nr | --- ${ }^{\text {nr }}$ | --- ${ }^{\text {rr }}$ |
| Texas | 65.0 | $36.7{ }^{\dagger}$ | 85.3 | 55.9 | 55.3 | 73.5 |
| Utah | 78.3 | $52.8{ }^{\dagger}$ | $69.3{ }^{\dagger}$ | ---* | ---* | 83.7 |
| Vermont | 77.9 | --- ${ }^{\text {nr }}$ | --- ${ }^{\text {nr }}$ | --- ${ }^{\text {nr }}$ | --- ${ }^{\text {nr }}$ | --- ${ }^{\text {nr }}$ |
| Virginia | 73.8 | $68.6{ }^{\dagger}$ | 80.4 | 65.2 | 62.8 | 76.1 |
| Washington | 62.6 | --- ${ }^{\text {nr }}$ | --- ${ }^{\text {nr }}$ | ---- ${ }^{\text {nr }}$ | --- ${ }^{\text {nr }}$ | ---- ${ }^{\text {n }}$ |
| West Virginia | 70.7 | $52.8{ }^{\dagger}$ | ---* | ---* | 58.0 | 71.3 |
| Wisconsin | 78.2 | $47.0^{\dagger}$ | $73.2{ }^{\dagger}$ | $54.4{ }^{\dagger}$ | 41.1 | 82.4 |
| Wyoming | 72.4 | $34.4{ }^{\dagger}$ | ---* | $57.1^{\dagger}$ | $67.7^{\dagger}$ | 73.3 |

Source: Common Core of Data Local Educational Agency and School Surveys, National Center for Education Statistics.
${ }^{\mathrm{nr}}$ Value not calculated because necessary data field(s) not reported in CCD.

* Low Coverage - Rate not reported because statistic covers less than 50 percent of student population.
${ }^{\dagger}$ Moderate Coverage - Rate covers between 50 and 75 percent of student population.

Our regional analysis shows that graduation rates for the other racial and ethnic minority groups American Indian, Hispanic, and Black students - are consistently and substantially lower than those for both Asians and Whites. The most dramatic racial gaps are observed in the Northeast. Results indicate that fewer than a third of American Indian, about 36 percent of Hispanic, and half of Black students can be expected to graduate from high school. Here White students (with a graduation rate of 79 percent) outperform other groups by extremely large margins of 35,43 , and 47 percent for Black, Hispanic, and American Indian students respectively. In fact, Whites in the Northeast graduate from high school at more than twice the rate Hispanic and American Indian students. To some extent, then, the regional results replicate (and can even amplify) the disparities exhibited in the national findings described earlier.

A careful examination of these disaggregated regional results indicates that the size of these racial performance gaps varies greatly across regions. Furthermore, a systematic patterning of effects in the magnitude of these gaps also becomes evident, with a consistent rank ordering emerging among the regions. Disparities are greatest in the Northeast, followed by the Midwest, then the West, with the smallest gaps found in the South. This regional pattern of racial gaps is replicated within each of the individual racial-ethnic groups, even for Asians who outperform Whites in two regions of the country. The largest racial gaps exist in the regions with the highest overall graduation rates. Not only do members of racial-ethnic minorities in the Northeast and Midwest fare more poorly compared to their White peers but their graduation rates are lower than members of the same groups in the West and South. Overall graduation rates in the West and South are lower than other regions of the country, although racial gaps are generally less pronounced.

### 3.3.2 Graduation Rates by Gender and Race-Gender Subgroups

The next set of findings, reported in Table 5, shows a substantial and systematic gender gap in the graduation rates of female and male students. Nationally, female students graduate from high school at a rate of 72 percent, while the graduation rate for males is about 64 percent. This constitutes an eight percent gender gap in graduation. The region-specific results further confirm the existence of a systemic female advantage in high school graduation. In the Northeast and West, gender-specific graduation rates and the size of the performance gap are similar to the national averages. Compared to the nation as a whole the South shows lower graduation rates for both males and females, as well as a larger gender gap (about 10 percent). In the Midwest graduation rates are higher than national averages for males and females, while the gender gap is somewhat narrower ( 6 percent). A state-by-state summary of graduation rates by gender appears in Table 6.

With data from the CCD, it is also possible to calculate CPI graduation rates separately for each of the ten possible race-by-gender subgroups. Nationally, the largest gender gaps are found among Hispanic and Black students, with females graduating at rates 11 and 13 percent higher than males in these groups respectively. This pattern of gender gaps by race generally pertains across regions, although the Northeast proves to be an exception. In that part of the country, the largest gender gap is found among Asians, with graduation rates for female students exceeding those of males by 13 percent. The average size of the gender gap across racial-ethnic groups is of approximately equal size for each region (about 9 percent).

Table 5: 2001 National and Regional CPI Graduation Rates, by Gender and for Race-byGender Subgroups

|  | Nation | Census Region |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Northeast | South | Midwest | West |
| All Students | 68.0 | 71.0 | 62.4 | 74.5 | 68.2 |
| Gender |  |  |  |  |  |
| Female | 72.0 | 71.0 | 68.3 | 77.0 | 72.9 |
| Male | 64.1 | 64.9 | 58.8 | 70.9 | 64.7 |
| Race by Gender |  |  |  |  |  |
| Female |  |  |  |  |  |
| American Indian/AK Nat | $51.4{ }^{\dagger}$ | $34.2^{\dagger}$ | $58.1{ }^{\dagger}$ | $40.2^{\dagger}$ | ---* |
| Asian/Pacific Islander | $80.0^{\dagger}$ | $72.1{ }^{\dagger}$ | $82.9{ }^{\dagger}$ | $75.7{ }^{\dagger}$ | 81.6 |
| Hispanic | 58.5 | 42.9 | 60.4 | $57.8{ }^{\dagger}$ | 61.0 |
| Black | 56.2 | 44.9 | 59.4 | 52.0 | 57.5 |
| White | 77.0 | 79.9 | 72.1 | 80.2 | 78.5 |
| Male |  |  |  |  |  |
| American Indian/AK Nat | $47.0^{\dagger}$ | $27.7^{\dagger}$ | $53.3{ }^{\dagger}$ | $33.0{ }^{\dagger}$ | 47.2 |
| Asian/Pacific Islander | $72.6{ }^{\dagger}$ | $58.7{ }^{\dagger}$ | $78.2^{\dagger}$ | $70.9{ }^{\dagger}$ | 74.5 |
| Hispanic | 48.0 | $34.6{ }^{\dagger}$ | 49.5 | $44.6{ }^{\dagger}$ | 50.3 |
| Black | 42.8 | 35.7 | 44.4 | 39.2 | 47.5 |
| White | 70.8 | 74.5 | 64.9 | 75.3 | 71.5 |

Source: Common Core of Data Local Educational Agency and School Surveys, National Center for Education Statistics.
${ }^{n}$ Value not calculated because necessary data field(s) not reported in CCD.

* Low Coverage - Rate not reported because statistic covers less than 50 percent of student population.
$\dagger$ Moderate Coverage - Rate covers between 50 and 75 percent of student population.

These race-by-gender findings also further confirm the most prominent patterns of results described for the separate regional, gender, and race analyses above. Females, for instance, consistently outperform males from the same racial-ethnic group across the nation as a whole and for each of the four regions. The same regional stratification of the racial gap in graduation rates described earlier can also be found with remarkable consistency, separately for females and for males within each racial-ethnic group. Without exception, both for females and for males, the ranking in the size of the racial gap runs from highest to lowest in the Northeast to Midwest to West to South.

