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A Superintendent's Guide to Better Understanding CPI and NCES Graduation Rates

by

Patricia Marie Hogan-Newsome

A dissertation submitted in partial satisfaction of the

requirements for the degree of

Joint Doctor of Education  
with California State University

in

Education Leadership

in the

Graduate Division

of the

University of California, Berkeley

Committee in charge:

Professor Bernard R. Gifford, Chair  
Professor Sandra Hollingsworth  
Professor Michael Hout

Spring 2010

A Superintendent's Guide to Better Understanding CPI and NCES Graduation Rates

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by Patricia Marie Hogan-Newsome

## Abstract

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Patricia Marie Hogan-Newsome

Joint Doctor of Education

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in

Education Leadership

University of California, Berkeley

Professor Bernard Gifford, Chair

The 2001 No Child Left Behind Act required states to report graduation rates as a condition of high school accountability for receipt and use of federal Title I funds, and to set growth targets that would ensure all students graduate from high school. It also reaffirmed the long-standing national policy that graduation rates be used as the indicator of high school quality and effectiveness. However, the method used by the National Center for Education Statistics (NCES) to calculate graduation rates has generated multiple claims from some researchers that the graduation rates reported by NCES are inflated for all groups and exceptionally exaggerated for students of color. Understanding, interpreting and effectively using graduation rate data is politically and educationally challenging for all stakeholders, but most challenging for superintendents of local school districts. These education leaders must make wise and effective decisions about institutional and educational improvements to increase graduation rates as a part of mandated state and federal accountability and improvement goals.

This study reviews the literature on methods used to calculate graduation rates and uses California open source data to examine the results of two frequently used and discussed methods. The goal of this study is to: 1) provide superintendents with additional information and knowledge about how graduation rates are calculated, or more importantly, miscalculated; 2) identify common problems with the data; 3) contribute to a discussion on how superintendents may best use the data; and 4) consider implications for decision making that may help them meet the challenges of improving or increasing graduation rates in their districts.

Dedication

To superintendents of public school districts who face the challenge of improving the educational systems for all students

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## 1. CHAPTER 1: INTRODUCTION

The 2001 No Child Left Behind Act required states to report graduation rates as a condition of high school accountability for receipt and use of federal Title I funds, and to set growth targets that will ensure all students will graduate from high school. It also reaffirmed the long-standing national policy that graduation rates be used as the indicator of high school quality and effectiveness. However, the method used by the National Center for Education Statistics (NCES) to calculate graduation rates has generated multiple claims from researchers, including Jay Greene of the Manhattan Institute and Christopher Swanson of the Urban Institute. They believe the graduation rates reported by *NCES are inflated for all groups and exceptionally exaggerated for students of color*. Understanding, interpreting and effectively using graduation rate data is politically and educationally challenging for all stakeholders, but most challenging for superintendents of local school districts. These education leaders must make wise and effective decisions about institutional and educational improvements to increase graduation rates as a part of mandated state and federal accountability and improvement goals.

This study reviews the literature on methods used to calculate graduation rates and uses California open source data to examine the results of two frequently used and discussed methods. The goal of this study is to: 1) provide superintendents with information and knowledge about how graduation rates are calculated, or more importantly, miscalculated; 2) identify common problems with the data; 3) contribute to a discussion on how superintendents may best use the data; and 4) consider implications for decision making that may help them meet the challenges of improving or increasing graduation rates in their districts.

### 1.1 The Beginning of the NCES Challenge of Graduation Rates

The National Center for Educational Statistics (NCES) reported in 2000 that 87% of young adults between 16 and 24 years of age had completed high school, and the status (cumulative) dropout rate was 11%, which was 4% lower than the 15% reported in 1972 (Kaufman 2001). The NCES report gathered momentum as state departments of education and various media sources disseminated the encouraging news to the public. Yet, several policy organizations and special interest groups, such as the Education Trust, the Harvard Civil Rights Project and the Black Alliance for Education Options, challenged the accuracy of the NCES document, announcing that reported dropout rates were inaccurate and misleading (Carey 2003; Greene & Forster 2003; McKenzie 2003; Orfield, Losen, Wald & Swenson 2004). Newspaper and audit teams reported that some states, such as Texas and New York, falsified dropout and completion rate data and “push students out” into alternative programs where they have little chance of ever graduating (Kronholz 2003; McKenzie 2003; Lewin 2003, July 31). This identified a significant weakness of the statistical data collection process for determining graduation rates. It was also determined that many districts were only reporting the graduations of their students attending four-year comprehensive schools, failing to report the students referred to alternative programs and often opting not to monitor the progress of these students. Advocates for minority urban school students reproached the NCES report for not exposing the high non-completion rates for minority students, which in their estimation were often higher than 50 years ago, before the *Brown v. Board of Education*

*Supreme Court* decision (Holland 2002; Carey 2003; Swanson 2003a; Swanson 2003b; Swanson 2003c; Orfield 2004; Stewart 2004; Swanson 2004a; Swanson 2004b; Swanson 2004c). Some cynically called the NCES report and its calculation method the “New Math” version of counting high school graduates (PBS 2003).

Two major challengers of the NCES report were Jay Greene of the Manhattan Institute for Policy Research and Christopher Swanson of the Urban Institute (Greene 2001; Swanson 2003a; Swanson 2003b; Swanson 2003c; Greene 2004; Swanson 2004a; Swanson 2004b; Swanson 2004c; Greene 2005, February). To them, it was not enough to renounce the NCES results and the analysis that served as the basis of the report. They developed their own methodologies that gained acceptance and use in the education policy community.

The controversy over the accuracy of the numbers of students graduating from high school challenges the effectiveness of laws such as the Elementary Secondary Education Act of 1965 (ESEA) and its current successor, the No Child Left Behind Act of 2001. These pieces of legislation are crafted and enacted based in part on evidence believed to be accurate representations of existing conditions in high schools. However, it stands to reason that if the evidence is flawed, then the policies based on the subsequent data are flawed (Winglee 2000; U.S. Department Education 2004; Adelman 2006, October 13).

Added to the challenge of meeting federal requirements for state and local education leaders in California is the state mandate that all students must pass the California High School Exit Exam (CAHSEE) in order to graduate in the state. Students who fail to pass CAHSEE by the end of their four years in high school, yet meet all other state and local high school graduation requirements, are considered dropouts. These students impact the overall graduation rate assigned to a school, district and the state of California.

How can superintendents understand or know how graduation rates are calculated if there are no comprehensive, standard methods of data collection and analysis provided to all stakeholders? Currently, superintendents are caught in the middle of political statistics, and are given graduation rates that they are supposed to meet in their districts. What do these rates mean and is there a way to sort out methodologies and get information that will help them improve the number of students who graduate?

To investigate this matter, open source state data were used to calculate and analyze the graduation rates in 2005-06 using two of the four methods described in this paper. Focus was placed on the years 2002-03 through 2005-06 for a number of reasons. It allowed for the tracking of a current cohort of California students through graduation in 2006. Also, 2006 is the year all seniors were required to pass CAHSEE in order to receive a high school diploma in California. This will make data current for superintendents to review and understand, and have practical meaning for consideration. Finally, current data give the ability to apply the NCES and CPI methods to estimate high school graduation rates for accountability under the NCLB law.

The intent of this study is to provide California public school superintendents with the tools to understand their district graduation rate data, and offer a shared understanding of what the graduation rate calculations entail. These findings can be used to guide discussions and decisions by school superintendents on how to explain, organize and use graduation rate data.

The following research questions guided this study:

*Research Question #1*

What data are provided or not provided by the State of California to analyze graduation rates? Are there additional ways of analyzing graduation rate data that can influence California school superintendents in the gathering and reporting of high school dropout and graduation rate estimates that are not currently considered in independent research?

*Research Question #2*

What are the graduation, enrollment and dropout rate trends regarding student gender and ethnicity found in the two calculation methods used in this study? Do the methods used generate similar or different trends?

*Research Questions #3*

What trends emerging from this study can assist K-12 California superintendents to make better policy decisions at the local level to increase graduation rates?

## **2. CHAPTER 2: GRADUATION RATE LITERATURE**

A variety of sources were collected, which included research articles, technical government reports, media publications, and data from federal agencies and state departments of education websites. The literature regarding dropout data and graduation rates is extensive. Therefore, this investigation was narrowed to the time period from 1989, when NCES was established and began collecting dropout data in the United States, to the present (approximately a 20-year period). Sources and articles reviewed for this study were limited to those that specifically addressed how graduation rates are calculated, how states gather and local education agencies report data, and the problems that are generated from those practices. Because several articles provided contradictory information on how data were collected and reported, this literature review was supplemented with information obtained from oral interviews with staff in federal and state education agencies as well as local school districts that serve as the source for reporting outcome data.

Because most laws and policies are a direct result of data, articles by Kaufman, Chapman, Seastrom and Winglee were included that focused on how data specifically influenced policy decisions about graduation and dropout rates. Finally, much of the criticism revolves around the inaccuracy of the NCES method to provide accurate graduation rates. If the current method is flawed, then how do alternative methods solve the problem debated by critics? This researcher sought to find alternate methods of calculating graduation rates and to provide an analysis of those methods.

A review of the literature includes:

- How and why dropout data began to be collected;
- The problems associated with collecting dropout and completion rate data required from states;
- The current NCES method for collecting dropout and completion rate data;
- Alternate methods found in the literature for calculating completion and graduation rates; and
- The current controversy related to dropout and graduation rate data collection and reporting by states.

The review of literature is divided into two sections: A Brief History of Collecting Dropout Data and The Controversy over Methods of Calculating Graduation Rates.

### **2.1 A Brief History of Collecting Dropout Data**

The term dropout became culturally accepted in the late 1950s, as did most of the literature on the subject. From 1900 to 1960, there was a growing public concern over increased child delinquency and child labor and a growing recognition of the developmental stage of adolescence and the need to address issues of this age group. At the end of the first half of the 20th century, topics on the universality of public high school attendance and graduation began to emerge as a counter to the earlier perception that high school should prepare students for white collar and skilled blue collar jobs (Cordasco 1964). Authors such as James Bryant Conant and Joseph Bledsoe began to argue that high school should not be for the “technically elite,” but a place for all students to develop useful skills to become

productive citizens (Conant 1959; Conant 1961; Cordasco 1964; Boyer 1983; Dorn 1993). Until this time, high school attendance was not viewed as a requirement for successful transition into adulthood and a productive life. In fact, graduating from high school did not develop as an age-specific norm until the late 1960s.<sup>1</sup> The growth in secondary school attendance in the second half of the century was largely due to what Claudia Goldin calls a set of American “virtues” that included public funding, a disregard toward exclusion by class and gender, and involvement of the egalitarian concepts of schooling for all children<sup>2</sup> (Goldin 2003).

The second half of the 20th century, in particular the 1960s, brought the term “dropout” into the forefront for Americans. According to historian Sherman Dorn, the person who generated the most attention on the subject was Daniel Schreiber, an employee of the National Education Association and a former New York junior high school principal. Schreiber argued that as the post-World War II population grew, the proportional numbers of dropouts grew. Additionally, he emphasized that a growing number of employers were beginning to require a high school diploma as a condition of employment resulting from the growth of technology and a declining need for unskilled labor (Dorn 1993; Dorn 1996). The popularity of the topic grew and the print media adopted dropouts as one of the social concerns to champion from 1960 to 1965. Magazines such as *The Saturday Evening Post*, *Life*, and *U.S News and World Report* dedicated extensive print space to the topic, generating public awareness and empathy for the issue and the people called dropouts. Dorn (1993) identifies five themes included throughout the hundreds of books and articles written during this time describing a dropout stereotype. These themes included: unemployment, urban poverty, juvenile delinquency, psychological defects, and the tendency for dropouts to be male.

These writings created fear and uncertainty about youth and the paths that they were following. They also challenged well established values and beliefs about family values and parental control. The media’s fascination with the dropout issue added fuel to growing tension regarding social issues in America. The civil rights movement highlighted the conditions and effects of segregation, poverty and urban blight; all of which contributed to the perception of the reasons why students were dropping out of school. Civil rights accentuated the lack of opportunities for Black children to be educated and to participate in society (*Public Papers of the Presidents of the United States* 1965). Escalating tensions in Viet Nam called for an able-bodied military trained and prepared to operate complicated military equipment. And finally, a fear of emerging foreign dominance in education, science and technology would not allow America to “waste more than a million kids a year” to dropping out of school (Dorn 1993). America could not lose its competitive edge. Considering these and other social problems facing the country in 1965, it is not surprising that President Lyndon Johnson readily supported and signed the Elementary and Secondary Education Act of 1965 (ESEA) into law.

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<sup>1</sup>Sherman Dorn, the author of "Origins of the Dropout Problem," credits Howard Chudacoff with the development of age-specific norms in his book *How Old Are You? Age Consciousness in American Culture*.

<sup>2</sup> Goldin qualifies schooling to mean level of enrollment, attendance, or graduation and not necessarily "education," which would refer to quality or equal and adequately funded schools for minorities, poor and immigrant children.

As part of ESEA, the government began collecting data on dropouts, and the law authorized the development of the School Dropout Demonstration Program to assist in lowering dropout rates. Interest in the dropout problem was regenerated in the 1980s when the report, *A Nation at Risk*, was published in 1983 detailing the state of education in the country. However, it was not until the 1988 Hawkins-Stafford Amendment of the reauthorization of the ESEA law that the U.S. Department of Education formally began to track and report dropout rates in the United States. The Hawkins-Stafford Elementary and Secondary Improvement Amendments of 1988 (P.L. 100-297) charged the National Center for Education Statistics (NCES) with the responsibility to “collect and publish data about dropping out of school.” It also required the NCES to annually report dropout and retention rates for a 12-month period to the appropriate committees of Congress on the second Tuesday after Labor Day beginning in 1989 [annual reporting to Congress is no longer required] (Kaufman 1992). In the 1990s, the Goals 2000 initiative established a target of 90% graduation rate as a national goal. Goals 2000 set the stage for policy action to increase graduation rates for the next century.

That policy action is captured in the No Child Left Behind Act of 2001 (NCLB), which is the most recent reauthorization of the ESEA. This law requires states, in exchange for federal funding, to submit accountability workbooks to the U.S. Department of Education, which significantly improves annual student achievement over a 12-year period as measured by state standards and assessments. Although achievement testing is the main indicator of student academic progress under NCLB, a second indicator of achievement at the secondary level is increasing graduation rates. For the first time since the enactment of the initial Elementary and Secondary Education Act, the No Child Left Behind Act requires states to be accountable for increasing graduation rates.

## **2.2 The Controversy over Methods of Calculating Graduation Rates**

The fact that NCLB requires state accountability for increasing graduation rates has caused a great deal of interest about various aspects of dropout and graduation rate data. Hundreds of newspaper articles and policy group reports have been written about the accuracy of the NCES calculation methods and how the public should view NCES reports on dropouts. Four themes emerge from the readings regarding a growing controversy over the findings reported in the NCES Reports on Dropouts beginning in 2000. These include:

- There are alternate methods of calculating dropout and graduation rates that provide more accurate data than that described in the NCES reports.
- The NCES reports inaccurately portray the number of minority students counted as dropouts.
- States and public school education agencies falsify graduation rate data or push low-achieving students out of the education system in order to show improvements in student achievement test scores.
- The U.S. Department of Education does not provide the administrative leadership to hold states accountable for meeting the requirements of the NCLB graduation rate indicator.

### *Alternate Methods of Calculating Dropout and Graduation Rates*

The literature is filled with accounts of studies conducted by two primary researchers who have developed alternate methods of calculating graduation rates. The first is Jay Greene of the Manhattan Institute in New York City and the second is Christopher B. Swanson of the Urban Institute, also located in New York City (McLaughlin 1990; Greene 2001; Holland 2002; Carey 2003; Greene 2003; Thompson 2003; Swanson 2003a; Greene 2004; Orfield 2004; Warren 2004a; Swanson 2004c). Greene and Swanson have identified flaws in the method used by NCES, and each researcher developed a different method that they believe remedies the flaws. Using state dropout and completion rate data from NCES databanks, Greene and Swanson separately conducted various empirical studies comparing the method used by NCES to the new methods they developed. In all studies conducted by Greene and Swanson, the results produced significantly lower graduation rates than those reported by NCES for every state in the nation including Puerto Rico and the District of Columbia. Various media groups and policy organizations embraced the findings of the two researchers and began to challenge the accuracy and reliability of NCES data. An in-depth review of these alternate methods and their findings will be discussed and analyzed later in this paper.

### *Educational and Social Implications of Graduation Rates*

Multiple claims are made that the reports issued by NCES misrepresent the seriousness of the dropout problem for specific subgroups of students, such as ethnic minorities, English language learners, and students from high-poverty urban areas. The primary claim against the report is that it presents a collective national graduation rate of 85-87%, which leads readers to assume that these rates apply to all subgroups. Both Swanson (2004a 2004b) and Greene (2001) assert that by using their methods to recalculate individual state data by subgroups, the percentages of students who graduated decreased dramatically. *The Wall Street Journal*, *the New York Times*, *CNN*, and *PBS* accepted Swanson's and Greene's findings and published articles exposing significantly lower graduation rates in cities such as Cleveland, Ohio; and Milwaukee, Wisconsin; which had minority graduations rates of 64% to 67% (McLaughlin 1990; CNN.com/Education 2002; Schemo 2003, July 11; Swanson 2003a; Swanson 2003b; Stewart 2004; Swanson 2004c). Swanson believes that "minorities nationwide have little more than a 50-50 chance of earning a diploma." Green's method produced a 56% graduation rate for African Americans and 54% for Latino students. These percentages were also reflective of students in high-poverty urban areas and immigrant non-English-speaking students.

The reports generated by Swanson (2003a, 2003b, 2003c, 2003d) and Greene (2001, 2002, 2003) increased the amount of literature that cited the results of the two researchers, and energized discussions on the effects of dropping out of high school for students and the impact on the national economy. Organizations such as The Civil Rights Project of Harvard University, the Black Alliance for Educational Options, and the Business Roundtable commissioned one or the other researcher to use their methods to highlight issues of: educational inequity due to race or socio-economic status, increasing trends of high school dropouts among African American students, and especially concerns of economic and social

consequences due to the increasing numbers of high school dropouts (Greene 2001; CNN.com/Education 2002; CTD 2003; Thompson 2003; Haney 2004; Stewart 2004).

Confirming these concerns, other private and public organizations and agencies offer statistics on the social impact of high school dropouts. The 2008 Kids Count Data Book reports that in 2006, 1.4 million teens between ages 16 and 19 are not enrolled in school and are not working (Annie E. Casey Foundation 2008). The unemployment rate among this age group can translate into a greater dependency on social programs and higher rates of poverty. (Swanson 2003a; Orfield 2004; National Governors Association 2005; Engberg 2006, July; Bridgeland March 2006). The U.S Census Bureau (2007) reports that persons aged 16 to 65 who did not complete high school earned roughly \$21,000 in 2006, compared to \$31,400 for those in the same age group who did complete high school (Laird 2008).

Current lifetime income estimates for dropouts who should have graduated with the class of 2006 show that they will net roughly \$260,000 less than high school graduates and about \$1million less than college graduates (Balfanz 2001; Alliance for Excellent Education 2007, January). Not only does the labor marketplace impose a stiff economic penalty on dropouts, it also predicts higher earnings, shorter periods of unemployment, and briefer stints on public welfare for individuals who graduated from high school with regular diplomas. The U.S. Department of Labor data indicates that if just 33% of the current dropouts graduate, the federal government would save \$11 billion dollars each year in welfare assistance.

#### *Validity of State and Local Education Agency Data*

A third theme identified in the literature refers to discoveries of inaccurate reporting of data by states and, in some cases, actual falsification of data. The “Texas Miracle” was a 2000 presidential campaign slogan President Bush used to demonstrate that high schools could reverse declining graduation rates. Former U.S. Secretary of Education Rod Paige was credited with significantly increasing graduation rates when he was superintendent in the Houston Independent School District. The “Texas Miracle” became a large part of the Bush election strategy and led to Paige being appointed as U.S Secretary of Education for the Bush administration. However, in 2003 Robert Kimball, a vice principal at Houston’s Sharpton High School, reported to the media that his school’s zero dropout rating was false. As a result of extensive media attention on the issue, the Texas Education Agency conducted an audit of the Houston school district and found that approximately 3,000 students who should have been identified as dropouts were recorded as transfers to continuing education, or to GED preparation programs. The audit showed that most of the students who left never returned to any type of educational institution (Clements 2000; McKenzie 2003; Thompson 2003; Schemo 2003, July 11; Lewin 2003, July 31; Gaetano 2004).

In a similar situation, the New York City school system was criticized for counseling low-performing students to attend alternative education programs and pursue a GED diploma instead of remaining in traditional high school programs, which they might not complete. The students remained on the roles of the traditional school and did not show up as dropouts. It was reported by the New York Education Department that four out of 10 of the 55,000 students discharged from New York City Schools in 2001 were transferred to another educational setting (Lewin 2003, July 31; Greene 2004).

The growing number of students unable to pass the New York Regents Exam required for graduation was identified as one reason the “push out” occurred. These students have a tendency to produce lower scores on standardized tests, thereby potentially negatively impacting student achievement success indicators (Lewin 2003, July 31; Swanson 2004b).

One way of understanding the importance of keeping students on the school enrollment records instead of listing them as dropouts has to do with NCLB accountability. Under NCLB, local LEAs meet their Annual Yearly Progress (AYP) by determining student achievement through standards-based achievement tests and increasing graduation rates at the high school level. Swanson (2003) reports that there is a “backdoor” to achieving AYP as it relates to determining dropout rates. A majority of states use dropout data to calculate the graduation rates they incorporate into AYP. As an example, Michael Brown is an 11th grader enrolled in High School A who cannot earn enough credits to graduate with his class and is a low performer on standardized tests. Michael is counseled to attend Alternative School B, which is not included in AYP annual measurable targets, and enroll in a GED program. Michael, according to his state’s graduation rate definition, does not get counted as a dropout and is not tested or included as part of High School A’s standardized achievement assessments measures. For all purposes, Michael unofficially disappears from the school accountability system.

#### *U.S. Department of Education Leadership*

The U.S. Department of Education is responsible for ensuring that the mandates of NCLB are fully implemented. States are required to develop a state accountability workbook that ensures every student attain academic proficiency in reading and mathematics and eliminates achievement gaps between low- and high-achieving groups within 12 years or by 2013-14. Flexibility is given in developing the state plans; however, they must conform to the mandates of the NCLB law, which requires setting annual performance benchmarks for each specific segment of the student population (i.e., race, gender, ethnicity, socioeconomic status, disability and English language proficiency), and they must meet the definition of AYP or adequate yearly progress. Failure to reach the targets annually results in progressively more severe consequences. In some cases these consequences could mean alternate forms of governance for schools such as state takeover or reopening the school as a charter.

The main measure of attainment of the targets is student assessment on state standards. NCLB also requires at the secondary level the indicator of increasing high school graduation rates. The law specifically states that the definition of AYP for high schools:

“Includes graduation rates for public secondary school students (defined as the percentages of students who graduate from secondary school with a regular diploma in the standard number of years)” [Sec 1111(b) (2) (C) (vi)] (Swanson 2003c).

States must adhere to standards of statistic validity and reliability. Specifically, they must:

Ensure that the indicators described in those provisions [defining Adequate Yearly Progress] are valuable and reliable, and are consistent with relevant, nationally

recognized professional and technical standards, if any (Sec 1111(b)(2)(D)(i)] (Swanson 2003c).

Additional guidance provided in the final Title I regulations offers clarification for calculating graduation rates for purposes of accountability under NCLB. These are: (a) graduates are considered to be only those students to receive a regular high school diploma (no GEDs) and (b) states must avoid classifying dropouts as transfers for purposes of calculating the high school graduation rates.

Federal regulations do allow states some degree of flexibility; therefore, state plans may develop definitions of AYP that employ another definition [of high school graduation rates], developed by the state and approved by the secretary in the state plan, that more accurately measures the rate of students who graduate from high school with a regular diploma [*Federal Register* Vol. 67, N0.231] (Swanson 2003c).

Several think tanks and political policy groups contend that the Department of Education allowed states too much flexibility in determining the methods used to calculate graduation rates. These groups report that the data states are required to submit to the Common Core of Data (CCD) databases are neither statistically reliable nor adequate to produce an accurate picture of the dropout and graduation condition in the United States. They also contend that states hide the true picture of the problems that face schools and students relative to graduating from high school. Moreover, they contend some states deliberately take advantage of the Department of Education flexibility clause to “choose calculation methods that portray a rosier picture than external sources suggest” (Carey 2003; Orfield 2004; Stewart 2004; Swanson 2004a). As the controversy grows, states are becoming more reluctant to report graduation rate data. The January 2005 required NCLB data state reporting showed that three states (Alabama, Louisiana and Massachusetts) and the District of Columbia did not report graduation rate data.

The U.S. Department of Education has defended its state accountability workbook approval process and reports that critics are misinformed and in error in their assessments of the accountability process. In an attempt to address and resolve the controversy, former U.S. Secretary of Education Rod Paige convened an expert panel to study the issues of how graduation rates are calculated and to provide recommendations to the U.S. Department of Education (Kronholz 2001; Franklin 2002; Archer 2004; Education 2004; Robelen 2004). Recommendations of the panel report published in February 2005 will be discussed later in the paper.

### *Summary*

How and what information is reported regarding the improvement or decline of graduation and dropout rates bring about considerable controversy from a variety of sources. Special interest groups believe that NCES reports are not accurately reflecting the increasing numbers of underrepresented students, such as racial minorities, limited English speakers, and the poor, who are dropping out of school and not graduating. National studies and reports indicate that these trends toward high numbers of dropouts significantly impact the earning potential of those who drop out compared to those who complete high school and create greater dependency on social programs. What is well recognized and documented by all of

these institutions is that statistical data is the life source of our ability as a society to correct, modify or enhance social and economic well being and security. Americans depend on the government to provide data that is accurate and objective. Their perceptions of schools are confirmed or challenged by statistics received from trusted government agencies. Americans judge the effectiveness of their public schools by these data and determine the ability of school officials to focus resources in appropriate areas.

Secondly, the controversy involves reports of public school systems across the country pushing students out of school in order to give the appearance that test scores and graduation rates are higher than reported. Finally, there is growing doubt that the U.S. Department of Education is providing adequate direction and leadership to states to meet the intent of the NCLB law in developing appropriate accountability plans and graduation rate measures for increasing on-time graduation for all high school students.

### 3. CHAPTER 3: COLLECTION AND USE OF GRADUATION RATE DATA

This section discusses the literature found in regard to how dropout, completion and graduation rate data is collected and used by NCES. It will also review and report the analyses of alternate methods of calculating the proportions of students in the United States who complete high school.

#### *Data Collection Process*

Government technical documents and reports indicate that NCES first began collecting the counts of public school dropouts in 1988-89 by using information from the Census Bureau's Current Populations Survey, the Decennial Census and the National Educational Longitudinal Study (Fossey 1996; Winglee 2000; Kaufman 2001; Young 2002). Beginning with the 1991-92 school year, NCES used its Common Core of Data (CCD) survey to voluntarily collect annual dropout and completion rate data from states. Some states did not collect dropout and completion rate data, and others collected and reported the data in ways inconsistent with NCES guidelines; therefore, NCES published only the reports of states that complied with the CCD definition of dropouts. Issues of state noncompliance all related to adherence to the definition of a dropout and fell into three areas.

1. Alternative reporting calendar: The CCD reporting calendar is based on a snapshot of student enrollment on October 1. Therefore, the 12-month reporting period was an October-September cycle. Many states used a June-July reporting cycle. The problem became one of trying to accurately report which year the student dropped out for reporting purposes.

2. Summer dropouts: Some states reported students who drop out of school during the summer as a dropout in the grade they have completed instead of the grade they would have promoted into as required by CCD guidelines

3. Adult GED: CCD definitions required reporting students who leave the comprehensive high school and enroll in a GED program as dropouts unless the district followed them in the GED program. Some states viewed students enrolled in an adult education GED program as transfer students.

For many states, the ability to report data according to the CCD definitions requires expensive student data information system purchases and upgrades and changing long-standing policies and practices (Kaufman 1992; Winglee 2000; Kaufman 2001). As an example, the California School Information System (CSIS) program office requires that each LEA assign an individual and permanent Statewide Student Identifier (SSID) number to each K-12 student in California for his/her K-12 school career. CSIS and SSID were in the developmental stages for 13 years, and state officials first began collecting student data from CSIS for student information reporting purposes in 2006. The CDE reports that as of March 2009, 256 of approximately 1,056 LEAs participate in the voluntary CSIS Reporting program (CDE website 2009). California efforts could be considered accelerated considering that in the year 2000, 21 states did not collect or report dropout data to NCES.

Kaufman *et al* (2001) report that NCES needed to solve the noncompliance issues for a number of reasons: (a) to encourage states to gather and submit data and (b) to provide

consistency in reporting data in order to conduct the cross-state comparisons needed to complete legislated reports. To that end, NCES conducted an empirical study to assess the importance of the three non-conforming data areas upon the quality of information in the CCD databank and to develop a suggested method for calculating dropout and graduation rates that all states could use. By using mathematical equations, the NCES study team, consisting of representatives from state agencies, school districts, and the Council of Chief State School Officers hoped to find out what effect nonconformance had while holding certain variables constant. Their major findings were as follows.

- When states did not conform to using the CCD reporting calendar of the October–September cycle there was a slight over-reporting of dropouts.
- Effects of summer dropouts were less consistent.
- Districts not reporting GED students as dropouts had significantly lower dropout rates.

Overall, the effects of nonconformance highlighted the need for those states in nonconformance status to provide additional information before any comparison could be made between states (Kaufman 1992; Winglee 2000; Kaufman 2001). As a result of this body of work, NCES devised a mathematical formula that would assist states in calculating high school completion rates and reporting information that would be as close as possible to aligning with the CCD definitions and guidelines. This formula also replicates a cohort model which is thought to be the optimal method to calculate high school completion rates (Kaufman 1992; Winglee 2000; Greene 2001; Kaufman 2001; Young 2002; Swanson 2003b). This method is called the NCES method, the “leaver rate” or the “departure classification method” (Pinkus 2006, June).

### **3.1 Methods of Calculating Dropout and Completion Rates**

#### *A Description of the Various Methods*

One key variable in calculating high school completion rates is establishing an initial student reference group against which high school completion numbers are measured. In all of the methods found in the literature, the student reference group is a ninth-grade cohort. The cohort group is identified by counting the student membership at the beginning of the ninth grade. The second key variable is determining how to count the number of students who leave or enter the cohort over the course of the four years in order to determine a final number of students in the cohort who graduate or complete high school. The second variable is where the greatest variance occurs in the studied methods.

As the NCES empirical study concluded and most experts agree, the four-year cohort or longitudinal method is the optimal method to calculate graduation/completion rates. The longitudinal method is an exact counting and tracking of students throughout their four-year high school career in a cohort. Students are removed from the ninth-grade membership if they leave due to transfer, death or incarceration at any point during the four years. The assumption is that the cohort will remain stable without other changes. Students who leave the cohort over the course of the four years are subtracted from the ninth-grade membership count. The difference is divided into the number of students in the cohort who graduate four

years later in order to generate a percentage. This percentage represents the proportion of the original ninth-grade class who completed high school within four consecutive years.

Another methodology for determining graduation rates is the enrollment-based or survey-based graduation rate estimates. Researchers developed these estimates as a means of estimating the numbers of graduates when data is not available or accurate. These methods use grade-to-grade enrollment counts from state databases sent to NCES to estimate how many ninth graders would graduate four years later, or “on time.” The four most cited enrollment-based or survey-based methods found in the literature are:

1. The Longitudinal Method, which establishes a four-year cohort of students and tracks them through their four year high school careers
2. The National Center for Education Statistics the (NCES) method
3. Basic Completion Rate (BCR), Tom Mortenson, Pell Institute
4. The Adjusted Cumulative Rate (ACR) or the Greene Method, developed by Jay P. Greene, a senior fellow of the Manhattan Institute
5. The Cumulative Promotion Index (CPI), developed by Christopher Swanson (2003) of the Urban Institute
6. Averaged Freshmen Graduation Rates (AFGR), developed by NCES

\*A method developed by John R. Warren from the University of Minnesota was referenced; however, it has not been used as a proposed graduation indicator and therefore was not included in this review (Haney 2004; Warren 2004a; Roy 2008).

The NCES method attempts to simulate a cohort. It reconstructs a cohort by taking the number of reported students who drop out in each grade for four consecutive years beginning with the 9<sup>th</sup> grade, and then dividing that number by the number of students who complete high school in the fourth year or the completion of the 12th grade. The formula is stated as follows:

$$\frac{(\text{Grade 12 Graduates 2005-06})}{(\text{Grade 12 Graduates 2005-06}) + (\text{Grade 12 Dropouts 2005-06}) + (\text{Grade 11 Dropouts 2004-05}) + (\text{Grade 10 Dropouts 2003-04}) + (\text{Grade 9 Dropouts 2002-03})}$$

If we used this formula, it would resemble the following example:

School A has a 9<sup>th</sup> grade enrollment in the fall of 2002 of 100 students. The school would subtract the leavers or number of students who drop out, transfer or die at the end of each year for four years beginning with the original 9<sup>th</sup> grade count of 100. The example maintains that:

- ten (10) students left 9<sup>th</sup> grade at the end of 2002-03;
- ten (10) students left 10<sup>th</sup> grade at the end of 2003-04;
- five (5) students left 11<sup>th</sup> grade at the end of 2004-05; and finally,
- five (5) students left 12<sup>th</sup> grade at the end of 2000-05.
- Total leavers over four years equal 30 students, which by formula definition would mean that the original 9<sup>th</sup> grade cohort had dwindled to 70 students.

School A would then divide the number of students remaining from the original cohort (70) by the number of students who complete high school at the end of the fourth year, or the completion of the 12th grade.

- School A reported the number of students who graduated at the end of year four was 62.

- Finally, School A divides 62 by 70 and receive an estimate of an 86% graduation rate.

The reason it is called a simulated cohort is because students can enter, exit and reenter the cohort at any point during the four years and be counted as a member of the cohort, whereas in a true cohort only those students who established first-time membership in the ninth grade would be counted as cohort members and would be tracked through the subsequent three years.

The BCR is the simplest of all the enrollment-based estimates in that it takes the total number of graduates in year four and divides it by the number of 9<sup>th</sup> graders enrolled three years earlier. Using the same student enrollment and dropout numbers listed in the NCES example, the BCI would divide 62 graduates in year four by 100 student originally enrolled in 9<sup>th</sup> grade three year earlier and arrive at a an estimated graduation rate of 62%.

Greene also started out trying to use a simple method such as the BCI [graduates divided by 9<sup>th</sup> graders four years earlier], but he believed he had to make adjustments to the basic formula to account for the problem of student mobility that occurs between the 8<sup>th</sup> and 12<sup>th</sup> grade years. His method takes the reported number of graduates in 12<sup>th</sup> grade and divides that number by the 8<sup>th</sup> grade enrollment four year earlier in the same district or state. He then adjusts for the grades 8-12 in-out migration by adjusting the 8<sup>th</sup> grade enrollment as follows: 8<sup>th</sup> grade enrollment plus (actual 8<sup>th</sup> grade enrollment x the percentage of change in total enrollment in the state or district over the four-year period).

