

Education

Who Finishes College in Colorado, and Who Doesn't?

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The Bell Policy Center

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The Bell Policy Center

The Bell Policy Center is a nonprofit public policy organization committed to making Colorado a state of opportunity for all. The Bell seeks to reinvigorate the debate on issues affecting the well-being of Coloradans and to promote public policies that open gateways to opportunity.

The Bell Policy Center 2005 White Paper Series:

1. Exploring Colorado's Educational Pipeline
2. Who Goes to College in Colorado, and Who Doesn't?
3. Who Finishes College in Colorado, and Who Doesn't?
4. Who Serves Low-Income Undergraduate Students in Colorado?
5. Who Serves Minority Undergraduate Students in Colorado?
6. Student Loan Default Rates in Colorado
7. The Opportunity Gap: Which Colorado Students Graduate from High School and Attend College?

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Introduction

In today's competitive and knowledge-based job market, more education means more income. Workers who want to make ends meet and provide opportunities for their family usually need an associate's degree at the least, and fare better with a bachelor's degree.

While Colorado has a highly educated workforce largely imported from other states, we do a mediocre job of graduating our own young people from college. The rates of educational success are even worse for Hispanics, blacks and young people from low-income families — those who most need the boost of a college education to avoid a life of poverty and dependence.

Colorado must counteract these shortfalls by offering all its young people an education that leads to financial opportunity and a life of self-sufficiency. The state's economic and social health depends on it.

The Bell Policy Center believes sound social and fiscal policies grow from thorough, objective research. To solve a problem, we must first understand it.

This white paper is the third in a seven-part series that uses state and national data to evaluate Colorado's performance in educating young adults, and to identify promising remedies for improvement.

Who Finishes College in Colorado, and Who Doesn't?



Executive summary

Getting accepted into college and finding the money to pay for it is one thing. Graduating from college is another.

In Colorado, only half the students who enroll in a four-year college or university will graduate within six years. Of those who enroll in a two-year college, less than one-third will graduate within three years.

For minority students, the college success rate is even lower.

College is tough. But students must earn that diploma to take full advantage of the earning power of a college education. An educated workforce also pays off for society as a whole, making our economy stronger and more adaptable.

This report draws on a variety of state and national data to analyze and compare graduation rates of students attending two-year and four-year colleges in Colorado.



It also compares the graduation rates for public, private nonprofit and private for-profit colleges, and the range of degrees that Colorado students earn.

National and state data also track students who return for their sophomore year. The national data tracks students who stay at the same college, an indicator called retention. State data also tracks students at public colleges who return for their sophomore year, even if they transfer to another public college within the state, an indicator called persistence.

Due to variations in definitions and data, results vary a bit from one survey to another. But they clearly show that Colorado has plenty of room for improvement in its college graduation rates, particularly for minority students. The findings include:

- Most college drop-outs occur by the end of the freshman year.
- About 60 percent of all freshmen attending public two-year colleges return to the same school or another school in Colorado for their sophomore year.
- About 80 percent of all freshmen attending public four-year colleges return to the same school or another in-state school for their second year.
- Minorities lag these statewide averages by five to six points.
- Retention rates at all two-year colleges are below the national average, while retention rates for all four-year colleges improved and are above the national average.
- Of freshmen who enroll at public two-year colleges, 21 to 24 percent graduate within three years. Minorities fall behind, with graduation rates ranging from 15 to 19 percent.
- Expanding the range of two-year colleges to all institutions that award associate's degrees or higher, 32 percent of students graduated in 2003 within three years. Colorado's graduation rate for associate's degree-seeking students is consistently above the national average.
- Of freshmen who enroll at a public four-year college, 49 to 55 percent graduate within six years. Of minority freshmen, 36 to 43 percent graduated within the same period.
- Graduation rates are much higher at the state's private nonprofit colleges, ranking them 12th in the nation. The state's lowest graduation rates are tallied at private for-profit four-year colleges and at public two-year colleges.
- Of the 51,235 bachelor's degrees awarded in the 2002-03 academic year in Colorado, public colleges and universities gave 72 percent, and private nonprofit colleges gave 14 percent and for-profit colleges gave 14 percent. The state's private nonprofit colleges awarded a larger share of bachelor's and graduate degrees compared to private for-profits, which awarded more undergraduate certificates and associate's degrees.
- In the 2003-04 academic year, more than half of the credentials awarded by public colleges and universities to black and Hispanic students were certificates and associate's degrees, and fewer than half were bachelor's degrees or higher. Of the degrees earned by Native American and white students, about one-third were certificates or associate's degrees and about half were bachelor's degrees.



Asian Americans outpaced all other groups in earning higher degrees — three-quarters of their degrees were bachelor's or higher.

- Data that tracks graduation success by income isn't available on the state level. National data shows that more people overall are earning college degrees, and the biggest growth has come among students from families with higher incomes, especially for those earning \$63,000 a year or more. A student from a family in the top income quartile has about nine times greater a chance of earning a bachelor's degree by age 24 than a student from the bottom quartile.
- Colorado four-year colleges and universities are very productive in awarding a high number of certificates, diplomas and degrees compared to other states. Aggressive efforts to attract out-of-state students boost graduation rates, and increase income for colleges since out-of-state students pay higher tuition.