Table 6: 2001 National and State CPI Graduation Rates, by Gender

|  | Female Graduation Rate | Male Graduation Rate | Gender Gap Female-Male (within State) | State Gap for Females (State-Nation) |
| :---: | :---: | :---: | :---: | :---: |
| NATIONAL AVERAGE | 72.0 | 64.1 | 7.9 |  |
| Alabama | 67.3 | 56.0 | 11.3 | -4.7 |
| Alaska | 67.4 | 60.1 | 7.3 | -4.6 |
| Arizona | ---nr | ---nr | --- | --- |
| Arkansas | 74.6 | 68.2 | 6.4 | 2.6 |
| California | 73.2 | 64.5 | 8.7 | 1.2 |
| Colorado | 72.9 | 65.1 | 7.8 | 0.9 |
| Connecticut | 79.3 | 73.2 | 6.1 | 7.3 |
| Delaware | 69.1 | 58.9 | 10.2 | -2.9 |
| Dist. of Columbia | 73.0 | 54.8 | 18.2 | 1.0 |
| Florida | 59.4 | 47.3 | 12.1 | -12.6 |
| Georgia | 60.9 | 50.7 | 10.2 | -11.1 |
| Hawaii | 69.6 | 62.7 | 6.9 | -2.4 |
| Idaho | --- ${ }^{\text {nr }}$ | ---nr | --- | --- |
| Illinois | 77.5 | 71.1 | 6.4 | 5.5 |
| Indiana | 76.6 | 67.8 | 8.8 | 4.6 |
| Iowa | 78.2 | $74.7{ }^{\dagger}$ | 3.5 | 6.2 |
| Kansas | 75.6 | 71.6 | 4.0 | 3.6 |
| Kentucky | 71.2 | 62.6 | 8.6 | -0.8 |
| Louisiana | 70.6 | 57.8 | 12.8 | -1.4 |
| Maine | 74.4 | 67.4 | 7.0 | 2.4 |
| Maryland | 80.5 | 70.2 | 10.3 | 8.5 |
| Massachusetts | --- ${ }^{\text {nr }}$ | ---nr | --- | --- |
| Michigan | 76.0 | 71.2 | 4.8 | 4.0 |
| Minnesota | 81.4 | 75.8 | 5.6 | 9.4 |
| Mississippi | 64.4 | 51.8 | 12.6 | -7.6 |
| Missouri | 75.8 | 69.4 | 6.4 | 3.8 |
| Montana | 77.1 | 73.5 | 3.6 | 5.1 |
| Nebraska | 79.0 | 72.8 | 6.2 | 7.0 |
| Nevada | 60.6 | 50.1 | 10.5 | -11.4 |
| New Hampshire | ---nr | --- ${ }^{\text {nr }}$ | --- | -- |
| New Jersey | 83.9 | $81.7{ }^{\dagger}$ | 2.2 | 11.9 |
| New Mexico | 64.4 | 56.4 | 8.0 | -7.6 |
| New York | 64.0 | 57.3 | 6.7 | -8.0 |
| North Carolina | 67.1 | 59.6 | 7.5 | -4.9 |
| North Dakota | 81.5 | 80.4 | 1.1 | 9.5 |
| Ohio | 73.8 | 67.0 | 6.8 | 1.8 |
| Oklahoma | 73.1 | 69.1 | 4.0 | 1.1 |
| Oregon | --- ${ }^{\text {nr }}$ | --- ${ }^{\text {nr }}$ | --- | --- |
| Pennsylvania | ---nr | ---nr | --- | --- |
| Rhode Island | 75.9 | 71.5 | 4.4 | 3.9 |
| South Carolina | ---nr | ---nr | --- | --- |
| South Dakota | 79.9 | 76.3 | 3.6 | 7.9 |
| Tennessee | ---nr | ---nr | --- | --- |
| Texas | 69.4 | 61.0 | 8.4 | -2.6 |
| Utah | 84.0 | 79.9 | 4.1 | 12.0 |
| Vermont | --- ${ }^{\text {nr }}$ | --- ${ }^{\text {nr }}$ | --- | --- |
| Virginia | 78.4 | 68.3 | 10.1 | 6.4 |
| Washington | ---nr | ---nr | --- | --- |
| West Virginia | 74.8 | 67.7 | 7.1 | 2.8 |
| Wisconsin | 80.3 | 74.2 | 6.1 | 8.3 |
| Wyoming | 73.4 | 68.8 | 4.6 | 1.4 |

[^6]
### 3.4 Placing Subgroup Results in Context

The No Child Left Behind legislation embraces the two essential goals of raising levels of student performance and closing performance gaps between historically low- and high-performing groups of students. The analyses above show, sometimes in dramatic form, just how much graduation rates can differ across subgroups. Large gaps such as these will have significant political and practical implications in the context of the high-stakes accountability systems that all states are required to implement under NCLB.

To summarize the results reported above and place them in a more concrete context, we can approach them from the point of view of a hypothetical accountability system. In this accountability regime, much like NCLB, performance goals for graduation rates must be met in the aggregate (i.e., for all students) and when disaggregated separately for each group defined by race-ethnicity and by gender. Let us also suppose that this accountability system establishes a single goal for graduation rates that applies to all students and subgroups. Therefore, for a school or school system to be judged adequately performing it must meet the established goal for eight separate groups ( 1 for students as a whole, 5 racial-ethnic groups, and 2 gender groups). For the purposes of this illustration the target graduation rate will be set at 66 percent. One might argue that this level is too low to serve as a meaningful ultimate goal for an educational system that strives toward very high levels of performance. However, two-thirds of students graduating might also be reasonably viewed as a realistic interim goal, particularly in light of the results presented earlier.

Figure 2: National and Regional Performance under Hypothetical Accountability System

| Educational System | Groups are required to meet graduation rate accountability goal of 66\%$\checkmark=\text { Goal met or exceeded }$ |  |  |  |  |  |  |  | Categories with goal met (out of 8) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  | $\begin{aligned} & \text { 드́ } \\ & \frac{\pi}{0} \end{aligned}$ | $\xlongequal[4]{2}$ | $\begin{aligned} & \frac{0}{\pi} \\ & \stackrel{\Xi}{0} \\ & \stackrel{0}{0} \end{aligned}$ | $\frac{0}{\sum_{\Sigma}^{\pi}}$ |  |
| Nation | $\checkmark$ |  | $\checkmark$ |  |  | $\checkmark$ | $\checkmark$ |  | 4 |
| Northeast | $\checkmark$ |  |  |  |  | $\checkmark$ | $\checkmark$ |  | 3 |
| South |  |  | $\checkmark$ |  |  | $\checkmark$ | $\checkmark$ |  | 3 |
| Midwest | $\checkmark$ |  | $\checkmark$ |  |  | $\checkmark$ | $\checkmark$ | $\checkmark$ | 5 |
| West | $\checkmark$ |  | $\checkmark$ |  |  | $\checkmark$ | $\checkmark$ |  | 4 |
| Systems meeting goal (out of 5) | 4 | 0 | 4 | 0 | 0 | 5 | 5 | 1 |  |

Note: Summary of results from Tables 3 and 5.

Treating the nation and each of the Census regions as independent educational systems, Figure 2 summarizes their performance under the terms of the simple hypothetical accountability system outlined above. First, we note that performance in all five of these systems - for the nation as a whole and each of the regions - would be ruled Inadequate because each fails to reach a 66 percent graduation rate in multiple categories. The 66 percent goal is met consistently only for Females and Whites across all systems. The overall graduation rate in the South falls below the established two-thirds threshold as does the performance of Asian students in the Northeast. Other than these two exceptions, performance goals are consistently met in the aggregate and for this Asian students. Only one system, the Midwest region, meets the accountability goal for Male students. In the remaining categories - American Indians, Hispanics, Blacks - the nation as well as all regions fail to attain a 66 percent graduation rate.