Swanson, on the other hand, uses only two years of data to project an estimated a cohort graduation rate. He first calculates the percentage of promoted 9<sup>th</sup> graders by comparing the number of 10<sup>th</sup> graders to the number of 9<sup>th</sup> graders one year earlier. He then performs the same calculation for the other three grades and multiplies these four ratios to come up with an estimated graduation rate. Swanson's method, very simply stated, is:

1. *Divide enrollment in grade 10 in year 5 by the enrollment of grade 9 in year 4*  
X
2. *Divide enrollment in grade 11 in year 5 by the enrollment of grade 10 in year 4*  
X
3. *Divide enrollment in grade 12 in year 5 by the enrollment of grade 11 in year 4*  
X
4. *Divide High School Graduates in year 4 by the enrollment of grade 12 in year 4*

The Averaged Freshman Graduation Rate was developed in 2003 by NCES in consultation with research groups, state education agencies and NCES staff as a result of the problem many researchers and education agencies experienced in trying to determine the actual number of first-time 9<sup>th</sup> graders enrolled in the cohort being measured. Grade retention or the "9<sup>th</sup> grade bubble" was a deterrent in identifying the beginning 9<sup>th</sup> grade cohort. Researchers discovered that in comparing the student enrollments in 8<sup>th</sup> grade in year one, 9<sup>th</sup> grade in year two and 10<sup>th</sup> grade in year three, a larger number of students were enrolled in 9<sup>th</sup> grade than were enrolled in 8<sup>th</sup> grade the year before. They also discovered that enrollment in grade 10 could be considerably lower than grade nine from the previous year.

The AFGR attempts to provide an estimate of the number of students who graduate on time four years later by determining an approximate number of first-time 9<sup>th</sup> graders enrolled

in the cohort. The incoming freshman class is determined by summing the enrollment in 8th grade for one year, 9th grade for the next year, and 10th grade for the year after and then dividing by three. The AFGR is determined by dividing the number of graduates by the estimated count of freshmen four years earlier (Kantner 2004; Laird 2008).

A simple version of the method is calculated in the following manner:

$$\frac{\text{High School Diplomas Awarded at End of 2005-06 School Year}}{\text{Enrollment in (Grade 8 in fall of 2001 + Grade 9 in fall 2002 + Grade 10 in fall 2003)/3}}$$

Table 1 provides examples of all of the formulas using the 2000-2005 academic years as the four cohort tracking years. The formats of the rates presented are consistent with how they were presented in most of the literature and governmental technical documents.

Table 3-1: Example of Methods of Calculating Graduation Rates

Index Formulas	Definitions
<p><b>1. Longitudinal Graduation Rate (LGR)</b></p> $LGR = \frac{G_{2005}^{long}}{E_{2002}^9 - L_{2002-05}^9}$	<p><b>Where:</b></p> <p><math>G_{2005}^{long}</math> is the count of individual students from the entering 2002 high school cohort who graduated with a regular diploma four years later in 2005-2006.</p> <p><math>E_{2002}^9</math> is the count of students enrolled in the 9<sup>th</sup> grade in 2002-2003 (the entering high school cohort); and</p> <p><math>L_{2002-05}^9</math> is the count of students from the entering 2002 high school cohort who legitimately left the local school system in 2005 as a result of: mobility (to another public school system), transfer to a private school, etc.</p>
<p><b>2. NCES Method</b></p> $NCES = \frac{G_{2005}}{G_{2005} + D_{2005}^{12} + D_{2004}^{11} + D_{2003}^{10} + D_{2002}^9}$	<p><b>Where:</b></p> <p><math>G_{2005}</math> is the count of students who graduated with a regular high school diploma during the 2005-2006 school year, and</p> <p><math>D_{2005}^{12}</math> is the count of students who dropped out of grade 12 during the 2005-2006</p>

Index Formulas	Definitions
	school year.
<p data-bbox="196 317 581 350"><b>3. Basic Completion Ratio (BCR)</b></p> $BCR = \frac{G_{2005}}{E_{2002}^9}$	<p data-bbox="784 317 878 350"><b>Where:</b></p> <p data-bbox="800 384 1341 527"><math>G_{2005}</math> is the count of students who graduated with a regular high school diploma during the 2005-2006 school year, and</p> <p data-bbox="800 562 1304 642"><math>E_{2002}^9</math> is the count of students enrolled in grade 9 in 2002-2003.</p>
<p data-bbox="196 680 613 714"><b>4. Adjusted Completion Ratio (ACR)</b></p> $ACR = \frac{G_{2005}}{E_{2002}^{9s} + \left[ E_{2002}^{9s} * \frac{E_{2005}^{9-12} - E_{2002}^{9-12}}{E_{2002}^{9-12}} \right]}$	<p data-bbox="784 680 878 714"><b>Where:</b></p> <p data-bbox="800 741 1341 884"><math>G_{2005}</math> is the count of students who graduated with a regular high school diploma during the 2005-2006 school year.</p> <p data-bbox="800 919 1328 1041"><math>E_{2002}^{9s}</math> is the smoothed estimate of enrollment for the 9<sup>th</sup> grade cohort in 2002-2003.</p> <p data-bbox="800 1077 1325 1192"><math>E_{2005}^{9-12}</math> is the count of student enrolled in grades 9-12 in the 2005-2006 school year, and</p> <p data-bbox="800 1228 1325 1344"><math>E_{2002}^{9-12}</math> is the count of student enrolled in grades 9-12 in the 2002-2003 school year.</p>
<p data-bbox="196 1373 631 1407"><b>5. Cumulative Promotion Index (CPI)</b></p> $CPI = \left[ \frac{E_{2006}^{10}}{E_{2005}^9} \right] * \left[ \frac{E_{2006}^{11}}{E_{2005}^{10}} \right] * \left[ \frac{E_{2006}^{12}}{E_{2005}^{11}} \right] * \left[ \frac{G_{2005}}{E_{2005}^{12}} \right]$	<p data-bbox="784 1373 878 1407"><b>Where:</b></p> <p data-bbox="800 1434 1341 1577"><math>G_{2005}</math> is the count of students who graduated with a regular high school diploma during the 2005-2006 school year.</p> <p data-bbox="800 1612 1300 1728"><math>E_{2005}^9</math> is the count of students enrolled in grade 9 during the 2005-2006 school year, and</p> <p data-bbox="800 1764 1297 1879"><math>E_{2006}^{10}</math> is the count of students enrolled in grade 10 during the 2006-2007 school year.</p>

Index Formulas	Definitions
<p data-bbox="196 323 784 352"><b>6. Averaged Freshman Graduation Rate</b></p> $AFGR = \frac{G_{2005}}{E_{2001}^8 + E_{2002}^9 + E_{2003}^{10}}/4$	<p data-bbox="784 323 1356 394"><math>G_{2005}</math> is the high school diplomas awarded at the end of the 2005-06 school year</p> <p data-bbox="784 401 1356 443"><math>E_{2001}^8</math> enrollment Grade 8 fall 2001</p> <p data-bbox="784 478 1356 520"><math>E_{2002}^9</math> enrollment Grade 9 fall 2002</p> <p data-bbox="784 556 1356 640"><math>E_{2003}^{10}/3</math> enrollment Grade 10 fall 2003 and then divided by 3</p>

### 3.2 Comparison of Methods: Strengths and Weaknesses

Ideally, the longitudinal method would produce the most accurate number of students who complete high school “on time” within a cohort of students (Greene 2001; Miao 2004, October 15; National Governors Association 2005; American Association of School Administrators 2006, August; Engberg 2006, July; California State Department of Education 2007; Hall 2007). A longitudinal data system assigns each student an individual identifier and follows each student over time. Some analysts consider it highly unlikely that this method could be implemented across all states in order to meet the 2012 NCLB timeline for student proficiency because of inadequate and under-funded data systems and the challenges that many states face with high student mobility rates (Warren 2004a; Swanson 2004b; Seastrom 2006 (b); Seastrom 2006(a); Editorial Projects in Education 2006, June 22). This method requires sophisticated student tracking systems that the majority of states do not have in place and would be costly to fund. Critics acknowledge that extensive state-level data systems are required in order to produce longitudinal student information, but doubt whether states have the technical and financial resources to produce the information in a meaningful and timely manner (Hall 2005, NISS 2004, Phelps 2005, NCEA 2005).

The U.S Department of Education recognizes that state student data systems must be updated and/or established in order to hold states accountable for higher student results. In an effort to support better longitudinal data systems, the U.S Department of Education began awarding Statewide Longitudinal Data Systems Grants in 2005. In the first round of grant awards, 14 states out of 45 to apply for these grants received an average of \$3 million dollars. As of March 2009, 42 states have received grants of as much as \$9 million dollars (Young 2002; U.S. Department Education 2004; Pinkus 2006, June; National Center Education Statistics 2009; NCES 2009).

The second factor, high student mobility, would impact a cohort graduation rate at the district or school level. In high-mobility districts, the number of students leaving the cohort during the four-year period would make it appear that the cohort experienced a high dropout rate by the time of the graduation event. This can cause an impression that schools and districts are not successful in meeting the educational needs of students or graduating students on time. At the state reporting level, the problem is not as pronounced as it is at the school or district level; however, the ability to monitor school and district effectiveness is hindered by

the length of time a student is missing from the cohort. Additionally, students entering the system at any point during the four-year period are not accounted for in the calculation. This can inflate enrollment numbers for any one year in the calculation and distort the culminating cohort graduation rate.

In theory, the longitudinal method has merit in measuring high school graduation rates for individual students, yet the factors of inadequate state data systems and high student mobility can both hinder the collection of data and misrepresent the reported results.

The strength of the NCES method is that it provides a process where all states can comply with the NCLB guidelines for data collection of high school completion rates. However, this method reveals two major problems. First, it does not account for mobility and grade retention that may occur within the student population. NCES and others recognize that this formula counts on stability within the dropout occurrence, grade promotion and the demographics of the student membership (Greene 2001; Haney 2004; Engberg 2006, July; California State Department of Education 2007; Heckman 2007, December). Secondly, NCES relies on its CCD database for information regarding completers and dropouts. This information includes data from the Current Population Survey (CPS). The CPS includes self-reporting interviews of respondents ages 15 and over. Dropout and completion rates are accounted for individuals 15 through 24. This age range does not reflect students who would be in the school during the years that are being calculated. Additionally, the information may be gathered from individuals who did not attend school in the geographic location in which they are currently living or being surveyed (Greene 2001; Kaufman 2001; Greene 2003; Swanson 2003a; Seastrom 2006(a); Seastrom 2006(b); Pinkus 2006, June; Roy 2008).

The U.S. Department of Education has approved this formula for use by states to calculate graduation rates to meet the requirement of the NCLB law; however, states must delete students who completed high school with other than a regular diploma, such as a GED diploma. As of 2008, 32 states and the District of Columbia identify a version of this formula in their NCLB Accountability workbooks.

According to Warren (2004), the BCR is by far the simplest method to use in calculating graduation rates; however, it has four major drawbacks. The first drawback is that it does not account for student mobility issues that are similar in the NCES method. The second drawback with the BCR is that it does not account for ninth-grade retention. Retained ninth-graders are counted as part of a grade enrollment in more than one year during a four-year high school career but are counted only once in the completion year. The third drawback is that students who die are counted as dropouts. The fourth drawback relates to students who are un-graded (such as special education). They might be counted as completers in year four but not be counted as part of the 9<sup>th</sup> grade cohort in year one because they were in an un-graded status.

Jay P. Greene, a senior fellow of the Manhattan Institute, acknowledges that problems exist with the NCES method in the areas of mobility and data reliability within the CCD. In addition, he asserts that the NCES method does not accurately report the graduation rates for subgroup minority student populations or account for students who have been retained in the education system, particularly the ninth grade. As a remedy, he developed the Adjusted Completion Ratio (ACR), or the Greene Method, as it is often referred to in the literature (Carey 2003; Greene 2003; Seastrom 2005; Roy 2008). Greene's method is cited frequently as being comparable to the definition described in NCLB for calculating graduation rates in

that it estimates cohort tracking and the number of regular high school diplomas awarded instead of calculating high school completion rates like the NCES method does. His method is also credited for taking into account state population changes and the students who are retained. Greene originally posited that the number of enrolled eighth graders should equal the same number of ninth-graders entering high school in the fall of the next year. He discovered that the student enrollment numbers were substantially different between the two years. In two subsequent articles, he stated that he did not accommodate for the movement of students from public to private school, retention of ninth-grade students, or the migration of students into or out of the state. Greene refined his initial method to include a “migration” rate to accommodate for mobility and changes in the student population over time, and a “smoothed” calculation to account for ninth-grade retention (Greene 2001; Greene 2004).

An analysis of Greene’s method by Warren (2004) and Swanson (2003) indicates that Greene adds a new bias into the graduation rate calculation process by limiting completers to regular high school diplomas. Warren states that each state has a different definition of what constitutes a regular diploma, and these are not consistent across all states. Swanson agrees, and goes on further to say that Greene’s formula will “produce systematically lower estimated graduation rates than other approaches that count students receiving other credentials among high school graduates” (p. 18). A preliminary review of states’ NCLB Accountability Workbooks shows that some states, such as Kentucky and New York, included in their definition of a regular diploma special education and alternative education certificates of graduation. It is unclear at this point if students in these programs receive the same standards-based instruction and materials and if they are required to acquire the same number of credits to graduate as the students in the comprehensive high school programs. Pinkus acknowledges that Greene’s method allows for the use of currently available data through the CCD, but criticizes that its estimates may be less precise and the population adjustment can distort graduation rates (Pinkus 2006, June). Other reviewers of Greene’s method identify three limitations:

- Including students who repeated a grade in high school or completed high school in less than four years and are not on-time graduates.
- The averaging of 8<sup>th</sup>, 9<sup>th</sup> and 10<sup>th</sup> grade that occurs to identify the first-time freshman cohort ignores 8<sup>th</sup> and 9<sup>th</sup> grade dropouts.
- Greene assumes that the change in size of the 9<sup>th</sup>-12<sup>th</sup> grade population over the four-year period is due to migration and does not account for growth in the cohort. The change in size of the comparison groups would be due to migration only if each of the starting freshman cohorts were the same size.

This is not a method suited for use with small populations or ones that have had changes in size. It is best used for calculating state-level graduation rates (NISS 2005; Phelps 2005; Seastrom 2005; Seastrom 2006(a); Roy 2008).

The Cumulative Progression Index (CPI) was developed by Christopher Swanson (2003) of the Urban Institute. Swanson contends that graduation from high school is a natural grade progression beginning in the ninth grade. Given that certain district conditions remain stable, students are likely to graduate. Swanson (2003) aligns his method to the concept of “holding power” to determine a high school’s success in maintaining student enrollment (Balfanz 2001). He believes that the CPI provides a greater measure of accountability on the current

performance of the educational system to effectively graduate students on time as opposed to other methods, which estimate past performance. Swanson's method has been accepted as a leading indicator of graduation rates (Pinkus 2006, June; Editorial Projects in Education 2006, June 22; Alliance for Excellent Education 2007, January). The major criticisms of CPI are that there is no consideration for student migration and, like Greene's ACR method, defining a regular diploma is problematic. Government and private research organizations pinpointed three limitations of Swanson's method (NISS 2005; Seastrom 2006(a); Pinkus 2006, June; Alliance for Excellent Education 2007, January).

- State-to-state mobility is not taken into account
- Enrollment data from two consecutive years is used as a substitute for data that would have been gathered over four years of actual student experience, and
- Utilization of two years of data holds the assumption that conditions remain constant over time. This use of time does not take into consideration changing educational policies or practices that may impact graduation over the course of four years.

### *Summary*

There are three recurring themes the majority of the literature presented regarding the collection and reporting of graduation rate data. These themes are:

- NCES is unable to gather accurate and complete data from states in order to calculate and report national graduation rate statistics.
- The NCES-developed suggested method for calculating high school graduation rates is believed to distort the true picture of how many students actually graduate from high school.
- The majority of methods used by states to calculate graduation rates for NCLB accountability are not viewed by critics to be in alignment with the intentions of the law.

In response to criticism, two alternative methods were developed by Jay Greene (2001) and Christopher Swanson (2003) to address data flaws in the method developed by NCES. These methods try to provide adjustments for student mobility and retention rates, especially at the ninth-grade level; although some aspects of mobility are unaccounted for in each method. The alternative methods also try to simulate cohort tracking. Greene's method includes a smoothed rate to account for grade retention and a migration factor for student mobility. Swanson's method attempts to project the likelihood of a ninth-grade class progressing through the grades to graduate three years later using two of the four years to measure the progression to graduation.

### *Implications of the Research on the Current Study*

The national system of collecting dropout data has been a highly controversial and a difficult task to complete for NCES. The agency has invested resources toward studying the problems and developing strategies to improve the quality and consistency of the data entered into the CCD database. Not all states have been able or willing to make the necessary

adjustments to fulfill the data definitions of CCD. Some critics believe that a motive for noncompliance is to hide the high numbers of underrepresented groups of students leaving the educational system. The literature does indicate that most states want to comply with data collection requirements but are hindered by prohibitive costs of implementing statewide systems and changing existing policies and practices. As an example, California to date has invested an estimated \$20 million and 12 years time developing and implementing the California School Information System (CSIS). It is currently being used to report dropouts and graduates in an attempt to provide more accurate information. The CSIS department staff work with school districts to make sure data anomalies are eliminated; however, there are still a number of California districts that do not have up-to-date data systems that require more error detection and clean up. CSIS is not able to provide the complex student data to produce longitudinal student information. According to State Superintendent Jack O'Connell, a new system, California Longitudinal Pupil Achievement Data System (CALPADS), to produce this longitudinal record of student data needed to support education policy decision making would cost taxpayers \$32 million. O'Connell's sponsored bill, AB 1656, was funded during the 2006-2007 legislative session (*Governmental Relations Alert 9-07*) and was expected to be operational by the 2009-10 school year, although delays have occurred.

As an immediate solution to obtaining accurate data, NCES developed a suggested method that states could use to calculate graduation rates, which would allow submission of data that could be analyzed, compared and reported as required by law; to date 32 states use the NCES calculation method. The fact that most states receive funds from NCLB has forced them to comply with submitting a state accountability plan that must be approved by the U.S. Department of Education.

Yet controversy still exists regarding the accuracy of state-reported data, based on reports of findings using alternative methods of calculating graduation rates other than that of the NCES-suggested method.

Researchers from prestigious think tank organizations have developed alternate high school graduation calculation methods, claiming that they have produced more accurate results and have accounted for the deficiencies of student mobility and grade retention found in the NCES method. But these alternative methods only seem to lead to more confusion on the part of policymakers and superintendents trying to assess the extent of the dropout problem and the success of the education system to produce well prepared graduates. They must have reliable data to base decisions and allocate resources. We can only surmise that this confusion was part of the July 2005 decision of 50 of the country's governors and Puerto Rico to develop a common formula for calculating graduation rates. Virginia Governor Mark Warner expressed the governors concerns: "Right now, different states have different definitions. So how can we make valid comparisons? And if you can't compare, how do we validate who has the best practices?" (*Washington Post* July 18, 2005). Tennessee Governor Phil Bredesen was forthcoming in acknowledging that governors are not blind to the problems that inconsistent state calculation methods cause. He stated, "State calculations are so incomplete that they often led to vast disparities, even within a state" (*New York Times* July 18, 2005).

Attempting to ease the controversy, the expert panel convened by former U.S. Secretary Rod Paige recommended that a longitudinal method of cohort tracking be used that requires completion, dropout and transfer indicators.

In the meantime, the current U.S. Department of Education will continue to collect and report graduation rates from the states and use the reported data to calculate what it calls an “interim estimator.” The Averaged Freshman Graduation Rate will be reported alongside the state data (U.S. Department of Education 2005). The interim estimator is calculated by taking the number of high school graduates receiving a regular diploma in a given year divided by the average of the number of students enrolled in eighth grade five years earlier, ninth grade four years earlier, and tenth grade three years earlier.

#### 4. CHAPTER 4: METHODS

This study analyzes the complexity in understanding how the data that is needed for school superintendents to evaluate graduation rates is calculated from the California Department of Education raw data. This study looks at graduation rates overall, by gender and ethnicity: White; African-American, Hispanic, and Asian; followed by graduation rates by school size based on student enrollment in grades 9 through 12; and finally graduation rates by size of community. The CPI and NCES methods were chosen as the focus methods to examine because they are two of the most commonly used, discussed and popularized methods to calculate graduation rate estimates. The focus of this analysis is on how many items must be calculated in order to derive the graduation rates; how easily these data can be corrupted, misinterpreted or misused; and how each superintendent must question the applicability of these data and interpretations to the questions at hand.

The U.S. Department of Education began tracking high school graduation rates as an additional high school accountability mechanism of NCLB with the approval of state accountability workbooks in early 2003. This study uses school-level cohort data to estimate graduation rates beginning with the implementation of NCLB requirements in 2003-04 and ends with 2005-06 because this is the first full cohort that we had available at the time of our analysis. School-level cohort data is given because tracking in California is done on a school-level basis. For example, in order to calculate the 2006-07 CPI graduation rate, fall student enrollment counts for grades 10, 11 and 12 in the year 2007-08 are needed. CPI and NCES methods are applied to California school-level enrollment and graduation data to estimate high school graduation rates. The application of school-level data in this study differs from the procedures used in studies by Swanson to implement the CPI method.

##### *Department of Education Data*

Gathering the data for analysis requires enumerating the variables that are needed for our study. A number of databases must be combined in order to complete the analysis. Each school is chosen as a single case and serves as the unique identifier. Thus, the first data that are needed are the unique school identifiers found in the List of California Public Schools and Districts.

Each school in California is assigned a unique CDS\_Code. Each year the state assigns open, closed, pending or merged status to the school. With the *No Child Left Behind* legislation, the most deficient schools may change status. The district type is also a unique identifier – meaning, for example, that a high school is either a unified district or a high school district, but not both. The school type is another unique identifier. School type identifies the particular focus or education level of the school and the students it serves.

Table 4-1: List of California Public Schools and Districts (Select Variables)  
 CBEDS (<http://www.cde.ca.gov/ds/si/ds/fspubschls.asp>)

Field Name	Field Type	Width	Description
CDS_CODE	Character	14	This 14-digit code is the official, unique identification of a school within California. The first two digits identify the county, the next five digits identify the school district, and the last seven digits identify the school. Please note that a CDS code ending in '0000000' indicates a district record not a school.
STAT_TYP	Character	7	This field identifies the status of the school or district. Definitions of the valid status types are listed below: <ul style="list-style-type: none"> <li>• Open: The district or school is in operation and providing instructional services.</li> <li>• Closed: The district or school is not in operation and no longer providing instructional services.</li> <li>• Merged: The district has combined with another district, and the schools within the merged district have closed and re-opened in the newly formed district.</li> <li>• Pending: The district or school has not opened yet, but plans to open within the next 9-12 months.</li> </ul>
COUNTY	Character	15	County name.
DISTRICT	Character	50	District name.
SCHOOL	Character	50	School name.
DST_TYPE	Character	20	The type of school district. A brief description of the different types of school districts are listed below: <ul style="list-style-type: none"> <li>• A unified school district includes both elementary and high school educational levels.</li> <li>• An elementary school district usually includes kindergarten and grades one through six or eight.</li> <li>• A high school district usually includes grade nine and above but may include grade seven and above.</li> <li>• The word union in the name of an elementary school district indicates that it was formed from two or more districts.</li> <li>• The word joint in a district's name indicates that it includes territory from more than one county.</li> <li>• State special refers to California State Special Schools.</li> </ul>
SCH_TYPE	Character	20	The type of school. Types of public schools include: <ul style="list-style-type: none"> <li>• Special Education School</li> <li>• County Community School</li> <li>• Youth Authority Facility</li> <li>• Opportunity School</li> <li>• Juvenile Court School</li> <li>• Other County-Wide Programs</li> <li>• Elementary School</li> <li>• Single Elementary School in District</li> <li>• Intermediate/Middle School</li> <li>• Alternative schools of choice</li> <li>• Junior High School</li> <li>• K-12 School</li> <li>• High School</li> <li>• Single High School in District</li> <li>• Continuation High School</li> <li>• Community Day School</li> <li>• State Special School</li> <li>• Adult Education Center.</li> </ul>

POP_STAT	Character	1	<p>This field classifies the location of a school relative to eight categories of populous areas. The categories, descriptions, and codes are listed below. The data in this field are provided by the U.S. Census Bureau. It may take 1-2 years to get a designation for a new school.</p> <ol style="list-style-type: none"> <li>1. Large City: A central city of Consolidated Metropolitan Statistical Area (CMSA) with the city having a population greater than or equal to 250,000.</li> <li>2. Mid-size City: A central city of a CMSA or Metropolitan Statistical Area (MSA), with the city having a population less than 250,000.</li> <li>3. Urban Fringes of Large City: Any incorporated place, Census Designated Place, or non-place territory within a CMSA or MSA of a Large City and defined as urban by the Census Bureau.</li> <li>4. Urban Fringes of Mid-size City: Any incorporated place, Census Designated Place, or non-place territory within a CMSA or MSA of a Mid-size City and defined as urban by the Census Bureau.</li> <li>5. Large Town: An incorporated place or Census Designated Place with a population greater than or equal to 25,000 and located outside a CMSA or MSA.</li> <li>6. Small Town: An incorporated place or Census Designated Place with a population less than 25,000 and greater than 2,500 and located outside a CMSA or MSA.</li> <li>7. Rural, outside MSA: Any incorporated place, Census Designated Place, or non-place territory designated as rural by the Census Bureau.</li> <li>8. Rural, inside MSA: 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 rural by the Census Bureau.</li> </ol> <p>Blank (Data Not Available): New school not yet assigned a population status code by the Census Bureau, or where there has been a change in the CDS Code, or a school not reporting on the California Basic Educational Data System (CBEDS) collection.</p>
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Table 4-2 provides a sampling of the raw data (with CDS codes, county name, district name, and school name removed). Each line contains a unique code for a single school. The second column tells us the status of the school; that is, whether it is open, closed, merged or pending. The next columns provide the name of the county, district, and school. The district type and the school type information are listed in the following columns. The final variable included in this analysis is the pop-stat or the census designation for that area.

Table 4-2. Sample of Data from the List of Public Schools

Cds_code	Stat_typ	County	district	School	dst_type	sch_type	pop_stat
Unique	OPEN	County_1	County Office of Education_name	Name	CO OFFICE	K-12	
Unique	OPEN	County_1	County Office of Education_name	Name	CO OFFICE	HIGH SCHOOL	
Unique	OPEN	County_1	County Office of Education_name	Name	CO OFFICE	HIGH SCHOOL	
Unique	CLOSED	County_1	County Office of Education_name	Name	CO OFFICE	CO COMMUNITY	
Unique	OPEN	County_1	County Office of Education_name	Name	CO OFFICE	JUVENILE HALL	3
Unique	OPEN	County_1	County Office of Education_name	Name	CO OFFICE	CO COMMUNITY	2
Unique	OPEN	County_1	County Office of Education_name	Name	CO OFFICE	OPPORTUNITY	2
Unique	CLOSED	County_1	County Office of Education_name	Name	CO OFFICE	HIGH SCHOOL	
Unique	CLOSED	County_1	County Office of Education_name	Name	CO OFFICE	ADULT ED	
Unique	CLOSED	County_1	County Office of Education_name	Name	CO OFFICE	HIGH SCHOOL	
Unique	CLOSED	County_1	County Office of Education_name	Name	CO OFFICE	HIGH SCHOOL	
Unique	CLOSED	County_1	County Office of Education_name	Name	CO OFFICE	ADULT ED	
Unique	CLOSED	County_1	County Office of Education_name	Name	CO OFFICE	CO COMMUNITY	
Unique	MERGED	County_1	County Office of Education_name	Name	CO OFFICE	JUVENILE HALL	
Unique	CLOSED	County_1	County Office of Education_name	Name	CO OFFICE	CO COMMUNITY	
unique	CLOSED	County_1	County Office of Education_name	Name	CO OFFICE	CO COMMUNITY	
unique	CLOSED	County_1	County Office of Education_name	Name	CO OFFICE	CO COMMUNITY	
unique	MERGED	County_1	County Office of Education_name	Name	CO OFFICE	SPECIAL ED	
unique	CLOSED	County_1	County Office of Education_name	Name	CO OFFICE	CO COMMUNITY	
unique	CLOSED	County_1	County Office of Education_name	Name	CO OFFICE	SPECIAL ED	
unique	CLOSED	County_1	County Office of Education_name	name	CO OFFICE	CO COMMUNITY	
unique	MERGED	County_1	County Office of Education_name	Name	CO OFFICE	CO COMMUNITY	
unique	MERGED	County_1	County Office of Education_name	Name	CO OFFICE	CO COMMUNITY	
unique	CLOSED	County_1	County Office of Education_name	Name	CO OFFICE	SPECIAL ED	
unique	MERGED	County_1	County Office of Education_name	Name	CO OFFICE	SPECIAL ED	
unique	CLOSED	County_1	County Office of Education_name	Name	CO OFFICE	SPECIAL ED	
unique	MERGED	County_1	County Office of Education_name	Name	CO OFFICE	SPECIAL ED	
unique	MERGED	County_1	County Office of Education_name	Name	CO OFFICE	SPECIAL ED	
unique	OPEN	County_1	County Office of Education_name	Name	CO OFFICE	SPECIAL ED	2
unique	CLOSED	County_1	County Office of Education_name	Name	CO OFFICE	ELEMENTARY	
unique	CLOSED	County_1	Unified_name	Name	UNIFIED	HIGH SCHOOL	
unique	OPEN	County_1	Unified_name	Name	UNIFIED	ALTERNATIVE	

unique	OPEN	County_1	Unified_name	Name	UNIFIED	ELEMENTARY	
unique	OPEN	County_1	Unified_name	Name	UNIFIED	K-12	
unique	OPEN	County_1	Unified_name	Name	UNIFIED	ADULT ED	
unique	OPEN	County_1	Unified_name	Name	UNIFIED	HIGH SCHOOL	3
unique	CLOSED	County_1	Unified_name	Name	UNIFIED	ALTERNATIVE	
unique	OPEN	County_1	Unified_name	Name	UNIFIED	HIGH SCHOOL	3
unique	OPEN	County_1	Unified_name	Name	UNIFIED	HIGH SCHOOL	3
unique	OPEN	County_1	Unified_name	Name	UNIFIED	HIGH SCHOOL	3
unique	OPEN	County_1	Unified_name	Name	UNIFIED	CONTINUATION	3
unique	OPEN	County_1	Unified_name	Name	UNIFIED	MIDDLE	3
unique	OPEN	County_1	Unified_name	Name	UNIFIED	ELEMENTARY	3

In reaching a specific group of superintendents, we chose to look at open schools from unified schools districts with high school students. We chose unified and did not include high school districts because we needed numbers of 9<sup>th</sup> grade enrollments for the CPI and 9<sup>th</sup> grade drop-outs for the NCES. In California, not all high school districts included 9<sup>th</sup> grade students. <<Using PSAW v17>>

In Table 4-3, CBEDS School Information Form (SIF) – Enrollment by School each row consists of single ethnic group, a single gender, a single grade or other descriptor. Consequently, there is a line for every school that has at least one student in one of the grades who belongs to that ethnic group and gender. If there are no students in that ethnic group and gender in school, there are no data listed.

Table 4-3: CBEDS School Information Form (SIF) – Enrollment by School  
File Structure - Section B by school (<http://dq.cde.ca.gov/DataQuest/downloads/sifenr.asp>)

Field Name	Type Field	Width	Description
CDS_CODE	Character	14	This 14-digit code is the official, unique identification of a school within California. The first two digits identify the county, the next five digits identify the school district, and the last seven digits identify the school.
ETHNIC	Character	1	This is a coded field for ethnic designation. The ethnic designations are coded as follows: Code 1 = American Indian or Alaska Native Code 2 = Asian Code 3 = Pacific Islander Code 4 = Filipino Code 5 = Hispanic or Latino Code 6 = African American, not Hispanic (formerly known as Black, not Hispanic) Code 7 = White, not Hispanic Code 8 = Multiple or No Response (Beginning in 1998-99)
SEX	Character	1	This field is a coded field identifying gender. The gender is coded as follows: M = Male F = Female
<b>B. School enrollment, by grade and total school enrollment</b>			
Field Name	Type Field	Width	Description
KDGN	Numeric	4	Students enrolled in kindergarten
GR_1	Numeric	4	Students enrolled in grade 1
GR_2	Numeric	4	Students enrolled in grade 2
GR_3	Numeric	4	Students enrolled in grade 3
GR_4	Numeric	4	Students enrolled in grade 4
GR_5	Numeric	4	Students enrolled in grade 5
GR_6	Numeric	4	Students enrolled in grade 6
GR_7	Numeric	4	Students enrolled in grade 7
GR_8	Numeric	4	Students enrolled in grade 8
UNGR_ELM	Numeric	4	Students enrolled in ungraded elementary classes in grades K-8
GR_9	Numeric	4	Students enrolled in grade 9

GR_10	Numeric	4	Students enrolled in grade 10
GR_11	Numeric	4	Students enrolled in grade 11
GR_12	Numeric	4	Students enrolled in grade 12
UNGR_SEC	Numeric	4	Students enrolled in ungraded secondary classes in grades 9-12
ENR_TOTAL	Numeric	4	Total school enrollment for fields Kindergarten (KDGN) through grade 12 (GR_12) plus ungraded elementary (UNGR_ELM) and ungraded secondary classes (UNGR_SEC). <i>Adults in K-12 programs are not included.</i>
ADULT	Numeric	4	Adults enrolled in K-12 programs. This data does not include adults in independent study

In Table 4-4 Sample of Data from CBEDS School Information Form – Enrollment, the cds\_code was replaced with a school number. Only GR-9, GR-10, GR-11 and GR-12 were downloaded. One can see that the number of students by ethnicity and gender varies from year to year. An example of missing data shows that for school\_2 there were no females or males with Ethnicity 1 or American Indians. In the combined data this field will be missing for school\_2.

Table 4-4. Sample of Data from CBEDS School Information Form Enrollment

CDS_CODE	Ethnic	Gender	Gr_9	Gr_10	Gr_11	Gr_12
school_1	1	F	0	0	0	1
school_1	1	M	0	0	2	0
school_1	2	F	21	16	15	9
school_1	2	M	11	4	4	4
school_1	3	F	1	0	0	0
school_1	3	M	0	0	0	1
school_1	4	F	0	0	0	1
school_1	4	M	0	0	0	2
school_1	5	F	2	6	5	9
school_1	5	M	3	5	4	3
school_1	6	F	5	4	5	4
school_1	6	M	0	3	1	3
school_1	7	F	15	3	9	6
school_1	7	M	9	7	12	9
school_1	8	F	19	19	8	6
school_1	8	M	6	4	6	5
school_2	2	F	1	1	0	0
school_2	2	M	2	0	0	0
school_2	3	M	1	0	0	0
school_2	5	F	6	2	6	0
school_2	5	M	10	3	2	0
school_2	6	F	23	12	17	0
school_2	6	M	24	21	8	0
school_2	7	F	0	1	2	0
school_2	7	M	1	4	2	0
school_2	8	F	1	2	1	0
school_2	8	M	3	3	1	0
school_3	2	F	0	0	0	0
school_3	4	F	1	0	0	0
school_3	4	M	1	0	0	0
school_3	5	F	8	6	0	0
school_3	5	M	17	7	0	0
school_3	6	F	21	1	0	0
school_3	6	M	9	6	0	0

school_3	7	F	0	0	0	0
school_3	8	M	0	0	0	0
school_4	1	M	0	0	0	1
school_4	2	M	1	2	8	6
school_4	3	M	0	0	0	1
school_4	5	F	0	1	1	2
school_4	5	M	5	20	19	35
school_4	6	F	1	5	6	9
school_4	6	M	7	29	37	95
school_4	7	F	0	2	1	0
school_4	7	M	2	6	3	12
school_4	8	M	0	0	3	3
school_5	1	F	0	0	1	0
school_5	2	F	1	1	0	0
school_5	2	M	0	3	3	2
school_5	3	F	0	1	0	2
school_5	3	M	0	1	0	0
school_5	4	M	0	0	1	0
school_5	5	F	5	4	3	6
school_5	5	M	11	11	21	8
school_5	6	F	2	4	6	1
school_5	6	M	13	14	17	5
school_5	7	F	3	2	3	1
school_5	7	M	2	4	4	2

As demonstrated by these data, all the school information or CDS\_Code for each unique school is repeated on each row and must be combined to have a single case with variables for each ethnicity and gender. Consequently, we need to abstract all the female American Indians (Code 1), then abstract all the male American Indians, and finally combine the male and female American Indians. This must be done for each ethnicity and gender. Of note, if there is a single individual in any grade, they are included in the ethnicity and gender row. In some instances the other columns contain a zero. On the other hand, if there is not a single individual in any grade, the row for that ethnicity and gender will not be included and when data are combined the data will be considered missing. Choosing this file rather than the enrollment data in the drop-out file provides a greater chance that we will not be trying to calculate with missing data.