I. Postsecondary Retention and Persistence Rates

Getting into college is an important step toward success for high school graduates. The end result — a certificate, degree or diploma — is even more important.

But college isn't easy, and many students need a supportive hand at times to make it to graduation. Rough spots can pop up anytime, but the freshman year is the most likely time for frustration to turn into failure.

Research shows students are more likely to drop out of college during their first year.¹ If they stick with college into their second year, they are more likely to make it all the way to graduation.

To evaluate the success rate of students staying in college, we can look at two measures: retention and persistence.

Retention measures the number of students who stay enrolled at the same college for their second year. It's a valuable indicator, but doesn't account for student transfers. However, this information is available for all 50 states, and is used in this report.

Persistence is a more broad measure that tracks each student's success in staying in college, even if they transfer from one school to another. It can also track how much each college contributes to a student's educational career. Unfortunately, there is no national reporting of persistence rates for all 50 states. This report uses the data available for Colorado's public higher education institutions.



Retention and persistence of freshmen into their sophomore year have critical policy implications. Public and institutional policies designed to improve retention and persistence rates, such as support services, academic counseling and consistent financial aid, will lead to higher graduation rates.

In order to design and implement effective retention policies and programs, it is important to engage in the systematic collection, analysis and monitoring of a higher education system's performance.

Retention rates

ACT, the college testing organization based in Iowa City, Iowa, surveys two-year and four-year colleges to calculate freshmen-to-sophomore retention. ACT measures the percentage of fall first-time, full-time freshmen who return to the same school the following fall semester.²

The National Center for Higher Education Management Systems of Boulder, Colo., analyzed the ACT survey to calculate state-by-state retention rates. The center weighted the rate for each college according to the number of first-time, full-time entering students, regardless of age. The results are an accurate and reliable measure of one-year retention rates in all 50 states.

Two-year colleges

In the 1990s, retention rates for two-year colleges in Colorado declined, and by 1995 they fell below the national average.³

In 1990, the state's two-year colleges had the 15th highest retention rate, at 58.5 percent, among 43 states that reported data. The 43-state average was 56 percent, while that year's top three states of Vermont, Maine and New Hampshire averaged a 70.8 percent retention rate.

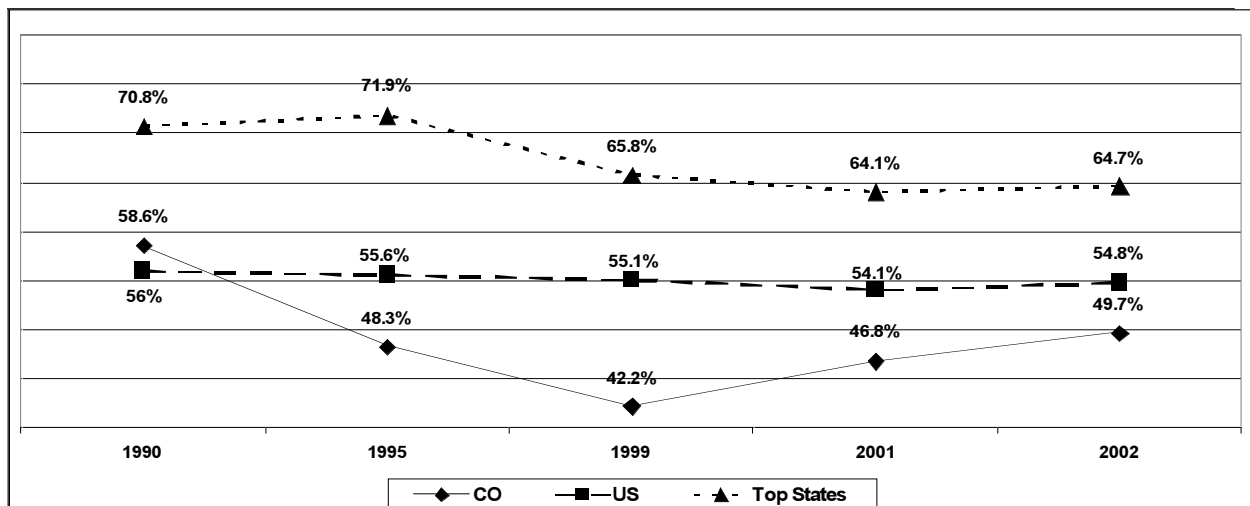
By 1995, Colorado's retention rate dropped below the 55.6 percent national average to 48.3 percent, and its ranking dropped to 30th of 47 states. The top three states, South Dakota, New Hampshire and Maine, reported an average rate of 71.9 percent.

In 1999, the state's retention rate again fell, to 42.2 percent, well below the national average of 54.1 percent and far below the 65.8 percent average rate of the top performing states, Pennsylvania, Maine and New Hampshire. Colorado's rank dropped to 35th of 41 states.