This example has been presented in part for illustrative purposes. However, this hypothetical accountability system was intended to mirror some key aspects of the No Child Left Behind Act. As such, it offers a basic but penetrating insight into the state of the nation's performance on graduation rates. Prior to NCLB, graduation rates were not part of formal educational accountability systems in most states. In some cases graduation rates were not even systematically measured. Findings from this study suggest that in the coming years we can expect states to report widespread failure to meet accountability goals if performance on graduation rates is held to even a modest goal (e.g., 66 percent) and if states use the same rules for graduation rates as would apply to achievement test scores under NCLB (e.g., goals must be met separately in the aggregate and for subgroups). Given the widespread disparities that exist, raising the graduation rates of males and particularly students from historically disadvantaged minority groups may prove to be a tremendous challenge for school systems nationwide.

### 3.5 Descriptive Analysis of Graduation Rates by District Type

The ability to calculate truly disaggregated graduation rates using the CCD is limited to the race, gender, and race-by-gender subgroups examined above. Information on other student characteristics of educational and social interest, however, are collected by the CCD at aggregate levels. It is possible, therefore, to compare graduation rates for districts that (as a whole) vary according to characteristics such as the percent of students who come from socioeconomically disadvantaged background or who are English language learners. Although not a perfect substitute for fully disaggregated estimates, the district compositional findings reported below provide a broad and systematic examination of district level graduation dynamics. Even at an aggregate level, our results point to strong and consistent patterns in graduation rates between higher-performing educational settings and the school systems that serve the nation's more disadvantaged students. Were actual disaggregated data available, we would expect these disparities to be even more strongly pronounced.

Table 7 reports the overall (i.e., aggregate) graduation rate for districts classified on the basis of five characteristics: percent of students who are members of racial-ethnic minorities; enrollment in programs serving students with Limited English Proficiency (LEP); level of socioeconomic disadvantage (measured using eligibility for Free or Reduced Lunch programs as a proxy); students served in special education programs; and district location. ${ }^{14}$ In order to simplify the presentation of these descriptive results, for several of these characteristics districts have been classified as displaying either a "high" or "low" level.

[^7]Where applicable, the thresholds here have been drawn at the national student average for the respective factor. For instance, about 38 percent students nationwide are eligible to participate in the Free or Reduced Price Lunch programs (FRL) according to the CCD data. High FRL districts, accordingly, are those with more than 38 percent of student eligible.

Table 7: 2001 National and Regional CPI Graduation Rates, by District Type

| District Characteristic | Nation | Census Region |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Northeast | South | Midwest | West |
| All Districts | 68.0 | 71.0 | 62.4 | 74.5 | 68.2 |
| Racial Composition |  |  |  |  |  |
| Majority White | 74.1 | 80.0 | 66.5 | 78.6 | 73.7 |
| Majority Minority | 56.4 | $46.4^{\dagger}$ | 56.6 | $48.2^{\dagger}$ | 62.4 |
| Free/Reduced Lunch |  |  |  |  |  |
| Low (<38\%) | 76.0 | 81.5 | 69.7 | 79.4 | $74.6{ }^{\dagger}$ |
| High (>38\%) | $57.6^{\dagger}$ | $48.4{ }^{\dagger}$ | 57.6 | $57.4^{\dagger}$ | $62.4{ }^{\dagger}$ |
| LEP Participation |  |  |  |  |  |
| Low (<9\%) | $70.3{ }^{\dagger}$ | $76.4{ }^{\dagger}$ | 64.3 | $75.6{ }^{\dagger}$ | $74.4{ }^{\dagger}$ |
| High (>9\%) | $60.1^{\dagger}$ | $42.8{ }^{\dagger}$ | 57.3 | $61.2^{\dagger}$ | $65.8^{\dagger}$ |
| Special Education |  |  |  |  |  |
| Low (<13\%) | 69.7 | 78.0 | 62.7 | 78.0 | 68.6 |
| High (>13\%) | 65.0 | 63.5 | 62.1 | 71.0 | $64.6{ }^{\dagger}$ |
| Location |  |  |  |  |  |
| Central City | 57.5 | 47.7 | 57.2 | 58.5 | 62.5 |
| Suburb | 72.7 | 81.6 | 64.7 | 79.9 | 72.2 |
| Town | 69.1 | 74.9 | 61.7 | 76.6 | 69.8 |
| Rural | 71.9 | 79.0 | 63.9 | 79.6 | $69.5^{\dagger}$ |
| Source: Common Core of Data Local Educational Agency and School Surveys, National Center for Education Statistics. nr Value not calculated because necessary data field(s) not reported in CCD. <br> * Low Coverage - Rate not reported because statistic covers less than 50 percent of student population. <br> $\dagger$ Moderate Coverage - Rate covers between 50 and 75 percent of student population. |  |  |  |  |  |

The district features examined here are often cited as characteristic of the school systems attended by socioeconomically disadvantaged or educational underserved student populations. Much as in the case of the subgroup results above, findings for the aggregate district analysis display consistent and often dramatic differences between graduation rates in more and less advantaged districts. As we would expect, for instance, nationwide graduation rates in districts where most students are members of racialethnic minorities lag almost 18 percentage points behind majority-White school systems ( 56 versus 74 percent respectively). A similar gap exists between districts classified as more or less socioeconomically advantaged, as captured by FRL eligibility. Graduation rates for high and low FRL districts are 76 and 58
percent respectively. Districts with a higher-than-average proportion of LEP students have graduation rates about 10 points lower than districts with fewer English language learners. A margin of about half this size separates districts serving high versus low numbers of special education students. Nationally, we find the highest graduation rates in suburban districts and the lowest in central cities ( 73 versus 58 percent). The most meaningful distinction with respect to location, however, appears to be between central city school systems and all other locales.

Without exception, the general patterns that emerge in the national findings are also evident when the analysis is taken to the regional level. For example, graduation rates are lower in majority-minority districts (compared to majority-White systems) for the nation as a whole and also in each region. Further, a patterning of regional disparities similar to the ones identified earlier in the disaggregated subgroup analyses also emerges. Across each of the five district characteristics examined, the more advantaged systems in the Northeast and Midwest are the highest-performing in the nation with respect to graduation rates. Graduation gaps between advantaged and disadvantaged districts in these two regions, however, are also uniformly larger than those in the South and West. Differences are most pronounced in the Northeast, where graduation rates are at least 33 percentage points lower in majorityminority, high LEP, high FRL, and central city districts than they are in relatively more advantaged educational environments.

## 4 Investigating the Role of District Context

The descriptive results above identify particular student populations or educational settings in which graduation rates appear to be especially low. Members of historically-disadvantaged racial-ethnic groups (American Indian, Hispanic, Black) finish high school at rates far lower than their White peers. Nationally this racial gap approaches 25 percent. Males also graduate at consistently lower levels than females, although the gender gap is not as pronounced. Districts that serve more socioeconomically or educationally disadvantaged populations also graduate substantially fewer students. Graduation rates in districts with higher-than-average levels of poverty and minority enrollment lag behind more advantaged systems by about 18 percent. Similarly, a 15 percent graduation gap can be found between suburban and urban districts. This section of the report further examines the connection between educational context and graduation rates, with particular attention given to the issues of race and poverty.