Data in Table 4-5 is structured in the same manner as Table 4-3. Summer graduates are included in the counts while students with high school equivalencies are not. A school, ethnicity, gender is listed if there is at least one student who graduated in that group.

Table 4-5: CBEDS School Information Form (SIF) – Graduates File Structure Section C by school – Graduates (<http://dq.cde.ca.gov/DataQuest/downloads/sifgrads.asp>)

Field Name	Type Field	Width	Description
CDS_CODE	Character	14	This 14-digit code is the official, unique identification of a school within California. The first two digits identify the county, the next five digits identify the school district, and the last seven digits identify the school.
ETHNIC	Character	1	This is a coded field for ethnic designation. The ethnic designations are coded as follows: Code 1 = American Indian or Alaska Native Code 2 = Asian Code 3 = Pacific Islander Code 4 = Filipino Code 5 = Hispanic or Latino Code 6 = African American, not Hispanic (formerly known as Black, not Hispanic) Code 7 = White, not Hispanic Code 8 = Multiple or No Response (Beginning in 1998-99)
SEX /Gender	Character	1	This field is a coded field identifying gender. The gender is coded as follows: M = Male F = Female
<b>C. Number of twelfth grade graduates</b>			
Field Name	Type Field	Width	Description
GRADS	Numeric	4	Number of twelfth-grade graduates from 2007-08. This data includes summer graduates and does not include students with high school equivalencies (i.e., GED or CHSPE)
UC_GRADS	Numeric	4	Number of twelfth-grade graduates from 2007-08 who also completed all courses required for entry into the University of California (UC) and/or California State University (CSU) with a grade "C" or better. This data includes summer graduates and does not include students with high school equivalencies (i.e., GED or CHSPE)

In Table 4-6 the CDS-CODE has been replaced with a placeholder. Again, one can see that not all ethnicities and genders are represented. There is a large difference between the number of graduates and those graduates who have completed courses for UC or CSU entry.

Table 4-6: Sample of CBEDS School Information Form - Graduates

CDS-Code	Ethnic	Gender	Grad	UC_grads
School_1_hsg	2	F	1	0
School_1_hsg	2	M	2	0
School_1_hsg	6	F	4	1
School_1_hsg	6	M	1	1
School_1_hsg	5	F	5	0
School_1_hsg	5	M	3	0
School_1_hsg	8	F	8	0
School_1_hsg	8	M	5	2
School_1_hsg	7	F	6	4
School_1_hsg	7	M	4	1
School_2_hsg	2	M	1	0
School_2_hsg	6	F	3	0
School_2_hsg	6	M	3	0
School_2_hsg	5	M	1	0
School_3_hsg	6	M	1	0
School_3_hsg	4	M	3	0
School_3_hsg	5	F	6	0
School_3_hsg	5	M	3	0
School_3_hsg	3	F	1	0
School_4_hsg	6	F	4	0
School_4_hsg	5	F	13	0
School_4_hsg	7	F	2	0
School_5_hsg	6	M	1	0
School_5_hsg	5	F	2	0
School_5_hsg	5	M	1	0
School_5_hsg	7	F	4	0
School_5_hsg	7	M	6	0
School_6_hsg	2	F	5	5
School_6_hsg	2	M	6	5
School_6_hsg	6	F	2	2
School_6_hsg	6	M	2	1
School_6_hsg	4	F	2	2
School_6_hsg	4	M	2	1
School_6_hsg	5	M	3	2
School_6_hsg	3	M	1	0
School_6_hsg	7	F	1	1

Table 4-7: CBEDS School Information Form (SIF) - Dropouts  
 Section F by school (<http://dq.cde.ca.gov/DataQuest/downloads/sifdrops.asp>)

Field Name	Type Field	Width	Description
<b>CDS_CODE</b>	Character	14	This 14-digit code is the official, unique identification of a school within California. The first two digits identify the county, the next five digits identify the school district, and the last seven digits identify the school.
<b>YEAR</b>	Character	5	Year of data
<b>ETH</b>	Character	1	This is a coded field for ethnic designation. The ethnic designations are coded as follows: 1 = American Indian or Alaska Native 2 = Asian 3 = Pacific Islander 4 = Filipino 5 = Hispanic or Latino 6 = African American, not Hispanic (formerly known as Black, not Hispanic) 7 = White, not Hispanic 8 = Multiple or No Response (Beginning in 1997-98)
<b>SEX</b>	Character	6	This field is a coded field for gender. The gender is coded as either Male or Female
<b>E7</b>	Numeric	5	Enrollment in grade 7 (Not included in enrollment total (ETOT) field below)
<b>E8</b>	Numeric	5	Enrollment in grade 8 (Not included in enrollment total (ETOT) field below)
<b>E9</b>	Numeric	5	Enrollment in grade 9
<b>E10</b>	Numeric	5	Enrollment in grade 10
<b>E11</b>	Numeric	5	Enrollment in grade 11
<b>E12</b>	Numeric	5	Enrollment in grade 12
<b>EOS</b>	Numeric	5	Enrollment in ungraded secondary classes in grades 9-12
<b>ETOT</b>	Numeric	6	Total enrollment for grades 9 through 12 (Does not include grades 7 and 8)
<b>D7</b>	Numeric	4	Dropouts in grade 7 (Not included in dropout total (DTOT) field below)
<b>D8</b>	Numeric	4	Dropouts in grade 8 (Not included in dropout total (DTOT) field below)
<b>D9</b>	Numeric	4	Dropouts in grade 9
<b>D10</b>	Numeric	4	Dropouts in grade 10
<b>D11</b>	Numeric	4	Dropouts in grade 11
<b>D12</b>	Numeric	4	Dropouts in grade 12
<b>DTOT</b>	Numeric	5	Total dropouts for grades 9 through 12 (Does not include grades 7 and 8)

Table 4-8: Sample of CBEDS School Information Form - Dropouts

CDS_CODE	Year	Ethnicity	Gender	D9	D10	D11	D12	DTOT
School_drop_1	2007-08	1	MALE	0	0	0	0	0
School_drop_1	2007-08	1	FEMALE	0	0	0	0	0
School_drop_1	2007-08	2	MALE	0	0	0	0	0
School_drop_1	2007-08	2	FEMALE	0	0	1	0	1
School_drop_1	2007-08	3	MALE	0	0	0	0	0
School_drop_1	2007-08	3	FEMALE	0	0	1	1	2
School_drop_1	2007-08	4	MALE	0	0	0	0	0
School_drop_1	2007-08	4	FEMALE	0	0	0	0	0
School_drop_1	2007-08	5	MALE	0	0	2	0	2
School_drop_1	2007-08	5	FEMALE	0	0	0	2	2
School_drop_1	2007-08	6	MALE	0	0	2	1	3
School_drop_1	2007-08	6	FEMALE	0	0	0	0	0
School_drop_1	2007-08	7	MALE	0	1	0	0	1
School_drop_1	2007-08	7	FEMALE	1	0	1	1	3
School_drop_1	2007-08	8	MALE	0	2	0	1	3
School_drop_1	2007-08	8	FEMALE	1	0	0	0	1
School_drop_2	2007-08	2	FEMALE	0	0	0	0	0
School_drop_2	2007-08	5	MALE	0	0	0	0	0
School_drop_2	2007-08	5	FEMALE	0	0	0	0	0
School_drop_2	2007-08	6	MALE	0	0	0	0	0
School_drop_2	2007-08	6	FEMALE	0	1	0	0	1
School_drop_2	2007-08	7	MALE	1	0	0	0	1
School_drop_2	2007-08	7	FEMALE	0	0	0	0	0
School_drop_2	2007-08	8	MALE	1	0	0	0	1
School_drop_2	2007-08	8	FEMALE	0	0	0	0	0
School_drop_3	2007-08	1	MALE	0	0	0	0	0
School_drop_3	2007-08	1	FEMALE	0	0	0	0	0
School_drop_3	2007-08	2	MALE	0	2	4	9	15
School_drop_3	2007-08	2	FEMALE	0	0	0	3	3
School_drop_3	2007-08	3	MALE	1	0	3	1	5
School_drop_3	2007-08	3	FEMALE	0	1	0	0	1
School_drop_3	2007-08	4	MALE	1	0	0	0	1
School_drop_3	2007-08	4	FEMALE	0	0	1	0	1
School_drop_3	2007-08	5	MALE	13	12	22	61	108
School_drop_3	2007-08	5	FEMALE	1	3	3	5	12
School_drop_3	2007-08	6	MALE	12	21	30	122	185
School_drop_3	2007-08	6	FEMALE	5	11	20	33	69
School_drop_3	2007-08	7	MALE	2	7	7	14	30
School_drop_3	2007-08	7	FEMALE	1	2	1	9	13
School_drop_3	2007-08	8	MALE	0	2	1	3	6
School_drop_3	2007-08	8	FEMALE	0	1	1	2	4

### *CPI Method*

The CPI focuses on district-level data from the CCD and fills in information gaps with school-level data to derive a graduation rate (Swanson 2004a; Swanson 2004b; Swanson 2009). By using school-level data, this study does not alter the CPI method but allows for additional ways of analyzing graduation rates.

The CPI requires enrollment and graduate counts from the junior and senior year of a simulated cohort. Table 4-9 identifies the CPI variables for each of the years examined in this study for overall graduation rate estimates:

Table 4-9: Variables for Calculating CPI

Graduation Rate	Data Collected	School Year Data
2005-06	Fall enrollment counts Grades 10, 11, 12	2006-07
	Fall enrollment counts Grade 9, 10,11, 12	2005-06
	Number of Graduates in the spring	2005-06
2004-05	Fall enrollment counts Grades 10, 11, 12	2005-06
	Fall enrollment counts Grade 9, 10,11, 12	2004-05
	Number of Graduates in the spring	2004-05
2003-04	Fall enrollment counts Grades 10, 11, 12	2004-05
	Fall enrollment counts Grade 9, 10,11, 12	2003-04
	Number of Graduates in the spring	2003-04
2002-03	Fall enrollment counts Grades 10, 11, 12	2003-04
	Fall enrollment counts Grade 9, 10,11, 12	2002-03
	Number of Graduates in the spring	2002-03

Figure 4-1 shows the CPI algorithm for 2005-06 graduates. Only two years of enrollment data are used in this algorithm. Mathematically, one is looking at the relationship between future enrollment and the present graduation and enrollment numbers.

Figure 4-1: CPI Algorithm

$$\begin{aligned}
 & (10^{\text{th}} \text{ Grade Enrollment } 2006-07 / 9^{\text{th}} \text{ Grade Enrollment } 2005-06) * \\
 & (11^{\text{th}} \text{ Grade Enrollment } 2006-07 / 10^{\text{th}} \text{ Grade Enrollment } 2005-06) * \\
 & (12^{\text{th}} \text{ Grade Enrollment } 2006-07 / 11^{\text{th}} \text{ Grade Enrollment } 2005-06) * \\
 & (12^{\text{th}} \text{ Grade Graduates } 2005-06 / 12^{\text{th}} \text{ Grade Enrollment } 2005-06)
 \end{aligned}$$

For the CPI computation for high school graduation rates in 2005-06, high school graduates in 2005-06 and enrollment data from 2005-06 and 2006-07 are used for the calculation. For the 10<sup>th</sup> Grade Enrollment 2006-2007, each single variable is the result of combining all gender male and gender female data for each ethnicity enrolled in Grade 10 in 2006-07. The same calculations are done for Grade 9, Grade 10, Grade 11 and Grade 12 enrollments in 2005-06 as well as Grade 11 and Grade 12 enrollments in 2006-07; and the 2005-06 graduates.

Table 4-10. CPI Computation for All High School Graduates 2005-06

Variables	Computation
10 <sup>th</sup> Grade Enrollment 2006-07 =	2006-07 E10, Ethnic1, GenderMale + 2006-07 E10, Ethnic1, Gender Female + ..... + 2006-07 E10, Ethnic8, GenderMale + 2006-07 E10, Ethnic8, Gender Female
9 <sup>th</sup> Grade Enrollment 2005-06 =	2005-06 E9, Ethnic1, GenderMale + 2005-06 E9, Ethnic1, Gender Female + ..... + 2005-06 E9, Ethnic8, GenderMale + 2005-06 E9, Ethnic8, Gender Female
11 <sup>th</sup> Grade Enrollment 2006-07 =	2006-07 E11, Ethnic1, GenderMale + 2006-07 E11, Ethnic1, Gender Female + ..... + 2006-07 E11, Ethnic8, GenderMale + 2006-07 E11, Ethnic8, Gender Female
10 <sup>th</sup> Grade Enrollment 2005-06 =	2005-06 E10, Ethnic1, GenderMale + 2005-06 E10, Ethnic1, Gender Female + ..... + 2005-06 E10, Ethnic8, GenderMale + 2005-06 E10, Ethnic8, Gender Female
12 <sup>th</sup> Grade Enrollment 2006-07 =	2006-07 E12, Ethnic1, GenderMale + 2006-07 E12, Ethnic1, Gender Female + ..... + 2006-07 E12, Ethnic8, GenderMale + 2006-07 E11, Ethnic8, Gender Female
11 <sup>th</sup> Grade Enrollment 2005-06 =	2005-06 E11, Ethnic1, GenderMale + 2005-06 E11, Ethnic1, Gender Female + ..... + 2005-06 E11, Ethnic8, GenderMale + 2005-06 E11, Ethnic8, Gender Female
12 <sup>th</sup> Grade Graduates 2005-06 =	2005-06 Grad, Ethnic1, GenderMale + 2005-06 Grad, Ethnic1, Gender Female + ..... + 2005-06 Grad, Ethnic8, GenderMale + 2005-06 Grad, Ethnic8, Gender Female
12 <sup>th</sup> Grade Enrollment 2005-06 =	2005-06 E12, Ethnic1, GenderMale + 2005-06 E12, Ethnic1, Gender Female + ..... + 2005-06 E12, Ethnic8, GenderMale + 2005-06 E12, Ethnic8, Gender Female

For Hispanic students the equations would use ethnicity 5 or Hispanic students, both male and female.

Table 4-11: CPI Computation for Hispanic High School Graduates 2005-06

Variables	Computation
10 <sup>th</sup> Grade Hispanic Enrollment 2006-07 =	2006-07 E10, Ethnic5, GenderMale + 2006-07 E10, Ethnic5, Gender Female
9 <sup>th</sup> Grade Hispanic Enrollment 2005-06 =	2005-06 E9, Ethnic5, GenderMale + 2005-06 E9, Ethnic5, Gender Female
11 <sup>th</sup> Grade Hispanic Enrollment 2006-07 =	2006-07 E11, Ethnic5, GenderMale + 2006-07 E11, Ethnic5, Gender Female
10 <sup>th</sup> Grade Hispanic Enrollment 2005-06 =	2005-06 E10, Ethnic5, GenderMale + 2005-06 E10, Ethnic5, Gender Female
12 <sup>th</sup> Grade Hispanic Enrollment 2006-07 =	2006-07 E12, Ethnic5, GenderMale + 2006-07 E12, Ethnic5, Gender Female
11 <sup>th</sup> Grade Hispanic Enrollment 2005-06 =	2005-06 E11, Ethnic5, GenderMale + 2005-06 E11, Ethnic5, Gender Female
12 <sup>th</sup> Grade Hispanic Graduates 2005-06 =	2005-06 Grads, Ethnic5, GenderMale + 2005-06 Grads, Ethnic5, Gender Female
12 <sup>th</sup> Grade Hispanic Graduates 2005-06 =	2005-06 E12, Ethnic5, GenderMale + 2005-06 E12, Ethnic5, Gender Female

For the male students the equations would involve all males from all ethnicities.

Table 4-12: CPI Computation for Male High School Graduates 2005-06

Variables	Computation
10 <sup>th</sup> Grade Male Enrollment 2006-07 =	2006-07 E10, Ethnic1, and GenderMale + ..... + 2006-07 E10, Ethnic8, GenderMale
9 <sup>th</sup> Grade Male Enrollment 2005-06 =	2005-06 E9, Ethnic1, and GenderMale + ..... + 2005-06 E9, Ethnic8, GenderMale
11 <sup>th</sup> Grade Male Enrollment 2006-07 =	2006-07 E11, Ethnic1, and GenderMale + ..... + 2006-07 E11, Ethnic8, GenderMale
10 <sup>th</sup> Grade Male Enrollment 2005-06 =	2005-06 E10, Ethnic1, and GenderMale + ..... + 2005-06 E10, Ethnic8, GenderMale
12 <sup>th</sup> Grade Male Enrollment 2006-07 =	2006-07 E12, Ethnic1, and GenderMale + ..... + 2006-07 E12, Ethnic8, GenderMale
11 <sup>th</sup> Grade Male Enrollment 2005-06 =	2005-06 E11, Ethnic1, and GenderMale + ..... + 2005-06 E11, Ethnic8, GenderMale
12 <sup>th</sup> Grade Male Graduates 2005-06 =	2005-06 Grad, Ethnic1, and GenderMale + ..... + 2005-06 Grad, Ethnic8, GenderMale
12 <sup>th</sup> Grade Male Enrollment 2005-06 =	2005-06 E12, Ethnic1, and GenderMale + ..... 2005-06 E12, Ethnic8, GenderMale

### *NCES Method*

The NCES method requires student dropout data for all four years of the cohort and a final count of graduates at the end of the fourth cohort year (Grade 12). Table 4-13 identifies the NCES variables for each of the years examined in this study:

Table 4-13: Variables for Calculating NCES Method Graduation Rate

Graduation Rate	Data Collected	School Year Data
2005-06	Number of Graduates Grade 12	2005-06
	Number of dropouts Grade 12	2005-06
	Number of dropouts Grade 11	2004-05
	Number of dropouts Grade 10	2003-04
	Number of dropouts Grade 9	2002-03
2004-05	Number of Graduates Grade 12	2004-05
	Number of dropouts Grade 12	2004-05
	Number of dropouts Grade 11	2003-04
	Number of dropouts Grade 10	2002-03
	Number of dropouts Grade 9	2001-02
2003-04	Number of Graduates Grade 12	2003-04
	Number of dropouts Grade 12	2003-04
	Number of dropouts Grade 11	2002-03
	Number of dropouts Grade 10	2001-02
	Number of dropouts Grade 9	2000-01
2002-03	Number of Graduates Grade 12	2002-03
	Number of dropouts Grade 12	2002-03
	Number of dropouts Grade 11	2001-02
	Number of dropouts Grade 10	2000-01
	Number of dropouts Grade 9	1999-2000

Figure 4-2 shows the NCES algorithm for 2005-06 graduates. In this algorithm one is looking at the dropouts in Grades 9, 10, 11 and 12 that would be part of the same class that graduates in 2005-06.

Figure 4-1: NCES Method

$$\frac{\text{(Grade 12 Graduates 2005-06)}}{\text{((Grade 12 Graduates 2005-06) + (Grade 12 Dropouts 2005-06) + (Grade 11 Dropouts 2004-05) + (Grade 10 Dropouts 2003-04) + (Grade 9 Dropouts 2002-03)}}$$

For the NCES computation for high school graduation rates in 2005-06, high school graduates in 2005-06 and dropout data from Grade 12 in 2005-06, dropout data from Grade 11 in 2004-05, dropout data from Grade 10 in 2003-04, and dropout data from Grade 9 in 2002-03 are used for the calculation. For the 12<sup>th</sup> Grade graduates in 2005-06 each single variable is the result of combining all gender male and gender female data for each ethnicity graduating in 2005-06. The same calculations are done for Grade 9, Grade 10, Grade 11 and Grade 12 drop-outs.

Table 4-14: NCES Computation for All High School Graduates 2005-06

Variables	Computation
12 <sup>th</sup> Grade Graduates 2005-06 =	2005-06 Grad, Ethnicity 1, GenderMale + 2005-06 Grad, Ethnicity1, Gender Female + ..... + 2005-06 Grad, Ethnic8, GenderMale + 2005-06 Grad, Ethnic8, Gender Female
12 <sup>th</sup> Grade Drop-outs 2005-06 =	2005-06 D12, Ethnicity1, GenderMale + 2005-06 D12, Ethnicity1, Gender Female + ..... + 2005-06 D12, Ethnicity8, GenderMale + 2005-06 D12, Ethnicity8, Gender Female
11 <sup>th</sup> Grade Drop-outs 2004-05 =	2004-05 D11, Ethnicity1, GenderMale + 2004-05 D11, Ethnicity1, Gender Female + ..... + 2004-05 D11, Ethnicity8, GenderMale + 2005-06 D12, Ethnicity8, Gender Female
10 <sup>th</sup> Grade Drop-outs 2003-04 =	2003-04 D10, Ethnicity1, GenderMale + 2003-04 D10, Ethnicity1, Gender Female + ..... + 2003-04 D10, Ethnicity8, GenderMale + 2003-04 Grade 10, Ethnicity8, Gender Female
9 <sup>th</sup> Grade Drop-outs 2002-03 =	002-03 D9, Ethnicity1, GenderMale + 2002-03 D9, Ethnicity1, Gender Female + ..... + 2002-03 D9, Ethnicity8, GenderMale + 2002-03 Grade 9, Ethnicity8, Gender Female

For Hispanic students the equations would use ethnicity 5 or Hispanic students, both male and female.

Table 4-15: NCES Computation for Hispanic High School Graduates 2005-06

Variables	Computation
12 <sup>th</sup> Grade Hispanic Graduates 2005-06 =	2005-06 Grad, Ethnicity5, GenderMale + 2005-06 Grad, Ethnic5, Gender Female
12 <sup>th</sup> Grade Hispanic Drop-outs 2005-06 =	2005-06 D12, Ethnicity5, GenderMale + 2005-06 D12, Ethnicity5, Gender Female
11 <sup>th</sup> Grade Hispanic Drop-outs 2004-05 =	2004-05 D11, Ethnicity5, GenderMale + 2004-05 D11, Ethnicity5, Gender Female
10 <sup>th</sup> Grade Hispanic Drop-outs 2003-04 =	2003-04 D10, Ethnicity5, GenderMale + 2003-04 D10, Ethnicity5, Gender Female
9 <sup>th</sup> Grade Hispanic Drop-outs 2002-03 =	002-03 D9, Ethnicity5, GenderMale + 2002-03 D9, Ethnicity5, Gender Female

For the male students the equations would involve all males from all ethnicities.

Table 4-16: NCES Computation for Male High School Graduates 2005-06

Variables	Computation
12 <sup>th</sup> Grade Male Graduates 2005-06 =	2005-06 Grad, Ethnicity1, and GenderMale + ..... + 2005-06 Grad, Ethnic8, GenderMale
12 <sup>th</sup> Grade Male Drop-outs 2005-06 =	2005-06 D12, Ethnicity1, and GenderMale + ..... + 2005-06 D12, Ethnicity8, GenderMale
11 <sup>th</sup> Grade Male Drop-outs 2004-05 =	2004-05 D11, Ethnicity1, and GenderMale + ..... + 2004-05 D11, Ethnicity8, GenderMale
10 <sup>th</sup> Grade Male Drop-outs 2003-04 =	2003-04 D10, Ethnicity1, and GenderMale + ..... + 2003-04 D10, Ethnicity8, GenderMale
9 <sup>th</sup> Grade Male Drop-outs 2002-03 =	002-03 D9, Ethnicity1, and GenderMale + ..... + 2002-03 D9, Ethnicity8, GenderMale

## Comparisons

### Overall

Mean ALL\_CPI2002\_E02\_03

Min

Max

Std Dev

### Male

### Female

Ethnicity (AA, Asian, Hispanic, White) – Overall

Ethnicity – Male Female

Pop-stat: Run above by pop-stat group

Size of School by Overall:

Sum of above groups - Year 2006 – divide overall in four groups

Number of schools in each group

### CPI Assumptions:

Graduates in the year before

Enrollment in the year after graduation

Changes within those two years

NCES Assumptions:

Same students

If you did not graduate, you dropped out.

## 5. CHAPTER 5: RESULTS

Using the methods shown in Chapter 4, we will present the CPI and NCES Overall Graduation Rates, the CPI and NCES Graduation Rates by Size of School and the CPI and NCES Graduation Rates by Size of Community. Each section will examine the results by total student graduate population, gender and ethnicity.

### 5.1 Overall Graduation Rates

This section provides an aggregate examination of high school graduation rates for ALL students and follows with an examination by gender and ethnicity. Only high schools in Unified School Districts in California are represented in this study. Table 5-1 shows the total number of schools with high school graduates, the number of excluded schools with CPI > 1.2 and the final number of schools included in this study.

Table 5-1: Selection of Study Schools

Year	Total Schools	Schools with CPI >1.2	Schools included Study
2002-03	843	8	835
2003-04	856	6	850
2004-05	888	7	881
2005-06	904	10	894

The data in Table 5-1 shows the total number of high schools reporting graduates in each of the four years, the number of excluded school with CPI scores > 1.2 and the remaining number of schools that were included in the study. The schools with extreme values for CPI (>1.2), most likely due to changing enrollments or changes in district organization, will produce results that can easily misinterpret data (Swanson 2003b; Swanson 2004a). Therefore, the extreme values produced in the CPI calculations were eliminated and these outliers will be further studied to determine if there is a pattern within these data.

Table 5-2 and Figure 5-1 show CPI versus NCES graduation rates for 2002-03, 2003-04, 2004-05 and 2005-06 in tabular and graphical form.

Table 5-2: Overall Graduation Rates for 2002-03 through 2005-06

Year	N	CPI	SD	Total CPI Mean	NCES	SD	Total NCES Mean
2002-03	835	71%	.15		92%	.09	
2003-04	850	70%	.16		93%	.09	
2004-05	881	69%	.16		93%	.09	
2005-06	894	67%	.17		91%	.09	
				<b>69%</b>			<b>92%</b>

Figure 5-1 Overall Graduation Rate Estimates by Year

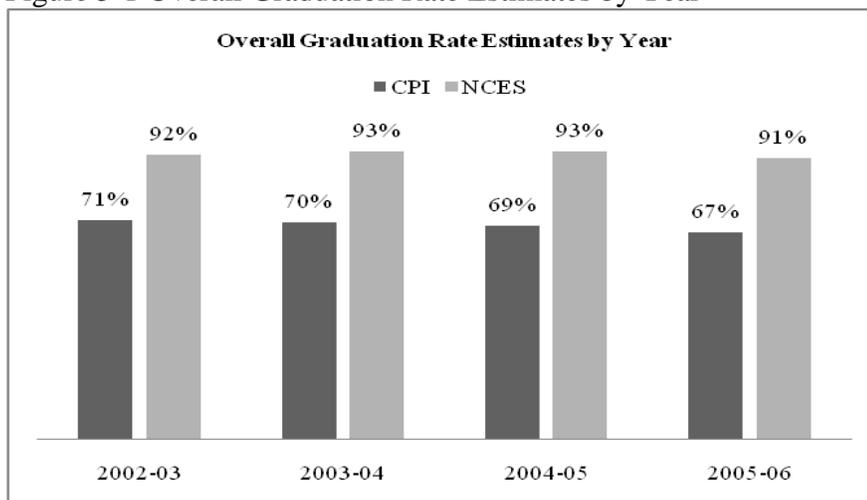


Table 5-2 shows that there were more schools reporting graduates each year. Overall CPI graduation rates decrease each year during all four years of the study, although there were more schools reporting graduates. From 2002-03 to 2005-06, CPI overall graduation rates decreased from 71% to 67%, or a total of 4%. The NCES graduation rates are very close to each other. In 2002-03 the rate was 92%. For the next two years the rate increased and remained at 93%. Then in 2005-06 the rate declined to 91%, which is 2% lower than the two previous years. The lowest graduation rate for both methods was in 2005-06. Additionally, both rates showed a decline to levels lower than the NCLB base line data year in 2002-03. The 2002-03 CPI overall rate was 71%; by 2005-06 the graduation rate consistently declined to rate to 67%. The NCES rate in 2002-03 of 92% increased to 93% for two years and then showed a 1% decline from the base line year by 2005-06. Figure 5-1 is a graphic representation of the information presented in Table 5-2.

The CPI total mean graduation rate of the four years studied was 69%; the NCES rate was 92%. The results of this study show that for the years of 2002-03 through 2005-06, a total mean 69% of students in 881 reporting schools graduated from high school, utilizing the CPI method. For the same time period a total mean 92% of students graduated, utilizing the NCES method. This represents a 23% difference in the results between the two methods of calculating high school graduation rates.

Table 5-3 presents the CPI and NCES overall graduation rates from 2002-03 through 2005-06 of ALL students and by gender and ethnicity. The table identifies the number of schools that reported graduates in each year for ALL students and each of the four ethnic groups that we have chosen to study. We created additional tables from data in Table 5-4 to provide visual references of explanations and to enhance the clarity of the data presented in the master table.

Table 5-3: CPI and NCES Graduation Rates by Ethnicity and Gender  
2002-03 through 2005-06

Ethnic Group	Year	N	Females						N	Males					
			CPI Rate	SD	CPI Total Mean	NCES Rate	SD	NCES Total Mean		CPI Rate	SD	CPI Total Mean	NCES Rate	SD	NCES Total Mean
ALL	2002-03	818	75%	.18		93%	.08		821	67%	.20		91%	.11	
	2003-04	823	74%	.18		94%	.08		830	68%	.20		91%	.11	
	2004-05	878	72%	.16		94%	.08		876	66%	.18		91%	.11	
	2005-06	868	71%	.20		93%	.09		880	64%	.21		90%	.11	
						<b>73%</b>			<b>93%</b>				<b>66%</b>		
White	2002-03	745	70%	.22		96%	.06		760	65%	.23		93%	.10	
	2003-04	773	69%	.23		95%	.08		761	65%	.23		93%	.10	
	2004-05	806	72%	.19		95%	.07		807	67%	.20		93%	.10	
	2005-06	770	69%	.24		95%	.08		799	65%	.23		92%	.11	
						<b>70%</b>			<b>95%</b>				<b>65%</b>		
African American	2002-03	457	58%	.28		90%	.14		456	54%	.29		87%	.17	
	2003-04	465	58%	.28		90%	.13		486	53%	.28		87%	.16	
	2004-05	548	64%	.25		91%	.13		554	55%	.26		87%	.17	
	2005-06	527	54%	.29		89%	.15		528	50%	.29		84%	.17	
						<b>58%</b>			<b>90%</b>				<b>53%</b>		
Hispanic	2002-03	716	67%	.23		91%	.10		744	60%	.24		88%	.13	
	2003-04	723	69%	.22		91%	.10		760	60%	.23		88%	.12	
	2004-05	817	67%	.20		92%	.10		816	58%	.21		88%	.13	
	2005-06	782	63%	.23		90%	.11		796	55%	.24		86%	.13	
						<b>66%</b>			<b>91%</b>				<b>58%</b>		
Asian	2002-03	447	71%	.29		97%	.08		482	69%	.29		95%	.09	
	2003-04	434	76%	.28		97%	.07		445	70%	.28		95%	.09	
	2004-05	535	84%	.22		97%	.07		550	80%	.24		95%	.09	
	2005-06	486	70%	.29		96%	.08		504	67%	.30		94%	.10	
						<b>75%</b>			<b>97%</b>				<b>71%</b>		

The first examination was a general comparison of the data between females and males. We see there are more schools reporting male graduates than female graduates across all ethnic groups in each year; however, the graduation rate estimates for females are higher than for males in every year or ethnic group.

White students have the largest number of schools reporting graduates in any year except for 2004-05. In 2004-05, schools reporting Hispanic graduates were greater. There were 817 schools reporting Hispanic female graduates, compared to 806 schools for White females. For Hispanic males, the number of reporting schools was 816, compared to 807 for White males. The lowest number of schools reporting graduates was for Asian females in all years. For male students, the lowest numbers of schools overall were for Asian males; however, schools reported fewer African American male graduates in 2002-03 than for any other male ethnic group.

Table 5-4 presents a summary of the CPI and NCES graduation rate estimates for females and males by ethnicity.

Table 5-4 Overall CPI and NCES Total Mean Graduation Rate Summary by Ethnicity and Gender

Ethnic Group	Female		Male	
	CPI Total Mean Graduation Rate	NCES Total Mean Graduation Rate	CPI Total Mean Graduation Rate	NCES Total Mean Graduation Rate
All	73%	93%	66%	91%
White	70%	95%	65%	93%
African American	58%	90%	53%	86%
Hispanic	66%	91%	58%	87%
Asian	75%	97%	71%	95%

Table 5-4 shows that the overall total graduation rate means for females were higher than for males regardless of the method used. Asian females had the highest total mean for both CPI and NCES at 75% and 97% respectively. The lowest total mean rate was for African American females in both methods. The CPI total mean was 58% and the NCES was 90%. The same results were found for male students. Asian males had the highest total mean graduation rate for both CPI (71%) and NCES (95%) calculations. African American males also showed the lowest total mean graduation rate at 53% for CPI and 86% for NCES methods. As a group, Asian students surpass the overall student total mean estimated graduation rates. For ALL students the total mean rate for females was 73% using the CPI algorithm and 93% with the NCES algorithm. Asian female total mean rates were 75%, or 2% higher than the overall CPI total means for females and 97%, or 4% higher than the NCES total mean. Asian males exceeded the overall total mean for ALL students at 71%, or 5% with the CPI method and 95%, or 4% with the NCES method.

Figure 5-2 shows a graphical presentation of the graduation rates for females – grouped by ethnicity.

Figure 5-2: CPI and NCES Female Graduation Rates by Ethnicity 2002-03 through 2005-06

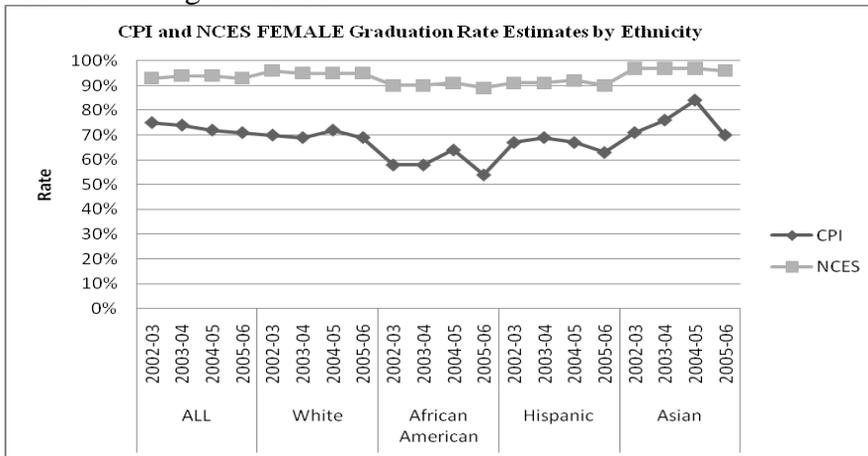


Figure 5-3 shows a graphical presentation of the graduation rates for males – grouped by ethnicity

Figure 5-3: CPI and NCES Male Graduation Rates by Ethnicity 2002-03 through 2005-06

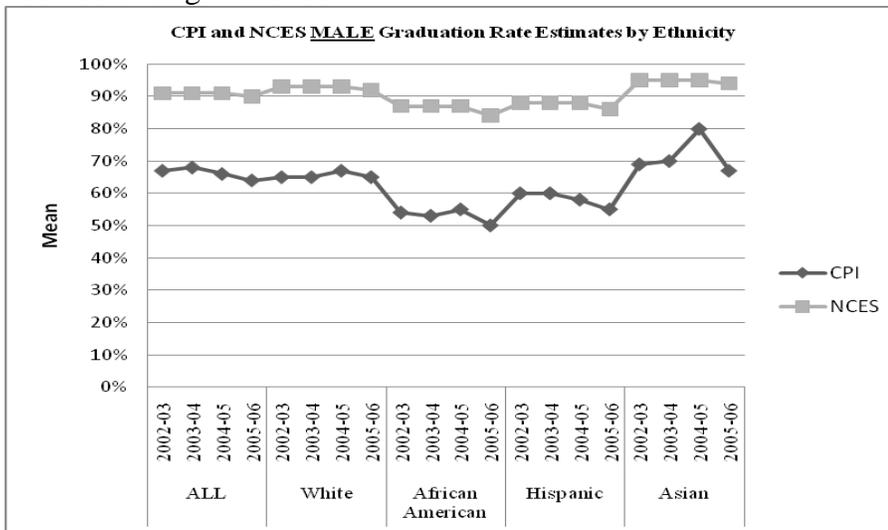


Figure 5-2 (female) and 5-3 (male) are graphic representations of the information presented in Table 5-4, categorized by gender. The vertical axis indicates the mean graduation percent. The horizontal axis represents each year students graduated, grouped by ethnicity. Each method is distinguished by the lines identified in the legend. The figures show visually the changes in estimated graduation rates from year to year for all groups. In particular, it shows the low rates for African American students and the decline in rates from

2004-05 to 2005-06 for Asian females and males when the CPI method was applied to the data. The NCES rates show rates in the 90th percentile across all years and all groups.

