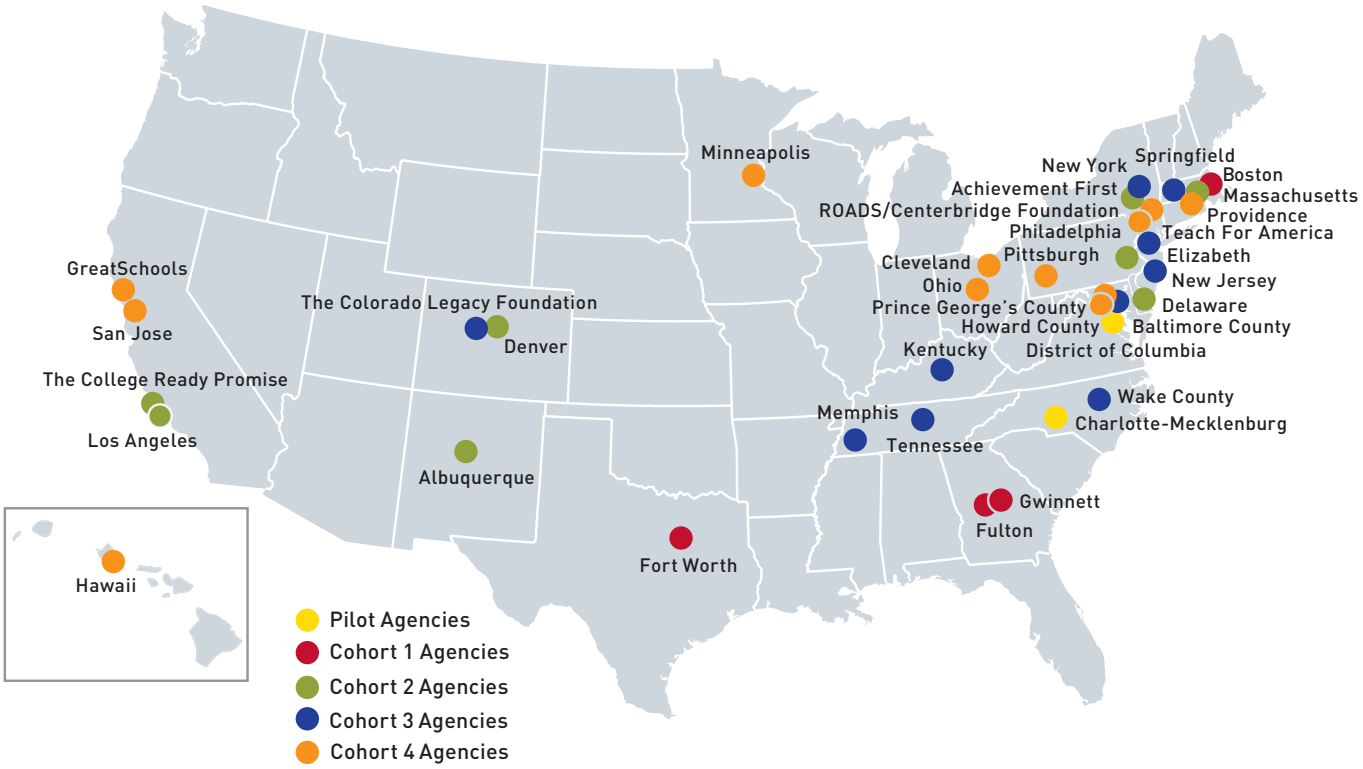
STRATEGIC DATA PROJECT

EXPLORING POSTSECONDARY ATTAINMENT:

SDP COLLEGE-GOING DIAGNOSTIC

Gwinnett County Public Schools, Georgia

MAY 2012



THE STRATEGIC DATA PROJECT

The Strategic Data Project (SDP), housed at the Center for Education Policy Research at Harvard University, partners with school districts, school networks, and state agencies to bring high-quality research methods and data analysis to bear on management and policy decisions.

SDP's theory of action is that if we are able to bring together the right people, the right data, and the right analysis, educational leaders can significantly improve decisions, thereby increasing student achievement.

SDP fulfills this theory of action with three primary strategies:

1. conducting rigorous "diagnostic" analysis on teacher effectiveness and college-going success using agency data;
2. placing top-notch analysts as data fellows in partner agencies for two years; and
3. distributing our analytic results and learnings to support broad adoption of methods and data use practices throughout the education sector.

SDP was launched in June 2009 and currently partners with nine states, twenty-two school districts, three networks of charter schools, and four nonprofit organizations. The project is supported by the Bill & Melinda Gates Foundation.

SDP COLLEGE-GOING DIAGNOSTIC

INTRODUCTION AND BACKGROUND

A few generations ago, a high school diploma opened doors to skilled jobs and middle-class earnings. Today, a college diploma is just as essential. Higher education, whether in the form of a two- or four-year college or technical program, has become a critical step to achieving stable employment and financial security. In the face of these economic changes, it is increasingly important that K–12 educators prepare their students to graduate from high school with the knowledge and skills to enroll in, persist at, and complete higher education.