### 4.1 A Descriptive Portrait of Districts Serving Racial-Ethnic Subgroups

This study's basic results suggest some important and well-known relationships among student characteristics, district context and graduation rates. Of course, factors such as those examined above are closely related to one another. For instance, minority students tend to be disproportionately poor, live in highly segregated communities, and attend schools in large, chronically low-performing, urban school systems. Table 8 reports the characteristics of the school districts attended by the average student in the nation (of any race) and by the average student from each of the major racial-ethnic categories. ${ }^{15}$

We find here that that the average Black and Hispanic students attend high school in districts where just over half of all students qualify for the Free or Reduced Price Lunch programs, a leading indicator of poverty. By comparison, White students typically attend school in districts where less than a third of their classmates are FRL-eligible. For Blacks and Hispanics, a disproportionate number of their fellow students are also members of racial and ethnic minority groups. The average White student is enrolled in a district where over three-quarters of students are also White. This finding is further confirmed by results for the district Segregation Index. Scores on this measure range from 0 to 1 , with higher values indicating that minority students are more socially isolated from Whites. Findings show that the average members of all minority groups attend school in more highly segregated contexts than do Whites. This is especially true for Blacks and Hispanics.

Asian, Hispanic and Black students attend school in district that are much larger than those of Whites. In fact, the district of the average Black student is over five times the size of the average White student's school system. Many of the nation's largest school districts are located in urban areas. ${ }^{16}$ Accordingly, we find that nearly half of all Hispanic and Black students attend center city school districts and that these

[^8]groups are underrepresented in less urbanized areas, compared to Whites. American Indians, on the other hand, are more likely than all other groups to attend schools in towns and rural communities. Although distinctive in many respects, impoverished rural school systems share many of the same challenges faced by the large politically influential urban districts that often occupy center stage in debates over a variety of educational issues including chronically-low achievement scores and high dropout rates.

Table 8: Characteristics of the School Districts Attended by the Average Student of Specific Racial-Ethnic Groups

| District Characteristic | All Students | American Indian | Asian | Hispanic | Black | White |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Free/Reduced Lunch (\%) | 36.5 | 46.3 | 37.4 | 50.5 | 51.9 | 29.4 |
| Racial Composition (\%)* |  |  |  |  |  |  |
| AmericanIndian | 1.2 | 28.3 | 0.7 | 0.8 | 0.5 | 1.0 |
| Asian | 4.3 | 2.6 | 17.7 | 5.8 | 3.6 | 3.1 |
| Hispanic | 15.5 | 10.4 | 22.4 | 46.2 | 14.9 | 8.7 |
| Black | 15.8 | 7.2 | 14.5 | 14.5 | 43.5 | 10.1 |
| White | 63.3 | 51.5 | 44.7 | 32.7 | 37.5 | 77.1 |
| Segregation Index (0-1) | . 40 | . 52 | . 59 | . 71 | . 68 | . 27 |
| District Enrollment (median) | 9,997 | 3,733 | 28,330 | 24,646 | 31,351 | 6,159 |
| Locale* |  |  |  |  |  |  |
| Central City | 26.9 | 19.5 | 37.6 | 47.0 | 47.3 | 17.2 |
| Suburb | 43.5 | 23.1 | 56.5 | 41.7 | 34.6 | 45.8 |
| Town | 12.0 | 21.5 | 2.7 | 6.5 | 8.9 | 14.0 |
| Rural | 17.6 | 35.9 | 3.2 | 4.9 | 9.1 | 23.0 |
| Per Pupil Expenditure (\$) | 6,779 | 6,761 | 7,110 | 6,719 | 7,109 | 6,771 |
| Special Education (\%) | 12.8 | 13.4 | 11.7 | 11.7 | 13.1 | 13.0 |

Source: Common Core of Data Local Educational Agency and School Surveys, National Center for Education Statistics. Analyses are weighted by size of high school level enrollment in the respective racial-ethnic category.

* Details may not sum to $100 \%$ due to rounding.

In certain respects, the districts attended by the various racial-ethnic groups do not differ very much. Average levels of per-pupil educational expenditures do not vary considerably across racial and ethnic groups, nor does the percent of special education students in the district. This is not to say, of course, that school funding and special education are unrelated to graduation rates either for individual students or in the aggregate for districts. These findings do suggest, however, that these factors are not likely to be major explanations of observed differences in graduation rates across racial-ethnic groups.

### 4.2 Modeling Graduation Rates - Links to Poverty and Segregation

Using district-level data from the CCD database, Table 9 reports the statistical correlations between the graduation rate and other district characteristics discussed above. The aggregate district graduation rate has been calculated using the CPI method. These basic relationships in all cases point in the direction one would expect given the large body of existing research on educational performance. As we would anticipate, graduation rates are significantly lower in districts with: higher levels of poverty (percent FRL eligible) and segregation; more students from racial and ethnic minorities; and more students enrolled in special education programs. Students who attend school in central cities and in larger districts also complete high school at levels lower than in non-urban and smaller school systems. Although levels of funding are positively related to graduation rates, this relationship is small and not statistically significant. Based on these bivariate analyses, levels of poverty, minority concentration and segregation appear to bear the strongest relationships to graduation rates. We should note that minority concentration and levels of segregation are very closely related both as theoretical concepts and as empirical measures. In the analyses below we will focus on levels of district segregation rather than minority concentration. ${ }^{17}$

Table 9: Correlations between Graduation Rates and District Characteristics

| District Characteristics | Correlation with <br> CPI Graduation Rate |
| :--- | :---: |
| Free/Reduced Lunch | -.491 |
| Minority Composition | -.440 |
| Segregation Index | -.447 |
| Special Education | -.127 |
| Per Pupil Expenditure | $.008^{\text {ns }}$ |
| District Enrollment* | -.126 |
| Central City Locale | -.152 |

Source: Common Core of Data Local Educational Agency and School Surveys, National
Center for Education Statistics.

* Then natural logarithm ( In ) of total district enrollment is used here in order to adjust for the large range in district size and the disproportionate statistical influence that would otherwise be exerted by a small number of extremely large districts.
ns Relationship not statistically significant. All other correlations significant at the $5 \%$ level or better.

Bivariate statistics are only able to examine the relationship between two variables at the same time. While such methods are useful for characterizing the basic relationship between two factors, they cannot answer other important questions. For instance, we found that poverty and segregation are both strongly associated with lower rates of graduation. We also know, however, that poverty and segregation are strongly associated with one another. So, we might well ask whether segregation has an independent

[^9]effect on graduation rates over and above that of poverty. To gain a more detailed insight on complex relationships such as these, we must rely on multivariate statistics that are able to account (or statistically control) for the independent contributions of more than one predictor. The use of multivariate methods, like the ordinary least squares (OLS) regression analysis reported in Table 10, is essential when there is reason to expect that strong relationships exist among a set of predictors.

Table 10: Results from OLS Regression Analysis - Relationship between Graduation Rate and District Characteristics

| District Characteristic | District Graduation Rate (CPI) |  |
| :---: | :---: | :---: |
|  | Unstandardized Effect ${ }^{\text {a }}$ <br> (b) | Standardized Effect ${ }^{\text {b }}$ <br> ( $\beta$ ) |
| Constant | 1.122*** | --- |
| Free/Reduced Lunch (\%) | -. $382^{* * *}$ | -.505*** |
| Segregation Index (0-1) | -.064*** | -. $125^{* * *}$ |
| Special Education (\%) | -.522*** | -.106*** |
| Per Pupil Expenditure (\$1,000) | -. 001 | -. 006 |
| Student Enrollment (In) | -.021*** | -.229*** |
| Locale Central City | -.009** | -.024** |
| Town | -. 006 | -. 012 |
| Rural | -.022*** | -.052*** |

Source: Common Core of Data Local Educational Agency and School Surveys, National Center for Education
Statistics. Analysis based on 8213 districts with available data, weighted by high school enrollment.