Table 5-5 represents the percentage difference between CPI and NCES Total Mean Reported Graduation Rates.

Table 5-5: Percentage Difference between CPI and NCES Total Mean Reported Graduation Rates for ALL students and ALL Students by Ethnicity

Ethnic Group	Females			Males		
	CPI Total Mean	NCES Total Mean	% Difference between methods	CPI Total Mean	NCES Total Mean	% Difference between methods
<b>ALL</b>	73%	93%	<b>20%</b>	66%	91%	<b>25%</b>
<b>White</b>	70%	95%	<b>25%</b>	65%	93%	<b>28%</b>
<b>African American</b>	58%	90%	<b>32%</b>	53%	86%	<b>33%</b>
<b>Hispanic</b>	66%	91%	<b>25%</b>	58%	87%	<b>29%</b>
<b>Asian</b>	75%	97%	<b>22%</b>	71%	95%	<b>24%</b>

In Table 5-5, it is important to note that we are examining reported results of applying the CPI and NCES calculations to school data, and not equivalent results. The variables in each equation rely on different data and different calculation processes, therefore comparable estimated rates cannot be generated. The reported results reveal a 20% difference between the CPI and NCES total mean graduation rate for ALL female students from 2002-03 through 2005-06. The percentage difference between methods for each female ethnic group ranges from 22% to 32%. The CPI method never exceeds a total mean rate of 75% for any female ethnic group. The NCES method, on the other hand, shows total mean rates for females as high as 97%.

The greatest deviation in rates is illustrated when comparing the reported rates for African American females. The CPI total mean for African Americans females is 58%, and the NCES results shows a total mean of 90%. Hispanic and White females follow, with a difference between rates of 25%, and Asian female results reveal a 22% difference between the two methods.

This trend also follows when comparing male results. The percentage difference in the rates generated between CPI and NCES total means for ALL males is 25%. As with females, the greatest variation between the results produced by each method is seen with African Americans males. The CPI total mean for African American males is 53% and NCES is 86%, showing a 33% difference. This is followed by Hispanic males, where the percentage difference is 29%; White males are third with 28% and finally Asian males at 24%.

Table 5-6 presents an example of the fluctuations in year-to-year graduation rates for Asian students.

Table 5-6: Example of Fluctuation in Year-to-Year Asian Graduation Rate Estimates

Asian	Year	Females				Males			
		<i>CPI Rate</i>	Year to Year % difference CPI	<i>NCES Rate</i>	Year to Year % difference NCES	<i>CPI Rate</i>	Year to Year % difference CPI	<i>NCE S Rate</i>	Year to Year % difference NCES
	2002-03	71%	<b>Base</b>	97%	<b>Base</b>	69%	<b>Base</b>	95%	<b>Base</b>
	2003-04	76%	<b>+5%</b>	97%	<b>0%</b>	70%	<b>+1%</b>	95%	<b>0%</b>
	2004-05	84%	<b>+8%</b>	97%	<b>0%</b>	80%	<b>+10%</b>	95%	<b>0%</b>
	2005-06	70%	<b>-14%</b>	96%	<b>-1%</b>	67%	<b>-17%</b>	94%	<b>-1%</b>

In Table 5-6 we are able to see the fluctuation in CPI rates from year to year between genders. Fluctuations in the CPI estimated graduation rate are highlighted, using Asian students as an example. The table shows that the CPI rate for Asian females in 2002-03 equaled 71%, in 2003-04 it was 76% (+5% difference from the previous year), 2004-05 equaled 84% (+8%) and in 2005-06 the rate was 70% (-14%). Examining CPI results for Asian males, we find the similar fluctuations. In 2002-03 the rate equaled 69%, in 2003-04 it was 70% (+1% difference from the previous year), 2004-05 equaled 80% (+10%) and in 2005-06 the rate was 67% (-17%).

The NCES results do not fluctuate more than 2% to 3% for any group in any year. Following Asian students again as an example, the female graduation rate for 2002-03 equaled 97%, in 2003-04 it was 95% (0% difference from the previous year), 2004-05 was 97% (0%), and 2005-06 the rate was 96% (-1%). NCES results for Asian males equaled 95% in 2003-04, (0% difference from the previous year), in 2004-05 there was no change in the rate (0%) and in 2005-06 the rate was 94% (-1%).

Table 5-7 shows comparisons of 2004-05 and 2005-06 graduation rates by gender and ethnicity

Table 5-7: Comparison of CPI and NCES 2004-05 and 2005-06 Graduation Rate Estimates by Ethnicity and Gender.

Ethnic Groups	Year	Females		Males	
		CPI	NCES	CPI	NCES
<b>ALL</b>	2002-03	75%	93%	67%	91%
	2003-04	74%	94%	68%	91%
	2004-05	72%	94%	66%	91%
	2005-06	71%	93%	64%	90%
% Change in rate from 2004-05 to 2005-06		-1%	-1%	-2%	-1%
<b>White</b>	2002-03	70%	96%	65%	93%
	2003-04	69%	95%	65%	93%
	2004-05	72%	95%	67%	93%
	2005-06	69%	95%	65%	92%
% Change in rate from 2004-05 to 2005-06		-3%	0%	-2%	-1%
<b>African American</b>	2002-03	58%	90%	54%	87%
	2003-04	58%	90%	53%	87%
	2004-05	64%	91%	55%	87%
	2005-06	54%	89%	50%	84%
% Change in rate from 2004-05 to 2005-06		-10%	-2%	-5%	-3%
<b>Hispanic</b>	2002-03	67%	91%	60%	88%
	2003-04	69%	91%	60%	88%
	2004-05	67%	92%	58%	88%
	2005-06	63%	90%	55%	86%
% Change in rate from 2004-05 to 2005-06		-4%	-2%	-3%	-2%
<b>Asian</b>	2002-03	71%	97%	69%	95%
	2003-04	76%	97%	70%	95%
	2004-05	84%	97%	80%	95%
	2005-06	70%	96%	67%	94%
% Change in rate from 2004-05 to 2005-06		-14%	-1%	-13%	-1%

The data in Table 5-7 indicates that 2004-05 produced the highest graduation rates for each ethnic group and gender, while 2005-06 reflects the lowest graduation rate across all segments. The results also indicate that from 2002-03 through 2004-05 overall graduation rates increased or maintained, and then declined in 2005-06 back to 2002-03 levels or lower with both methods.

These trends caused us to isolate the years of 2004-05 and 2005-06 to look at the data and identify any patterns that seem to emerge. It should also be noted that 2005-06 was the first year that passing the California High School Exit Exam was a requirement for graduation. We tracked this trend with all data and will present it throughout this chapter. The trends regarding the CAHSEE year results and the previous year results will be discussed in Chapter 6 Summary and Discussion.

After completing our computations of the CPI method, our outliers ranged from 1.2 to 35.93, and were eliminated from the study. We were able to generate estimated graduation rates using the CPI method in 835 schools in 2002-03, 850 in 2003-04, 881 in 2004-05 and

894 in 2005-06. Tables 5-8 through 5-11 show schools eliminated from the study with CPI scores > 1.2. Each table uses the appropriate CPI variables to calculate an estimated graduation rate for the graduation year reported. In Table 5-8, for example we calculated the 2002-03 estimated rates using the following variables: Grade 9 enrollment 2002-03, Grade 10 enrollment 2002-03, Grade 10 enrollment 2003-04, Grade 11 enrollment 2002-03, Grade 11 enrollment 2003-04, Grade 12 enrollment 2002-03, Grade 12 enrollment 2003-04, and Grade 12 Graduates 2002-03.

Table 5-8: Schools in 2002-03 with CPI Estimated Graduation Rate Scores >1.2

County Office of Education	Enrollment ALL Students 2002-03CPI Graduation Rate Estimates						High School Graduates	Graduation Estimates	
	2002-03 Grade 9	2002-03 Grade 10	2003-04 Grade 10	2002-03 Grade 11	2003-04 Grade 11	2002-03 Grade 12			2003-04 Grade 12
1.San Diego	524	3	418	3	4	8	16	11	7.80
2.San Diego	521	816	843	686	662	624	619	648	1.23
3.Madera	6	3	7	8	5	6	4	8	1.30
4.Glenn	6	14	8	12	15	12	12	13	1.55
5.Modoc	16	14	18	17	13	15	21	16	1.38
6.Humboldt	30	46	36	45	49	39	48	39	1.36
7.Siskiyou	17	25	25	21	22	36	23	34	1.34
8.Tuolumne	13	18	15	12	23	13	18	12	2.04
<b>Total N</b>	<b>8</b>	<b>8</b>	<b>8</b>	<b>8</b>	<b>8</b>	<b>8</b>	<b>8</b>	<b>8</b>	<b>8</b>

Table 5-8 shows the schools (school names removed and only county names are included) with CPI scores > 1.2 in the year 2002-03. There were a total of eight schools that exceeded the CPI rate of >1.2. All eight schools demonstrated conditions of fluctuating enrollment in the variable years or enrollments that may indicate a new, reorganized or specialized school structure. A case in point is the first school in San Diego County. The enrollment of 524 students in grade 9 in 2002-03 is higher than all other years and enrollment in grade 10 in 2003-04 dropped to 418 students. The data files show this to be a new school that opened in 2002-03, initially with a larger ninth-grade class and smaller student numbers enrolled in the three other grades. However, the school had the data components required to compute the calculations of the CPI method and generated an inflated score of 7.80. The CPI estimated value for 2002-03 was 7.80, or a graduation rate estimate of 780%.

Other conditions that generate high scores are small numbers of enrollment, fluctuations of year-to-year enrollments and the variables used to calculate the CPI method. The CPI method only looks at the enrollment in the last two years of a four-year cohort. In Table 5-8, the two years are 2002-03 and 2003-04. As an example, we calculate the CPI graduation rate for school number one in San Diego County using the following steps: Step 1 in the CPI algorithm divides 10<sup>th</sup> grade enrollments in 2003-04 (418) by the 9<sup>th</sup> grade enrollment in 2002-03 (524). Step 2 divides the 11<sup>th</sup> grade enrollments in 2003-04 (4) by the 10<sup>th</sup> grade enrollments in 2002-03(3). Step 3 divides 12<sup>th</sup> grade enrollment in 2003-04 (16) by the 11<sup>th</sup> grade enrollment in 2002-03 (3). Step 4 divides graduates in 2002-03 (11) by grade 12 enrollments in 2002-03(8). The results of steps 1, 2, 3 and 4 are then all multiplied to equal the CPI estimated graduation rates. The above calculation would result in the following mathematical equation:

Step 1:  $418 / 524 = 0.7977$

Step 2:  $4/3 = 1.3333$

Step 3:  $16/3 = 5.3333$

Step 4:  $11/8 = 1.375$

Step 5:  $0.7977 \times 1.3333 \times 5.3333 \times 1.375 = 7.7994$  rounded to 7.80

CPI scores are also impacted by having a higher number of graduates than students enrolled in grade 12 for that year. Table 5-8 shows that School 2 in San Diego County had 624 students enrolled in grade 12 in 2002-03; however, 648 students graduated that year. Madera, Glenn and Modoc Counties showed similar patterns in the 2002-03 school year of having higher numbers of graduates than student enrolled in grade 12 the same year. Table 5-9 shows 2003-04 CPI graduation rates for all (male and females, all ethnicities) students in schools with CPI scores  $> 1.2$ .

Table 5-9: Schools in 2003-04 with CPI Estimated Graduation Rate Scores  $> 1.2$

County Office of Education	Enrollment ALL Students 2003-04CPI Graduation Rate Estimates						High School Graduates	Graduation Estimates	
	2003-04 Grade 9	2003-04 Grade 10	2004-05 Grade 10	2003-04 Grade 11	2004-05 Grade 11	2003-04 Grade 12	2004-05 Grade 12	2003-04 H SG	2003-04 ALL CPI
1.San Diego	8	11	21	21	28	27	13	58	8.89
2.San Diego	719	418	624	4	536	16	9	16	2.50
3San Diego	458	913	819	949	900	642	693	##	1.22
4.San Diego	558	843	810	662	734	619	666	##	1.24
5.Sierra	10	5	14	10	7	9	11	8	1.92
6.Inyo	8	5	8	10	7	3	10	3	1.40
<b>Total N</b>	<b>6</b>	<b>6</b>	<b>6</b>	<b>6</b>	<b>6</b>	<b>6</b>	<b>6</b>	<b>6</b>	<b>6</b>

Table 5-9 shows the six schools with CPI scores  $> 1.2$  in the year 2003-04. The first school in the table was also in San Diego County and shows the highest CPI scores of 8.89 or estimated graduation rates of 889%. Although the student enrollment numbers are low, they continue to show the impact of having more high school graduates in 2003-04 than grade 12 students enrolled in the same year. Schools 3 and 4 in San Diego County show a blank field in the CDE database in the category of high school graduates in 2003-04. This could represent data not reported at the local level, district reorganization or the implementation of a district policy. Schools 2, 5 and 6 show the fluctuations of increases and decreases in year-to-year enrollment that also impact the calculations of the CPI formula.



Table 5-11 continues to show patterns seen in previous tables. What we notice in Table 5-11 is that the locations of the schools with CPI scores higher than 1.2 are not relegated to any particular part of the state. Schools with CPI scores greater than 1.2 are in the southern, central, coastal, northern, central valleys, foothill and border counties. In all of the tables, 5-8 through 5-11, we find schools that represent multiple sections of the state. San Diego County in the southern part of the state had ten schools with CPI scores >1.2 that were excluded from this study.

## 5.2 Graduation Rate Data by School Size

Table 5-12 provides a comparison of the reported results of graduation rate means for the CPI and NCES methods for schools grouped by size of student enrollment for each of the four years of the study. Group 1 represents schools with student enrollments between six and 1199; we call these small schools. Group 2 schools are designated as medium sized schools with student enrollments of 1200-2391. Group 3 schools are moderately large schools, which show enrollments of 2392-3579. Finally, Group 4 schools are considered large schools for this study with student enrollments of 3580-4775. Table 5-12 also provides the CPI and NCES total mean graduation rate estimates for all four years.

Table 5-12: Comparison of CPI and NCES Mean Graduation Rates for ALL Students by Size of School Enrollment

Grouped by Size of School Enrollment	Year	N	CPI Mean Graduation Rate	SD	CPI Total Mean	NCES Mean Graduation Rate	SD	NCES Total Mean
<b>Group 1</b> (6-1199)	2002-03	188	73%	.17	69%	94%	.08	94%
	2003-04	194	71%	.18		95%	.06	
	2004-05	212	68%	.17		95%	.06	
	2005-06	216	66%	.19		94%	.08	
<b>Group 2</b> (1200-2391)	2002-03	218	73%	.13	70%	93%	.07	93%
	2003-04	220	70%	.15		93%	.07	
	2004-05	223	71%	.14		93%	.08	
	2005-06	224	69%	.14		92%	.08	
<b>Group 3</b> (2392-3579)	2002-03	217	72%	.14	70%	93%	.07	93%
	2003-04	220	71%	.16		93%	.08	
	2004-05	223	70%	.16		93%	.08	
	2005-06	227	68%	.16		92%	.09	
<b>Group 4</b> (3580-4775)	2002-03	212	67%	.17	66%	88%	.12	88%
	2003-04	216	68%	.18		89%	.13	
	2004-05	223	66%	.19		88%	.12	
	2005-06	227	64%	.19		88%	.12	

Table 5-12 results indicate that the number of schools reporting graduates increased each year in all four Groups. Group 1 results show that in 2002-03 188 schools reported graduates, by 2005-06 the number had increased to 216 schools. Groups 2, 3 and 4 followed the same trend of the number of schools reporting graduates increasing each of the four years; each of these groups show an approximate 9% increase in the number of schools from 2002-03 to 2005-06.

The CPI total mean graduation rate estimate for Group 1 was 69% in 2002-03. The following two years the rate was 70% and in year 4, the total mean graduation estimate fell to 66%. The CPI total mean varies from 1% to 4% among the four groups. The NCES total mean graduation rate for Group 1 was 94%. For Groups 2 and 3 the total means were the

same at 93%. Group 4 dropped to 88%. NCES total means comparison of the four Groups show that small schools in Group 1 had higher rates, and as the size of student enrollment increased in each group the total mean rates declined.

Tables 5-13 and 5-14 show the year-to-year trends in estimated graduation rates for the CPI and NCES methods compared to the NCLB base year in 2002-03.

Table 5-13: CPI Graduation Rate Trends for ALL Students by Year and Group

Year	CPI Group1 Enrollment 6-1199	CPI Group 2 Enrollment 1200-2391	CPI Group 3 Enrollment 2392-3579	CPI Group 4 Enrollment 3580-4775	Trend in percentage change in graduation rates
2002-03	73%	73%	72%	67%	NCLB Base
2003-04	71%	70%	71%	*68%	* Increase/Decrease
2004-05	68%	*71%	70%	66%	*Increase/Decrease
2005-06	66%	69%	68%	64%	Decrease below base rate

Table 5-14: NCES Graduation Rate Trends for ALL Students by Year and Group

Year	NCES Group1 Enrollment 6-1199	NCES Group 2 Enrollment 1200-2391	NCES Group 3 Enrollment 2392-3579	NCES Group 4 Enrollment 3580-4775	Trend in percentage change in graduation rates
2002-03	94%	93%	93%	88%	NCLB Base
2003-04	95%	*93%	*93%	89%	*No Change/Increase
2004-05	95%	*93%	*93%	88%	*No change/Decrease
2005-06	94%	92%	92%	88%	Decrease below base rate

Table 5-13 CPI results produced frequent year-to-year fluctuations. We see that in 2002-03, the CPI result for Group 1 was 73%. In 2003-04 the rate dropped to 71%, in 2004-05 the rate fell again to 68%, and in 2005-06 rates decreased to 66%. This same pattern of yearly declining rates through 2005-06 held for Group 3 as well. The exceptions were Groups 2 and 4, wherein Group 2 rates increased in 2004-05 by 1% over the previous year then dropped in 2005-06. In Group 4, rates increase by 1% in 2003-04 over the base year then fell each year after. All groups had lower rates in 2005-06 than the base year in 2002-03.

NCES results in Table 5-14 display a different trend in year-to-year rates. Group 1 shows a base graduation rate in 2002-03 of 94%. Rates increased in 2003-04 to 95% and remained at that rate in 2004-05 to but reverted back to the 2002-03 base rates of 94% in 2005-06. Groups 2 and 3 kept an estimated graduation rate of 93% for the first three years and then fell by 1% (92%) in 2005-06, below the base rate in of 93%. Group 4 started with an estimated rate of 88% in 2002-03; the rate increased to 89% in 2003-04 and then fell back to 88% for the remaining two years. Group 4 is the only group not to fall below the base rate of 2002-03.

The lowest year-to-year graduation rates for either method were found during the 2005-06 school year for all groups. The one exception was the NCES rate for Group 4 in 2005-06. In 2005-06, the NCES graduation rate of 88% was the same as its base rate in 2002-03.

Once again we look at the rate between the two later years for comparison. Table 5-15 and 5-16 present data on the comparison of graduation rates between 2004-05 and 2005-06 for both methods

Table 5-15 CPI Graduation Rate Trends by Group – 2004-05 and 2005-06

Year	CPI Group1 Enrollment 6-1199	CPI Group 2 Enrollment 1200-2391	CPI Group 3 Enrollment 2392-3579	CPI Group 4 Enrollment 3580-4775
2004-05	68%	71%	70%	66%
2005-06	66%	69%	68%	64%
Difference in rates	<b>-2%</b>	<b>-2%</b>	<b>-2%</b>	<b>-2%</b>

Table 5-16 NCES Graduation Rate Trends by Group – 2004-05 and 2005-06

Year	NCES Group1 Enrollment 6-1199	NCES Group 2 Enrollment 1200-2391	NCES Group 3 Enrollment 2392-3579	NCES Group 4 Enrollment 3580-4775
2004-05	95%	93%	93%	88%
2005-06	94%	92%	92%	88%
Difference in rates	<b>-1%</b>	<b>-1%</b>	<b>-1%</b>	<b>-0%</b>

Table 5-15 shows that there was a 2% difference in the CPI graduation rate estimates for all groups between the years of 2004-05 and 2005-06. Rates decreased for Group 1 from 68% in 2004-05 to 66% in 2005-06. Group 2 fell from 71% to 69% in those years, Group 3 declined from 70% to 68% and Group 4, where student enrollments are the highest, decreased from 66% to 64%.

Table 5-16 also provides the results for NCES graduation rates for the later two years of the study. There was a 1% decrease in the rates from 2004-05 to 2005-06 for Groups 1, 2 and 3. Group 4 showed no change in rates between the two years. Rates for Group 1 decreased from 95% in 2004-05 to 94% in 2005-06. Groups 2 and 3 decreased from 93% in those years to 92%. Group 4 remained at 88% for both years.

Figures 5-4 through 5-7 provide graphic presentations of the data presented in Table 5-5 by group. The horizontal axis of each Figure shows the graduation rate for both the CPI and the NCES methods for each year from 2002-03 through 2005-06. The vertical axis provides the range of the mean percentage graduation rate. Figure 5-4 represents Group 1 schools with student enrollments of 6-1100, Figure 5-5 corresponds to Group 2 schools with student enrollments of 1200-2391, Figures 5-6 denotes Group 3 schools with student enrollments of 2392-3579 and Figure 5-7 covers Group 4 schools with enrollments of 3580-4775

Figure 5-4 CPI and NCES Mean Graduation Rates for Group 1 (Student Enrollment 6-1199)

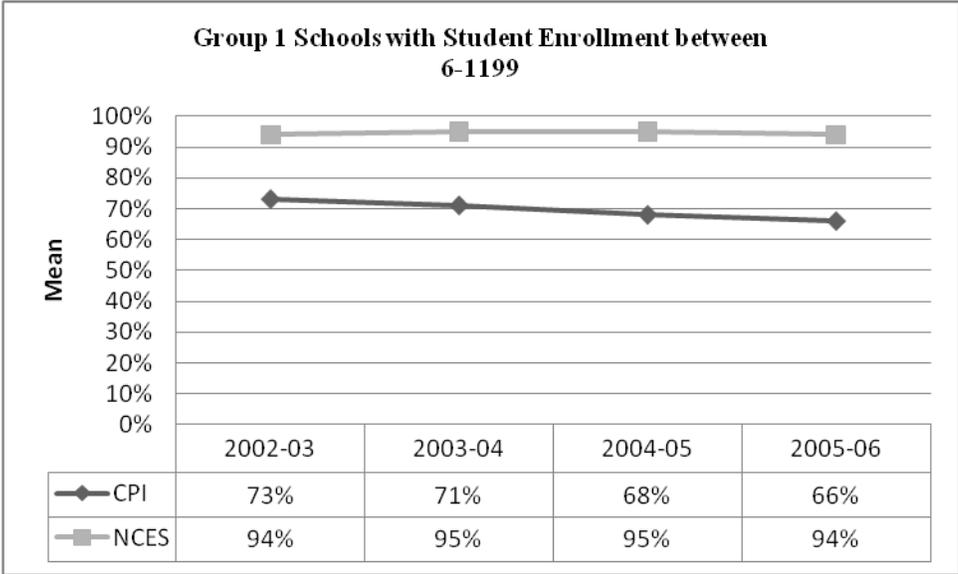


Figure 5-5: CPI and NCES Mean Graduation Rates for Group 2 (Student Enrollment 1200-2391)

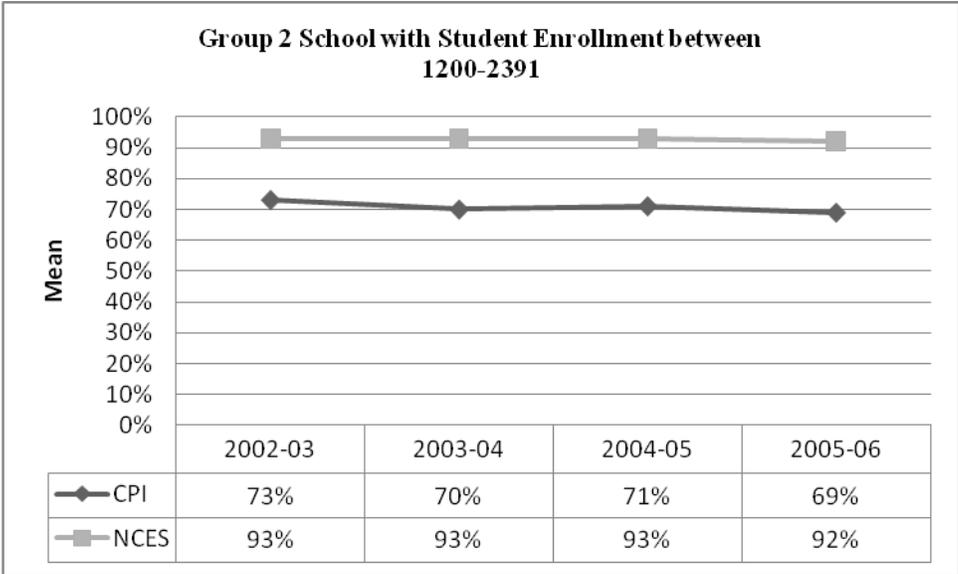


Figure 5-6: CPI and NCES Mean Graduation Rates for Group 3  
(Student Enrollment 2392-3579)

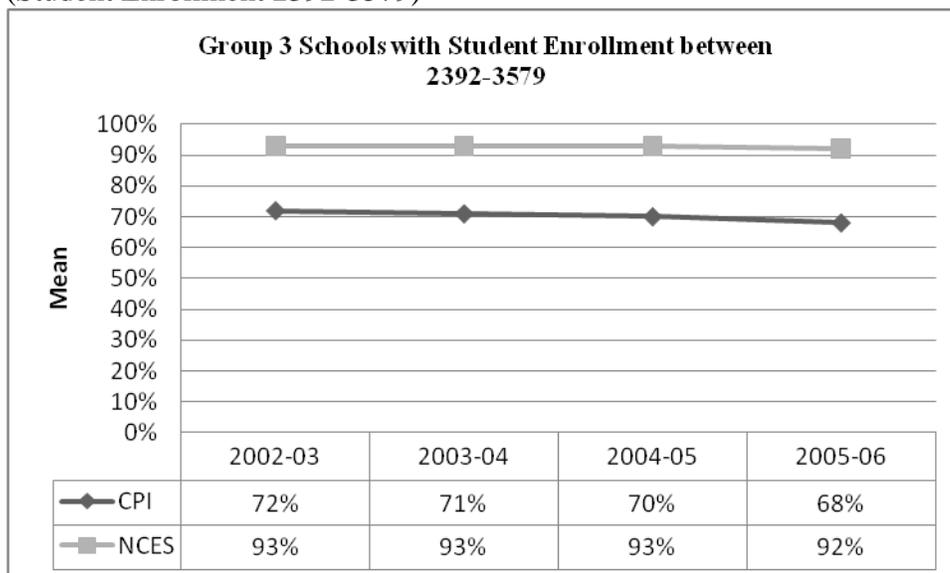
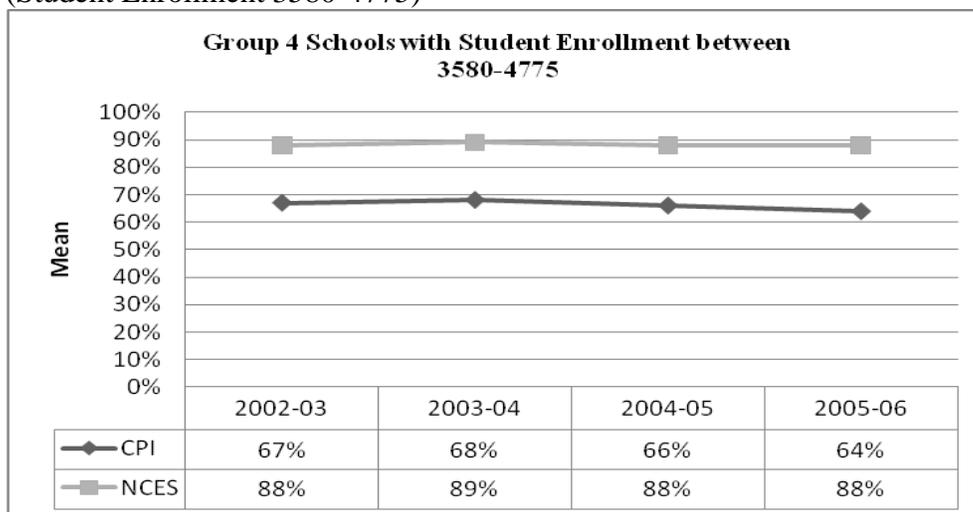


Figure 5-7: CPI and NCES Mean Graduation Rates for Group 4  
(Student Enrollment 3580-4775)



Tables 5-17 and 5-18 provide the CPI and NCES graduation rate results for White students divided into four groups by size of student enrollment. The groups were organized by dividing the schools reporting graduates into equal quartiles based on size of student enrollment. Each group shows the number of schools reporting graduates by year, the CPI and NCES graduation rate for females and males by year and the CPI and NCES total mean graduation rate.

## White Graduation Rates Estimates Grouped by Size of School

Table 5-17: CPI and NCES Mean Graduation Rates for White Females  
Grouped by Size of Student Enrollment

Size of Student Enrollment	White Females							
	Year	N	CPI	SD	Total CPI Mean	NCES	SD	Total NCES Mean
Group 1 (6-1199)	2002-03	149	69%	.28	68%	97%	.05	97%
	2003-04	155	63%	.24		97%	.06	
	2004-05	176	71%	.20		97%	.08	
	2005-06	158	67%	.26		97%	.07	
Group 2 (1200-2391)	2002-03	200	69%	.22	71%	96%	.05	95%
	2003-04	206	71%	.23		96%	.07	
	2004-05	210	74%	.18		95%	.07	
	2005-06	202	71%	.24		95%	.08	
Group 3 (2392-3579)	2002-03	205	72%	.20	71%	96%	.05	95%
	2003-04	211	71%	.21		95%	.07	
	2004-05	215	74%	.18		96%	.06	
	2005-06	212	68%	.23		95%	.07	
Group 4 (3580-4775)	2002-03	191	71%	.22	69%	94%	.08	93%
	2003-04	201	69%	.22		93%	.11	
	2004-05	205	70%	.21		93%	.09	
	2005-06	201	68%	.22		92%	.10	

Table 5-18: CPI and NCES Mean Graduation Rates for White Males  
Grouped by Size of Student Enrollment

Size of Student Enrollment	White Males							
	Year	N	CPI	SD	Total CPI Mean	NCES	SD	Total NCES Mean
Group 1 (6-1199)	2002-03	156	63%	.26	65%	96%	.08	95%
	2003-04	149	65%	.25		96%	.07	
	2004-05	177	68%	.22		95%	.09	
	2005-06	170	64%	.26		94%	.11	
Group 2 (1200-2391)	2002-03	203	67%	.25	67%	93%	.10	93%
	2003-04	205	65%	.24		94%	.10	
	2004-05	208	70%	.19		93%	.10	
	2005-06	206	66%	.21		93%	.09	
Group 3 (2392-3579)	2002-03	203	66%	.23	66%	94%	.09	94%
	2003-04	211	65%	.23		94%	.09	
	2004-05	214	68%	.17		95%	.07	
	2005-06	214	66%	.23		93%	.11	
Group 4 (3580-4775)	2002-03	198	64%	.23	63%	90%	.13	90%
	2003-04	196	64%	.23		90%	.13	
	2004-05	208	64%	.20		90%	.13	
	2005-06	209	63%	.23		90%	.12	

In Table 5-17 we examine schools grouped according to size of student enrollment reporting White graduates. The number of schools ranged from 149 to 215. In Group 1, there were fewer than 180 schools in any year for either gender. Groups 2 and 3 contained schools between 200 and 214. In Group 4 there were 191 schools reporting White female graduates in 2002-03. The number increases above 200 for the remaining three years. There were 198 schools reporting White male graduates in 2002-03 and 196 in 2003-04. The number of schools increases above 200 in 2004-05 and 2005-06.

We see that in each group the number of schools increased from 2002-03 through 2004-05. In 2005-06, the number of schools declined from the previous year in Groups 1 and 2. In Group 3, the number of schools reporting White male graduates in 2005-06 remained the same as 2004-05. The largest number of schools reporting White graduates was 209 in 2005-06 for White males. Group 1 showed the greatest decline, with seven fewer schools reporting graduates for both White females and males.

### *CPI Results for White Students*

The CPI algorithm produced results that show White females graduated at higher rates than white males in all groups and in all years. In Table 5-17, the CPI total mean for White females in Group 1 was 68% and for White males it was 65%. In Group 2 and 3 the CPI total mean for White females was 71%; for males there was a 1% difference between Group 2 and 3 in CPI total mean with Group 2 at 67% and Group 3 at 66%. Group 4 CPI total mean for White females was 69% and for White males it was 63%.

Table 5-19: CPI White Female Graduation Rate Trends by Year in Groups 1, 3 and 4

Year	Group 1 Enrollment 6-1199	Group 3 Enrollment 2392-3579	Group 4 Enrollment 3580-4775	Trend in percentage change in graduation rates
2002-03	69%	72%	71%	NCLB Base
2003-04	63%	71%	69%	Decrease
2004-05	71%	74%	70%	Increase
2005-06	67%	68%	68%	Decrease below base rate
% change from 04-05 to 05-06	-4%	-6%	-2%	

Table 5-19 shows the year-to-year variations in CPI graduation rate estimates for White Females in Group 1, 3 and 4. We see that in the base year the estimated rates for Group 1 was 69%, in Group 3 the rate was 72% and in Group 4 results were 71%. In 2003-04 the CPI rates declined from the base year, increased in 2004-05 and then declined again in 2005-06 below the NCLB base rates. In Group 1, schools with small student enrollments, we see the greatest variation. In 2003-04 rates were 6% lower than 2002-03 rates; the rates increase 8% in 2004-05 from the previous year and then decline 4% in 2005-06.

Table 5-20: CPI White Female Graduation Rate Trend for Group 2 Schools

Year	Group 2 Enrollment (1200-2391)	Trend in percentage change in graduation rates
2002-03	69%	NCLB Base
2003-04	71%	Increase
2004-05	74%	Increase
2005-06	71%	Decrease but not below base rate
% change from 04-05 to 05-06	-3%	

Table 5-20 shows that White females in Group 2 schools with enrollments ranging between 1200-2391 showed an increase in graduation rates in years 2003-04 and 2004-05 but then declined in the 2005-06 school year. Rates in 2005-06 also fell below the base in 2002-03.