To this end, we at the **Strategic Data Project** designed the College-Going Diagnostic as a means to:

1	better inform district leaders about college enrollment and persistence rates; and
2	identify potential areas for action to increase students' levels of academic achievement, preparedness for college, and postsecondary attainment.

This report, which represents a selection of findings from our full diagnostic, illuminates students' enrollment patterns over time and compares these patterns across a variety of student characteristics and academic experiences.

The College-Going Diagnostic represents a partnership between SDP and Gwinnett County Public Schools (GCPS) to bring data to bear on policy and management decisions. As such, it is neither an exhaustive set of analyses, nor does it contain specific recommendations for the district to consider.

CONTENTS

The diagnostic is, however, a set of standardized analyses that can help the district better understand its current performance, set future goals, and strategically plan responses.

Additionally, the diagnostic is meant to demonstrate how districts can capitalize on existing data to better inform decision making. For the diagnostic, researchers connected individual student data (including demographics and test scores) to their corresponding college enrollment data, allowing student outcomes to be tracked not only through high school, but also through college.

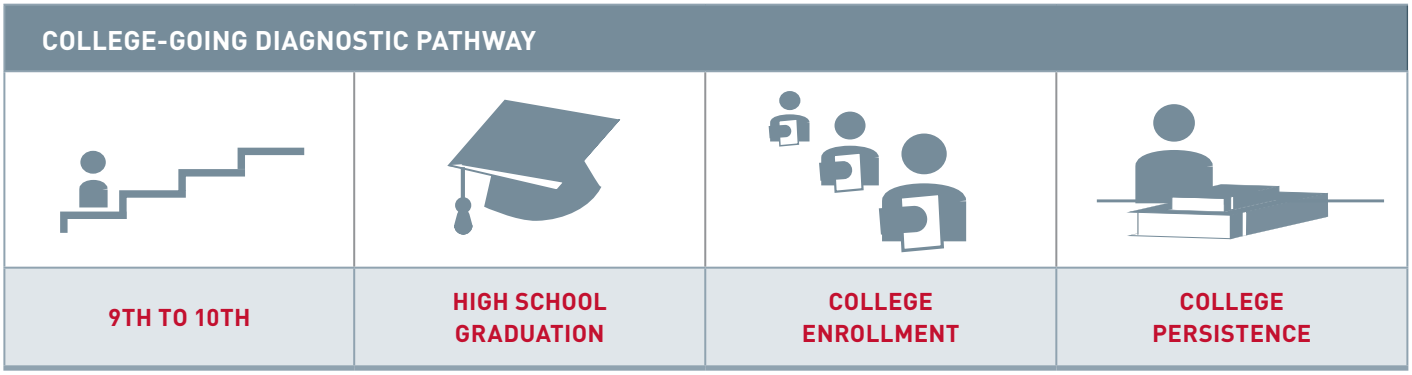
These analyses were completed by members of the research team at the Center for Education Policy Research at Harvard University with the support of GCPS staff, the GCPS SDP Fellows, and Faculty Advisors.

SDP COLLEGE-GOING DIAGNOSTIC

THE SDP EDUCATION PIPELINE AND METHODOLOGY

The **SDP Education Pipeline** is a framework we use to examine the postsecondary pathway of GCPS students. The first half of the pathway explores first-time ninth graders transitioning through high school. We pay particular attention to the characteristics of these ninth graders, such as their prior achievement, credits attained, or high school of attendance, as they progress toward high school graduation. The second half of the pathway examines college-enrollment patterns for high school graduates, including students' postsecondary enrollment and their persistence to the second year of college.

Examining both halves of this pipeline will provide new information about GCPS postsecondary attainment. While graduation rates are publicly known, we provide a deeper understanding of graduation patterns by exploring how student achievement prior to high school, and course-taking patterns in high school, relate to graduation. In addition, by linking GCPS students to college enrollment data, we are able to highlight student attainment results that are less accessible to GCPS presently.



Note: 9TH TO 10TH analyses that relate ninth grade on-track status to tenth grade on-track status were not conducted in GCPS.

How does SDP know about the college enrollment of GCPS graduates?

In partnership with GCPS, we obtain college-enrollment data by linking GCPS administrative student records to post-secondary enrollment data from the National Student Clearinghouse (NSC).

NSC is a national nonprofit organization that provides postsecondary enrollment verification for colleges and universities. The NSC maintains student enrollment records at over 3,000 institutions of higher education throughout the United States, including career and technical training institutes, as well as two- and four-year colleges and universities. Presently, NSC covers institutions serving 93% of all postsecondary students nationwide.[1] Given that not all institutions are covered and the number of instances in which students changed names or high schools, some students may not be matched with NSC records. Thus, actual enrollment rates are likely to be slightly higher than those shown in this report.

Which students are included in these analyses?

To ensure that we have sufficient numbers within each school and to reduce short-term random variation in outcomes, we combine student-level data from three continuous cohorts of first-time ninth graders and graduates from traditional high schools to describe trends in student achievement and attainment.

We include ninth-grade cohorts from 2003–04 through 2005–06 to analyze variation in high school graduation outcomes, and we include high school graduation cohorts from 2006–07 to 2008–09 to examine seamless college enrollment. For college persistence, we look at graduates from the 2007–08 school year.