* $p<.05$, ** $p<.01$, *** $p<.001$
${ }^{\text {a }}$ Coefficient represents the effect of a 1 unit change in the predictor on the graduation rate, expressed as a percent (effects in metrics of individual predictors).
${ }^{\mathrm{b}}$ Coefficient represents the effect of a 1 standard deviation change in the predictor on the graduation rate expressed, in standard deviation units (all effects on normalized metric).

Once we simultaneously control for the set of district characteristics described earlier, we find that a district's level of socioeconomic disadvantage continues to show a very strong relationship to graduation rates. Even holding all other factors in the model constant, for every 10 percent increase in FRL eligibility, we would expect the graduation rate to drop by 3.8 percent. All else being equal, statistically significant negative effects are also found for segregation, district size, and special education enrollments. Graduation rates are also significantly lower in central city and rural districts than they are in suburban areas, the point of comparison for this particular analysis.

The unstandardized coefficients reported in the first column of Table 10 are useful because they express effect sizes in terms of a readily interpretable metric - the percent of students who graduation. These district predictors, however, are expressed on different scales and display greatly differing amounts of variability. As a result, it can be difficult to directly gauge the relative size of the associations these factors have with graduation rates. The second column of standardized effects converts all relationships to the same scale to facilitate such comparisons. Here we find that district poverty level has by far the strongest independent effect on graduation rates. Segregation levels and district size also display sizeable relationships with a district's overall graduation rate, even after controlling for other factors.

### 4.3 The Impact of District Poverty for Racial-Ethnic Subgroups

The final analysis in this section models the relationship between district context and graduation rates for students from specific racial and ethnic groups. To do this, we estimate a set of five separate regression analyses similar to those reported above in Table 10, except that the outcomes will now be the graduation rates disaggregated for the five major racial-ethnic groups reported in the CCD. As in the earlier analysis, model predictors for the disaggregated analyses are FRL eligibility, segregation level, district size, district locale, special education enrollments, and per pupil expenditures. To predict the graduation rate for the average member of each racial-ethnic group, we combine the result from these new regression models with information about the kinds of districts attended by these students (see Table 8). The relationship between a district's poverty level and graduation rates for each racial-ethnic group are displayed in Figure 3. As

Figure 3:
Estimated Graduation Rate Trajectory by District Poverty for the Average Student of each Major Racial-Ethnic Group
 before, we use the percent of students who are FRL eligible as a proxy for poverty. This graph illustrates the strength of the association between graduation rates (on the vertical axis) and socioeconomic disadvantage (on the horizontal axis), once we have accounted for the effects of the other district characteristics included in the regression analyses.

Consistent with results presented earlier in this report, we find that graduation rates for the average Asian and White students are much higher than for students from historically disadvantaged minority groups. When these results are presented in a visual form, we can also see that the trajectories for Asians and Whites never intersect with those of the other groups. This means that average graduation rates for Whites and Asians are always expected to be higher than for Black, Hispanic, and American Indian students, regardless of district poverty levels. In fact, to take one example, the predicted graduation rate for Whites in very high poverty districts (i.e., where all students would qualify for Free or Reduced Price Lunch) would be over 15 percent higher than the rate for the average Hispanic student in a district with a very low poverty district.

The steepness of the slopes observed in the graph reflects the strength of the association between district poverty and graduation rates for the respective racial-ethnic groups. A similar sized effect is found for Whites and Asians. Among both groups, graduation rates in districts approaching 100 percent FRL eligibility are just over 10 percentage points higher than in school systems where very few students live in poverty. The relationship between graduation rates and poverty is about half of this size for Hispanic and

American Indian students. The much steeper trajectory for Blacks, however, indicates that socioeconomic disadvantage and graduating from high school are much more closely linked within this student population. In effect, graduation rates for Black students suffer much more in high poverty environments and are helped much more in low poverty settings than is the case for other racial-ethnic groups. We expect to find Black graduation rates approaching 70 percent in very low poverty districts, a rate about 10 percentage points higher than similarly situated Hispanic or American Indian students. In stark contrast, graduation rates for Blacks in very high poverty districts would plummet to about 50 percent, the lowest levels observed among the five racial-ethnic groups.

## 5. Conclusion

This report offers the most comprehensive and systematic analysis of graduation rates for the nation, regions, and the states currently available using a uniform data base and method for calculating graduation rates nationwide. The findings reported here offer researchers and educational decision makers a valuable resource for better understanding the depth and breadth of the graduation crisis that exists in many places around the country. Given the nature of the data available in this study, however, one should be cautious about drawing causal inferences from the analyses presented above. For instance, we observed strong and significant relationships between graduation rates and a variety of district characteristics. Some part of this association may be truly causal. Poverty or segregation may impact directly or indirectly on the educational experiences of students in ways that affect their odds of graduating from high school. Some part of these observed associations, however, probably also captures the influence of other unobserved district characteristics and more complex webs of relationship among multiple causal factors. For instance, high poverty districts may attract less qualified teachers, which results in less effective and less engaging instruction, producing lower levels of academic achievement, which in turn may lead students to drop out of high school at higher rates. It should be the goal of future research to explore these important relationships more thoroughly using data better suited to that particular task.

Caveats aside, however, the statistical portrait that emerges from this study affords new and important insights into current social and educational dynamics associated with high school graduation. We may not know with certainty that poverty or segregation causes low graduation rates per se. But the findings reported here do tell us that there is a strong and very detrimental linkage between graduation rates and the environmental conditions that go along with factors like poverty and segregation. This knowledge is important because it illustrates the dire situations that confront students in such settings, particularly students from historically disadvantaged racial-ethnic groups. Further, this knowledge provides us with a tool for diagnosing the seriousness of the high school completion crisis and for more conclusively identifying leading culprits behind low graduation rates. Armed with better knowledge, we will be better able to develop successful interventions to combat high school graduation crises wherever they exist.

## References

Kaufman, P., Alt, M. N., \& Chapman, C. D. 2001. Dropout Rates in the United States: 2000.
Washington, DC: National Center for Education Statistics, U.S. Department of Education. NCES 2002-114.

Massey, D. S. \& Denton, N. A. 1988. The Dimensions of Racial Segregation. Social Forces 67(2):281315.

National Center for Education Statistics. 2003a. Documentation to the NCES Common Core of Data Local Education Agency Universe Survey: School Year 2001-02. Washington, DC: U.S. Department of Education.

National Center for Education Statistics. 2003b. Documentation to the NCES Common Core of Data Public Elementary/Secondary School Universe Survey: School Year 2001-02. Washington, DC: U.S. Department of Education.

Swanson, C. B. 2003a. Keeping Count and Losing Count: Calculating Graduation Rates for All Students under NCLB Accountability. Washington, DC: The Urban Institute. http://www.urban.org/url.cfm?ID=410843

Swanson, C. B. 2003b. NCLB Implementation Report: State Approaches for Calculating High School Graduation Rates. Washington, DC: The Urban Institute. http://www.urban.org/url.cfm?ID=410848

Swanson, C. B. 2003c. Ten Questions (and Answers) about Graduates, Dropouts, and NCLB Accountability. Washington, DC: The Urban Institute. http://www.urban.org/url.cfm?ID=310873

Young, B. A. \& Hoffman L. 2002. Public High School Dropouts and Completers From the Common Core of Data: School Years 1991-92 Through 1997-98. Washington, DC: National Center for Education Statistics, U.S. Department of Education.

## 6. Statistical Profiles for the Nation, Regions, and States



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Source: Common Core of Data Local Educational Agency and School Surveys, National Center for Education Statistics.
nr Value not calculated because necessary data field(s) not reported in CCD.