Tables 5-20 and 5-21 are highlighted to show that, for all groups, the CPI rate declined in 2005-06 from the previous year of 2004-05. Group 1 declined by 4%, Group 2 decreased 3%, Group 3 declined the most by 6% and Group 4 fell by 2%.

Table 5-21: CPI White Male Graduation Rate Group Comparisons

Year	Group 1 Enrollment 6-1199	Group 2 Enrollment 1200-2391	Group 3 Enrollment 2392-3579	Group 4 Enrollment 3580-4775
2002-03	63%	67%	66%	64%
2003-04	65%	65%	65%	64%
2004-05	68%	70%	68%	64%
2005-06	64%	66%	66%	63%
% change from 04-05 to 05-06	-4%	-4%	-2%	-1%

CPI results for White males in Table 5-21 show that 99% of White male graduation rates were within the 60<sup>th</sup> percentile according CPI methods. The lowest CPI graduation rate for White males was 63% for Group 1 in 2002-03 and Group 4 in 2005-06. The highest CPI graduation rate was 70% for Group 2 in 2004-05.

CPI rates in 2005-06 declined from the previous year for all groups as they did for females. The percentage of change for each group is as follows: Group 1 and 2 declined by 4%, Group 3 fell by 2% and Group 4 decreased by 1%.

### *NCES Results for White Students*

NCES results for White female and male students overall produce higher graduation rates than those derived from applying the CPI method to the data. In all years and groups the NCES rate was above 90% for both female and male students. Small schools in Group 1, with enrollments of 6-1199 students, showed the highest estimated graduation rates in each of the four years across all groups. Conversely, Group 4, large school with enrollments between

3580-4775, produced the lowest rates again for both female and male students. Tables 5-22 and 5-23 provide a focused view of the NCES results for White females and males:

Table 5-22: NCES White Female Graduation Rate Trends by Group and Year

Year	Group 1 Enrollment 6-1199	Group 2 Enrollment 1200-2391	Group 3 Enrollment 2392-3579	Group 4 Enrollment 3580-4775
2002-03	<b>97%</b>	96%	96%	94%
2003-04	<b>97%</b>	96%	95%	93%
2004-05	<b>97%</b>	95%	96%	93%
2005-06	<b>97%</b>	95%	95%	92%
% change from 04-05 to 05-06	0%	0%	-1%	-1%

Table 5-22 highlights the NCES results for White females: Graduation rate estimates of 97% for Group 1 were the highest of all four years. The table shows that as the size of student enrollment increases in schools, the graduation rate decreases for White females. Group 2 shows a 96% graduation rate for 2002-03 and 2003-04 and 1% decrease to 95% in 2004-05. Estimates in 2005-06 remained at 95%. Group 3 estimates declined from the base by 1% in 2003-04, increased again by 1% in 2004-05 and then declined again by 1% in 2005-06. Group 4 results show a decline in graduation rates over the course of the four years but remained in the 90<sup>th</sup> percentile.

A trend that will be discussed in more detail in Chapter 6 is a decline in graduation rates between 2004-05 and 2005-06. In the case of NCES results for White females, Groups 3 and 4 indicate a decline in graduation rates in 2005-06 from 2004-05; however, Groups 1 and 2 rates were the same in 2005-06 as they were in 2004-05. Table 5-23 present data on the 2005-06 decline in rates from 2004-05 for White males and examines graduation rates trends by group and year

Table 5-23: NCES White Male Graduation Rate Trends by Group and Year

Year	Group 1 Enrollment 6-1199	Group 2 Enrollment 1200-2391	Group 3 Enrollment 2392-3579	Group 4 Enrollment 3580-4775
2002-03	<b>96%</b>	93%	94%	90%
2003-04	<b>96%</b>	94%	94%	90%
2004-05	<b>95%</b>	93%	95%	90%
2005-06	<b>94%</b>	93%	93%	90%
Total % change 04-05 to 05-06	-1%	0%	-2%	0%

The NCES results produced a 90% to 96% graduation rates in all four years for White males. Similar to results for White females, Group 1 showed the highest NCES estimated graduation rate for White males across all groups. However unlike White females in Group 1, where estimated rates remained the same, NCES White male results show a pattern of declining rates over the course of the four years. The base rate for Group 1 in 2002-03 was 96%; the rate maintained at 96% in 2003-04; decreased by 1% to 95%, in 2004-05 and then decreased another 1% to 94% in 2005-06. Even though the rates for White males in Group 4

were lower than White females, there was less fluctuation from year to year. White males maintained a 90% NCES estimated graduation rate for all four years in this group.

The pattern we are following regarding a decline in 2005-06 rates from the previous year of 2004-05 is present in two of the four groups for NCES White male estimated rates in Table 5-23. Groups 2 and 4 results produced no change in the rate from the 2004-05 year to the 2005-06 year. In Group 1, there was a 1% decline and Group 3 shows a 2% decrease between 2004-05 and 2005-06.

### African American Graduation Rates Estimates Grouped by Size of School

Tables 5-24 and 5-25 provide the CPI and NCES graduation rate results for African American students, divided into four groups by size of student enrollment. The groups were organized by dividing the schools reporting graduates into equal quartiles based on size of student enrollment. Each group shows the number of schools reporting graduates by year, the CPI and NCES graduation rate for females and males by year and the CPI and NCES total mean graduation rate.

Table 5-24: Mean CPI and NCES Graduation Rates for African American Females Grouped by Size of School Enrollment

Size of School Enrollment	Year	N	African American Females					
			CPI	SD	Total CPI Mean	NCES	SD	Total NCES Mean
<b>Group 1</b> (6-1199)	2002-03	36	51%	.30		94%	.11	
	2003-04	33	54%	.30		90%	.16	
	2004-05	54	59%	.27		94%	.11	
	2005-06	57	51%	.31		93%	.13	
						<b>54%</b>		
<b>Group 2</b> (1200-2391)	2002-03	115	56%	.31		91%	.14	
	2003-04	117	54%	.30		91%	.13	
	2004-05	134	63%	.24		92%	.13	
	2005-06	128	52%	.28		90%	.14	
						<b>56%</b>		
<b>Group 3</b> (2392-3579)	2002-03	144	61%	.28		93%	.11	
	2003-04	154	59%	.28		93%	.11	
	2004-05	171	65%	.26		93%	.09	
	2005-06	159	54%	.28		89%	.14	
						<b>60%</b>		
<b>Group 4</b> (3580-4775)	2002-03	162	58%	.27		86%	.16	
	2003-04	161	61%	.28		88%	.15	
	2004-05	189	65%	.25		87%	.16	
	2005-06	183	58%	.29		86%	.16	
						<b>61%</b>		

Table 5-25: Mean CPI and NCES Graduation Rates for African American Males Grouped by Size of School Enrollment

Size of School Enrollment	Year	N	African American Males						
			CPI	SD	Total CPI Mean	NCES	SD	Total NCES Mean	
Group 1 (6-1199)	2002-03	35	48%	.24	49%	88%	.19	89%	
	2003-04	40	55%	.27		87%	.19		
	2004-05	61	54%	.31		94%	.13		
	2005-06	54	41%	.25		86%	.18		
Group 2 (1200-2391)	2002-03	116	56%	.30	52%	89%	.15	87%	
	2003-04	121	50%			90%			.18
	2004-05	137	54%			87%			.18
	2005-06	121	48%			83%			.19
Group 3 (2392-3579)	2002-03	143	54%	.28	53%	89%	.13	88%	
	2003-04	157	55%			89%			.15
	2004-05	170	56%			89%			.16
	2005-06	170	49%			86%			.16
Group 4 (3580-4775)	2002-03	162	55%	.26	54%	83%	.18	83%	
	2003-04	168	51%			82%			.19
	2004-05	186	57%			83%			.18
	2005-06	183	53%			83%			.18

Tables 5-24 and 5-25 show the wide range in the numbers of schools reporting African American graduates. Unlike White students, there were fewer than 200 schools reporting African American graduates for any group in any year. The smallest number of schools was for Group 1, where 33 schools reported African American female graduates in 2003-04, and the highest number was 57 schools in 2005-06. For African American males, Group 1 had the lowest number at 35 schools in 2002-03 and the highest number of schools was 61 in 2004-05. African American graduates were not highly represented in schools with smaller enrollments. There were more schools reporting African American graduates in schools with larger student enrollments.

#### *CPI Results for African American Students*

Table 5-26: CPI Difference in Total Mean Graduation Rate for African American Females and Males

	CPI Total Mean Female	CPI Total Mean Males	% Difference in CPI Total Mean between females and males
Group 1	54%	49%	-5%
Group 2	56%	52%	-4%
Group 3	60%	53%	-7%
Group 4	61%	54%	-7%

CPI results in Table 5-26 show that African American females had higher estimated graduation rates than African American males for all groups in all years. This was a trend

also seen with White females and males. Table 5-26 compares the reported CPI total mean graduation rates of African American females and males by group. The data show a 4% to 7% difference in the CPI total mean graduation rates, depending on the size of student enrollment. The smallest difference of 4% can be seen in Group 2 schools, where the enrollment is between 1200 and 2391. Group 1 schools with smaller student enrollment showed a 5% difference in the total mean between females and males. Group 3 and 4 showed the greatest difference of 7% between the genders in schools where the enrollments were larger.

According to the CPI results, African American males did not exceed the 50th percentile in estimated graduation rates regardless of the size of student enrollment. African American females were also in the 50th percentile and barely entered the 60th percentile, with a CPI total mean rate of 61% for Group 4.

Another emerging trend with the CPI method is that it generates a higher total mean in schools with larger student enrollments. Group 1, where student enrollments are smaller in reporting schools, had the lowest CPI total mean graduation rates for both genders. As the student enrollment in schools increases the CPI total mean also increases.

Tables 5-27 and 5-28 provide views of schools by size of student enrollment, with similar trends in CPI graduation rates for African American females.

Table 5-27: CPI African American Female Graduation Rate Trends by Year for Groups 1 and 4

Year	Group 1 Enrollment 6-1199	Group 4 Enrollment 3580-4775	Trend in percentage change from base year
2002-03	51%	58%	NCLB Base
2003-04	54%	61%	Increase
2004-05	59%	65%	Increase
2005-06	51%	58%	Returned to base

Table 5-28: CPI African American Female Graduation Rate Trends by Year for Groups 2 and 3

Year	Group 2 Enrollment 1200-2391	Group 3 Enrollment 2392-3579	Trend in percentage change in graduation rates
2002-03	56%	61%	NCLB Base
2003-04	54%	59%	Decrease
2004-05	63%	65%	Increase
2005-06	52%	54%	Decreased below base

In Table 5-27, we see that CPI graduation rate estimates for Groups 1 and 4 increased for two years after the NCLB base rate was established in 2002-03. Rates then declined in 2005-06, returning to the same rates seen in the base year.

In Table 5-28, for Groups 2 and 3 we find that once the base rates were established in 2002-03 the rates declined the following year (2003-04), increased the third year (2004-05), and finally fell below base in the fourth year (2005-06). The highest graduation rate estimate

(65%) for all groups was in 2004-05 for Group 3 and the lowest estimate (51%) for all groups was in 2005-06 for Group 1.

Table 5-29 provides data in the highlighted areas that follows a trend of a decline in graduation rates between 2004-05 and 2005-06

**Table 5-29: CPI African American Female Graduation Rate Comparison between 2004-05 and 2005-06**

Year	Group1 Enrollment 6-1199	Group 2 Enrollment 1200-2391	Group 3 Enrollment 2392-3579	Group 4 Enrollment 3580-4775
2004-05	59%	63%	65%	65%
2005-06	51%	52%	54%	58%
Total % change 04-05 to 05-06	-8%	-11%	-11%	-7%

The results of Table 5-29 show that graduation rates declined in all groups between 2004-05 and 2005-06 for African American females. Group 1 declined by 8%, Group 2 and 3 declined 11%, and Group 4 declined 7%.

**Table 5-30: CPI African American Male Graduation Rate Trends by Year and Group**

Year	Group1 Enrollment 6-1199	Group 2 Enrollment 1200-2391	Group 3 Enrollment 2392-3579	Group 4 Enrollment 3580-4775	Trend in percentage change from NCLB base year
2002-03	48%	56%	54%	55%	Base
2003-04	55%	50%	55%	51%	Increase
2004-05	54%	54%	56%	57%	Increase
2005-06	41%	48%	49%	53%	Decreased below base rate
Total % change 04-05 to 05-06	-13%	-6%	-7%	-4%	

Table 5-30 shows that CPI results for African American males follow a similar trend across all groups. Estimated graduation rates increase for each of the two years (2003-04 and 2004-05) following base rates established in 2002-03. Rates then decline in 2005-06 below 2002-03 base rates.

Once again the data shows a pattern that CPI graduation rates declined between 2004-05 and 2005-06 for African American males, as they did for African American females. However, for males the greatest declines were in Group 1, schools with small student enrollments. Group 1 showed a 13% decrease between the years 2004-05 and 2005-06, Group 2 a 6% decrease, Groups 3 had a 7% decline and Group 4, schools with the largest student enrollment, had the lowest decrease of 4%.

African American males are the only ethnic group to fall below that 50<sup>th</sup> percentile in any year and any group for the CPI estimated graduation rate. In 2005-06 African American males in Group 1 generated a CPI estimated graduation rate of 41%, in Group 2 the CPI results were 48% and Group 3 produced an estimated rate of 49%.

NCES results for African American students, similar to White students, produced overall higher graduation rates than those derived from applying the CPI method to the data. Table 5-25 shows that the NCES method produced graduation rates for African American students in the 80<sup>th</sup> and 90<sup>th</sup> percentile in all groups. Tables 5-31 and 5-32 consolidate the NCES graduation data for African American graduates from Table 5-23.

Table 5-31: NCES African American Female Graduation Rate Trends by Group and by Year

Year	Group 1 Enrollment 6-1199	Group 2 Enrollment 1200-2391	Group 3 Enrollment 2392-3579	Group 4 Enrollment 3580-4775
2002-03	94%	91%	93%	86%
2003-04	90%	91%	93%	88%
2004-05	94%	92%	93%	87%
2005-06	93%	90%	89%	86%
Total Mean	93%	91%	92%	87%

Table 5-31 shows that the NCES total mean graduation rates for African American females was the highest in Group 1 at 93%. NCES results for moderately large schools in Group 3 produced the second highest total mean of 92%, Group 2 medium sized schools results were at 91% and the lowest total mean was in Group 4 at 87%.

We also see in Table 5-31 that year-to-year graduation rate estimates for Group 1 declined by 4% in 2003-04 from the NCLB base in 2002-03; they then increased by 4% in 2004-05 and finally decreased to 93% in 2005-06. Groups 2 and 3 experienced no change from the 91% base rate in 2002-03 to 2003-04; the rates increased 1% to 92% in 2004-05 and decreased by 2%. Lastly, the 2003-04 rates in Group 4 increased by 2% from 86% to 88% from the 2002-03 NCLB bases. This appears to be the opposite of group results generated by applying the CPI method to the data

The shaded areas in Table 5-31 show NCES rates for 2004-05 and 2005-06. Once again we can see the decline in graduation rates in 2005-06 from the previous year across all groups. In the case of NCES results for African American females, the percent change ranged from 1% to 4%. School with the smallest and the largest student enrollment reflected a 1% change. Group 1 declined from 94% to 93% and Group 4 declined from 87% to 86%. Group 3 declined the most by 4%, moving from 93% in 2004-05 to 89% in 2005-06. Group 2 declined from 92% to 90%, reflecting a 2% decline.

Table 5-32 continues to track graduation rate trends by group and year for African American males.

Table 5-32: NCES African American Male Graduation Rate Trends by Group and by Year

Year	Group 1 Enrollment 6-1199	Group 2 Enrollment 1200-2391	Group 3 Enrollment 2392-3579	Group 4 Enrollment 3580-4775
2002-03	88%	89%	89%	83%
2003-04	87%	90%	89%	82%
2004-05	94%	87%	89%	83%
2005-06	86%	83%	86%	83%
Total Mean	89%	87%	88%	83%

Table 5-32 shows that the NCES method produced graduation rates for African American males in the 80<sup>th</sup> and 90<sup>th</sup> percentile in reporting schools. The NCES total mean graduation rates was the highest in Group 1 at 89%. Group 3 produced the second highest total mean of 88%, Group 2 schools were at 87% and the lowest total mean was in Group 4 at 83%. Table 5-30 shows that in three of the four groups (Groups 1-3) African American male graduation rates in 2005-06 fell below the 2002-03 base year rate. The rate in Group 4 in 2005-06 was the same as the 2002-03 rate.

As with African American females, Table 5-32 shows there is a decline in graduation rates in 2005-06 from the previous year across three of the four groups. The shaded areas highlight the NCES graduation results for those years. The percentage of change ranged from 0% to 8%. Schools in Group 1, with the smallest student enrollment, reflected the greatest change of 8%, shifting downward from 94% to 86%. Groups 2 declined by 4% from 87% in 2004-05 to 83% in 2005-06. Group 3 declined from 92% to 90%, reflecting a 2% decline; and Group 4 schools with the largest student enrollment did not show a change from the 2004-05 the NCES rate of 83%.

### Hispanic Graduation Rates Estimates Grouped by Size of School

Tables 5-33 and 5-34 provide the CPI and NCES graduation rate results for Hispanic students divided into four groups by size of student enrollment. The groups were organized by dividing the schools reporting graduates into equal quartiles based on size of student enrollment. Each group shows the number of schools reporting graduates by year, the CPI and NCES graduation rate for females and males by year and the CPI and NCES total mean graduation rate.

Table 5-33: Mean CPI and NCES Graduation Rates for Hispanic Females Grouped by Size of School Enrollment

Size of School Enrollment	Year	N	Hispanic Females					
			CPI	SD	Total CPI Mean	NCES	SD	Total NCES Mean
Group 1 (6-1199)	2002-03	124	62%	.28	64%	94%	.10	94%
	2003-04	123	67%	.24		95%	.10	
	2004-05	168	66%	.23		96%	.08	
	2005-06	150	63%	.26		92%	.11	
Group 2 (1200-2391)	2002-03	187	66%	.23	66%	91%	.10	91%
	2003-04	197	69%	.24		91%	.10	
	2004-05	213	68%	.18		92%	.09	
	2005-06	198	60%	.21		91%	.09	
Group 3 (2392-3579)	2002-03	202	67%	.21	67%	92%	.08	91%
	2003-04	200	70%	.20		92%	.08	
	2004-05	220	68%	.19		92%	.08	
	2005-06	217	65%	.22		90%	.10	
Group 4 (3580-4775)	2002-03	203	69%	.21	67%	88%	.11	88%
	2003-04	203	69%	.21		89%	.11	
	2004-05	216	66%	.20		88%	.11	
	2005-06	217	63%	.23		87%	.11	

Table 5-34: Mean CPI and NCES Graduation Rates for Hispanic Males Grouped by Size of School Enrollment

Size of School Enrollment	Year	N	Hispanic Males					
			CPI	SD	Total CPI Mean	NCES	SD	Total NCES Mean
Group 1 (6-1199)	2002-03	132	63%	.27	59%	90%	.14	91%
	2003-04	142	61%	.26		92%	.11	
	2004-05	173	59%	.23		91%	.12	
	2005-06	153	54%	.30		90%	.13	
Group 2 (1200-2391)	2002-03	196	59%	.	58%	90%	.11	88%
	2003-04	203	61%	.24		88%	.11	
	2004-05	206	59%	.19		89%	.12	
	2005-06	204	54%	.21		87%	.13	
Group 3 (2392-3579)	2002-03	210	61%	.	59%	90%	.10	89%
	2003-04	206	59%	.20		90%	.10	
	2004-05	219	59%	.20		89%	.12	
	2005-06	218	57%	.25		87%	.12	
Group 4 (3580-4775)	2002-03	206	59%	.	58%	83%	.15	83%
	2003-04	209	61%	.23		84%	.15	
	2004-05	218	57%	.21		84%	.14	
	2005-06	221	55%	.23		83%	.14	

The table shows a range of 124 to 221 schools reporting graduates that we could apply the CPI and NCES algorithms to their data to generate reportable graduation rates. Group 1

had the lowest number of reporting schools for both females and males. Between 2002-03 and 2003-04 there were fewer than 175 schools generated from either method. The largest number of schools in Group 1 was in 2004-05, where 168 reported Hispanic female graduates and 173 reported Hispanic male graduates. By 2005-06 the number declined for both genders to 150 schools reporting females and 153 for males. In Groups 2 and 3 we see a similar pattern observed in Group 1 with a decline in the number of reporting schools in 2003-04 from the base year in 2002-03, followed by an increase in 2004-05 and then finally a decrease in 2005-06. Group 4, on the other hand, shows an increase in the number of schools over the four years for both genders.

### *CPI Results for Hispanic Students*

Table 5-35 presents data regarding the percent difference in reported CPI and NCES total mean graduation rates between Hispanic females and males by group.

Table 5-35: Difference in Total Mean Graduation Rate Estimates between Hispanic Females and Males by Group

	CPI Total Mean Female	CPI Total Mean Males	% Difference in CPI Total Mean between females and males
Group 1	64%	59%	-5%
Group 2	66%	58%	-6%
Group 3	67%	59%	-8%
Group 4	67%	58%	-9%

CPI results in Table 5-35 show that Hispanic females also had higher estimated total mean graduation rates than Hispanic males for all groups in all years. This trend continues as we have seen previously between White and African American females and males. Table 5-32, a sub-set of data from Table 5-6, compares the CPI total mean graduation rates of Hispanic females and males by group. The data show a 5% to 9% difference in the CPI total mean graduation rate estimates depending on the size of student enrollment. The percent difference in CPI rates between the two genders grows as the size of student enrollment in schools increase.

Hispanic female CPI total mean graduation estimates were in the 60<sup>th</sup> percentile, ranging from 64% to 67%. Group 1 results were 64%, Group 2 showed a total mean of 66% and Groups 3 and 4 rates were 67%. For Hispanic males, the CPI total mean estimates were in the upper 50<sup>th</sup> percentile. Group 1 results were 59%, Groups 2 and 4 estimates were 58% and Group 3 had the highest total mean graduation rate estimate of 59%.

Tables 5-36 and 5-37 show the year-to-year trend of increase or decline in CPI graduation rates estimates for Hispanic females.

Table 5-36: CPI Hispanic Female Graduation Rate Estimate Trends by Year for Groups 2, 3 and 4

Year	Group 2 Enrollment 1200-2391	Group 3 Enrollment 2392-3579	Group 4 Enrollment 3580-4775	Trend in percentage change from base year
2002-03	66%	67%	69%	NCLB Base
2003-04	69%	70%	*69%	Increase/*No change
2004-05	68%	68%	66%	Decrease
2005-06	60%	65%	63%	Decrease below 2002-03 base

In Table 5-36, we see that CPI year-to-year Hispanic female graduation rates for Groups 2, 3 and 4 increased or did not change in 2003-04 over the base in 2002-03. Estimates for these groups declined in 2004-05 and declined again in 2005-06 below the 2002-03 year.

Table 5-37: CPI Hispanic Female Graduation Estimate Trends by Year for Group 1

Year	Group 1 Enrollment 6-1199	Trend in percentage change from base year
2002-03	62%	NCLB Base
2003-04	67%	Increase
2004-05	66%	Decrease
2005-06	63%	Decrease but not below base rate

Table 5-37, shows that Hispanic female year-to-year graduation rates for Group 1 followed the pattern for other Groups 2, 3 and 4 identified in Table 5-33 until 2005-06, where the estimates were 1% higher than the base. Reviewing both tables, we see that the CPI estimates generated in 2003-04 were the highest in any year.

Table 5-38 continues our examination of changes in estimates from 2004-05 to 2005-06.

Table 5-38: CPI Hispanic Female Graduation Rate Comparison between 2004-05 and 2005-06

Year	Group 1 Enrollment 6-1199	Group 2 Enrollment 1200-2391	Group 3 Enrollment 2392-3579	Group 4 Enrollment 3580-4775
2004-05	66%	68%	68%	66%
2005-06	63%	60%	65%	63%
Total % change	-3%	-8%	-3%	-3%

We see in Table 5-38 that Group 2 experienced the largest percent decline from 68% to 60%, or - 8% for Hispanic females. Group 1, 3 and 4 all declined by 3% in the two-year comparison.

Tables 5-39 and 5-40 shift to Hispanic males and display CPI year-to-year estimated graduation rate trends by group.

Table 5-39: CPI Hispanic Male Graduation Rate Trends by Year and Group

Year	Group 1 Enrollment 6-1199	Group 3 Enrollment 2392-3579	Trend in percentage change from NCLB base year
2002-03	63%	61%	Base
2003-04	61%	59%	Decline
2004-05	59%	*59%	Decrease/*No change
2005-06	54%	57%	Decreased below 2002-03 base

Table 5-40: CPI Hispanic Male Graduation Rate Trends by Year and Group

Year	Group 2 Enrollment 1200-2391	Group 4 Enrollment 3580-4775	Trend in percentage change from NCLB base year
2002-03	59%	59%	Base
2003-04	61%	61%	Increase
2004-05	59%	57%	Decline
2005-06	54%	55%	Decreased below 2002-03 base

The two tables show that the CPI algorithm produced year-to-year graduation estimates in the 50<sup>th</sup> and low 60<sup>th</sup> percentiles across all years. The highest estimated rate of 63% was for Group 1 in 2002-03. Table 5-36 shows that estimated rates declined for Groups 1 and 3 from 2002-03 through 2005-06. In 2003-04, the results show a 2% decline in rates for both groups; in 2004-05, Group 1 declined an additional 2% while Group 3 remained at 59%. Both groups fell below the base in 2005-06, with Group 1 showing a decrease of 4% and Group 3 rates lowered by 2%. In Table 5-40, Groups 2 and 4 CPI results show the trend of an increase in rates in 2003-04 over 2002-03 and then declined for the following years of 2004-05 and 2005-06.

Table 5-41 present the comparison of CPI estimated graduation rates in 2004-05 and 2005-06 for Hispanic males

Table 5-41: CPI Hispanic Male Graduation Rate Estimate Comparison for 2004-05 and 2005-06

Year	Group 1 Enrollment 6-1199	Group 2 Enrollment 1200-2391	Group 3 Enrollment 2392-3579	Group 4 Enrollment 3580-4775
2004-05	59%	59%	59%	57%
2005-06	54%	54%	57%	55%
% Decrease	-5%	-5%	-2%	-2%

Table 5-41 shows CPI estimated graduation rates declined between 2004-05 and 2005-06 for all groups. We continue to see a consistent pattern of declining rates between these

two years with all ethnic groups and both genders reported thus far. Schools with the smaller student enrollments in Group 1 and 2 showed the greatest percentage decline of 5%. Groups 3 and 4, schools with larger student enrollments, showed a 2% decrease in rates between the two years.

### *NCES Results for Hispanic Students*

We begin an examination of NCES results for Hispanic students with Table 5-42 and 5-43. Table 5-42 shows the year-to-year trends in NCES gradation rate estimates for Hispanic females and Table 5-40 looks at patterns between NCES rates in 2004-05 and 2005-06.

Table 5-42: NCES Hispanic Female Graduation Rate Trends by Group and Year

Year	Group1 Enrollment 6-1199	Group 2 Enrollment 1200-2391	Group 3 Enrollment 2392-3579	Group 4 Enrollment 3580-4775
2002-03	94%	91%	92%	88%
2003-04	95%	91%	92%	89%
2004-05	96%	92%	92%	88%
2005-06	92%	91%	90%	87%
Total Mean	94%	91%	91%	88%

Table 5-42 NCES results by size of school enrollment for Hispanic females show that schools with the smallest student enrollment had the highest estimated graduation rates in all years. Group 1 year-to-year results were in the 90<sup>th</sup> percentile for all years and showed a total mean estimated rate of 94%. Group 4 showed the lowest year-to-year rates between 87% and 89% and the total mean rate was 88%. Medium and moderately large schools in Group 2 and 3 also had year-to-year rates in the 90<sup>th</sup> percentile and both groups had a total mean rate of 91%.

Groups 1, 3 and 4 displayed rates in 2005-06 that were lower than the 2002-03 base year rates of 91%. In 2005-06 Group 2 schools reverted back to base year rates of 91% after a 1% increase in 2004-05.

Table 5-43 NCES Hispanic Female Graduation Rate Estimate Comparison for 2004-05 and 2005-06

Year	Group1 Enrollment 6-1199	Group 2 Enrollment 1200-2391	Group 3 Enrollment 2392-3579	Group 4 Enrollment 3580-4775
2004-05	96%	92%	92%	88%
2005-06	92%	91%	90%	87%
% change from 04-05 to 05-06	-4%	-1%	-2%	-1%

We continue to see a similar pattern in Table 5-43 of a decline in rates between 2004-05 and 2005-06 for Hispanic females as with other reported groups. NCES estimates for Group 1 showed the largest difference of 4% between the two years. There was a 1% difference for Groups 2 and 4, and a 2% for Group 3.

Table 5-44 and 5-45 provide data on NCES results for Hispanic males. Table 5-44 shows the year-to-year trends in NCES graduation rate estimates for Hispanic males and Table 5-45 looks at patterns between NCES rates in 2004-05 and 2005-06

Table 5-44: NCES Hispanic Male Graduation Rate Trends by Group and Year

Year	Group 1 Enrollment 6-1199	Group 2 Enrollment 1200-2391	Group 3 Enrollment 2392-3579	Group 4 Enrollment 3580-4775
2002-03	90%	90%	90%	83%
2003-04	92%	88%	90%	84%
2004-05	91%	89%	89%	84%
2005-06	90%	87%	87%	83%
Total Mean	91%	88%	89%	83%

Table 5-44 shows that Hispanic male graduation rates estimates were in the 80<sup>th</sup> and 90<sup>th</sup> percentile. Rates were highest in Group 1, where year-to-year estimates were between 90% and 92%. Group 1 shows a total mean graduation rate of 91%. Group 4, schools with large student enrollments, showed the lowest year-to-year rates of 83% and 84% and the total mean rate was 83%. NCES result for Group 2 and 3 were 90% in 2002-03 and then rates declined to 87% for both groups by 2005-06. The total mean rate for Group 2 was 88% and 89% for Group 3.

Table 5-45: NCES Hispanic Male Graduation Rate Estimate Comparison for 2004-05 and 2005-06

Year	Group 1 Enrollment 6-1199	Group 2 Enrollment 1200-2391	Group 3 Enrollment 2392-3579	Group 4 Enrollment 3580-4775
2004-05	91%	89%	89%	84%
2005-06	90%	87%	87%	83%
% Decrease	-1%	-2%	-2%	-1%

The shaded areas in Table 5-45 highlight the percent difference in graduation rate estimates between 2004-05 and 2005-06. The comparison of NCES rates for Hispanic males for these years shows a decrease of 1% or 2% in each group. The smallest and the largest student enrollment groups (1 and 4) decreased by 1% and the medium and moderately large groups (2 and 3) decreased by 2%.

### Asian Graduation Rates Estimates Grouped by Size of School

Tables 5-46 and 5-47 provide the CPI and NCES graduation rate results for Asian students divided into four groups by size of student enrollment. The groups were organized by dividing the schools reporting graduates into equal quartiles based on size of student enrollment. Each group shows the number of schools reporting graduates by year, the CPI and NCES graduation rate for females and males by year and the CPI and NCES total mean graduation rate.

Table 5-46: Mean CPI and NCES Graduation Rates for Asian Females  
Grouped by Size of School Enrollment

Size of School Enrollment	Year	N	Asian Females					
			CPI	SD	Total CPI Mean	NCES	SD	Total NCES Mean
<b>Group 1</b> (6-1199)	2002-03	36	64%	.34		98%	.07	
	2003-04	28	71%	.32		95%	.13	
	2004-05	43	75%	.22		99%	.04	
	2005-06	48	60%	.32		95%	.08	
						<b>67%</b>		
<b>Group 2</b> (1200-2391)	2002-03	121	69%	.30		97%	.06	
	2003-04	124	72%	.29		98%	.04	
	2004-05	143	86%	.20		98%	.05	
	2005-06	130	71%	.30		96%	.07	
						<b>74%</b>		
<b>Group 3</b> (2392-3579)	2002-03	147	73%	.29		96%	.09	
	2003-04	148	77%	.28		98%	.04	
	2004-05	178	85%	.21		97%	.06	
	2005-06	152	74%	.27		97%	.07	
						<b>77%</b>		
<b>Group 4</b> (3580-4775)	2002-03	144	74%	.26		96%	.07	
	2003-04	134	80%	.27		95%	.08	
	2004-05	171	84%	.25		95%	.09	
	2005-06	156	67%	.29		95%	.08	
						<b>76%</b>		

Table 5-47: Mean CPI and NCES Graduation Rates for Asian Males  
Grouped by Size of School Enrollment

Size of School Enrollment	Year	N	Asian Males					
			CPI	SD	Total CPI Mean	NCES	SD	Total NCES Mean
<b>Group 1</b> (6-1199)	2002-03	25	71%	.33		96%	.11	
	2003-04	34	64%	.27		99%	.03	
	2004-05	49	70%	.26		96%	.08	
	2005-06	45	61%	.28		95%	.11	
						<b>66%</b>		
<b>Group 2</b> (1200-2391)	2002-03	143	63%	.28		96%	.07	
	2003-04	127	70%	.28		96%	.07	
	2004-05	150	83%	.23		96%	.08	
	2005-06	142	68%	.30		95%	.08	
						<b>71%</b>		
<b>Group 3</b> (2392-3579)	2002-03	159	72%	.29		96%	.07	
	2003-04	146	72%	.29		96%	.07	
	2004-05	179	81%	.24		96%	.08	
	2005-06	154	66%	.29		95%	.09	
						<b>73%</b>		
<b>Group 4</b> (3580-4775)	2002-03	155	71%	.27		93%	.10	
	2003-04	138	71%	.27		94%	.10	
	2004-05	172	80%	.25		93%	.12	
	2005-06	163	68%	.30		93%	.12	
						<b>72%</b>		

Applying the CPI and NCES methods to school data for Asian students resulted in fewer than a total of 180 schools reporting graduates. In the small schools category (Group 1) there were fewer than 50 schools for either gender. The number of schools for Group 2 ranged between 121 and 150 schools. Group 3 had the largest number of reporting schools between 146 and 179. Finally, in Group 4 there was a range of 134 to 172 schools able to report graduates based on our ability to apply either algorithm.

The CPI total mean graduation rates for Asian females increase as the size of student enrollment increases with each group except for Group 4, which was 1% lower than Group 3. The CPI total means were as follows: Group 1 = 67%, Group 2 = 74%, Group 3 = 77% and Group 4 = 76%. The NCES total mean graduation rates for Asian females were 97% for Groups 1, 2, and 3 and Group 4 was 95%.

Total mean rates for Asian males follow the same pattern as Asian females. The CPI total mean graduation rates for Asian males were as follows: Group 1 = 66%, Group 2 = 71%, Group 3 = 73% and Group 4 = 72%. The NCES total mean estimates for Asian males were 96% for Groups 1, 2 and 3 and Group 4 was 93%.

Table 5-48 present data regarding the percent difference in reported CPI and NCES total mean graduation rates between Asian females and males by group.

Table 5-48: Difference in Total Mean Graduation Rate Estimate for Asian students by Group

	CPI Total Mean Female	CPI Total Mean Males	% Difference in CPI Total Mean between females and males
Group 1	67%	66%	-1%
Group 2	74%	71%	-3%
Group 3	77%	73%	-4%
Group 4	76%	72%	-4%

Table 5-48 shows that as the size of student enrollment increases the percentage difference in reported CPI total means increases between Asian females and males. As with each of the other ethnic groups, we can see that Asian females had higher total mean graduation rates than Asian males. The smallest difference was in Group 1, where there was a 1% difference in CPI total means between females and males. The difference in Group 2 was 3% and Groups 3 and 4 had a difference of 4%.

With the exception of the 2002-03 year, Asian graduates were in the 70<sup>th</sup> percentile. In 2002-03 for both female and males the estimated total means were 67% and 66% respectively. 2004-05 produced the highest CPI total mean rates of 77% for females and 73% for males.