SDP COLLEGE-GOING DIAGNOSTIC

SDP COLLEGE-GOING DEFINITIONS

We calculate high school completion, college-enrollment, and college-persistence rates in the following ways:

High School Completion Rate

To calculate high school completion rates we use a cohort-based formula similar to the Compact Rate from the National Governors Association (NGA).[2] The SDP completion rate divides the number of high school completers (students earning standard diplomas, special education diplomas, and certificates of attendance) by the number of first-time freshmen four years earlier. To identify the "number of first-time freshmen four years earlier," we add together two types of students: 1) students enrolled in a GCPS high school in ninth grade and, 2) students enrolled in a different district in ninth grade who transferred into GCPS at some point during high school. Also following the NGA formula, we exclude students who transfer out of the district between ninth and twelfth grade.

Our results differ somewhat from those currently reported by the State of Georgia, which uses a different calculation method known as the leaver rate. State-calculated completion rates are currently estimated based on aggregate cohort counts rather than counts of individual students. The lack of unique student identifiers statewide has not allowed Georgia to track individual students over time until recently. By tracking individual students over time, the SDP rates offer a more precise estimate of completion for first-time freshman cohorts.

College-Enrollment Rate

We report on college-enrollment outcomes for GCPS graduates who earn regular diplomas and enroll in college the fall following high school graduation **(seamless enrollers)**. To calculate seamless enrollment, we use a cut-off date of October 1 of a student's graduation year. College-enrollment outcomes for GCPS graduates who enroll in college within two years of high graduation **(delayed enrollers)** were not conducted in GCPS.

College-Persistence Rate

We calculate persistence rates in college for GCPS graduates who seamlessly enroll in college. To calculate these rates we determine whether students remain enrolled in any college on October 1 one year following their initial enrollment date.[3]

SDP COLLEGE-GOING DIAGNOSTIC

KEY FINDINGS

COLLEGE-GOING PATHWAY

1. Forty-five percent of GCPS ninth graders complete high school on time, seamlessly transition to college, and persist to their second year.

HIGH SCHOOL GRADUATION

2. High school graduation rates vary substantially across GCPS high schools.

3. On average, schools with students having higher average incoming eighth-grade math test scores also have higher high school graduation rates; nevertheless, some high schools graduate a greater percentage of students than others despite having similar average incoming test scores.

4. Graduation rates vary widely among schools for students in the lowest achievement quartile of eighth-grade math scores.

5. The high school graduation gap among Asian, White, and Black students decreases and nearly disappears for students with higher prior achievement. High-performing Latino students, however, graduate from high school at lower rates than their peers.

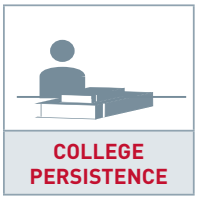
6. Higher credit attainment and GPA in the ninth grade are associated with greater high school completion rates. Nonetheless, 13%—nearly 600 students—who are off-track in ninth grade graduate on time with a college preparation diploma.

7. Thirty-one percent of students who fall off-track at some point during their high school career return to being on-track and graduate within four years.

COLLEGE ENROLLMENT

8. Seamless college-enrollment rates vary substantially across GCPS high schools.

9. Many graduates do not matriculate to four-year colleges despite having the academic qualifications to attend.



COLLEGE PERSISTENCE

10. Once students enroll in college, persistence is similar across high schools in GCPS.

11. Among seamless four-year college enrollers, almost 50% of GCPS graduates attend the same five colleges.

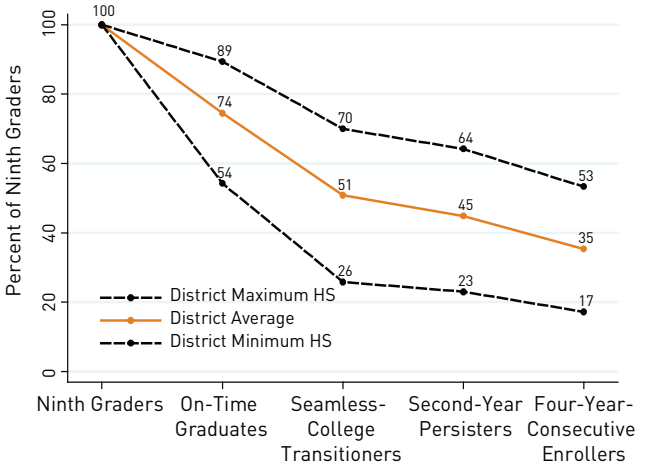
SDP COLLEGE-GOING DIAGNOSTIC

SUMMARY ANALYSES

1. How do first-time ninth graders in GCPS progress through high school and college?

Forty-five percent of GCPS ninth graders complete high school on time, seamlessly transition to college, and persist to their second year.

Student Progression from Ninth Grade through College
GCPS Average



For every 100 ninth graders who enrolled in a GCPS high school from 2000–01 to 2002–03, 74 completed high school, 51 seamlessly transitioned to college, and 45 persisted to the second year of their postsecondary studies. By comparison, of every 100 ninth graders nationwide, roughly 70 graduate high school within four years, 40 immediately enroll in college, and 30 persist to their second year (see footnote below).