* Low Coverage - Rate not reported because statistic covers less than 50 percent of student population.
+ Moderate Coverage - Rate covers between 50 and 75 percent of student population.


Source: Common Core of Data Local Educational Agency and School Surveys, National Center for Education Statistics.

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Source: Common Core of Data Local Educational Agency and School Surveys, National Center for Education Statistics.
${ }^{\text {nr }}$ Value not calculated because necessary data field(s) not reported in CCD.

* Low Coverage - Rate not reported because statistic covers less than 50 percent of student population.
+ Moderate Coverage - Rate covers between 50 and 75 percent of student population.

DISTRICT OF COLUMBIA


[^17]nr Value not calculated because necessary data field(s) not reported in CCD.

* Low Coverage - Rate not reported because statistic covers less than 50 percent of student population.
${ }^{\dagger}$ Moderate Coverage - Rate covers between 50 and 75 percent of student population.



[^18]${ }^{n r}$ Value not calculated because necessary data field(s) not reported in CCD.

* Low Coverage - Rate not reported because statistic covers less than 50 percent of student population.
$\dagger$ Moderate Coverage - Rate covers between 50 and 75 percent of student population.


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[^20]

Source: Common Core of Data Local Educational Agency and School Surveys, National Center for Education Statistics.
Source: Common Core of Data Local Educational Agency and School Surveys, National Center for Educa
nr
${ }^{*}$ Value not calculated because necessary data field(s) not reported in CCD.
$+\quad$ Low Coverage - Rate not reported because statistic covers less than 50 percent of student population.

Moderate Coverage - Rate covers between 50 and 75 percent of student population.


Source: Common Core of Data Local Educational Agency and School Surveys, National Center for Education Statistics.
nr Value not calculated because necessary data field(s) not reported in CCD.

* Low Coverage - Rate not reported because statistic covers less than 50 percent of student population.
$\dagger$ Moderate Coverage - Rate covers between 50 and 75 percent of student population.


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Source: Common Core of Data Local Educational Agency and School Surveys, National Center for Education Statistics.
${ }^{n r}$ Value not calculated because necessary data field(s) not reported in CCD.

* Low Coverage - Rate not reported because statistic covers less than 50 percent of student population.
$\dagger$ Moderate Coverage - Rate covers between 50 and 75 percent of student population.


Source: Common Core of Data Local Educational Agency and School Surveys, National Center for Education Statistics.
${ }^{n r}$ Value not calculated because necessary data field(s) not reported in CCD.

* Low Coverage - Rate not reported because statistic covers less than 50 percent of student population.
$\dagger$ Moderate Coverage - Rate covers between 50 and 75 percent of student population.


[^25]${ }^{\text {nr }}$ Value not calculated because necessary data field(s) not reported in CCD.

* Low Coverage - Rate not reported because statistic covers less than 50 percent of student population.
+ Moderate Coverage - Rate covers between 50 and 75 percent of student population.


[^26]

Source: Common Core of Data Local Educational Agency and School Surveys, National Center for Education Statistics.
${ }^{n r}$ Value not calculated because necessary data field(s) not reported in CCD.

* Low Coverage - Rate not reported because statistic covers less than 50 percent of student population.
$\dagger$ Moderate Coverage - Rate covers between 50 and 75 percent of student population.


[^27][^28]

[^29]

Source: Common Core of Data Local Educational Agency and School Surveys, National Center for Education Statistics.
nr Value not calculated because necessary data field(s) not reported in CCD.

* Low Coverage - Rate not reported because statistic covers less than 50 percent of student population.
$\dagger$ Moderate Coverage - Rate covers between 50 and 75 percent of student population.


[^30]nr Value not calculated because necessary data field(s) not reported in CCD.

* Low Coverage - Rate not reported because statistic covers less than 50 percent of student population.
$\dagger$ Moderate Coverage - Rate covers between 50 and 75 percent of student population.


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[^33]nr Value not calculated because necessary data field(s) not reported in CCD.

* Low Coverage - Rate not reported because statistic covers less than 50 percent of student population.
$\dagger$ Moderate Coverage - Rate covers between 50 and 75 percent of student population.


## NEW MEXICO



Source: Common Core of Data Local Educational Agency and School Surveys, National Center for Education Statistics.
nr Value not calculated because necessary data field(s) not reported in CCD.

* Low Coverage - Rate not reported because statistic covers less than 50 percent of student population.
$\dagger$ Moderate Coverage - Rate covers between 50 and 75 percent of student population.


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## NORTH CAROLINA



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Source: Common Core of Data Local Educational Agency and School Surveys, National Center for Education Statistics.
${ }^{\text {nr }}$ Value not calculated because necessary data field(s) not reported in CCD.

* Low Coverage - Rate not reported because statistic covers less than 50 percent of student population.
+ Moderate Coverage - Rate covers between 50 and 75 percent of student population.


## SOUTH CAROLINA



[^42]
## SOUTH DAKOTA



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[^45]

Source: Common Core of Data Local Educational Agency and School Surveys, National Center for Education Statistics.
nr Value not calculated because necessary data field(s) not reported in CCD.

* Low Coverage - Rate not reported because statistic covers less than 50 percent of student population.
${ }^{\dagger}$ Moderate Coverage - Rate covers between 50 and 75 percent of student population.


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Source: Common Core of Data Local Educational Agency and School Surveys, National Center for Education Statistics.
${ }^{\text {nr }}$ Value not calculated because necessary data field(s) not reported in CCD.

* Low Coverage - Rate not reported because statistic covers less than 50 percent of student population.
$\dagger$ Moderate Coverage - Rate covers between 50 and 75 percent of student population.


[^0]:    ${ }^{1}$ Since the CCD includes information about public schools and school districts only, it cannot be used to examine graduation rates or other conditions in the nation's private schools. Public school students, however, are the population of direct interest for current debates regarding graduation rate accountability. To the extent that other graduation statistics (such as those generated by the Current Population Study) include individuals who attended private schools, they are poorly suited to investigate the performance of public educational systems.
    ${ }^{2}$ The National Center for Education Statistics makes raw CCD data available on the internet and also provide automated data tools and table generators to facilitate basic analysis. The CCD website can be found at: http://nces.ed.gov/ccd.

[^1]:    ${ }^{5}$ There is one exception to the general district-level reporting procedures described here. Enrollment counts by race and ethnicity are available for specific grade levels. To maintain consistency with other district variables, however, racial-ethnic composition is measured across all grade levels.

[^2]:    ${ }^{6}$ The Census Bureau divides the nation into four regions as follows: Northeast (including: Connecticut, Maine, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, Vermont); Midwest (including: Indiana, Illinois, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, South Dakota, Wisconsin); South (including: Alabama, Arkansas, Delaware, District of Columbia, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia, West Virginia); and West (including: Alaska, Arizona, California, Colorado, Hawaii, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, Wyoming).
    ${ }^{7}$ The estimated graduation rate for New Jersey is 86.3 percent. Although technical reports accompanying the CCD data mention no major anomalies in the state's data, a closer examination of available data indicates that CPI measure cannot be calculated for several of the New Jersey's larger predominantly minority districts. Assuming these districts are lower-performing than average, the omission of these districts may inflate the state estimate somewhat. Results should, therefore, be interpreted with caution. It is unlikely, however, that missing data alone accounts for the state's high reported graduation rates. An earlier Urban Institute study also found New Jersey to have highest state graduation rate for 1999-2000, at about 82 percent (Swanson 2003a). Even accounting for missing information for specific districts, New Jersey's graduation rate is probably among the highest in the nation. Detailed data profiles for all states appear in Section 6 of this report.