*CPI results for Asian students*

Table 5-49 through 5-51 provide data on CPI results for Asian females. Table 5-49 shows the year-to-year trends in CPI graduation rate estimates for Asian females in Groups 1 and Table 5-50 report the year-to-year trends for Groups 2 and 3. Table 5-51 looks at patterns between CPI rates in 2004-05 and 2005-06.

**Table 5-49: CPI Asian Female Graduation Rate Estimate Trends by Year for Groups 1 and 4**

Year	Group 1 Enrollment 6-1199	Group 4 Enrollment 3580-4775	Trend in percentage change from base year
2002-03	64%	74%	Base year
2003-04	71%	80%	Increase
2004-05	75%	84%	Increase
2005-06	60%	67%	Decrease below 2002-03 base

**Table 5-50: CPI Asian Female Graduation Rate Estimate Trends by Year for Groups 2 and 3**

Year	Group 2 Enrollment 1200-2391	Group 3 Enrollment 2392-3579	Trend in percentage change from base year
2002-03	69%	73%	Base year
2003-04	72%	77%	Increase
2004-05	86%	85%	Increase
2005-06	71%	74%	Increase over 2002-03 base

Tables 5-49 and 5-50 illustrate year-to-year CPI graduation rate trends by group and year for Asian females. Both tables show that in all groups the highest CPI estimated rate was in 2004-05. Group 1 rates for that year were 75%, Group 2 was 86%, Group 3 equaled 85% and Group 4 was 84%.

Other trends among the groups are displayed separately in each of the two tables. Table 5-49 reveals that CPI estimates for Groups 1 and 4 increase each year from 2002-03 until 2005-06, where rates then declined below the base year. Table 5-50 shows that the CPI graduation rate estimates for Groups 2 and 3 increase each year until 2005-06 but did not decrease in 2005-06 below the base year, as did Groups 1 and 4.

**Table 5-51: CPI Asian Female Graduation Rate Comparison between 2004-05 and 2005-06**

Year	Group 1 Enrollment 6-1199	Group 2 Enrollment 1200-2391	Group 3 Enrollment 2392-3579	Group 4 Enrollment 3580-4775
2004-05	75%	86%	85%	84%
2005-06	60%	71%	74%	67%
Total % change	-15%	-15%	-11%	-14%

The change in the estimated rates between 2004-05 and 2005-06 continue to show a decline in rates in Table 5-51. For Asian females the declines are the largest for any ethnic group reported in the study. Group 1 and 2 showed the largest drop in CPI estimated rates of 15%; Group 4 showed the next largest decline of 14% and Group 2 displayed an 11% decrease.

Tables 5-52 through 5-54 provide data on CPI results for Asian males. Table 5-52 through 5-53 shows the year-to-year trends in CPI gradation rate estimates for Asian males by group. Table 5-54 looks at patterns between CPI rates in 2004-05 and 2005-06.

Table 5-52: CPI Asian Male Graduation Rate Year-to Year Trends for Group 1

Year	Group1 Enrollment 6-1199	Trend in percentage change from NCLB base year
2002-03	71%	Base
2003-04	64%	Decline
2004-05	70%	Increase
2005-06	61%	Decreased below 2002-03 base

Table 5-52 reflects CPI estimates for Group 1. In 2002-03 the estimate is 71%, the following year the rates decline by 7% to 64%, by year three the rate increases by 6% to 70% and then finally declines by 9% to 61% in 2005-06. The rate in 2005-06 declines 10% below the base year rate in 2002-03. The fluctuation in year-to-year CPI estimated rates in Group 1 Asian males are the greatest for any group.

Table 5-53: CPI Asian Male Graduation Rate Year-to Year Trends for Group 2

Year	Group 2 Enrollment 1200-2391	Trend in percentage change from NCLB base year
2002-03	63%	Base
2003-04	70%	Increase
2004-05	83%	Increase
2005-06	68%	Decrease but not below base rate

Table 5-53 shows CPI results for Group 2 reporting schools. In this group we see a pattern of rate increases every year for the first three years and then a decline in 2005-06. The year base rate for Group 2 is 63%; there is a 7% increase to 70% for 2003-04 and 13% increase to 83% in 2004-05 and then a 15% decline to 68% in 2005-06. The 2005-06 rates do not decline below the base year rate.

Table 5-54: CPI Asian Male Graduation Rate Year-to Year Trends for Groups 3 and 4

Year	Group 3 Enrollment 2392-3579	Group 4 Enrollment 3580-4775	Trend in percentage change from NCLB base year
2002-03	72%	71%	Base
2003-04	72%	71%	No change
2004-05	81%	80%	Increase
2005-06	66%	68%	Decreased below 2002-03 base

Table 5-54 are the results of the CPI algorithm for Groups 3 and 4. We see that for both Group 3 the 2002-03 base rate is 72%, and 71 % for Group 4. There is no change in rates for the 2003-04 year. Both groups increase CPI rates by 9% in 2004-05 and in 2005-06 the CPI rate declined by 15% for Group 3 and 12% for Group 4. Both groups' rates in 2005-06 were below base rates in 2002-03.

Table 5-55: CPI Asian Male Graduation Rate Estimate Comparison for 2004-05 and 2005-06

Year	Group 1 Enrollment 6-1199	Group 2 Enrollment 1200-2391	Group 3 Enrollment 2392-3579	Group 4 Enrollment 3580-4775
2004-05	70%	83%	81%	80%
2005-06	61%	68%	66%	68%
% Decrease	-9%	-15%	-15%	-12%

Asian males CPI rates declined between 2004-05 and 2005-06 for all groups continuing to show the pattern of declining rates between these two years. Groups 2 and 3 showed the greatest percentage decline of 15%. Group 4, schools with larger student enrollments, showed a 12% decrease in rates between the two years and Group 1 declined by 9%.

### *NCES Results for Asian Students*

Table 5-56 and 5-57 provide data on NCES results for Asian females. Table 5-52 shows the year-to-year trends in NCES graduation rate estimates for Asian females by group. Table 5-53 looks at patterns between NCES rates in 2004-05 and 2005-06.

Table 5-56: NCES Asian Female Graduation Rate Year-to Year Trends by Group

Year	Group 1 Enrollment 6-1199	Group 2 Enrollment 1200-2391	Group 3 Enrollment 2392-3579	Group 4 Enrollment 3580-4775
2002-03	98%	97%	96%	96%
2003-04	95%	98%	98%	95%
2004-05	99%	98%	97%	95%
2005-06	95%	96%	97%	95%
Total Mean	97%	97%	97%	95%

NCES year-to-year and total mean graduation rates for Asian females are in the 95<sup>th</sup> percentile and higher for all groups regardless of the size of school enrollment. There were fluctuations in the NCES year-to-year rates for each group.

Each group had results that are slightly different in each year from the base year. Group 1 showed a 3% decline in 2003-04 from the 2002-03 bases. In 2004-05, the rate increased to 99%, which was the highest rate for Group 1 for the four years of the study. Group 2 results increased by 1% in 2003-04 over the base. The rate stayed the same in 2004-05 and declined by 2% in 2005-06 to 96%, which was 1% lower than the 2002-03 base year rates. The NCES rates for Group 3 in 2003-04 showed a 2% increase over the previous year; rates then declined 1% to 97% in 2004-05 and remained at 97% in 2005-06. Group 4 showed a 1% decrease to 95% in 2003-04 from the previous year and remained at 95% for the following three years.

NCES estimates in Groups 1 and 4 have rates lower in 2005-06 than the base in 2002-03. Group 2 estimated rates of 97% were the same as the base rates. In Group 3 we see results in 2005-06 that are 1% higher than the 2002-03 base.

Table 5-57: NCES Asian Female Graduation Rate Comparison between 2004-05 and 2005-06

Year	Group1 Enrollment 6-1199	Group 2 Enrollment 1200-2391	Group 3 Enrollment 2392-3579	Group 4 Enrollment 3580-4775
2004-05	99%	98%	97%	95%
2005-06	95%	96%	97%	95%
% difference from 04-05 to 05-06	-4%	-2%	0%	0%

In Table 5-57, we see a break in the patterns of declining rates between the years 2004-05 and 2005-06 for Asian females in two of the four groups. There was a 4% decline for Group 1 and a 2% decrease for Group 2. Groups 3 and 4, however, showed no change in rates from one year to the other. The NCES results for Groups 3 were 97% in both 2004-05 and 2005-06, and Group 4 had a two-year rate of 95%.

Tables 5-58 and 5-59 provide data on NCES results for Asian Males. Table 5-58 shows the year-to-year trends in NCES graduation rate estimates for Asian Males by group. Table 5-55 looks at patterns between NCES rates in 2004-05 and 2005-06.

Table 5-58: NCES Asian Male Graduation Rate Year-to-Year Trends by Group

Year	Group1 Enrollment 6-1199	Group 2 Enrollment 1200-2391	Group 3 Enrollment 2392-3579	Group 4 Enrollment 3580-4775
2002-03	96%	96%	96%	93%
2003-04	99%	96%	96%	94%
2004-05	96%	96%	96%	93%
2005-06	95%	95%	95%	93%
Total Mean	96%	96%	96%	93%

We see in Table 5-58 that the NCES algorithm produced graduation rate estimates in the 90<sup>th</sup> percentile for Asian males in all groups. Similar to NCES results for Asian females, in Groups 1, 2 and 3 Asian male results showed a total mean estimated graduation rate of 96%. Group 4 results showed the lowest NCES total mean of 93%.

The year-to-year graduation estimates in each group fluctuated over the course of the four years; however, Groups 2 and 3 results were identical for all four years. Group 2 and 3 showed estimates of 96% for the first three years and then declined by 1% to 95% in 2005-06. Group 1 increase 3% to a four-year high of 99% in 2003-04. In 2004-05 Group 1 rates decreased by 3% to 96% and then decreased again by 1% to 95% in 2005-06. Group 4 increases 1% over the base year to 94% and then declines 1% in 2004-05 to 93% and remains at 93% for 2005-06. The 2005-06 graduation rate estimates for Asian males were identical to base year rates in 2002-03.

Table 5-59: NCES Asian Male Graduation Rate Comparison between 2004-05 and 2005-06

Year	Group 1 Enrollment 6-1199	Group 2 Enrollment 1200-2391	Group 3 Enrollment 2392-3579	Group 4 Enrollment 3580-4775
2004-05	96%	96%	96%	93%
2005-06	95%	95%	95%	93%
% difference from 04-05 to 05-06	-1%	-1%	-1%	0%

In Table 5-59 we see that the 2004-05 and 2005-06 comparison of NCES estimates for Asian males shows a decrease of 1% in Groups 1, 2 and 3. Similar to Asian females, the pattern changes in Group 4. Rates remain at 93% for both the 2004-05 and 2005-06 years for a 0% change.

### 5.3 Graduation Rates by Size of Community

In this section we examine CPI and NCES graduation rates for ALL students by ethnicity and gender grouped by size of community for the year 2005-06. To examine the results of the two methods by geographical area we relied on the data regarding school locations provided by the U.S Census Bureau. The Census Bureau has divided populous areas into eight categories and defined them as follows:

1. Large City: A central city of Consolidated Metropolitan Statistical Area (CMSA) with the city having a population greater than or equal to 250,000.
2. Mid-size City: A central city of a CMSA or Metropolitan Statistical Area (MSA), with the city having a population less than 250,000.
3. Urban Fringes of Large City: Any incorporated place, Census Designated Place, or non-place territory within a CMSA or MSA of a Large City and defined as urban by the Census Bureau.
4. Urban Fringes of Mid-size City: Any incorporated place, Census Designated Place, or non-place territory within a CMSA or MSA of a Mid-size City and defined as urban by the Census Bureau.

5. Large Town: An incorporated place or Census Designated Place with a population greater than or equal to 25,000 and located outside a CMSA or MSA.
6. Small Town: An incorporated place or Census Designated Place with a population less than 25,000 and greater than 2,500 and located outside a CMSA or MSA.
7. Rural, outside MSA: Any incorporated place, Census Designated Place, or non-place territory designated as rural by the Census Bureau.
8. Rural, inside MSA: 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 rural by the Census Bureau.

The U.S Census Bureau provides the school related-data to fill the Population Status field with one the eight categories in the CDE database. At times, this field is blank or missing data. Reasons for blank or missing data can include that it may take up to two years to assign a new school a population status, or schools may have had a change in CDS code numbers due to district reorganization or school restructuring, or a school may not report local level data during the California Basic Educational Data System collection period.

Graduation rate calculations for the 2002-03, 2004-04 and 2004-05 school years were not computed for this study due to blank or missing data. For the 2005-06 year any population status areas that had five or fewer schools were removed from the groups reviewed in this section of the study. In order to provide graduation rate estimates derived from the calculations of the two methods, five or more schools were necessary to provide accurate data. Specific numbers of schools in each geographical area can be found in Appendix B. After identifying the schools in all geographical areas, the following were removed:

Geographical Area Removed	Applicable Student Groups
5. Large Towns	All Students White Students African American Students Hispanic Students Asian Students
6. Small Town	African American Students
7. Rural, Outside MSA	African American Student Asian Students

### **Graduation Rate Results for ALL Students Grouped by Size of Community**

We begin the review of CPI and NCES graduation rates by size of community for each group (ALL students, by ethnicity and gender) by presenting the graduation rate results of the two methods and then presenting contributing data for each student group. This will give an overall view of the data examined in each of the population areas.

Table 5-60 and 5-61 list the 2005-06 CPI and NCES mean graduation rates for ALL students and by gender group by size of community.

Table 5:60 CPI and NCES 2005-06 Mean Graduation Rates ALL Students by Size of Community

Size of Community	CPI ALL	SD	NCES ALL	SD
1. Large City	58%	.18	83%	.14
2. Mid-Size City	69%	.17	91%	.09
3. Urban Fringes of Large City	71%	.16	93%	.08
4. Urban Fringes of Mid-Size City	67%	.12	90%	.05
6. Small Town	67%	.09	95%	.04
7. Rural, Outside MS	66%	.21	95%	.09
8. Rural, Inside MSA	71%	.14	95%	.06

Table 5:61 CPI and NCES 2005-06 Mean Graduation Rates ALL Students by Size of Community and Gender

Size of Community	CPI Male	SD	NCES Male	SD	CPI Female	SD	NCES Female	SD
1. Large City	53%	.22	81%	.16	59%	.21	86%	.13
2. Mid-size City	65%	.20	90%	.16	73%	.20	92%	.08
3. Urban Fringes of Large City	68%	.20	92%	.09	75%	.19	94%	.07
4. Urban Fringes of Mid-Size City	66%	.19	92%	.06	72%	.17	94%	.05
6. Small Town	60%	.15	95%	.05	73%	.15	96%	.04
7. Rural, Outside MS	64%	.31	95%	.09	73%	.25	94%	.12
8. Rural, Inside MSA	68%	.20	94%	.07	74%	.21	95%	.06

### *CPI results by Size of Community for ALL Students*

Table 5-60 shows that CPI mean graduation rates estimates for ALL students ranged from the 50<sup>th</sup> percentile to the 70<sup>th</sup> percentile across the seven population areas we studied. The table shows that large cities produced the lowest CPI graduation estimates of 58% for all students in 2005-06. CPI estimated graduation rates in the 60<sup>th</sup> percentile were found in rural areas outside Metropolitan Statistical Areas (MSA), in urban fringes of mid-sized cities and mid-sized cities. In rural areas outside the MSA, the graduation rate estimate was 66%. The estimated rates for the population area of urban fringe of mid size cities was 67% and the rate for mid-sized cities was 69%. The highest CPI estimated rate for ALL students were in the

areas of urban fringes of large cities and rural areas inside the MSA. Both areas showed CPI estimated rates of 71%.

Table 5-61 reveals that the CPI graduation rates for males were the lowest in large cities at 58% and the highest in urban fringes of large cities and rural areas inside the MSA at 68%. In the remaining smaller areas, rates ranged from 60% to 66%. CPI calculations produced a rate of 60% for small towns CPI rate and mid-sized cities, urban fringes of mid-sized cities and rural areas outside of the MSA were between 64% and 66%.

CPI graduation rates for ALL females were in the 70<sup>th</sup> percentile for all population areas except large cities, where the estimated rates were 59%. Graduation rate results for ALL females were higher than ALL males in every population area; the highest graduation rate of 75% for ALL females was in the urban fringes areas of large cities. Graduation rates for ALL females of between 72% and 75% were found in population areas that were away from large cities or in rural areas that are inside the MSA.

#### *NCES Results by Size of Community for ALL Students*

NCES graduation rate results for ALL students were in the 90<sup>th</sup> percentile for all population areas except large cities, where the estimated rate was 83%. The highest NCES estimated graduation rates of 95% were in the three smaller population regions of small towns and both rural areas. NCES ALL student results between 90% and 93% were in community areas designated as mid-size cities, and both fringe areas of large and mid-size cities.

NCES ALL female graduation rate results were in the 80<sup>th</sup> and 90<sup>th</sup> percentile. The lowest estimated rate of 86% was in large cities. The highest NCES estimated rate of 96% for ALL females were in small towns. Estimated rates of 94% and 95% were shown to be in urban fringes of large and mid-sized cities and rural areas.

NCES ALL male graduation rate results were highest in smaller population areas. Estimated rates for ALL males were 95% in small towns and rural areas outside the MSA. In the lower 90<sup>th</sup> percentile were rural areas inside the MSA, with an NCES estimated rate of 94% and mid-sized cities with a rate of 90%. The NCES graduation estimate of 81% for ALL males was again in large cities and was the lowest rate for ALL males in any population category.

#### *Supporting Data for Graduation Rate Estimate Analysis for ALL Students*

The U. S. Census Bureau's populous area categories allow us to also examine data grouped by populous area categories; that gives an additional perspective on graduation rate estimates. Within these areas, we are able to look at enrollment changes for the simulated cohort graduating in 2005-06, and the number of dropouts reported for the cohort. We begin by presenting this additional data for ALL students and ALL students by gender and will report similar data for all four ethnic groups in this section. Table 5-62 displays the following data for ALL students and ALL students by gender in the seven Census Bureau's population areas. (We have excluded area five, large towns, because the area contained only one school in this study):

- Grade 9 enrollment data in 2002-03
- Grade 12 enrollment data in 2005-06

- The difference in number and percentage of student enrollments between grade 9 in 2002-03 and grade 12 in 2005-06
- The total number and percentage of dropouts reported from 2002-03 through 2005-06
- The estimated graduation rates for both the CPI and NCES methods

Table 5-62: Contributing Data to Graduation Rate Analysis for All Students Organized by Size of Community

2005-06	1	2	3	4	6	7	8	Total
Summary Data	Large City	Mid-Size	Urban Fringes of Large City	Urban Fringes of Mid-Size City	Small Town	Rural outside MSA	Rural inside MSA	
<b>ALL Students</b>								
Enrollment								
(Gr. 9) 2002-03	110,962	109,224	166,949	40,165	6,654	3,272	20,803	458,029
(Gr.12) 2005-06	65,023	82,996	129,577	30,118	5,023	2,562	15,793	331,092
Difference	-45,939 (-41%)	-26,228 (-24%)	-37,372 (-22%)	-10,047 (-25%)	-1,631 (-24%)	-710 (-22%)	-5010 (-24%)	-126,937 (-28%)
Dropouts	14,612 (13%)	7,154 (6%)	9,877 (6%)	2,038 (5%)	179 (3%)	91 (3%)	1,101 (5%)	35,052 (8%)
CPI	<b>58%</b>	<b>69%</b>	<b>71%</b>	<b>67%</b>	<b>67%</b>	<b>66%</b>	<b>71%</b>	
NCES	<b>83%</b>	<b>91%</b>	<b>93%</b>	<b>90%</b>	<b>95%</b>	<b>95%</b>	<b>95%</b>	
<b>ALL Females</b>								
Enrollment								
(Gr. 9) 2002-03	53,568	53,327	81,573	19,651	3,247	1,623	10,353	223,342
(Gr.12) 2005-06	33,613	41,919	65,262	15,257	2,464	1,238	7,926	167,679
Difference	-19,955 (-37%)	-11,408 (-21%)	-16,311 (-20%)	-4,394 (-22%)	-783 (-24%)	-385 (-24%)	-2,427 (-23%)	-5,566 (-30%)
Dropouts	6,354 (12%)	3,279 (6%)	4,300 (5%)	914 (5%)	88 (3%)	40 (2%)	492 (5%)	15,467 (7%)
CPI	<b>59%</b>	<b>73%</b>	<b>75%</b>	<b>72%</b>	<b>73%</b>	<b>73%</b>	<b>74%</b>	
NCES	<b>86%</b>	<b>92%</b>	<b>94%</b>	<b>94%</b>	<b>96%</b>	<b>94%</b>	<b>95%</b>	
<b>ALL Males</b>								
Enrollment								
(Gr. 9) 2002-03	57,394	55,897	85,376	20,514	3,407	1,649	10,450	234,687
(Gr.12) 2005-06	31,410	41,077	64,315	14,861	2,559	1,324	7,867	163,413
Difference	-25,984 (-45%)	-14,820 (-26%)	-21061 (-25%)	-5,653 (-27%)	-848 (-25%)	-325 (-20%)	-2,583 (-25%)	-71,274 (-30%)
Dropouts	8,258 (14%)	3,875 (7%)	5,577 (6%)	1,124 (5%)	91 (3%)	51 (3%)	609 (6%)	19,585 (8%)
CPI	<b>53%</b>	<b>65%</b>	<b>68%</b>	<b>66%</b>	<b>60%</b>	<b>64%</b>	<b>68%</b>	
NCES	<b>81%</b>	<b>90%</b>	<b>92%</b>	<b>92%</b>	<b>95%</b>	<b>95%</b>	<b>94%</b>	

### ALL Students

In Table 5-62, we first examine data presented for ALL students. The table shows that student enrollment declined from 2002-03 through 2005-06 across all community sizes. The largest decline in student enrollment occurred in large cities where grade 9 enrollments in 2002-03 showed 110,962 students and by grade 12 in 2005-06 the student enrollment decreased by 45,939 students, or 41%. The other six areas experienced decreases in student enrollment from 22% to 25% [approximately one-fourth of the initial 2002-03 student enrollment] over the course of the four years. Areas that showed decreases in student enrollment of 10,000 or more students were mid-sized cities, urban fringes of large and mid-sized cities. In mid-sized cities, the decrease was 26,228 students (-24%); for the urban fringes of large and mid-sized cities the decline was 37,372 (-22%) and 10,047 (-25%) respectively. Even though areas in the urban fringes of large cities had roughly 56,000 more students in grade 9 in 2002-03 than large cities, the decline in student enrollment through 2005-06 was 19% less than in large cities.

Overall there were a total of 35,052 dropouts in all population areas of our study; this equaled to 8% of the total grade 9 student enrollments in 2002-03. Large cities also showed the highest number of dropouts with 14,612 students or 13% in studied schools leaving the educational system. The next highest dropout numbers were in urban fringes of large cities, with 9,877 (6%) dropouts, followed by mid-sized cities with 7,154 (6%) dropouts. The urban fringe areas of mid-sized cities reported 2,038 (5%) dropouts. The remaining areas reported approximately 1,100 or fewer dropouts over the course of the four years.

### ALL Females

Examining results for ALL females in Table 5-62, we see that the decline in female student enrollment between grade 9 in 2002-03 and grade 12 in 2005-06 was also higher in large cities than any other size community. The numbers of females in our study schools in large cities were 53,568; by grade 12 the enrollment dropped to 33,613 or 37%. In all remaining communities, female student enrollment declined 20% to 24% between 2002-03 and 2005-06. Showing a 24% decline in female enrollment were small towns and rural areas outside the MSA. Urban fringes of large cities had the least amount of decline, with 20% of female students leaving those area schools throughout the four years reviewed. The table shows that female enrollment in each of the seven population areas decreased a minimum of 20%, and at the maximum in large cities, 37%.

There were a total of 15,467 or 7% total female dropouts in all seven communities. The table shows 12% of those 15,000-plus female dropouts were from large cities. Large cities lost 6,354 females to the dropout status. Urban fringes of large cities reported 4,300 (5%) and mid-sized cities showed 3,279 (6%). Those reporting fewer than 1,000 dropouts were urban fringes of mid-sized cities at 914 (5%); rural areas inside MSA showed 492 (5%) female dropouts and the remaining area reported fewer than 100.

### ALL Males

The total male student enrollment in grade 9 in 2002-03 was 234,687; by 2005-06 that number had declined to 163,411 or 30%. The largest enrollments for male students were in areas that fringed urban cities. The grade 9 enrollment for this area was 85,376 students; however, by 2005-06 the enrollment declined to 64,315 or 25%. Large cities had the second

highest male student enrollment with grade 9 male enrollments in 2002-03 of 57,394; by grade 12 in 2005-06, the male enrollment dropped to 31,410, a decrease of 45%. We note that even though there were more students enrolled in areas that fringed urban cities, the change in enrollment was less than large cities. Mid-sized cities' grade 9 male enrollment shows 55,897, and decreased by 26% to 41,077 in 2005-06. Areas with fewer than 25,000 male students showed declines of 20% to 27% from 2002-03 grade 9 enrollments to grade 12 enrollments in 2005-06. There was a minimum of 20% decrease in male enrollment in six of the seven population areas and in the seventh area [large cities] the decrease was 45%.

The table also shows that ALL male students had higher grade 9 enrollments in 2002-03 than females in all sizes of communities, but by grade 12 the decline in enrollment for male students exceeded female students in all communities. In large cities 2005-06 male enrollments declined 45% from grade 9 enrollment in 2002-03. This was 8% higher than what was reported for females in large cities. In all other areas the difference in 2002-03 through 2005-06 enrollments for ALL males and ALL females was between 1% and 5%.

Male dropouts in the seven areas totaled 19,595 or 8%; whereas female dropouts were 15,367 or 7%. The greatest numbers of 8,258 (14%) male dropouts were seen in large cities. Reporting dropouts between 3,000 and 5,000 were areas such as urban fringes to large cities at 5,577 (6%) and mid-sized cities at 3,875 (7%). Small towns and rural areas outside the MSA reported fewer than 100 male dropouts. The table shows rural areas inside the MSA had 609 (6%) dropouts over the four year of study.

### Graduation Rates Results for White Students Grouped by Size of Community

Table 5-63 records the CPI and NCES computational results for 2005-06 mean graduation rates for White students organized by Size of Community.

Table 5-63: CPI and NCES 2005-06 Mean Graduation Rates White Students by Size of Community and Gender

Size of Community	CPI White ALL	SD	NCES White ALL	SD	CPI White Male	SD	NCES White Male	SD	CPI White Female	SD	NCES White Female	SD
1. Large City	61%	.22	86%	.16	57%	.26	85%	.15	60%	.25	89%	.13
2. Mid-size City	71%	.17	93%	.09	66%	.22	92%	.10	72%	.22	94%	.09
3. Urban Fringes of Large City	69%	.19	94%	.10	67%	.23	93%	.10	72%	.24	95%	.07
4. Urban Fringes of Mid-Size City	68%	.14	95%	.06	67%	.20	95%	.06	68%	.22	96%	.07
6. Small Town	67%	.15	97%	.03	58%	.15	97%	.05	71%	.13	97%	.03
7. Rural, outside MSA	73%	.26	97%	.06	67%	.29	95%	.11	63%	.27	99%	.03
8. Rural. Inside MSA	69%	.19	96%	.05	66%	.24	96%	.08	66%	.21	97%	.05

#### *CPI Results by Size of Community for White Students*

Table 5-63 shows that CPI mean graduation rate estimates for ALL White students ranged from the 60<sup>th</sup> to the 70<sup>th</sup> percentile across the seven population areas. We see that large cities produced the lowest CPI graduation estimates of 61% for ALL students in 2005-06.

There were no other particular patterns regarding size of community in reporting graduation rate estimates. Other rates in the 60<sup>th</sup> percentile include rural areas inside Metropolitan Statistical Areas (MSA) (69%), urban fringes of large cities (69%) urban fringes of mid-sized cities (68%), and small towns (67%). Estimated rates in the 70<sup>th</sup> percentile are seen in mid-sized cities (71%) and rural areas outside MSA (73%).

CPI graduation rates for ALL females were in the 60<sup>th</sup> and 70<sup>th</sup> percentile for all population areas. CPI estimates for females were lowest in large cities at 60% and highest in mid-sized cities and urban fringes of large cities at 72%. Once again the range of CPI estimated rates was wide, with the remaining areas showing rates between 63% and 71%.

CPI graduation rate results for ALL females were mostly higher than for ALL males in population area except the rural areas, where White male rates outside MSA were 67% and White females showed 63%. CPI estimated rates in rural areas inside the MSA were 66% for both males and females. White females had higher CPI estimates in mid-sized cities, urban fringe areas of large cities and small towns.

The CPI graduation results for ALL White male students did not reach the 70<sup>th</sup> percentile in any population area. The table shows that the CPI graduation rates for males were highest at 67% in areas that fringed large or mid-sized cities or rural areas outside the MSA. The lowest rates for White males were in large cities (57%) and small towns (58%).

#### *NCES results by Size of Community for ALL White Students*

NCES graduation rate results for ALL White students were in the 90<sup>th</sup> percentile for all population areas except large cities, where the estimated rates were 86%. The highest NCES estimated graduation rates of 96% and 97% were in the three smaller population regions of small towns and rural areas. NCES ALL White student results between 93% and 95% were in community areas designated as mid-size cities, fringe areas of large and mid-size cities.

NCES White female graduation rate results were in the 90<sup>th</sup> percentile except for large cities, where the rate was 89%. The estimated rates in the upper 90<sup>th</sup> percentile were in small towns. The table shows NCES estimated rates of 99% in rural areas outside the MSA and estimates of 97% were in small towns and rural areas inside the MSA. Rates of 95% and 96% were in the urban fringe areas of large and mid-sized cities. Mid-sized cities displayed estimated rates of 94%.

Similar to results for White females, NCES results for White males were in the 90<sup>th</sup> percentile for all population areas except large cities, where the estimated rate was 85%. The highest NCES graduation rate estimates were also in smaller communities or urban fringes of mid-sized cities. Estimated rates for White males were 97% in small towns, 96% in rural areas inside the MSA and 95% in rural areas outside the MSA. Rates of 95% were shown in urban fringes of mid-sized cities.

#### *Supporting Data for Graduation Rate Estimate Analysis for White Students*

Table 5-64 present enrollment, dropout and high school graduate data organized by size of community for White students, including ALL students and by gender.

Table 5-64: Contributing Data to Graduation Rate Analysis for White Students Organized by Size of Community

2005-06	1	2	3	4	6	7	8	
Summary Data	Large City	Mid-Size	Urban Fringes of Large City	Urban Fringes of Mid-Size City	Small Town	Rural outside MSA	Rural inside MSA	Total
<b>All</b>								
Enrollment								
(Gr. 9) 2002-03	18,473	40,506	64,293	18,912	5,086	2,433	10,160	159,863
(Gr.12) 2005-06	13,570	32,292	52,032	14,547	3,818	1,900	7,685	125,844
Difference	-4,903 (-26%)	-8,214 (-20%)	-12,261 (-19%)	-4,365 (-23%)	-1,268 (-25%)	-533 (-22%)	-2,475 (-24%)	-34,019 (-21%)
Dropouts	1,242 (7%)	1,482 (4%)	1,878 (3%)	673 (3%)	91 (2%)	44 (2%)	259 (2%)	5,669 (3.5%)
CPI	<b>61%</b>	<b>71%</b>	<b>69%</b>	<b>68%</b>	<b>67%</b>	<b>73%</b>	<b>69%</b>	
NCES	<b>86%</b>	<b>93%</b>	<b>94%</b>	<b>95%</b>	<b>97%</b>	<b>97%</b>	<b>96%</b>	
<b>All Females</b>								
Enrollment								
(Gr. 9) 2002-03	8,842	19,706	31,419	9,302	2,459	1,214	5,089	78,031
(Gr.12) 2005-06	6,723	15,999	25,818	7,248	1,854	939	3,816	62,397
Difference	-2,119 (-24%)	-3,707 (-19%)	-5,601 (-18%)	-2,054 (-22%)	-605 (-25%)	-275 (-23%)	-1,273 (25%)	-15,634 (-20%)
Dropouts	492 (5%)	630 (2%)	758 (2%)	276 (3%)	43 (2%)	17 (1%)	118 (2%)	2,334 (3%)
CPI	<b>60%</b>	<b>72%</b>	<b>72%</b>	<b>68%</b>	<b>71%</b>	<b>63%</b>	<b>66%</b>	
NCES	<b>89%</b>	<b>94%</b>	<b>95%</b>	<b>69%</b>	<b>97%</b>	<b>99%</b>	<b>97%</b>	
<b>All Males</b>								
Enrollment								
(Gr. 9) 2002-03	9,631	20,800	32,874	9,610	2,627	1,219	5,071	81,832
(Gr.12) 2005-06	6,847	16,293	26,214	7,299	1,964	961	3,869	63,447
Difference	-2,781 (-29%)	-4,507 (-22%)	-6,660 (-20%)	-2,311 (-24%)	-663 (-25%)	-258 (21%)	-1,175 (-23%)	-18,355 (-22%)
Dropouts	750 (8%)	852 (4%)	1,120 (3%)	397 (4%)	48 (2%)	27 (2%)	141 (3%)	3,335 (4%)
CPI	<b>57%</b>	<b>66%</b>	<b>67%</b>	<b>67%</b>	<b>58%</b>	<b>67%</b>	<b>66%</b>	
NCES	<b>85%</b>	<b>92%</b>	<b>93%</b>	<b>95%</b>	<b>97%</b>	<b>95%</b>	<b>96%</b>	

### ALL White Students

Table 5-64 shows that enrollment for White students in the seven population categories declined overall 21% from 2002-03 to 2005-06. The largest decline in enrollment of 26% occurred in large cities. In 2002-03 large city student enrollment in grade 9 was 18,473; by 2005-06 grade 12 student enrollments decreased by 8,214. Of the seven categories, the urban fringe areas of large cities showed the largest grade 9 student enrollment in 2002-03 and declined the least by grade 12 in 2005-06. Grade 9 enrollments were 64,293 students and in 2005-06, grade 12 enrollment was 52,032, showing a decrease of 19%. The other six areas experienced decreases in student enrollment from 20% to 25% [approximately one-fourth of the initial 2002-03 student enrollment] over the course of the four years.

Large cities also showed the highest percentage of dropouts at 7% over the four years, followed by mid-sized cities at 4%. The urban fringe areas of large and mid-sized cities were at 3% and the remaining smaller areas of small towns, rural areas inside and outside the MSA each showed dropout percentages of 2%.

### White Females

Enrollment data for White females in Table 5-64 show a 20% overall decrease between grade 9 in 2002-03 and grade 12 in 2005-06. There were 159,863 white females enrolled in 2002-03; that number dropped to 125,844 in grade 12 in 2005-06. Areas to show the largest percentage of declining enrollment for White females were small towns and rural areas inside the MSA, each displaying a 25% decrease. The lowest percentages of declining enrollment for this group were in urban fringes of large cities and mid-sized cities. These two areas showed a decline of 18% and 19% respectively. In all remaining communities, White female student enrollment declined 20% to 24% between 2002-03 and 2005-06. Table 5-59 shows a 24% decline in large cities, followed by rural areas outside the MSA at 23% and urban fringes of mid-sized cities dropped by 22%.

There were a total of 2,334 White female dropouts in the seven population areas. The table shows that large cities in this study reported 492 White female dropouts over the four years, equaling 5% of the grade 9 enrollment. This was the highest percentage for all of the population areas; the remaining areas showed dropout percentages of 1% to 3%.