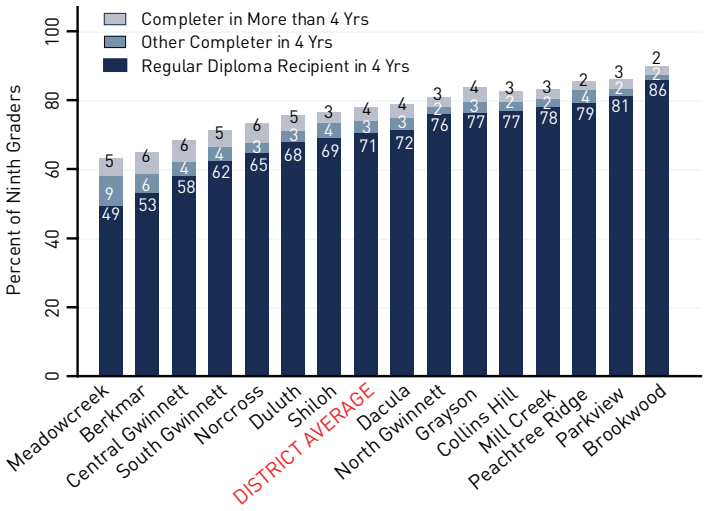
While rates of attainment across GCPS lie above national comparisons, students at individual high schools progress along the education pipeline at vastly different rates. Note there is a 41 percentage point difference between the top- and bottom-performing high schools for students who persist to the second year of college; there is a 36 percentage point gap for students enrolled for four years. Many of the subsequent analyses in this report examine school-level variation in greater depth and begin to explore possible explanations for differences observed across high schools.

Note: The above national estimates were calculated in 2002 by the National Center for Higher Education Management Systems (NCHEMS) and provide the best available national comparisons. Yet, NCHEMS's data collection, methodology, and analysis approach differ from ours substantially; thus we encourage caution when comparing GCPS-specific rates to these national estimates.

2. How do graduation rates vary across GCPS high schools?

High school graduation rates vary substantially across GCPS high schools.

High School Completion Rates



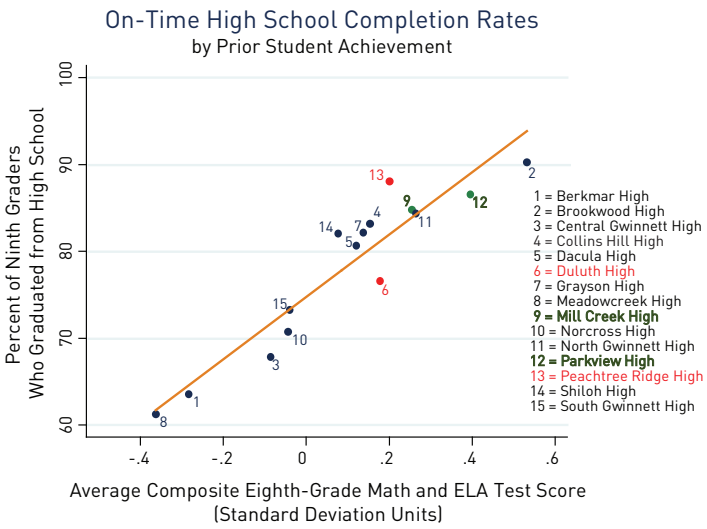
The graduation rate for Brookwood, with the highest four-year graduation rate of 86%, is substantially greater than the four-year graduation rate for Meadowcreek of 49%. Why are no bars at 100%? We do not include students who dropped out, were classified as no shows, or had unidentified withdrawal reasons in the administrative records.

SDP COLLEGE-GOING DIAGNOSTIC

SUMMARY ANALYSES

3. Do differences in average student achievement upon entering high school explain the variation in graduation rates across high schools?

On average, schools with students having higher average incoming eighth-grade math test scores also have higher high school graduation rates. Some high schools, nevertheless, graduate a greater percentage of students than others despite having similar average incoming test scores.

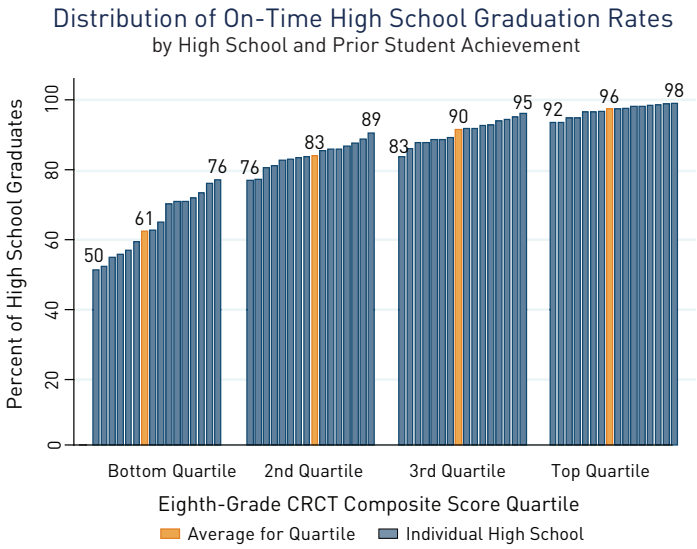


High schools with higher average incoming prior achievement as measured by eighth-grade math and ELA test scores have, on average, higher graduation rates. Many high schools, however, with similar average incoming eighth-grade math scores have different graduation rates. For instance, Peachtree Ridge Hill (13) and Duluth (6) enroll incoming classes of ninth graders with approximately the same average eighth-grade math scores. Four years later, students at Peachtree Ridge are 12% more likely to graduate than students at Duluth.