[^3]:    ${ }^{8}$ See Kaufman, Alt, \& Chapman (2001).
    ${ }^{9}$ While a limited diagnostic criterion in some ways, inclusiveness or coverage provides useful information for evaluating the quality of a statistical indicator. Unless a calculation method can offer estimate coverage for a large proportion of the student population, for instance, it will arguably be of limited utility as a national or cross-state measure of graduation rates. The Urban Institute is currently in the final stages of an in-depth methodological study investigating the technical properties of the CPI method and four other commonly-reported indicators. Using simulations and national data from the CCD, this study examines the capacity of these various methods to address several known challenges that complicate attempts to calculate graduation rates using indirect estimation methods. These complicating factors include: the ninth grade enrollment bulge; migration into or out of a system; variable dropout rates; and undercounts of students who drop out of school. An indirect estimation method is one that employs data on an estimated cohort of student rather than directly tracking a true cohort of individual students longitudinally.

[^4]:    ${ }^{10}$ The number of states that report conforming dropout data to the CCD has increased in the past few years. However, since four years of retrospective data on dropouts are required to calculate the NCES-G rate, improvements in indicator coverage will lag behind the improved reporting by several years.
    ${ }^{11}$ Results remain essentially unchanged when the analysis is limited to only those districts with valid rates for all four calculation methods compared here. Using this restricted analytic sample, estimated graduation rates are as follows: CPI (68.5), BCR (68.8), NCES-G (79.4), and IDP (81.2). See also Swanson (2003a) for a more detailed analysis of CPI and NCES-G graduation rates for the class of 2000.

[^5]:    ${ }^{12}$ Under NCLB, gender is mandated category for purposes of public reporting but not accountability determination. Subgroup accountability for academic assessments is a required part of determining adequate yearly performance (AYP). With respect to graduation rates, however, the use of subgroup accountability for determining AYP is left up to the discretion of the states.
    ${ }^{13}$ In keeping with social science conventions, this report will refer to these racial-ethnic subgroups using the

[^6]:    Source: Common Core of Data Local Educational Agency and School Surveys, National Center for Education Statistics.
    nr Value not calculated because necessary data field(s) not reported in CCD.

    * Low Coverage - Rate not reported because statistic covers less than 50 percent of student population.
    $\dagger$ Moderate Coverage - Rate covers between 50 and 75 percent of student population.

[^7]:    ${ }^{14}$ Detailed definitions of all district-level contextual variables used in this study are provided in Section 2.5.

[^8]:    ${ }^{15}$ Results for the district attended by the "average" member of a particular group were produced by weighting district data according to number of students from that group attending school in the district.
    ${ }^{16}$ There are, of course, exceptions to the generally-observed relationship between district size, location, and socioeconomic level. A number of states, for instance, organize schools districts around county boundaries. As a result there are situations where such countywide districts may be among the largest in the nation and yet also some of the highest-performing, serving relatively affluent suburban populations (e.g., Montgomery County, Maryland; Fairfax County, Virginia).

[^9]:    ${ }^{17}$ Additional analyses conducted using percent minority enrollment rather than segregation produced results nearly identical to those presented in this report.

[^10]:    nr Value not calculated because necessary data field(s) not reported in CCD

    * Low Coverage - Rate not reported because statistic covers less than 50 percent of student population.
    $\dagger$ Moderate Coverage - Rate covers between 50 and 75 percent of student population.

[^11]:    Source: Common Core of Data Local Educational Agency and School Surveys, National Center for Education Statistics.
    nr Value not calculated because necessary data field(s) not reported in CCD.

    * Low Coverage - Rate not reported because statistic covers less than 50 percent of student population.
    $\dagger$ Moderate Coverage - Rate covers between 50 and 75 percent of student population.

[^12]:    Source: Common Core of Data Local Educational Agency and School Surveys, National Center for Education Statistics.
    ${ }^{n r}$ Value not calculated because necessary data field(s) not reported in CCD.

    * Low Coverage - Rate not reported because statistic covers less than 50 percent of student population.
    + Moderate Coverage - Rate covers between 50 and 75 percent of student population.

[^13]:    Source: Common Core of Data Local Educational Agency and School Surveys, National Center for Education Statistics.
    $\mathrm{nr}^{2}$ Value not calculated because necessary data field(s) not reported in CCD.

    * Low Coverage - Rate not reported because statistic covers less than 50 percent of student population.
    $\dagger$ Moderate Coverage - Rate covers between 50 and 75 percent of student population.

[^14]:    nr Value not calculated because necessary data field(s) not reported in CCD

    * Low Coverage - Rate not reported because statistic covers less than 50 percent of student population.
    $\dagger$ Moderate Coverage - Rate covers between 50 and 75 percent of student population.

[^15]:    Source: Common Core of Data Local Educational Agency and School Surveys, National Center for Education Statistics.
    ${ }^{\text {nr }}$ Value not calculated because necessary data field(s) not reported in CCD.

    * Low Coverage - Rate not reported because statistic covers less than 50 percent of student population.
    † Moderate Coverage - Rate covers between 50 and 75 percent of student population.

[^16]:    Source: Common Core of Data Local Educational Agency and School Surveys, National Center for Education Statistics.
    nr Value not calculated because necessary data field(s) not reported in CCD.

    * Low Coverage - Rate not reported because statistic covers less than 50 percent of student population.
    $\dagger$ Moderate Coverage - Rate covers between 50 and 75 percent of student population.

[^17]:    Source: Common Core of Data Local Educational Agency and School Surveys, National Center for Education Statistics.

[^18]:    Source: Common Core of Data Local Educational Agency and School Surveys, National Center for Education Statistics.

[^19]:    Source: Common Core of Data Local Educational Agency and School Surveys, National Center for Education Statistics.
    ${ }^{n r}$ Value not calculated because necessary data field(s) not reported in CCD.

    * Low Coverage - Rate not reported because statistic covers less than 50 percent of student population.
    + Moderate Coverage - Rate covers between 50 and 75 percent of student population.

[^20]:    Source: Common Core of Data Local Educational Agency and School Surveys, National Center for Education Statistics.
    nr Value not calculated because necessary data field(s) not reported in CCD.

    * Low Coverage - Rate not reported because statistic covers less than 50 percent of student population.
    ${ }^{\dagger}$ Moderate Coverage - Rate covers between 50 and 75 percent of student population.

[^21]:    Source: Common Core of Data Local Educational Agency and School Surveys, National Center for Education Statistics.
    ${ }^{n r}$ Value not calculated because necessary data field(s) not reported in CCD.

    * Low Coverage - Rate not reported because statistic covers less than 50 percent of student population.
    $\dagger$ Moderate Coverage - Rate covers between 50 and 75 percent of student population.

[^22]:    Source: Common Core of Data Local Educational Agency and School Surveys, National Center for Education Statistics
    ${ }^{n r}$ Value not calculated because necessary data field(s) not reported in CCD.

    * Low Coverage - Rate not reported because statistic covers less than 50 percent of student population.
    $\dagger$ Moderate Coverage - Rate covers between 50 and 75 percent of student population.

[^23]:    Source: Common Core of Data Local Educational Agency and School Surveys, National Center for Education Statistics.
    nr Value not calculated because necessary data field(s) not reported in CCD.

    * Low Coverage - Rate not reported because statistic covers less than 50 percent of student population.
    $\dagger$ Moderate Coverage - Rate covers between 50 and 75 percent of student population.

[^24]:    Source: Common Core of Data Local Educational Agency and School Surveys, National Center for Education Statistics.
    nr Value not calculated because necessary data field(s) not reported in CCD.

    * Low Coverage - Rate not reported because statistic covers less than 50 percent of student population.
    $\dagger$ Moderate Coverage - Rate covers between 50 and 75 percent of student population.