### White Males

The total White male enrollment in grade 9 in 2002-03 was 81,832; in 2005-06 that number declined to 63,447 or by 22%. The largest enrollments for White males were in areas that fringed urban cities but the enrollment in these areas showed the least decline from 2002-03 to 2005-06. Table 5-64 shows grade 9 White male enrollments in urban fringes of large cities at 32,874; in 2005-06 the enrollment declined 20% to 26,21. Other areas with lower male enrollment declined anywhere from 21% to 29%. The category showing the largest declining enrollment is large cities at 29%. There were no other trends identified for the remaining population categories, therefore we list them in order of declining enrollment. The table shows that small towns declined in White male enrollment by 25%, urban fringes of mid-sized cities dropped by 24%, rural areas declined by 23% and mid-sized cities displayed a decline of 22%.

The table shows that White males had higher grade 9 enrollments in 2002-03 than females in all population areas except rural areas inside the MSA [the enrollment differences

were less than 20 students]. In 2005-06, the grade 12 decline in male enrollment exceeded female students in all population categories. In large cities, 2005-06 male enrollments declined 29% from grade 9 enrollment in 2002-03. This was 5% higher than White females in large cities, where the decline was 24%. In all other areas the difference between 2002-03 and 2005-06 enrollments for White male and White females was 0% to 3%.

Male dropouts in the seven categories totaled 3,335 or 4%, whereas female dropouts were 2,334 or 3%. The greatest percentage of White male dropouts was 8% in large cities, in the remaining categories the percentages were between 2% and 4%. As with White males, the highest percentage of dropouts for White females was in large cities at 5%. All other population categories displayed percentages between 1% and 3%.

### Graduation Rate Results for African American Students Grouped by Size of Community

Table 5-65 presents the mean graduation rate results of the 2005-06 CPI and NCES calculations for African American students organized by Size of Community. African American students were represented in five of the eight population areas that had more than five schools to compute the graduation rate equations for the CPI and NCES methods in order to report appropriate data.

Table 5-65: CPI and NCES 2005-06 Mean Graduation Rate Estimates for African American Students by Size of Community and Gender

Size of Community	CPI ALL AA	SD	NCES ALL AA	SD	CPI Male AA	SD	NCES Male AA	SD	CPI Female AA	SD	NCES Female AA	SD
1. Large City	47%	.21	80%	.18	46%	.28	77%	.19	44%	.27	82%	.17
2. Mid-size City	60%	.26	88%	.13	47%	.28	84%	.17	57%	.28	89%	.14
3. Urban Fringes of Large City	60%	.24	88%	.14	54%	.29	87%	.15	59%	.28	91%	.14
4. Urban Fringes of Mid-Size City	61%	.24	90%	.15	57%	.28	87%	.19	52%	.31	91%	.12
8. Rural. Inside MSA	64%	.24	93%	.09	59%	.28	89%	.17	63%	.31	94%	.08

#### *CPI Results by Size of Community for African American Students*

Table 5-65 shows that CPI mean graduation rates estimates for ALL African American students were in the lower 60<sup>th</sup> percentile in four of the five population areas. Large city results showed graduation estimates of 47%. Mid-sized cities and urban fringes of large cities generated CPI estimated graduation rates of 60%, urban fringes of mid-sized cities rates were 61% and rural areas inside the MSA were highest at 64%.

The CPI African American female graduation rate estimate of 44% in large cities was the lowest estimate of all African American groups reported in any category. Generally, as the size of the city decreases African American female rates increase. The one exception was in the area of urban fringes of mid-sized cities, where the rate was 52%. Excluding large

cities and urban fringes of mid-sized cities, African American female CPI rates were between 57% and 63%, with the rural area reporting the 63% rate.

The CPI graduation rates for ALL African American males were the lowest in large and mid-sized cities. Both rates were in the 40<sup>th</sup> percentile, and were 46% for large cities and 47% for mid-sized cities. Areas that fringe large and mid-sized cities and the rural area inside the MSA had higher rates in the 50<sup>th</sup> percentile. Urban fringes of large cities had rates of 54%, urban fringes of mid-sized cities rates were 57%, and the highest rates were in the rural area at 59%. CPI graduation rate result for African American male students never exceeded 59% in any size community.

#### *NCES Results by Size of Community for ALL African American Students*

NCES results for ALL African American students by size of community shows that graduation rate estimates were in the 80<sup>th</sup> and 90<sup>th</sup> percentile. Once again the lowest rate of 80% was found in large cities. Both mid-sized cities and urban fringes of large cities show graduation rate estimates of 88%. The highest NCES graduation rates of 90% and 93% were found in the smaller population areas of urban fringes of mid-sized cities and rural areas inside the MSA.

Here we combine the reported results for African American males and females because of their multiple similarities. We find that for each gender the lowest rate was in large cities. The NCES rate for African American males in large cities was 77% and for females it was 82%. We also find that as the size of a population area decreases the graduation rate estimates increases for both males and females. In mid-sized cities the NCES male rate was 84%; for females the rate was 89%. In both urban fringes of large and mid-sized cities the male rate was 87% and for females the rate was 91%. Finally, in rural areas inside the MSA the estimated rate for males was 89% and for females the rate was 94%.

When comparing African American female graduation rates to African American male graduation rates, our table shows that females had higher NCES graduation rates than males in all sizes of reported communities. Female rates were 5% higher in large cities, mid-sized cities and rural areas inside the MSA; for urban fringe areas of large and mid-sized cities female rates were 4% higher than males.

#### *Supporting Data Graduation Rate Estimate Analysis for African American Students*

Table 5-66: shows differences in enrollment data between 2002-03 and 2005-06 and reports dropout data and percentage compared to 2002-03 student enrollment.

**Table 5-66: Contributing Data to Graduation Rate Analysis for African American Students Organized by Size of Community**

2005-06	1	2	3	4	8	Total
<b>Summary Data</b>	<b>Large City</b>	<b>Mid-Size</b>	<b>Urban Fringes of Large City</b>	<b>Urban Fringes of Mid-Size City</b>	<b>Rural inside MSA</b>	
<b>All African Americans</b>						
Enrollment						
(Gr. 9) 2002-03	13,392	9,042	13,405	1,510	1,016	38,365
(Gr.12) 2005-06	6,829	5,697	9,519	1,234	786	24,065
Difference	-6,463 (-48%)	-3,345 (-37%)	-3,886 (-28%)	-275 (-18%)	-330 (-32%)	-14,300 (-37%)
Dropouts	2,438 (18%)	1,095 (12%)	1,370 (10%)	109 (7%)	86 (8%)	5,098 (13%)
CPI	<b>47%</b>	<b>60%</b>	<b>60%</b>	<b>61%</b>	<b>64%</b>	
NCES	<b>80%</b>	<b>88%</b>	<b>88%</b>	<b>90%</b>	<b>93%</b>	
<b>African American Females</b>						
Enrollment						
(Gr. 9) 2002-03	6,721	4,450	6,850	732	531	19,284
(Gr.12) 2005-06	3,703	2,948	5,023	728	419	12,821
Difference	-3,018 (-45%)	-1,502 (-38%)	-1,827 (-27%)	-4 (-5%)	-112 (-21%)	-6463 (-34%)
Dropouts	1,076 (16%)	502 (11%)	623 (9%)	52 (7%)	40 (7%)	2,357 (12%)
CPI	<b>44%</b>	<b>57%</b>	<b>59%</b>	<b>52%</b>	<b>63%</b>	
NCES	<b>82%</b>	<b>89%</b>	<b>91%</b>	<b>91%</b>	<b>94%</b>	
<b>African American Males</b>						
Enrollment						
(Gr. 9) 2002-03	6,671	4592	6,555	778	485	19,081
(Gr.12) 2005-06	3,126	2749	4,496	506	367	11,244
Difference	-3,545 (-53%)	-1,843 (-40%)	-2,059 (-31%)	-282 (-36%)	-118 (-24%)	-7837 (-41%)
Dropouts	1,362 (20%)	593 (13%)	747 (11%)	57 (7%)	46 (9%)	2,805 (15%)
CPI	<b>46%</b>	<b>47%</b>	<b>54%</b>	<b>57%</b>	<b>59%</b>	
NCES	<b>77%</b>	<b>84%</b>	<b>87%</b>	<b>87%</b>	<b>89%</b>	

### ALL African American Students

Table 5-66 shows that the total enrollment for African American students declined by 37% between grade 9 in 2002-03 and grade 12 in 2005-06 for the five population categories we are studying for this group. The largest decline in enrollment of 48% occurred in large cities. In 2002-03 large city student enrollment in grade 9 was 13,392; by 2005-06 grade 12 student enrollments decreased by 6,463.

Of the five population categories studied, we discovered that the grade 9 enrollments in the urban fringes area of large cities and in large cities were close. Large cities grade 9 enrollment was 13,392, and the urban fringe of large cities was 13,405. By 2005-06 large cities lost 6,463 students or 48% of their grade 9 enrollment, compared to the urban fringe areas of large cities, whose student enrollment loss by grade 12 was 3,886 students or 28%.

Population areas such as rural areas also saw large percentages of decline in student enrollment between the 9<sup>th</sup> and 12<sup>th</sup> grade years. Rural areas declined by 32%, showing a grade 9 enrollment of 1,016, and by grade 12 that enrollment shrank to 786 African American students. The urban fringes of mid-sized cities started with a student enrollment in grade 9 of 1,510; by 2005-06 the enrollment decline showed that 1,234 students were left in these areas. Urban fringes of mid-sized cities decreased by 18%.

Dropouts for ALL African American students continue to tell the story of large cities having the highest rate of declining numbers of students. Dropouts in large cities equaled 1,076 students or 16% of the total 9<sup>th</sup> grade population in 2002-03. Mid-sized cities were second in the percentage of high school dropouts, seeing 502 students or 11% loss of grade 9 enrollments. The urban fringes of large and mid-sized cities showed results of 9% dropouts, and finally rural areas showed 7% dropouts over the course of the four years.

### African American Females

Enrollment data for African American females in Table 5-66 show a 33% overall decline between grade 9 in 2002-03 and grade 12 in 2005-06. There were a total of 19,284 African American females enrolled in our study schools in 2002-03; that number dropped to 12,821 in grade 12 in 2005-06. Areas to show the largest decline in enrollment are again large cities, which declined by 3,018 students or a total of 45%. Mid-sized cities were second with a decline of 1,502 African American females in 2005-06 from an original grade 9 enrollment of 4,450. Urban fringes of large cities also lost 27% of their original grade 9 enrollments, rural areas lost 21% of their grade 9 population and urban fringes of mid-sized cities by 5%.

African American females dropped out at a rate of 16% in large cities, 11% in mid-sized cities, 9% in both urban fringes of large and mid-sized cities and 7% in rural areas inside the MSA.

### African American Males

African American male results show the highest percentages of change in the areas of declining enrollment and dropouts. The overall decrease in enrollment from grade 9 and grade 12 was 41% or -7,847. In 2002-03 there were 6,671 African American male students enrolled in our study schools. In 2005-06 that number decreased by 3,545 students or 53%. In all five population areas, we are reporting enrollment decreases for African American male students from 24% to 53%. African American male enrollment in mid-sized cities declined

by 1,843 students or 40% in 2005-06 from initial grade 9 enrollments of 4,592 in 2002-03. For urban fringes of large cities the decline was 31%; urban fringes of mid-sized cities saw a decline of 36% and rural areas inside the MSA declined by 24%.

As seen throughout the reporting for African American students, the highest dropout percentages were also in large cities. The overall dropout rate for African American males for the four years was 15%. Large cities reported 1,362 or 20% dropouts out of 6,671 African American males enrolled in grade 9 in 2002-03. Mid-sized cities came in at a rate of 13% African American male dropouts. Urban fringes of large cities and mid-sized cities reported 11% and 7% dropouts from their areas respectively. The table shows rural areas had 9% dropouts over the four year.

### Graduation Rate Results for Hispanic Students Grouped by Size of Community

Table 5-67 present the mean graduation rate results of the 2005-06 CPI and NCES calculations for Hispanic students organized by Size of Community. Hispanic students were represented in seven of the eight population areas that had more than five schools to compute the graduation rate equations for the CPI and NCES methods in order to report appropriate data.

Table 5-67 CPI and NCES 2005-06 Mean Graduation Rates for Hispanic Students by Size of Community and Gender

Size of Community	CPI ALL HI	SD	NCES ALL HI	SD	CPI Male HI	SD	NCES Male HI	SD	CPI Female HI	SD	NCES Female HI	SD
1. Large City	48%	.17	80%	.15	42%	.21	76%	.17	50%	.22	82%	.13
2. Mid-size City	61%	.18	87%	.11	57%	.22	86%	.12	63%	.21	89%	.11
3. Urban Fringes of Large City	64%	.19	90%	.09	59%	.23	89%	.11	67%	.23	92%	.09
4. Urban Fringes of Mid-Size City	64%	.17	91%	.08	59%	.23	89%	.10	66%	.19	92%	.07
6. Small Town	59%	.22	89%	.09	57%	.24	87%	.13	55%	.17	91%	.10
7. Rural, outside MSA	70%	.21	96%	.07	48%	.33	93%	.11	74%	.25	91%	.13
8. Rural. Inside MSA	69%	.19	94%	.07	61%	.26	92%	.09	66%	.24	94%	.07

#### *CPI Results by Size of Community for Hispanic Students*

Table 5-67 shows that CPI graduation rate estimates for Hispanic students ranged from 48% to 70%. All students and students by gender had the lowest graduation rates in large cities. For Hispanic students, the overall student rate and the rate for males fell below the 50<sup>th</sup> percentile in large cities. Hispanic female CPI rates in large cities were just at 50%. The second lowest rate for all groups was in small towns. The overall rate was 59%; for males the rate was 57% and for females the rate was 55%.

The highest graduation rate estimates rates for ALL students and males were in rural areas inside the MSA; the ALL student rate was 69% and an estimated rate for males of 61%. Hispanic females showed the highest estimated graduation rate of 74% in rural areas outside the MSA.

#### *NCES Results by Size of Community for ALL Hispanic Students*

We have consistently reported that graduation rates in large cities have been lower than any other population areas for most ethnic groups and genders. This consistently is also present with NCES Hispanic graduation rate estimates. For ALL students the rate was 80%, whereas ALL Hispanic rates in other population categories range from 87% to 96%. Mid-sized cities and small towns also report rates in the 80<sup>th</sup> percentile. Mid-sized cities rates were 87% and small towns had a rate of 89%. ALL Hispanic students had higher rates in urban fringes of both large and mid-sized cities and both rural areas generated. NCES rates in these areas were in the 90<sup>th</sup> percentile

Hispanic males had the lowest NCES rates of 76% in large cities. The rates for this group were highest in both rural areas with rates of 93% and 92%. The urban fringe of both large and mid-sized cities had NCES estimated rates of 89%. Mid-sized cities showed and NCES rate of 86% for Hispanic males. For ALL Hispanic students in large cities the rate is 80%, for males the rate was 76% and for Hispanic females the table shows a rate of 82%.

Hispanic females also had the lowest NCES rate of 82% in large cities. The highest rate was in rural areas inside the MSA at 94%. The consistency in rates appears to be in smaller population areas or areas that fringe large and mid-sized urban cities. These NCES rates are 91% and 92% respectively.

#### *Supporting Data Graduation Rate Estimate Analysis for Hispanic Students*

Table 5-68 shows differences in enrollment data between 2002-03 and 2005-06 and reports dropout data and percentage compared to 2002-03 student enrollment.

**Table 5-68: Contributing Data to Graduation Rate Analysis for Hispanic Students Organized by Size of Community**

2005-06	1	2	3	4	6	7	8	Total
<b>Summary Data</b>	<b>Large City</b>	<b>Mid-Size</b>	<b>Urban Fringes of Large City</b>	<b>Urban Fringe of Mid-Size City</b>	<b>Small Town</b>	<b>Rural outside MSA</b>	<b>Rural inside MSA</b>	
<b>All Hispanic</b>								
Enrollment								
(Gr. 9) 2002-03	62,424	42,551	68,954	16,302	900	468	8,154	199,753
(Gr.12) 2005-06	30,664	28,434	48,346	11,463	730	360	5,938	125,935
Difference	-31,760 (-51%)	14,117 (-33%)	-20,608 (-30%)	-4,839 (-30%)	-170 (-19%)	-108 (-23%)	-2,216 (27%)	-73,818 (37%)
Dropouts	9,522 (15%)	3,914 (9%)	5,869 (8%)	1,081 (7%)	76 (8%)	23 (5%)	681 (8%)	21,166 (10%)
CPI	<b>48%</b>	<b>61%</b>	<b>64%</b>	<b>64%</b>	<b>59%</b>	<b>70%</b>	<b>69%</b>	
NCES	<b>80%</b>	<b>87%</b>	<b>90%</b>	<b>91%</b>	<b>89%</b>	<b>96%</b>	<b>94%</b>	
<b>Hispanic Female</b>								
Enrollment								
(Gr. 9) 2002-03	30,117	20,903	33,517	7,904	457	220	3,992	97,110
(Gr.12) 2005-06	16,227	14,717	24,726	5,835	373	162	2,997	65,037
Difference	-13,890 (46%)	-6,186 (-30%)	-8,791 (-26%)	-2,069 (-26%)	-84 (-18%)	-58 (-26%)	-995 (-25%)	-32073 (33%)
Dropouts	4,185 (14%)	1,863 (9%)	2,577 (8%)	498 (6%)	37 (8%)	13 (6%)	299 (7%)	9472 (10%)
CPI	<b>50%</b>	<b>63%</b>	<b>67%</b>	<b>66%</b>	<b>55%</b>	<b>74%</b>	<b>66%</b>	
NCES	<b>82%</b>	<b>89%</b>	<b>92%</b>	<b>92%</b>	<b>91%</b>	<b>91%</b>	<b>94%</b>	
<b>Hispanic Male</b>								
Enrollment								
(Gr. 9) 2002-03	32,307	21,648	35,437	8,398	443	248	4,162	102,643
(Gr.12) 2005-06	14,437	13,717	23,620	5,628	357	198	2,941	60,898
Difference	-17,870 (-55%)	-1,931 (-9%)	-11,817 (-33%)	-2,770 (-33%)	-86 (-19%)	-50 (-20%)	-1,221 (-29%)	-41,745 (-41%)
Dropouts	5,337 (16%)	2,051 (9%)	3,292 (9%)	583 (7%)	39 (8%)	10 (4%)	382 (9%)	11,694 (11%)

CPI	42%	57%	59%	59%	57%	48%	61%	
NCES	76%	86%	89%	89%	87%	93%	92%	

### All Hispanic Students

Table 5-68 shows the enrollment changes for ALL Hispanic students from grade 9 enrollments to grade 12 enrollments for the four years of study. This is the largest student enrollment group of the four ethnic groups we studied. In 2002-03 Hispanics represented 199,753 students in all seven population areas. By 2005-06 Hispanic student enrollment was 125,935. This was a 37% total decline of Hispanic students in all population areas in California that formed our study. In large cities the decrease was 51%, followed by a 33% in mid-sized cities and 30% decline in both urban fringe areas of large and mid sized cities. In smaller areas, such as small towns and the rural areas inside and outside of the MSA the decline ranged from 19% to 27%.

Hispanic dropouts overall were 10% across all categories; however, the highest percentage of dropouts was in large cities at 15%. In all the remaining areas the percentage of Hispanic dropouts was 10% or less.

### Hispanic Females

Hispanic females showed a total percentage decline in enrollment of 33% from 2002-03 to 2005-06. Large cities showed a decline in Hispanic female enrollment of 46% over the four year period. Mid-sized cities showed a declining enrollment of 30%, while both the urban fringe of large cities and mid-sized cities and rural areas outside the MSA each lost 26% of its Hispanic females. The remaining smaller population areas such as small towns and rural areas inside the MSA declined in enrollment by 18% and 25% in that order.

Hispanic female dropouts overall were at 10% from 2002-03 to 2005-06. We continue to see that large cities have the highest percentages for declining enrollment and dropouts. Large cities saw a 14% dropout rate for Hispanic females, while all other areas were less than 10%.

### Hispanic Males

The one student group with the largest decline in enrollment was Hispanic males. The overall percentage of lost enrollment for this group from 2002-03 to 2005-06 was 41%. In large cities the percentage decrease in enrollment is 56% for Hispanic males. In both the urban fringes of large and mid-sized cities the decline was 33%. It was 29% in rural areas inside the MSA and 20% in rural areas outside the MSA. Even small towns reported a rate of 19% enrollment loss of Hispanic males. The lowest percentage of decline was in mid-sized cities where the rate was 9%.

Male Hispanic dropouts account for 11% overall loss in student high school participation. Table 5-63 shows that 16% of that loss is in large cities, while all other population areas are between 4% and 9%.

## Graduation Rate Results for Asian Students Grouped by Size of Community

Table 5-69 presents the mean graduation rate results of the 2005-06 CPI and NCES calculations for Asian students organized by Size of Community. Asian students were represented in six of the eight population areas that had more than five schools to compute the graduation rate equations for the CPI and NCES methods in order to report appropriate data.

Table 5-69 CPI and NCES 2005-06 Mean Graduation for Asian Students by Size of Community and Gender

Size of Community	CPI ALL Asian	SD	NCES ALL Asian	SD	CPI Male Asian	SD	NCES Male Asian	SD	CPI Female Asian	SD	NCES Female Asian	SD
1. Large City	73%	.23	92%	.09	62%	.26	91%	.11	66%	.28	94%	.09
2. Mid-size City	81%	.24	94%	.09	66%	.29	95%	.11	74%	.28	96%	.07
3. Urban Fringes of Large City	82%	.23	96%	.08	71%	.30	96%	.08	72%	.28	97%	.06
4. Urban Fringes of Mid-Size City	76%	.27	95%	.08	60%	.31	96%	.06	66%	.29	95%	.08
6. Small Town	64%	.24	98%	.05	56%	.24	100%	.0	46%	.39	91%	.14
7. Rural, Inside MSA	73%	.31	97%	.05	72%	.35	97%	.07	58%	.36	98%	.03

### *CPI Results by Size of Community for Asian Students*

CPI results for ALL Asian students are different from the other three ethnic group results. We find that small towns produced the lowest graduation rate results of 64% followed by large cities and rural areas inside the MSA; both areas produced a CPI estimated graduation rate of 73%. Mid-sized cities and urban areas that fringed on large cities had the highest rates of 81% and 82% respectively. Urban fringes of mid-sized cities had a CPI rate of 76%.

In the case of Asian males the lowest CPI rate was in small towns at 56%, urban fringes of mid-sized cities followed at 60%, large cities had a rate of 62% and then mid-sized cities at 66%. The highest rates were in urban fringes of large cities at 71% and rural areas inside the MSA at 72%.

Asian females showed the lowest rates in rural areas at 46% and 58%. This was followed by large cities and the urban fringes of mid-sized cities, where the CPI estimates were both 66%. The highest rate results were in mid-sized cities at 74% and the urban fringe of large cities at 72%.

### *NCES Results by Size of Community for Asian Students*

NCES rates for ALL Asian students and both genders were in the 90<sup>th</sup> to 100<sup>th</sup> percentile. NCES graduation rate estimates show an opposite picture of graduation rates than the CPI method. For NCES it shows that generally for ALL Asian students as the size of the population areas decrease the NCES graduation rate increase. NCES rates for ALL students were lowest in large cities at 92%, medium sized cities were between 94% and 96% and small areas were between 95 and 98%.

Asian male NCES results were 91% in large cities, between 95% and 96% in medium sized cities and in smaller areas the rates were between 96% and 100%. Asian females were somewhat different. NCES rate was lowest in small towns at 91%, followed by rates of 94% in large cities, but overall rates in the remaining areas ranged from 95% to 98%. The highest NCES rate for Asian females was in rural areas inside the MSA at 98%.

Table 5-70 shows differences in enrollment data between 2002-03 and 2005-06 and reports dropout data and percentage compared to 2002-03 student enrollment.

**Table 5-70: Contributing Data to Graduation Rate Analysis for Asian Students Organized by Size of Community**

<b>2005-06</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>6</b>	<b>8</b>	<b>Total</b>
<b>Summary Data</b>	<b>Large City</b>	<b>Mid-Size</b>	<b>Urban Fringes of Large City</b>	<b>Urban Fringes of Mid-Size City</b>	<b>Small Town</b>	<b>Rural inside MSA</b>	
<b>All Asian</b>							
Enrollment							
(Gr. 9) 2002-03	11,726	11,370	12,040	1,556	100	615	37,407
(Gr.12) 2005-06	10,062	10,723	11,890	1,431	92	609	34,807
Difference	-1,664 (-14%)	-1,647 (-14%)	-150 (-12%)	-125 (-8%)	-8 (-8%)	-6 (-1%)	-2,600 (-7%)
Dropouts	935 (8%)	287 (2%)	347 (3%)	74 (5%)	4 (4%)	23 (4%)	1,671 (14%)
CPI	<b>73%</b>	<b>81%</b>	<b>82%</b>	<b>76%</b>	<b>64%</b>	<b>73%</b>	
NCES	<b>92%</b>	<b>94%</b>	<b>96%</b>	<b>95%</b>	<b>98%</b>	<b>97%</b>	
<b>Asian Females</b>							
Enrollment							
(Gr. 9) 2002-03	5,518	5,429	5,895	760	50	305	17,957
(Gr.12) 2005-06	5,026	5,222	5,895	683	48	303	17,177
Difference	-492 (-9%)	-207 (-4%)	0 (-0%)	-77 (-10%)	-2 (-4%)	-2 (-.6%)	-780 (-4%)
Dropouts	388 (7%)	115 (2%)	155 (3%)	34 (4%)	3 (6%)	11 (4%)	706 (4%)
CPI	<b>66%</b>	<b>74%</b>	<b>72%</b>	<b>66%</b>	<b>46%</b>	<b>58%</b>	
NCES	<b>94%</b>	<b>96%</b>	<b>97%</b>	<b>95%</b>	<b>91%</b>	<b>98%</b>	
<b>Asian Males</b>							
Enrollment							
(Gr. 9) 2002-03	6,208	5,941	6,145	796	50	310	19,450
(Gr.12) 2005-06	5,036	5,501	5,995	748	44	306	17,630
Difference	-1,172 (18%)	-440 (-7%)	-150 (-2%)	-48 (-6%)	-6 (-12%)	-4 (-1%)	-1,910 (-9%)
Dropouts	547 (9%)	172 (3%)	192 (3%)	40 (5%)	1 (2%)	12 (4%)	965 (5%)
CPI	<b>62%</b>	<b>66%</b>	<b>71%</b>	<b>60%</b>	<b>56%</b>	<b>72%</b>	
NCES	<b>91%</b>	<b>95%</b>	<b>96%</b>	<b>96%</b>	<b>100%</b>	<b>97%</b>	

### All Students

The Asian student enrollment is the smallest of the four ethnic groups in this study. Table 5-65 shows that the total student enrollment in 2002-03 was 37,407. In 2005-06 the enrollment declined by 2,600 students or 7%. As with other ethnic groups enrollment decline was higher in large cities but in the case of Asian students it was also higher in mid-sized cities. Both areas declined by 14%. Asian student enrollment in urban fringes of large cities also saw a decline of 12%. All other areas were less than 10%. The overall student dropout rate for Asian students was 14% with no population area over 10%.

### Asian Females

Asian female enrollment declined by 9% over the course of the four years of the study. The largest change in enrollment was in urban fringes of mid-sized cities where there was a decline of 10%. Large cities were second with a 9% decline and all other areas were between 0% and 4%. Asian female dropouts were all under 10%, yet the highest dropout percentage of 7% was in large cities.

### Asian Males

Overall enrollment change for Asian males between 2002-03 and 2005-06 was 9%. The highest enrollment change of 25% was in the urban fringe areas of large cities. Large cities were second at 19% and small towns showed a change in enrollment over the years of 12%. All Asian male dropout percentages were less than 10%; however, large cities showed the highest rate for Asian males of 9%.

## 6. CHAPTER 6: SUMMARY AND FINDINGS

All superintendents need to understand in simple terms how graduation rates are calculated, because graduation rates are among the most important accountability mechanisms upon which superintendents are judged. As a mechanism of accountability, the graduation rate reflects how educators have completed their responsibility to the public education task.

It is imperative that superintendents know how to distinguish the methods that are being used to discern graduation rates. They must know which method is being employed by their state education agency, the media, educational pundits or the community at large to judge the graduation rate of the most recent group of graduating seniors. They need to be able to communicate these differences with some ease to varying groups of stakeholders who have limited to no educational expertise in this area. A key skill for superintendents is the ability to reject information that is not relevant to their school district. For example, California school districts are currently being evaluated by the National Center for Educational Statistics (NCES) method. Newspapers and other journals often report statistical data from reports or studies that use other methodologies not utilized in California. This skews the data, incites or misinforms the public and creates distrust regarding the effectiveness of schools. Because the graduation rate is significant as an outcome for effort, reporting graduation rates accurately is vital for consistency and accountability.

Two of the most frequently cited methods of calculating high school graduation rate estimates are the NCES method and the Cumulative Promotion Index, or the CPI method. The NCES method is the most commonly used method by state education agencies to calculate and report graduation rates to the U.S. Department of Education to meet NCLB accountability requirements. The CPI is an alternative method developed by Christopher Swanson, originally through the Urban Institute. The CPI receives considerable media attention because of its frequency of use and awareness through the Editorial Projects in Education Research Center, where Swanson is now a division director. This nonprofit organization publishes *Education Week*, a professional journal read by educators nationwide both in print and on the Internet. These two methods produce considerable controversy for school districts and superintendents when trying to explain how the methods relate to their graduation rates.

This study generates graduation rates between the years of 2002-03 and 2005-06 using the NCES and CPI method. Each method was applied to California enrollment, dropout and graduate data for all students and by ethnicity (White, African American, Hispanic and Asian) and gender to compute estimated graduation rates in high schools in unified school districts. Approximately 835 schools were selected that met the variable requirements of each method's algorithm, and in the case of the CPI method did not exceed a score >1.2. The study also looks at the results of the two rates when school data is applied to size of school by student enrollment and size of community. Results of the CPI and NCES computations were examined to discern similarities and differences.

## 6.1 Summary of Findings

The results of the application of the NCES and CPI methods to school-level data displayed mentionable differences in the rates produced in this study. CPI rates across various applications produced the largest variations in graduation rate estimates, which ranged from 41 - 87%. The NCES method generated more consistent graduation rates of 82 – 99%.

In looking at standard deviation results of the mean graduation rates for both methods, the CPI standard deviations were two to three times larger than those for the NCES method. In some cases the standard deviations of the CPI means graduation rates were three to five times as large as the NCES method. This was especially true in areas of smaller populations. At first glance, we might say that the NCES method more precisely determines the mean graduation rates of the study schools since the standard deviations are much smaller than those of the CPI method. However, we must be careful not to take things at face value; although the NCES has a much smaller standard deviation, the method does not take into consideration the huge fluctuations in student mobility, which do impact graduation rate results. However, standard deviation does give us a picture of the CPI discrepancies and the huge fluctuations with the method. These discrepancies can create difficulty for superintendents in trying to explain why there is such a large percentage difference in reported rates of the two methods.

### **Finding 1: Regardless of the estimation method (NCES and CPI) used, graduation rates declined from 2002-03 to 2005-06.**

Although the results of the application of each method produced large differences in the mean rates, there were some commonalities in the overall findings. One such commonality was the finding that overall graduation rates declined between 2002-03 and 2005-06 regardless of the method.

With the exception of NCES rates for ALL females, all other calculations (ethnicity and all students and all males) indicate that the graduation rates were lower in 2005-06 than the baseline NCLB data of 2002-03. NCES ALL females 2005-06 rates remained the same as 2002-03 baseline rates of 93%. A great deal of fluctuation was found in the results using the CPI method to determine graduation rates. Over the four-year period for this study, the CPI rates showed increases and decreases in year-to-year rates for all groups from 2% to 17%, while NCES estimates remained constant with 0-3% difference in year-to-year rates. Within the subgroups, the greatest variance in CPI-determined rates was documented to be with Asian males and females, followed by African American, Hispanic and White students.

The greatest decline in CPI rates among all ethnic groups was between 2004-05 and 2005-06. Once again, CPI rate differences between the two years showed the greatest variation, ranging from 1% to 14%. NCES rate differences between the two years were between 1% and 3% for any group or gender. The largest CPI change between 2004-05 and 2005-06 rates was with Asian females at 14%, followed by Asian males at 13%. African American CPI rates between those years dropped 10% for females and 5% for males.

We believe that rates slightly increased in 2004-05 due to a push by high school educators to get students who were close to graduating to meet their graduation credit requirements. This push was a means to get students through high school with a diploma and

without taking the California High School Exit Exam (CAHSEE) the following year. Passing the CAHSEE in 2005-06 became a mandated graduation requirement. It is likely that this impacted the decline in graduation rates from 2004-05 to 2005-06. It is evident in the results from NCES and CPI that the initial implementation of CAHSEE as a requirement of graduation impacted the graduation rates negatively in 2005-06, precipitating in the majority of instances a lower than NCLB baseline score.

**Finding 2: Racial and gender gaps between White, African American, Hispanic and Asian students were evident regardless of the method used to calculate graduation statistics.**

Two significant gaps were noted when overall rates were calculated with both the NCES and the CPI. The statistical evidence documents that regardless of the method used, female students of all ethnicities graduated at higher rates than males. The second significant discrepancy in graduation rates is the gap noted between the four ethnicities. CPI total mean graduation estimated rates ranged from the 50<sup>th</sup> percentile for African American students (Females-58%, Males-53%) and Hispanic males (58%), to the 60<sup>th</sup> percentile for Hispanic females (66%) and White males (65%) and the 70<sup>th</sup> percentile for Asian students (Females-75%, Males-71%) and White females (70%). NCES rates for all female ethnic groups (White-95%, African American-90%, Hispanic-91% and Asian-97% and White 93%) and Asian males (95%) were in the 90<sup>th</sup> percentile. African American (86%) and Hispanic males (87%) were in the 80<sup>th</sup> percentile. The CPI rate for African Americans indicates that 50% of these students fail to graduate. Hispanic males suffered an equal plight. This research demonstrates that between the years 2002-03 and the completion of the study during 2005-06, African Americans and Hispanic males were less likely to complete high school with their White and Asian peers.

**Finding 3: School size and the size of community impact high school graduation rates**

Traditionally, neither the CPI nor the NCES methods distinguish between size of school enrollment and size of community when graduation data are gathered and reported. Yet this research indicates that it does matter – significantly. It is only when data are reported by the size of schools and the size of the community that we can gain clarity about how schools with different numbers of student enrollment and in different locations create different outcomes. Also, in the State of California, similar schools rankings are offered when the summative California Standards Test (CST) is aggregated, which tells you the rate of graduation in schools of similar size and same demographics.

*Overall Trends*

Overall trends showed that the larger the size of student enrollment in a school, the lower the overall total mean graduation rate using both methods. Large schools in Group 4 schools showed a CPI total mean rate of 66%, while NCES total means were 88%. Schools that were identified as medium sized or moderately large (Group 2 and 3) produced higher total mean rates for both methods than Group 4 schools. CPI total means for Groups 2 and 3

were 70%; for NCES the total means were 93%. Small schools with student enrollments showed a CPI total mean of 69% and the NCES total mean was 94%.

Although there were large differences in the overall reported rates between the two methods, they both indicate that students in medium and moderately large schools are more likely to graduate than students in schools with large enrollments. Where they differ is that the NCES method overall rates indicate that the smaller the student enrollment in a school, the higher the graduation rate and the greater the likelihood of graduating (Group 1: small schools 94%, Group 2: medium sized schools 93%, Group 3: moderately large schools 93% and Group 4: large schools 88%). The CPI method results display that students enrolled in medium and moderately larger schools (Group 2 and 3 medium and moderately large schools 70%) are more likely to graduate than students enrolled in schools with small or large student enrollments (Group 1: small schools 69%, Group 4: large schools 66%).

### *Ethnic Groups and Gender Trends*

Overall group trends for ethnic subgroups and genders showed that the NCES method mimicked the overall total student trends. All ethnic groups and genders had the lowest total mean graduation rates in large schools in Groups 4. The NCES total mean rates continued to show, for all ethnic groups in this study, that the smaller the student enrollments were in schools, the higher the estimated graduation rate.