Likewise, some schools are able to graduate students at vastly higher rates than their students' incoming test scores would "predict." For instance, Mill Creek's (9) students enter high school with average test scores lower than students at Parkview (12)—nevertheless, their graduation rates are very close. This suggests that the individual school influences graduation rates—regardless of students' prior achievement.

4. How do average graduation rates vary across schools among groups of students with similar prior achievement?

Graduation rates vary widely among schools for students in the lowest achievement quartile of eighth-grade math scores.



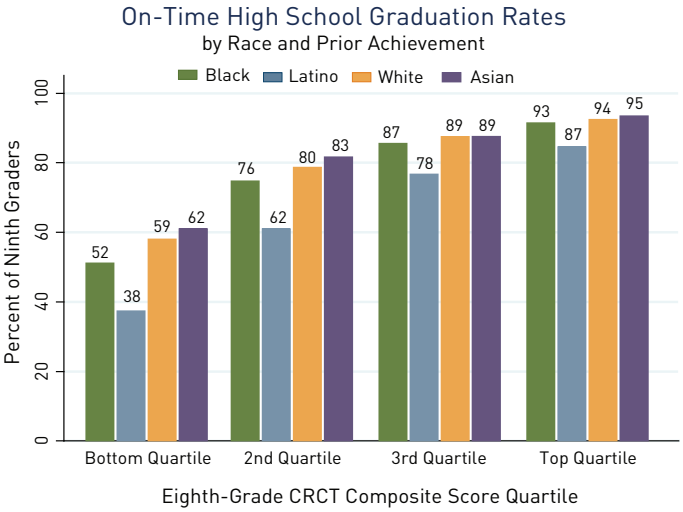
Across the district, average graduation rates are higher for students with higher incoming eighth-grade math and ELA scores. Students who begin high school in the top quartile graduate from high school at nearly the same rate. Students who enter high school with lower academic performance, however, graduate at very different rates. In fact, some schools are up to 26% more likely to graduate bottom-quartile students than others.

SDP COLLEGE-GOING DIAGNOSTIC

SUMMARY ANALYSES

5. How do high school graduation rates vary by race and prior achievement?

The high school graduation gap among Asian, White, and Black students decreases and nearly disappears for students with higher prior achievement. However, high-performing Latino students graduate from high school at lower rates than their peers.

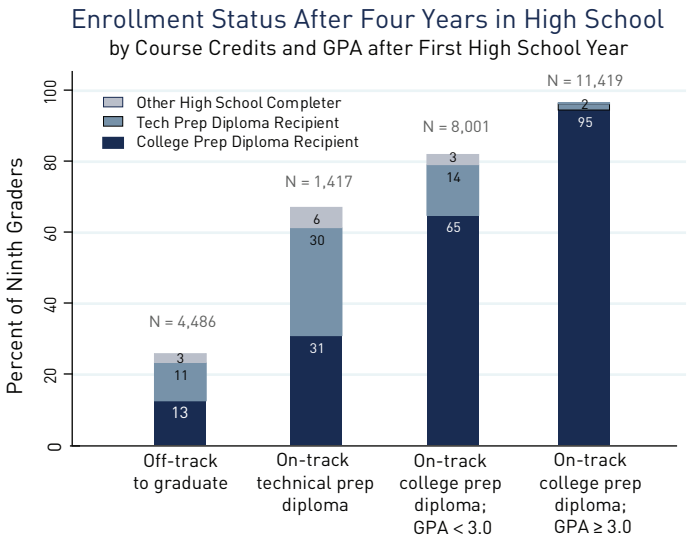


Average high school graduation rates for Latino, Black, White, and Asian students are 60%, 75%, 86%, and 89%, respectively, with a disparity between White and Black and Latino students of 11 percentage points and 26 percentage points, respectively (not shown). This gap is largely explained by differences in academic achievement upon entering high school as well as differences in family income between racial groups. (Differences in family income not shown but bear a similar relationship to prior achievement.)

Latino students continue to graduate from high school at far lower rates than their peers, and this trend persists even after accounting for their academic achievement and income status relative to their Black, White, and Asian peers. This disparity may reflect additional obstacles to high school graduation which Latino graduates disproportionately encounter. Similar disparities for Latino students are found for college enrollment (not shown).

6. How are ninth-grade credit attainment and GPA associated with high school graduation outcomes?

Higher credit attainment and GPA in the ninth grade are associated with greater high school completion rates. Nonetheless, 13%—nearly 600 students—who are off-track in ninth grade graduate on time with a college preparation diploma.