[^25]:    Source: Common Core of Data Local Educational Agency and School Surveys, National Center for Education Statistics.

[^26]:    Source: Common Core of Data Local Educational Agency and School Surveys, National Center for Education Statistics.
    nr Value not calculated because necessary data field(s) not reported in CCD.

    * Low Coverage - Rate not reported because statistic covers less than 50 percent of student population.
    $\dagger$ Moderate Coverage - Rate covers between 50 and 75 percent of student population.

[^27]:    Source: Common Core of Data Local Educational Agency and School Surveys, National Center for Education Statistics.

[^28]:    nr Value not calculated because necessary data field(s) not reported in CCD

    * Low Coverage - Rate not reported because statistic covers less than 50 percent of student population.
    $\dagger$ Moderate Coverage - Rate covers between 50 and 75 percent of student population.

[^29]:    Source: Common Core of Data Local Educational Agency and School Surveys, National Center for Education Statistics.
    ${ }^{n r}$ Value not calculated because necessary data field(s) not reported in CCD.

    * Low Coverage - Rate not reported because statistic covers less than 50 percent of student population.
    $\dagger$ Moderate Coverage - Rate covers between 50 and 75 percent of student population.

[^30]:    Source: Common Core of Data Local Educational Agency and School Surveys, National Center for Education Statistics.

[^31]:    Source: Common Core of Data Local Educational Agency and School Surveys, National Center for Education Statistics.
    nr Value not calculated because necessary data field(s) not reported in CCD.

    * Low Coverage - Rate not reported because statistic covers less than 50 percent of student population.
    † Moderate Coverage - Rate covers between 50 and 75 percent of student population.

[^32]:    Source: Common Core of Data Local Educational Agency and School Surveys, National Center for Education Statistics.
    nr Value not calculated because necessary data field(s) not reported in CCD.

    * Low Coverage - Rate not reported because statistic covers less than 50 percent of student population.
    + Moderate Coverage - Rate covers between 50 and 75 percent of student population.

[^33]:    Source: Common Core of Data Local Educational Agency and School Surveys, National Center for Education Statistics.

[^34]:    Source: Common Core of Data Local Educational Agency and School Surveys, National Center for Education Statistics.

[^35]:    Value not calculated because necessary data field(s) not reported in CCD

    * Low Coverage - Rate not reported because statistic covers less than 50 percent of student population.
    $\dagger$ Moderate Coverage - Rate covers between 50 and 75 percent of student population.

[^36]:    Source: Common Core of Data Local Educational Agency and School Surveys, National Center for Education Statistics.
    nr Value not calculated because necessary data field(s) not reported in CCD.

    * Low Coverage - Rate not reported because statistic covers less than 50 percent of student population.
    $\dagger$ Moderate Coverage - Rate covers between 50 and 75 percent of student population.

[^37]:    Source: Common Core of Data Local Educational Agency and School Surveys, National Center for Education Statistics.
    nr Value not calculated because necessary data field(s) not reported in CCD.

    * Low Coverage - Rate not reported because statistic covers less than 50 percent of student population.
    $\dagger$ Moderate Coverage - Rate covers between 50 and 75 percent of student population.

[^38]:    Source: Common Core of Data Local Educational Agency and School Surveys, National Center for Education Statistics.
    nr Value not calculated because necessary data field(s) not reported in CCD.

    * Low Coverage - Rate not reported because statistic covers less than 50 percent of student population.
    $\dagger$ Moderate Coverage - Rate covers between 50 and 75 percent of student population.

[^39]:    Source: Common Core of Data Local Educational Agency and School Surveys, National Center for Education Statistics
    nr Value not calculated because necessary data field(s) not reported in CCD.

    * Low Coverage - Rate not reported because statistic covers less than 50 percent of student population.
    $\dagger$ Moderate Coverage - Rate covers between 50 and 75 percent of student population.

[^40]:    Source: Common Core of Data Local Educational Agency and School Surveys, National Center for Education Statistics.
    nr Value not calculated because necessary data field(s) not reported in CCD.

    * Low Coverage - Rate not reported because statistic covers less than 50 percent of student population.
    $\dagger$ Moderate Coverage - Rate covers between 50 and 75 percent of student population.

[^41]:    Source: Common Core of Data Local Educational Agency and School Surveys, National Center for Education Statistics.
    nr Value not calculated because necessary data field(s) not reported in CCD.

    * Low Coverage - Rate not reported because statistic covers less than 50 percent of student population.
    $\dagger$ Moderate Coverage - Rate covers between 50 and 75 percent of student population.

[^42]:    Source: Common Core of Data Local Educational Agency and School Surveys, National Center for Education Statistics.
    nr Value not calculated because necessary data field(s) not reported in CCD.

    * Low Coverage - Rate not reported because statistic covers less than 50 percent of student population.
    $\dagger$ Moderate Coverage - Rate covers between 50 and 75 percent of student population.

[^43]:    Source: Common Core of Data Local Educational Agency and School Surveys, National Center for Education Statistics
    nr Value not calculated because necessary data field(s) not reported in CCD.

    * Low Coverage - Rate not reported because statistic covers less than 50 percent of student population.
    $\dagger$ Moderate Coverage - Rate covers between 50 and 75 percent of student population.

[^44]:    Source: Common Core of Data Local Educational Agency and School Surveys, National Center for Education Statistics.
    nr Value not calculated because necessary data field(s) not reported in CCD.

    * Low Coverage - Rate not reported because statistic covers less than 50 percent of student population.
    $\dagger$ Moderate Coverage - Rate covers between 50 and 75 percent of student population.

[^45]:    Source: Common Core of Data Local Educational Agency and School Surveys, National Center for Education Statistics.
    nr Value not calculated because necessary data field(s) not reported in CCD.

    * Low Coverage - Rate not reported because statistic covers less than 50 percent of student population.
    $\dagger$ Moderate Coverage - Rate covers between 50 and 75 percent of student population.

[^46]:    Source: Common Core of Data Local Educational Agency and School Surveys, National Center for Education Statistics.
    ${ }^{n r}$ Value not calculated because necessary data field(s) not reported in CCD.

    * Low Coverage - Rate not reported because statistic covers less than 50 percent of student population.
    $\dagger$ Moderate Coverage - Rate covers between 50 and 75 percent of student population.

[^47]:    Source: Common Core of Data Local Educational Agency and School Surveys, National Center for Education Statistics
    nr Value not calculated because necessary data field(s) not reported in CCD.

    * Low Coverage - Rate not reported because statistic covers less than 50 percent of student population.
    $\dagger$ Moderate Coverage - Rate covers between 50 and 75 percent of student population.

[^48]:    Source: Common Core of Data Local Educational Agency and School Surveys, National Center for Education Statistics.
    nr Value not calculated because necessary data field(s) not reported in CCD.

    * Low Coverage - Rate not reported because statistic covers less than 50 percent of student population.
    † Moderate Coverage - Rate covers between 50 and 75 percent of student population.

[^49]:    Source: Common Core of Data Local Educational Agency and School Surveys, National Center for Education Statistics
    nr Value not calculated because necessary data field(s) not reported in CCD

    * Low Coverage - Rate not reported because statistic covers less than 50 percent of student population.
    $\dagger$ Moderate Coverage - Rate covers between 50 and 75 percent of student population.

[^50]:    Source: Common Core of Data Local Educational Agency and School Surveys, National Center for Education Statistics.
    ${ }^{\mathrm{nr}}$ Value not calculated because necessary data field(s) not reported in CCD.

    * Low Coverage - Rate not reported because statistic covers less than 50 percent of student population.
    † Moderate Coverage - Rate covers between 50 and 75 percent of student population.