The CPI total mean rates, on the other hand, provided fluctuating results among the ethnic groups and genders. CPI results that showed African American students, Asian students and Hispanic females had higher graduation rates in schools with moderately large and large student enrollments (Group 3 and 4). CPI rates for Hispanic males were highest at 59% in both small schools and moderately large schools (Groups 1 and 3) and rates were 58% in medium sized and large schools (Groups 2 and 4). White students were the only ethnic group to follow the previous CPI trend displayed in overall rates; the lowest graduation rate was in large schools (Group 4) and the highest rates were in the medium and moderately high student enrollment schools (Group 2 and 3).

The above-stated trends appropriately show where the highest and lowest graduation rates were in relation to size of school, but what also needs to be pointed out is the gap in rates between the ethnic groups by size of school. African American females and males had the lowest CPI total mean graduation rates in all sizes of schools and in most years. The CPI year-to-year rates for African American females were in the 50<sup>th</sup> to 60<sup>th</sup> percentile in all groups, with Group 1 rates consistently in the 50<sup>th</sup> percentile all four years. African American males have even lower rates, in the 40<sup>th</sup> to 50<sup>th</sup> percentile in all groups. A distressing result for African American males is that CPI estimated year-to-year graduation rates were as low as 41% in Group 1 in 2005-06. The highest rate to be reached was 57% in 2004-05 in Group 4.

Hispanic students followed African American students in having the second lowest CPI total mean graduation rates in all schools based on size of enrollment. Hispanic females showed CPI year-to-year rates in the 60<sup>th</sup> percentile in all groups in all years except in 2003-04, where in Group 3 the rate was 70%. Hispanic males were close to levels of African American males and had CPI year-to-year graduation rates primarily in the 50<sup>th</sup> percentile all four years. It did not matter what size school Hispanic males were enrolled in, the CPI year-

to-year rates progressively declined in all groups to show the lowest rates in 2005-06. At no time in any group did CPI Hispanic male estimated graduation rates exceed 63%.

CPI total mean rates for white students were the second highest graduation rates behind Asian students in all sizes of schools. White student CPI year-to-year graduation rates were predominately in the 60<sup>th</sup> to 70<sup>th</sup> percentile. White female CPI results produced more rates in the 70<sup>th</sup> percentile than males. White males in all groups showed CPI graduation rates in the 60<sup>th</sup> percentile, except for the year 2004-05 in Group 2, where the rate was 70%.

Asian students showed the highest CPI total mean graduation rates and also the widest range of year-to-year rates in the 60<sup>th</sup> to 80<sup>th</sup> percentile. Asian females showed the highest rates in each group in 2004-05, where it has been previously stated that administrative efforts in high schools were geared toward completion of graduation requirements prior to the CAHSEE exam becoming effective the following year. During this year, the highest Asian female CPI year-to-year rate was 84% in Group 3. The other trend for Asian females was an increase in rates from the NCLB base line year in 2002-03 to 2003-04; all CPI estimated rates increased in groups identified by size of student enrollment. Asian males displayed a wide range of graduation rates across all groups. The year-to-year CPI rates ranged from the 60<sup>th</sup> to the 80<sup>th</sup> percentile. There was no consistent pattern to track with CPI rates for Asian males; however, the year-to-year rates exceeded all male ethnic groups in all years with the exception of rates in 2002-03 in Group 1, where they were the same as White males at 69%.

NCES results show graduation rates in the 80<sup>th</sup> to 90<sup>th</sup> percentile for all ethnic groups and genders. There are some generalized similarities as well as differences with CPI rates in reference to the gaps displayed by specific ethnic groups. NCES estimated rates showed that African American females had the lowest graduation rates among all female ethnic groups in schools with small and large student enrollments (Groups 1 and 4); however, in schools with medium sized student enrollment (Group 3) African American and Hispanic females both had NCES graduation rates of 91%. In schools with moderately large student enrollment (Group 3) Hispanic females had the lowest rates of 91%, compared to African American females at 92%. NCES ranked African American males with the lowest graduation rates in three of the four groups (Group 1, 2 and 3). African American and Hispanic males both had graduation rates of 83% in large schools (Group 4). As with CPI rates, Asian males had the highest rates, ranging from 93% to 96% in all groups regardless of size; White students showed the next highest rates ranging from 90% to 95%.

This study shows that according to CPI results, African American students had the lowest graduation rates, in the 40<sup>th</sup> to 60<sup>th</sup> percentile, regardless of the size of school. Hispanic students were close to African Americans in displaying low rates, but they were not the lowest of the four ethnic groups studied. Asian students had the highest rates across all ethnicities and groups and White students had the second highest CPI rates. No ethnic group or gender exceeded a total mean of 73% or year-to-year rates of 86% when the CPI method was utilized.

NCES results show African American students with the lowest graduation rate in small and medium sized schools. They are joined by Hispanic students in having the same low rates in moderately large and large school settings. As with the CPI rate, Asian students had the highest total mean rate of all ethnic groups and genders. White students also followed Asian students with the second highest rates. The highest reported NCES rate for any ethnic group or gender was 99% and the lowest reported rate was 82%.

The two methods convey an overall consistent message concerning the gap in graduation rates for the same groups of students, but how each method's rates are reported and to which audience can create doubt and confusion in school systems and even incite anger among stakeholders.

### *Size of Community*

Some of the size-of-community trends that were noted from the CPI and NCES results indicate that the large urban districts have the lowest graduation rates for students of all ethnic groups. Also, schools in non-urban areas produced higher graduation rates than their urban counterparts. Interestingly, the small rural schools also generate higher graduation rates for some ethnic groups than urban areas. However, these graduation rates trends do not incorporate the data specific to demographic subgroups. For example, African American students represented only 8% of student enrollment in five of the eight population status areas of this study, and the majority resided in large cities and the urban fringe of large cities. Those attending a large city school had a CPI graduation rate of 47%, with NCES ranking them at 80%. Hispanic youth represented 47% of the study population and also have a majority that live in large urban areas. Hispanic students showed a CPI rate of 48% and NCES placed them at 80%. It needs to be noted that this trend is exacerbated by a cohort decline in enrollment of approximately 6,500 (or 48%) African American students and 32,000 (or 51%) Hispanic students, with dropout rates at 18% and 15% respectively. All students seem to do better in non-large-city schools.

Enrollment reflects transitory patterns that are indicative of mobility. Approximately 25% of grade 9 White, African American and Hispanic students attending study schools in all population areas were not part of the final grade 12 graduation year count. Innumerable causes can be identified: dropouts who were not tracked to the next school, students who moved between schools because of failure or behavior problems, new school assignments, migrant students or an exodus from urban settings. The population areas from which base line data was gleaned show Hispanic student numbers of approximately 200,000 or (47%) of the study student population; it is estimated by CDE staff that approximately 10-15% of these students leave and return to their home country in Mexico or Central America. This leaves a significant gap. There was a total 37% drop in enrollment for Hispanic youth between the years of 2002-2005. Fifty one percent of the decline in Hispanic school enrollment was in large cities. Thirty-one percent of the Hispanic students in the study live in large cities. The largest groups of Hispanic students live in communities on the fringe of larger urban population areas. Data from size of schools imply that smaller schools serve Hispanics better, in that they have higher rates of graduation and fewer dropouts.

Interestingly, Asians were only statistically significant within six of the eight population status categories as identified above. In this study Asians do not reside in sufficient numbers to be assessed in large towns or rural areas, outside the MSA. They experienced the lowest decline in cohort enrollment, had fewer tendencies toward mobility and showed lower percentages of dropouts. CPI and NCES results were contradictory on graduation rates. Asians had lower rates in smaller communities and higher rates in mid-sized and urban fringe areas. With smaller numbers of students enrolled in schools, CPI rates will often skew results. When looking at NCES graduation rates, Asians (both males and females)

are the most successful student group in terms of graduation. They perform higher and outrank Whites and all other demographic groups in almost all categories. Females are not as successful when living in small towns, but the variance is not significant and is still well beyond national averages for graduation rates.

As the dominant cultural group in this study, White American students rank as having the most graduations in the most population categories using both methods. The mid-size schools were eliminated as previously noted in Chapter 5 because there were not enough sites in this category to create valid results. White status as the highest graduating group is changing due to the increasing number of Asians who are living throughout the country and successfully graduating. White students do best in communities that are in the urban fringes and seem to have the most difficulty in the small towns and rural communities. When we look at the numbers of successful completions for graduation using the NCES and the CPI, it needs to be noted that the White students are competing with Asian students in most categories, with Asians graduating at higher rates than Whites. However, there are more Whites in the sample than Asians, which skews the comparison.

### *Summary*

Clifford Adelman cautions in his article, *The Propaganda of Numbers*, from October 13, 2006 that it is counterproductive to make decisions based on assumptions derived from quick snapshots of student profiles and aggregates of student data. He briefly describes the common media presentation of the same topic with totally different perspectives of the data. He maintains that the loudest voice will too often receive the best press and will be considered by most as the most accurate. Accuracy then is being sold to the loudest bidder – the researcher or practitioner who can sell or market his or her results the best. We have already made the case that in many ways that is exactly why the Swanson CPI instruments are being used.

“It is counterproductive to make decisions based on assumptions derived from unexamined numbers.” Yet, Adelman contends, that is exactly what we do in education when we do not triangulate and look for evidence to affirm or substantiate our findings. Since the 2001 NCLB Act this has become the age of accountability, and we look to quantify everything. Numbers are supposed to tell the story. However, without accuracy and reliability the numbers still fail to tell the current reality.

Miscued data often is the basis for people backing programs and projects that lack accurate and reliable information. These are emotional projects typically spearheaded by charismatic leaders who may have a good idea. They use the manipulated data to back their ideas. Often, the program works for as long as the figurehead is involved. The programs are seldom replicable. Often people get hurt because they have rallied all their energy behind the person and the program; when the person leaves the program falls apart.

The only insurance against this type of misuse of data is the integrity of the practitioners. Adelman calls it “due diligence.” He asks every educator using data to pay attention – does it accurately and reliably depict reality? Can the data be validated effectively? Use these questions constantly, says Adelman, just like breathing. Never let down your guard. If this were to happen, we could eliminate bandwagon mistakes or decisions being made without data.

In conclusion, there are two discrete processes to determine graduation rate: 1) NCES reports the four-year graduation rate, which is the number of graduates divided by the number of graduates and the known dropouts; and 2) the CPI adjusts the graduation rate using a statistical formula using only two years of data to report cohort results. For our study, all schools reporting graduation rates in the State of California between 2002-03 and school year 2005-06 were used to discern our findings. We checked 256 CPI variables and 160 NCES variables for a total of 416 variables multiplied by 835 schools to see what patterns and trends would emerge of this large field. The conclusion of the research is that the NCES method provided consistent results that reflect much higher graduation rates than the CPI method. These results may be misleading of actual student graduation rates. There are limits to the NCES method, such as no accounting for students who enter the cohort after it has been established in grade 9 and duplication of enrollment for transient youth. CPI methods produced a much greater fluctuation in results as a result of how the algorithm works with smaller population sizes and individual school data. However, in spite of the methods employed, most of the NCES data was validated generally by the CPI findings.

## **6.2 What is Important for Superintendents to Know about how Graduation Rates are Derived**

Superintendents are not only the leaders of the people in a district, they are keepers of the data! Data represents the efforts of a faculty and staff to produce the forecasted academic objectives underscored by NCLB and the API from the state accountability network. Data are just symbols until someone with influence makes them information with attached meaning. From the information position, knowledge can be developed. Wisdom follows knowledge if the data is used in meaningful ways and the observer is able to generalize the data to inform new actions and activities. A superintendent relies on the accurate collection and reporting of data in a district. The collection and reporting give benchmarking and trend data to anything that you target. Superintendents have to understand the patterns and trends that become evident when analyzing data. Their data must be accurate if they are to make congruent decisions consistent with what the data infers.

Graduation rates are now tied to the Federal guidelines for Adequate Yearly Progress (AYP) and the state accountability system that measures Annual Performance Index (API). A superintendent needs to be able to check with the individual school leaders and the data collection supervisor to see if the district as a whole will meet targeted objectives. They need to be able to TRUST the process and the data. However, this will not happen if they don't understand how the data became representative indicators of enrollment, dropout rates, completion of requirements, and graduation. These are the vital data being collected today in districts, schools, and by administrators.

Knowing the difference between the CPI methods vs. the NCES methods is imperative if you are to accurately assess the numbers of students that should and did graduate from a freshman class of 8,000 students. Even though the NCES and CPI provide a formulaic framework to understand graduation rates, they still do not count noses. That is, one freshman nose named Billy Smith came into ninth grade – he continued to tenth grade and then he was gone. Is this a dropout or a transfer or a case to be reported to authorities?

Superintendents need to learn to count their inputs (students) by name and assess the outputs (graduation rate) by name.

Because data can be corrupted, misinterpreted or misused, the superintendent is the person who must ensure integrity. The role of superintendent inherently demands trust and must reflect the core values expressed in the district's vision and mission. Data must document that the public dollar is being spent wisely, generating the academic goals required by federal and state law.

There are significant factors that support data collection, interpretation and utilization of the numbers that are garnered in response to federal and state guidelines. In today's climate, it is vital that gender, ethnicity, English learners and first language, socio-economic status, disability status, and the parents' level of education all be calculated to fully understand a district. Knowing a high school has a 70% graduation rate doesn't tell you anything except that 70% of the current 12<sup>th</sup> graders met the criteria for graduation and passed the California High School Exit Exam. It doesn't tell you that nearly 90% of the students who did not achieve graduation status were minority and socio-economically disadvantaged. The more specific you are in understanding of the data generated by your district, the more likely you will make decisions that meet the needs of the majority, even when the majority is from a minority culture. Adelman reminds us that unexamined data leaves us without the full picture of the current graduating population.

### *Complete data*

The graduation rate relies on effective data collected over the student's four-year high school program. A district in control of its data will have the best idea of what's happening to its students. Too few districts invest in quality personnel to input and manage the data necessary to track and monitor secondary students. These positions are frequently vacated, requiring new hires and retraining. Superintendents can manage the graduation rate only if they can demonstrate that the data accurately and reliably capture the students who are graduating and those who are not. The more that is known, the better the understanding of the students' experience in the district's programs. Data collection, tracking, and retrieval need to be the chief educational officer's priority if decisions to drive the district are to be data motivated and linked to the reality of current operations.

Generate your own data to ensure an accurate portrayal of the district's graduating cohort. Make sure that you are sending good data forward to assure a quality measurement for the graduation rate. Track the students.

Many California districts do not have comprehensive data systems to gather accurate student information. Hand-gathering of data is still being coordinated in many small districts throughout the state. Other districts are relying on outsource vendors for their student data profiling. This removes the district personnel from the process of "crunching" the numbers and becoming intimately involved in the data process. Many districts seem to relinquish control over to the vendor. Problems occur when top administrators stop asking questions about the data quality, assuming that the data presented is both accurate and reliable. When decisions about programming, staffing and planning are made with this faulty data, the

superintendent is unable to back up the decisions and misses opportunities to be more responsive to the community and the constituents who employ the top educators.

One recommendation is that superintendents take control over the data as early as possible and maintain control over its collection, systems input, analysis, and the distribution of findings. To fully take control over these elements and to ensure quality data, this researcher believes there are six discrete steps that need to be coordinated at the district level by the superintendent: 1) The superintendent must know the method or methods being used by the state education agency to calculate the district and school graduation rates and be well acquainted with the all the variables that encompass that method. The superintendent must also develop an understanding of the implications that missing data, incorrect data or incomplete data have on the results received. Within this study there were well over 400 variables used to calculate graduation rates for the two methods in each of 835 unified school district high schools. 2) Develop an in-service training program for the registrars and counselors at each site to be delivered every summer prior to school opening and at the time of employment if it occurs during a school year. 3) Assess each school site's capacity to collect data by monitoring each site's performance of the task and the protocol being used. 4.) Track who collects the data at each site and check to ensure that there is continuity in the position over time. 5) Make monthly reports for the superintendent's review of transfers, dropouts, and admissions to the school sites. 6) Communicate frequently with stakeholders regarding how graduation rates are calculated and how the district is making progress toward increasing graduation rates and meeting accountability goals.

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## Appendix A

### Glossary of Key Terms

The glossary of key terms found in the review of the literature is essential for clarity and understanding of the calculation of graduation rates. Some researchers used the terms dropout rate, completion rate, event rate, cohort rate, and graduation rates synonymously. Although all provide parameters for gathering specific data for reporting purposes, some terms are interchangeable and others stand alone. The following glossary defines specific terms related to understanding the process of gathering dropout and graduation rates for reporting purposes.

Term	Definition
Current Population Surveys	<p>The Current Population Survey (CPS) is a monthly survey of approximately 50,000 households in the United States and has been conducted for more than 50 years. The Bureau of the Census conducts the survey for the Bureau of Labor Statistics. The CPS collects data on the social and economic characteristics of the civilian, non-institutional population, including information on income, education, and participation in the labor force.</p> <p>Each month a "basic" CPS questionnaire is used to collect data on participation in the labor force about each member 15 years old and over in every sample household. In March and October of each year, the CPS includes additional questions about education. The March CPS is used to generate the annual Population Profile of the United States, reports on geographical mobility and educational attainment, and detailed analysis of money income and poverty status. Each October, in addition to the basic questions about education interviewers ask supplementary question about school enrollment for all household members 3 years old and over (NCES).</p>
Current Population Survey High School Completion Indicator	<p>This population-based survey provides a measure of the proportion of the young adult population with the basic credential required to enter postsecondary education, the military, or jobs requiring a high school credential. The rate is based on the CPS data and represents the percentage of 18- through 24- year-olds who are not enrolled in high school and who have earned a high school diploma or equivalent credential, including a GED. The rate include individuals who may have completed their education outside of the United States, so the rate is not suited for measuring the performance of the education system in this country</p>
Common Core of Data	<p>The Common Core of Data (CCD) is the Department of Education's primary database on public elementary and secondary education in the United States.</p> <p>CCD is a comprehensive, annual, national statistical database of all public elementary and secondary schools and school districts, which contains data that are designed to be comparable across all states.</p>

Term	Definition
	<p>CCD is made up of a set of five surveys sent to state education departments. Most of the data are obtained from administrative records maintained by the state education agencies (SEAs). Statistical information is collected annually from public elementary and secondary schools (approximately 94,000) public school districts (approximately 17,000) and the 50 states, the District of Columbia, Department of Defense Schools, and the outlying areas. The SEAs compile CCD requested data into prescribed formats and transmit the information to NCES (NCES).</p>
Event rates	<p>Event rates describe the proportion of students in a given age range (usually ages 15-24) who leave school <i>each year</i> without completing a high school program (NCES).</p>
Status rates	<p>Status rates provide cumulative data on dropouts among all young adults within a specific age range (usually ages 16-24). Status rates are higher than event rates because they include all dropouts in a given age range, regardless of when they last attended school (NCES)</p>
Cohort rates	<p>Cohort rates measure what happens to a group of students over a period of time. These rates are based on repeated measures of a cohort of students with shared experiences and reveal how many students starting in a specific grade dropout over time.</p>
Graduation rates	<p>Graduation rates are the percentage of students measured from the beginning of high school, who graduate from high school with a regular diploma in the standard number of years. Also called on time graduation rates (NCLB).</p>
	<p>The percentage of first-time 9th-grade students who graduate with a diploma within 4 years.</p> <p>These definitions are used to meet Annual Yearly Progress (AYP) requirement under the No Child Left Behind law of 2002.</p>
Averaged Freshman Graduation Rate	<p>Estimates the proportion of public high school freshman who graduate with a regular diploma 4 years after starting 9th grade. The rate focuses on public high school students as opposed to all high school students or the general population and is designed to provide an estimate of on-time graduation from high school. Thus it provides a measure of the extent to which public high schools are graduating students within the expected period of 4 years.</p>
Completion rates	<p>Completion rates represent the proportion of 18-24-year-olds who have left high school and earned a high school diploma or the equivalent, including a General Education Development credential (NCES).</p>

Term	Definition
NCES definition of a dropout established in the CCD	<p>The CCD dropout definition is based on a "snapshot" count of students at the beginning of the school year: A dropout is an individual who:</p> <ol style="list-style-type: none"> <li>1. Was enrolled in school at some time during the previous year and was not enrolled on October 1 of the current school years; or</li> <li>2. Was not enrolled on October of the previous school year although expected to be in membership (i.e., was not reported as a dropout the year before); and</li> <li>3. Has not graduated from high school or completed a state or district approved educational program and</li> <li>4. Does not meet any of the following exclusionary conditions: <ol style="list-style-type: none"> <li>i. Transfer to another public school district, private school, or state or district-approved education program</li> <li>ii. Temporary school-recognized absence due to suspension or illness; or</li> <li>iii. Death</li> </ol> </li> </ol> <p>For the purposes of applying this dropout definition, the following definitions also apply:</p> <p><i>School year</i> is the 12-month period beginning October 1 and ending September 30. Thus it includes the summer following the regular school year.</p> <p><i>School completer</i> is an individual who has graduated from high school or completed some other educational program that is approved by the state or local education agency. Students who completed a school year and failed to return to school in the subsequent year were counted as dropouts from the grade and school year for which they failed to enroll.</p> <p>The event dropout rate was calculated as the number of dropouts for a given school year divided by the membership on October 1 of that school year (NCES).</p>

Appendix B  
Student Enrollment Comparison 2002-03 and 2005-06 Grouped by Size of Community

Size of community	Year	N	Student Enrollment			
			ALL	ALL Female	ALL Male	
1. Large City	Sum	2002-03		110,962	53,568	57,394
	Sum	2005-06		65,023	33,613	31,410
Difference in total sum enrollment		141	<b>-41%</b>	<b>-37%</b>	<b>-45%</b>	<b>-25,984</b>
2. Mid-Size City	Sum	2002-03		109,224	53,327	55,897
	Sum	2005-06		82,996	41,919	41,077
Difference in total sum enrollment		179	<b>-24%</b>	<b>-21%</b>	<b>-26%</b>	<b>-14,820</b>
3. Urban Fringes of Large City	Sum	2002-03		166,949	81,573	85,376
	Sum	2005-06		129,577	65,262	64,315
Difference in total sum enrollment		278	<b>-22%</b>	<b>-20%</b>	<b>-25%</b>	<b>-21,061</b>
4. Urban Fringes of Mid-size City	Sum	2002-03		40,165	19,651	20,514
	Sum	2005-06		30,118	15,257	14,861
Difference in total sum enrollment		104	<b>-25%</b>	<b>-22%</b>	<b>-27%</b>	<b>-5,653</b>
5. Large Town	Sum	2002-03		464	225	239
	Sum	2005-06		354	168	186
Difference in total sum enrollment		1	<b>-24%</b>	<b>-24%</b>	<b>-22%</b>	<b>-53</b>
6. Small Town	Sum	2002-03		6,654	3,247	3,407
	Sum	2005-06		5,023	2,464	2,559
Difference in total sum enrollment		26	<b>-24%</b>	<b>-24%</b>	<b>-25%</b>	<b>-848</b>
7. Rural, outside MSA	Sum	2002-03		3,272	1,623	1,649
	Sum	2005-06		2,562	1,238	1,324
Difference in total sum enrollment		43	<b>-22%</b>	<b>-24%</b>	<b>-20%</b>	<b>-325</b>
8. Rural, inside MSA	Sum	2002-03		20,803	10,353	10,450
	Sum	2005-06		15,793	7,926	7,867
Difference in total sum enrollment		63	<b>-24%</b>	<b>-23%</b>	<b>-25%</b>	<b>-2,583</b>

## Appendix C

## Total Student Enrollment by Size of Community for Grade 9 2002 and Grade 12 2005

Size of community	Enroll	White	Asian	African American	Hispanic	
<b>1. Large City:</b>	N	2002	138	135	141	141
	Sum	2002	18,473	11,726	13,392	62,424
	N	2005	133	139	140	141
	Sum	2005	13,570	10,062	6,829	30,664
	Difference in total sum enrollment		(-26%)	(-14%)	(-48%)	(-51%)
<b>2 Mid-size City:</b>	N	2002	176	175	179	179
	Sum	2002	40,506	11,370	9,042	42,551
	N	2005	133	175	179	179
	Sum	2005	13,570	10,723	5,697	28,434
	Difference in total sum enrollment		(-66%)	(-14%)	(-37%)	(-33%)
<b>3. Urban Fringes of Large City</b>	N	2002	276	273	270	278
	Sum	2002	64,293	12,040	13,405	68,954
	N	2005	277	269	269	278
	Sum	2005	52,032	11,890	9,519	48,346
	Difference in total sum enrollment		(-19%)	(-12%)	(-28%)	(-30%)
<b>4. Urban Fringes of Mid-size City</b>	N	2002	104	90	90	104
	Sum	2002	18,912	1,556	1,510	16,302
	N	2005	104	91	87	104
	Sum	2005	14,547	1,431	1,234	11,463
	Difference in total sum enrollment		(-23%)	(-8%)	(-18%)	(-30%)
<b>5. Large Town</b>	N	2002	1	1	1	1
	Sum	2002	326	35	10	35
	N	2005	1	1	1	1
	Sum	2005	244	36	4	26
	Difference in total sum enrollment		(-25%)	(+3%)	(-60%)	(-26%)
<b>6. Small Town</b>	N	2002	26	19	23	26
	Sum	2002	5,086	100	60	900
	N	2005	26	20	16	26
	Sum	2005	3,818	92	37	730
	Difference in total sum enrollment		(-25%)	(-8%)	(-38%)	(-19%)
<b>7. Rural, outside MSA</b>	N	2002	43	17	16	36
	Sum	2002	2,433	25	41	468
	N	2005	43	14	14	34
	Sum	2005	1,900	23	40	360
	Difference in total sum enrollment		(-22%)	(-8%)	(-2%)	(-23%)
<b>8. Rural, inside MSA</b>	N	2002	63	46	50	63
	Sum	2002	10,160	615	1,016	8,154
	N	2005	62	45	42	63
	Sum	2005	7,685	609	786	5,938
	Difference in total sum enrollment		(-24%)	(-1%)	(-32%)	(27%)

## Appendix D

## Male enrollment by Size of Community for (grade 9) 2002 and (grade 12) 2005

Size of community			White Male	Asian Male	African American Male	Hispanic Male
<b>1. Large City:</b>	N	2002	136	134	138	141
	Sum	2002	9,631	6,208	6,671	32,307
	N	2005	132	135	139	141
	Sum	2005	6,847	5,036	3,126	14,437
Difference in total sum enrollment			(-29%) -2,781	(19%) -1,172	(-53%) -3,545	(-55%) -17,870
<b>2 Mid-size City:</b>	N	2002	176	174	175	179
	Sum	2002	20,800	5,941	4,592	21,648
	N	2005	176	175	175	179
	Sum	2005	16,293	5,501	2,749	13,717
Difference in total sum enrollment			(-22%) -4,507	(-7%) -440	(-40%) -1,843	(-9%) -1,931
<b>3. Urban Fringes of Large City</b>	N	2002	274	269	261	278
	Sum	2002	32,874	6,145	6,555	35,437
	N	2005	271	261	257	277
	Sum	2005	26,214	5,995	4,496	23,620
Difference in total sum enrollment			(-20%) -6,660	(-25%) -150	(-31%) -2,059	(-33%) -11,817
<b>4. Urban Fringes of Mid-size City</b>	N	2002	103	82	81	104
	Sum	2002	9,610	796	778	8,398
	N	2005	104	87	77	103
	Sum	2005	7,299	748	506	5,628
Difference in total sum enrollment			(-24%) -2,311	(-6%) -48	(-36%) -282	(-33%) -2,770
<b>5. Large Town</b>	N	2002	1	1	1	1
	Sum	2002	166	19	2	24
	N	2005	1	1	1	1
	Sum	2005	127	22	2	16
Difference in total sum enrollment			(-24%) -39	(-16%) -3	(0%) 0	(-33%) -8
<b>6. Small Town</b>	N	2002	26	14	19	26
	Sum	2002	2,627	50	33	443
	N	2005	26	15	10	26
	Sum	2005	1,964	44	16	357
Difference in total sum enrollment			(-25%) -663	(-12%) -6	(-52%) -17	(-19%) -86
<b>7. Rural, outside MSA</b>	N	2002	43	10	13	35
	Sum	2002	1,219	13	25	248
	N	2005	43	11	13	30
	Sum	2005	961	14	22	198
Difference in total sum enrollment			(21%) -258	(+7%) +1	(-12%) -3	(-20%) -50
<b>8. Rural, inside MSA</b>	N	2002	63	43	41	63
	Sum	2002	5,071	310	485	4,162
	N	2005	61	40	34	63
	Sum	2005	3,869	306	367	2,941
Difference in total sum enrollment			(-23%) -1,175	(-1%) -4	(-24%) -118	(-29%) -1,221

## Appendix E

## Female Enrollment by Size of Community for (grade 9) 2002-03 and (grade 12) 2005-06

Size of community			White Female	Asian Female	African American Female	Hispanic Female
<b>1. Large City:</b>	N	2002	136	135	141	141
	Sum	2002	8,842	5,518	6,721	30,117
	N	2005	129	136	138	141
	Sum	2005	6,723	5,026	3,703	16,227
	Difference in total sum enrollment			-2,119 (-24%)	-492 (-9%)	-3,018 (-45%)
<b>2 Mid-size City:</b>	N	2002	176	173	176	179
	Sum	2002	19,706	5,429	4,450	20,903
	N	2005	175	172	174	179
	Sum	2005	15,999	5,222	2,948	14,717
	Difference in total sum enrollment			-3,707 (19%)	-207 (-4%)	-1,502 (-38%)
<b>3. Urban Fringes of Large City</b>	N	2002	272	265	264	278
	Sum	2002	31,419	5,895	6,850	33,517
	N	2005	276	260	256	278
	Sum	2005	25,818	5,895	5,023	24,726
	Difference in total sum enrollment			-5,601 (-18%)	0 (-0%)	-1,827 (-27%)
<b>4. Urban Fringes of Mid-size City</b>	N	2002	104	80	79	103
	Sum	2002	9,302	760	732	7,904
	N	2005	103	74	74	104
	Sum	2005	7,248	683	728	5,835
	Difference in total sum enrollment			-2,054 (-22%)	-77 (-10%)	-4 (-5%)
<b>5. Large Town</b>	N	2002	1	1	1	1
	Sum	2002	160	16	8	11
	N	2005	1	1	1	1
	Sum	2005	117	14	2	10
	Difference in total sum enrollment			-43 (-27%)	-2 (-12%)	-6 (-75%)
<b>6. Small Town</b>	N	2002	26	16	15	26
	Sum	2002	2,459	50	27	457
	N	2005	26	15	13	25
	Sum	2005	1,854	48	21	373
	Difference in total sum enrollment			-605 (-25%)	-2 (-4%)	-6 (-22%)
<b>7. Rural, outside MSA</b>	N	2002	43	10	8	30
	Sum	2002	1,214	12	16	220
	N	2005	41	7	5	28
	Sum	2005	939	9	18	162
	Difference in total sum enrollment			-275 (-23%)	-3 (-25%)	+2 (+12%)
<b>8. Rural, inside MSA</b>	N	2002	63	38	44	62
	Sum	2002	5,089	305	531	3,992
	N	2005	62	40	35	61
	Sum	2005	3,816	303	419	2,997
	Difference in total sum enrollment			-1,273 (25%)	-2 (-6%)	-112 (-21%)

## Appendix F

## ALL Dropouts Grouped by Size of Community (2002-03 through 2005-06)

		All Dropouts 2002-03 through 2005-06		
Size of Community	N	ALL	ALL Female	ALL Male
<b>1. Large City:</b>	N	136	135	135
	Sums	14,612	6,354	8,258
<b>2 Mid-size City:</b>	N	172	168	166
	Sums	7,154	3,279	3,875
<b>3. Urban Fringes of Large City</b>	N	268	258	263
	Sums	9,877	4,300	5,577
<b>4. Urban Fringes of Mid-size City</b>	N	98	91	92
	Sums	2,038	914	1,124
<b>5. Large Town</b>	N	1	1	1
	Sums	33	14	19
<b>6. Small Town</b>	N	24	20	21
	Sums	179	88	91
<b>7. Rural, outside MSA</b>	N	24	17	24
	Sums	91	40	51
<b>8. Rural, inside MSA</b>	N	54	46	48
	Sums	1,101	492	609
<b>Total</b>	N	<b>777</b>	<b>736</b>	<b>750</b>
	Sums	<b>35,085</b>	<b>15,481</b>	<b>19,604</b>

## Appendix G

## ALL Dropouts by Size of Community &amp; Ethnicity (2002-03 through-2005-06)

Size of Community		White	Asian	African American	Hispanic
<b>1. Large City:</b>	N	116	99	116	133
	Sums	1,242	935	2,438	9,522
<b>2 Mid-size City:</b>	N	156	99	108	162
	Sums	1,482	287	1,095	3,914
<b>3. Urban Fringes of Large City</b>	N	235	122	166	247
	Sums	1,878	347	1,370	5,869
<b>4. Urban Fringes of Mid-size City</b>	N	82	25	38	85
	Sums	673	74	109	1,081
<b>5. Large Town</b>	N	1	1	0	1
	Sums	19	4	0	7
<b>6. Small Town</b>	N	19	3	3	19
	Sums	91	4	3	76
<b>7. Rural, outside MSA</b>	N	17	1	3	10
	Sums	44	1	3	23
<b>8. Rural, inside MSA</b>	N	43	12	46	42
	Sums	259	23	376	681
<b>Total</b>	N	<b>669</b>	<b>362</b>	<b>447</b>	<b>699</b>
	N	<b>5,688</b>	<b>1,675</b>	<b>5104</b>	<b>21,173</b>

Appendix H  
Male Dropouts by Size of Community & Ethnicity (2002-2005)

Size of Community		White Male	Asian Male	African American Male	Hispanic Male
<b>1. Large City:</b>	N	106	84	104	129
	Sums	750	547	1,362	5,337
<b>2 Mid-size City:</b>	N	141	74	89	153
	Sums	852	172	593	2,051
<b>3. Urban Fringes of Large City</b>	N	217	89	141	234
	Sums	1,120	192	747	3,292
<b>4. Urban Fringes of Mid-size City</b>	N	74	19	27	78
	Sums	397	40	57	583
<b>5. Large Town</b>	N	1	1	0	1
	Sums	12	2	0	4
<b>6. Small Town</b>	N	16	1	0	15
	Sums	48	1	0	39
<b>7. Rural, outside MSA</b>	N	17	1	3	7
	Sums	27	1	3	10
<b>8. Rural, inside MSA</b>	N	33	8	12	37
	Sums	141	12	46	382
<b>Total</b>	N	<b>605</b>	<b>277</b>	<b>376</b>	<b>654</b>
	Sums	<b>3,347</b>	<b>967</b>	<b>2,808</b>	<b>11,698</b>

Appendix I  
Female Dropouts by Size of Community and Ethnicity (2002-3 through 2005-06)

Size of Community		White Female	Asian Female	African American Female	Hispanic Female
<b>1. Large City:</b>	N	102	84	105	129
	Sums	492	388	1,076	4,185
<b>2 Mid-size City:</b>	N	133	71	79	147
	Sums	630	115	502	1,863
<b>3. Urban Fringes of Large City</b>	N	200	77	123	224
	Sums	758	155	623	2,577
<b>4. Urban Fringes of Mid-size City</b>	N	65	16	26	77
	Sums	276	34	52	498
<b>5. Large Town</b>	N	1	1	0	1
	Sums	7	2	0	3
<b>6. Small Town</b>	N	15	2	3	16
	Sums	43	3	3	37
<b>7. Rural, outside MSA</b>	N	11	0	0	8
	Sums	17	0	0	13
<b>8. Rural, inside MSA</b>	N	35	6	9	35
	Sums	118	11	40	299
<b>Total</b>	N	<b>562</b>	<b>257</b>	<b>345</b>	<b>637</b>
	Sums	<b>2,341</b>	<b>708</b>	<b>2,296</b>	<b>9,475</b>