Students who are initially on-track to graduate with the recommended number of credits in the ninth grade have much higher completion rates than the students who are off-track or have less than the recommended number of credits. Comparing on-track students with a GPA at or above 3.0 and on-track students with a GPA below 3.0, students with a GPA ≥ 3.0 complete at much higher rates than those with a GPA < 3.0. The difference between the 100% mark and percent of high school completers and diploma recipients consists of students who dropped out, were classified as no shows, or had unidentified withdrawal reasons in administrative records.

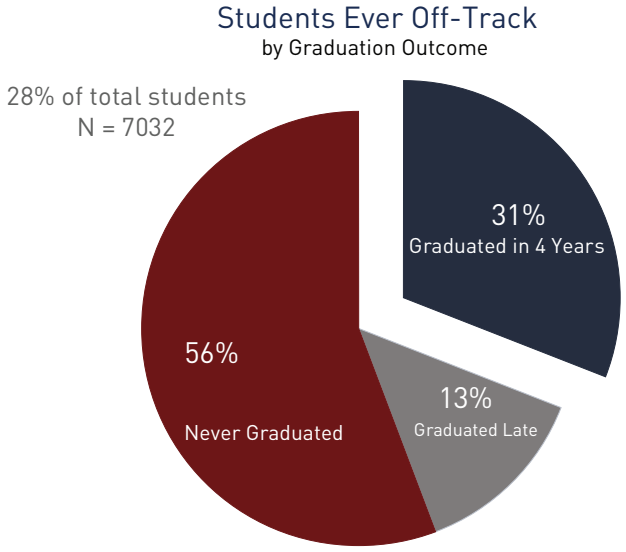
Specific credit definitions for on-track and off-track status are available in our endnotes.

SDP COLLEGE-GOING DIAGNOSTIC

SUMMARY ANALYSES

7. To what extent do students who have fallen off-track graduate high school within four years?

Thirty-one percent of students who fall off-track at some point during their high school career return to being on-track and graduate within four years.

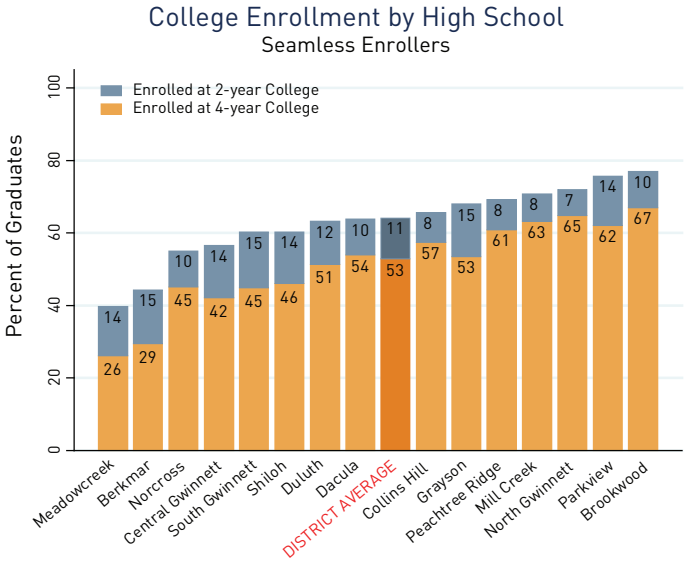


For the 28% of all high school students in our sample that are off-track for at least one year of their high school career, 31% graduate in four years, 13% graduate late, and 56% never graduate.

Specific credit definitions for on-track and off-track status are available in our endnotes.

8. How do college-enrollment rates vary across high schools in GCPS?

Seamless college enrollment rates vary substantially across GCPS high schools.



On average, 53% of GCPS graduates seamlessly enroll in a four-year college. An additional 11% seamlessly enroll in a two-year college. The total seamless enrollment rate for graduates from the school with the highest enrollment—Brookwood (77%)—is almost double the rate for graduates from the school with the lowest enrollment rate—Meadowcreek (40%). In addition, there are substantial differences in the type of college graduates attend. For example, while less than 3 in 10 of Meadowcreek's seamless enrollers attend a four-year college, more than 6 in 10 of Brookwood's seamless enrollers do.

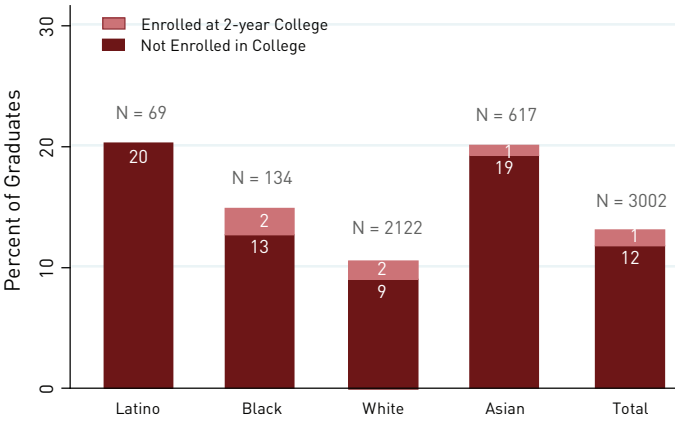
SDP COLLEGE-GOING DIAGNOSTIC

SUMMARY ANALYSES

9. At what rates do highly qualified high school graduates from GCPS attend four-year colleges?

Many graduates do not matriculate to four-year colleges despite having the academic qualifications to attend.

College-Enrollment Undermatch Rates
by Race



Many high school graduates would be eligible to attend a four-year college through a combination of SAT score and GPA (those in the shaded cells below). Yet many of these eligible students "undermatch," in that they either do not enroll in college the fall after high school graduation or attend a two-year college instead.

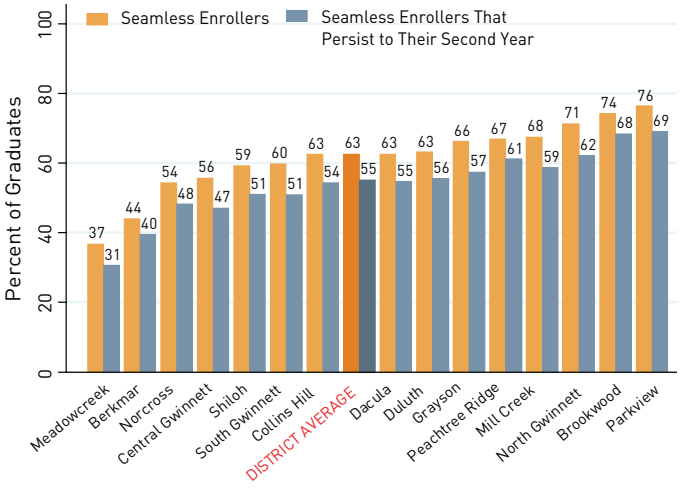
	< 800	800-899	900-999	1000-1099	1100-1199	1200-1299	1300-1399	≥1400
≤ 2.0								
2.0 < GPA ≤ 2.3								
2.3 < GPA ≤ 2.7								
2.7 < GPA ≤ 3.0							Four-year eligible	
3.3 < GPA ≤ 3.7								
3.7 < GPA ≤ 4.0								

In GCPS, "undermatched" students constitute 13% of all regular diploma graduates in the 2007–08 and 2008–09 school years and vary in their relative rates by race.[5]

10. How do persistence rates to the second year of college vary across GCPS high schools?

Once students enroll in college, persistence is similar across high schools.

College Persistence by High School
Seamless Enrollers



College-enrollment rates vary substantially across high schools, ranging from 37–76%. After enrolling in college, however, persistence rates are fairly uniform across high schools, dropping 3–9% from initial enrollment rates.

SDP COLLEGE-GOING DIAGNOSTIC

SUMMARY ANALYSES

11. What are the top-enrolling postsecondary institutions for GCPS graduates?

Among seamless four-year college enrollers, almost 50% of GCPS graduates attend the same five colleges.

Four-year College/ University First Attended

Name of Institution	Percent Enrollment	Number of Students
GEORGIA STATE UNIVERSITY	13.0	530
UNIVERSITY OF GEORGIA	10.7	435
GAINESVILLE STATE COLLEGE	10.6	431
GEORGIA INSTITUTE OF TECHNOLOGY	6.8	277
GEORGIA SOUTHERN UNIVERSITY	6.7	274
KENNESAW STATE UNIVERSITY	5.7	233
VALDOSTA STATE UNIVERSITY	4.3	174
UNIVERSITY OF WEST GEORGIA	4.0	163
GEORGIA COLLEGE & STATE UNIVERSITY	3.5	143
NORTH GEORGIA COLLEGE & STATE UNIVERSITY	2.3	94
SOUTHERN POLYTECHNIC STATE UNIVERSITY	1.9	78
EMORY UNIVERSITY	1.4	59
AUBURN UNIVERSITY	1.3	55
BERRY COLLEGE	1.1	46
SAVANNAH STATE UNIVERSITY	0.8	32
OTHER	25.9	1,050
Total	100	**4,082**

Two-year College/ University First Attended

Name of Institution	Percent Enrollment	Number of Students
GEORGIA PERIMETER COLLEGE	54.8	532
GWINNETT TECHNICAL COLLEGE	28.1	273
OTHER	17.1	166
Total	100	**971**

Nearly 50% of GCPS graduates who seamlessly enroll in four-year colleges attend one of five institutions in Georgia: Georgia State University, the University of Georgia (UGA), Gainsville State College, the Georgia Institute of Technology (Georgia Tech), or Georgia Southern University. Although the persistence rates at most four-year institutions lie above 90% (not shown), students who first attend a public flagship university (UGA or Georgia Tech) are more likely to persist to the second year of college compared to many of their peers who first attend other four-year colleges and universities. The majority of graduates first enrolling in two-year colleges attend Georgia Perimeter College, which also has the highest persistence rate compared to other two-year institutions that enroll large numbers of GCPS graduates (not shown).

SDP COLLEGE-GOING DIAGNOSTIC

NOTES

Endnotes

1. The only institutions in Georgia with enrollments exceeding 1,000 students that do not participate in NSC are American InterContinental University, South University, The Art Institute of Atlanta, Beulah Heights Bible College, Bauder College, and Luther Rice Bible College and Seminary.

2. The National Governors Association "Compact Rate" is a four-year, adjusted cohort graduation rate used to determine the percentage of on-time high school graduates from a given four-year student cohort. It is widely considered a valid and reliable formula, and has been adopted by several states to improve the consistency and accuracy of graduation rate reporting. For more information on the "Compact Rate," see National Governors Association (2005), *Graduation Counts: A Report of the National Governors Association Task Force on State High School Graduation Data*; and National Governors Association (2009), *Implementing Graduation Counts: State Progress to Date*.

3. This persistence outcome is not dependent on maintaining enrollment at the same institution from one year to the next. We therefore consider a student to have persisted to the second year if we observe that student enrolled at any college over the course of two subsequent years. Likewise, we consider a student to have persisted to the second year of four-year college if we observe that student enrolled at any four-year college over the course of two subsequent years.

4. *U.S. Dept. of Commerce, Bureau of the Census, Current Population Reports, Series P-60*, "Money Income of Households, Families, and Persons in the United States," "Income, Poverty, and Valuation of Noncash Benefits," various years; and Series P-60, "Money Income in the United States," various years. From *Digest of Education Statistics 2005*.

5. Our definition of a highly qualified student closely aligns with criteria established by William G. Bowen, Matthew M. Chingos, and Michael S. McPherson in their research of college application and enrollment data from twenty-one flagship public universities and four statewide systems of higher education, *Crossing the Finish Line: Completing College at America's Public Universities*.

On-Track and Off-Track Status Definitions

We assigned students to one of the following four achievement categories according to the number of credits earned and their GPA after their first year in high school:

- Off-track to graduate: fewer than 5 total credits earned, or 0 credits earned in English/Language Arts (ELA).
- On-track technical preparation diploma: 5 or more total credits earned, 1 or more credits earned in ELA, and 0 credits earned in math.
- On-track college preparation diploma; GPA<3.0: 5 or more total credits earned, 1 or more credits earned in ELA, 1 or more credits earned in math, and a first-year GPA below 3.0.
- On-track college preparation diploma; GPA≥3.0: 5 or more total credits earned, 1 or more credits earned in ELA, 1 or more credits earned in math, and a first-year GPA of 3.0 or higher.

These categories align with State of Georgia graduation requirements for the ninth-grade cohorts included in our analytic sample. One credit in math distinguishes requirements for "College Preparation" from the "Technical Preparation" diploma recipients for the first year in high school.

Figure Notes

Page 5

1. Sample: 2000–01 through 2002–03 GCPS first-time ninth graders. Postsecondary-enrollment outcomes from NSC-matched records. All other data from GCPS ad-ministrative records.

2. Sample: 2003–04 through 2005–06 GCPS first-time ninth graders. All data comes from GCPS administrative records.

Page 6

3. Sample: 2003–04 through 2005–06 GCPS first-time ninth graders who attended eighth grade in the district. All data from GCPS administrative records.

4. Sample: 2003–04 through 2005–06 GCPS first-time ninth graders who attended eighth grade in the district. All data from GCPS administrative records.

Page 7

5. Sample: 2003–04 through 2005–06 GCPS first-time ninth graders who attended eighth grade in the district. All data comes from GCPS administrative records.

6. Sample: 2003–04 through 2005–06 GCPS first-time ninth graders attending their first semester of ninth grade in GCPS. Students on a path to obtain SPED diplomas and students who transferred into or out of the district are excluded from the sample. All data are from GCPS administrative records.

Page 8

7. Sample: 2003–04 through 2005–06 GCPS students attending their first semester of ninth grade at a GCPS high school who fell off-track to graduate at least once during their high school career. Students on a path to obtain SPED diplomas and students who transferred into or out of the district are excluded from the sample. All data are from GCPS administrative records.

8. Sample: 2006–07 and 2008–09 GCPS regular diploma recipients. Postsecond-ary-enrollment outcomes from NSC-matched records. All other data from GCPS administrative records.

Page 9

9. Sample: 2006–07 and 2008–09 GCPS regular diploma recipients attending their first semester of ninth grade in GCPS. Eligibility to attend a public flagship university is based on students' cumulative GPA and SAT scores. Postsecondary-enrollment data are from NSC-matched records. All other data are from GCPS administrative records.

10. Sample: 2006–07 and 2007–08 GCPS regular diploma recipients. Postsecond-ary outcomes are from NSC matched records. All other data are from GCPS ad-ministrative records.

Page 10

11. Sample: 2007–08 GCPS graduates enrolled in college on October 1 follow-ing high school graduation. Postsecondary enrollment outcomes are from NSC-matched records. All other data from GCPS administrative records.

The Strategic Data Project thanks Colin Martin, Eniko Nagy, and Amy Wooten for their input and guidance. These analyses were conducted by Zack Mabel and Eniko Nagy. Todd Kawakita created this report.

Center for Education Policy Research

HARVARD UNIVERSITY