- By 2002, the retention rate improved to 49.7 percent and the state ranked 31st of 43 states. Colorado was still below the 64.7 percent average rate of the top three states of Florida, New Hampshire and New Jersey, as well as the 54.8 percent national average.
- Colorado's two-year college retention rates dropped by 9 percent between 1990 and 2002.



Figure 1: Two-year college retention rates for first-time freshmen returning for their second year (1990-2002)



Four-year colleges and universities

In contrast, the retention rates of Colorado's four-year colleges improved during the 1990-2002 period, and have slightly exceeded the national average since 1999.⁴

In 1990, the rate of first-time, full-time freshmen who enrolled the following fall semester was 72.7 percent, ranking the state 31st among 48 states, well below the 85.2 percent average of the top three states, Vermont, New Hampshire and New Jersey, and slightly below the national average of 75 percent.

By 1995, the state's four-year college retention rate fell slightly to 71.3 percent. That mirrored the national average, which slipped slightly to 74.2 percent. The top three performing states of Connecticut, New Hampshire and New Jersey averaged rates of 83.9 percent. Colorado's ranking dropped to 34th among all states.

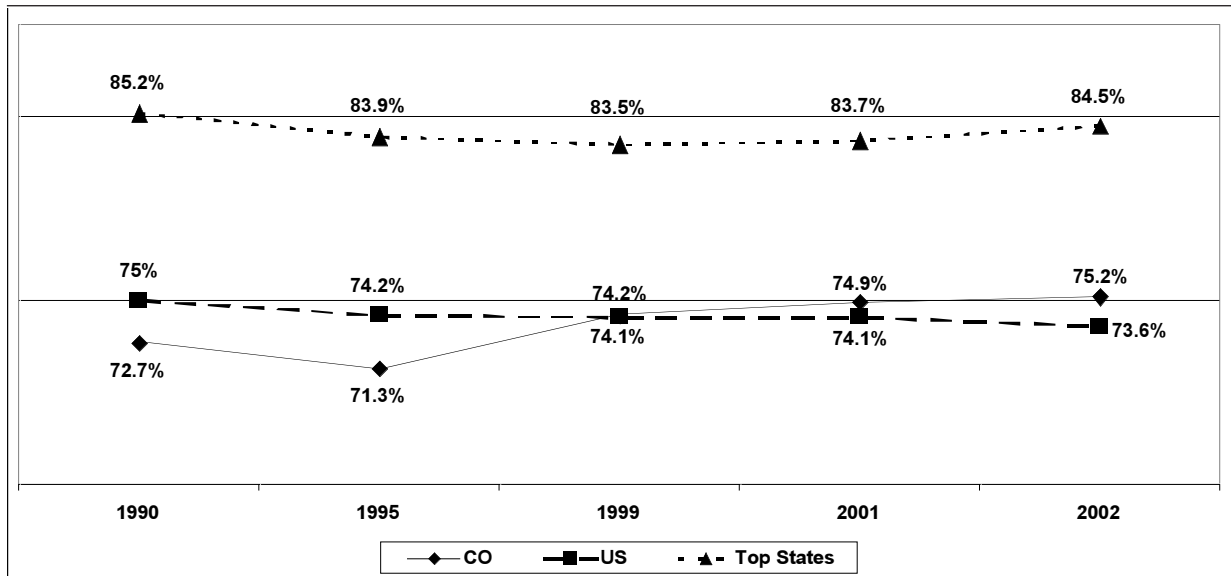
Retention rates improved by 1999, and Colorado's rank moved up to 30th among 48 states with a 74.2 percent retention rate. That matched the stable national average of 74.1 percent, compared to the 83.5 percent rate of the top three performing states of Connecticut, New Jersey and Washington.

By 2002, the state's four-year college retention rate of 75.2 percent surpassed the national average of 73.6 percent, and Colorado ranked 30th among 49 states. The top three states, Delaware, Maryland and California, averaged an 84.5 percent retention rate.

Colorado four-year colleges increased their retention rate by 2.5 percent between 1990 and 2002, while the national average declined by 1.4 percent during the same time period.



Figure 2: Four-year college retention rates for first-time freshmen returning for their second year (1990-2002)



Retention rates, by minority status, in the Colorado public higher education system

The Colorado Commission on Higher Education launched the Quality Indicator System (QIS) in 1997 to collect data on undergraduate education quality indicators. The QIS is used to assess each institution's performance. QIS collects data in cooperation with the governing boards of the state's public higher education institutions.

Among the nine indicators used in the annual QIS reports, two indicators provide freshmen retention rates. Specifically, these indicators "measure the percentage of first-time, full-time, certificate or degree-seeking freshmen entering in the summer or fall [of the previous year] who either completed a program by the [following summer] or were enrolled in the fall term [of the following year] at the same institution."⁵

The QIS tracks and reports retention data for two cohorts: one that includes all students and a minority cohort of only non-white students. The 1999 through 2004 QIS reports provide information on all cohorts that entered public institutions in the fall term from 1997 to 2002.

The cohort-tracking approach and the data generated are highly reliable. All student information is derived from the Student Unit Record System, the state's comprehensive database that includes student information from all public higher education institutions.⁶

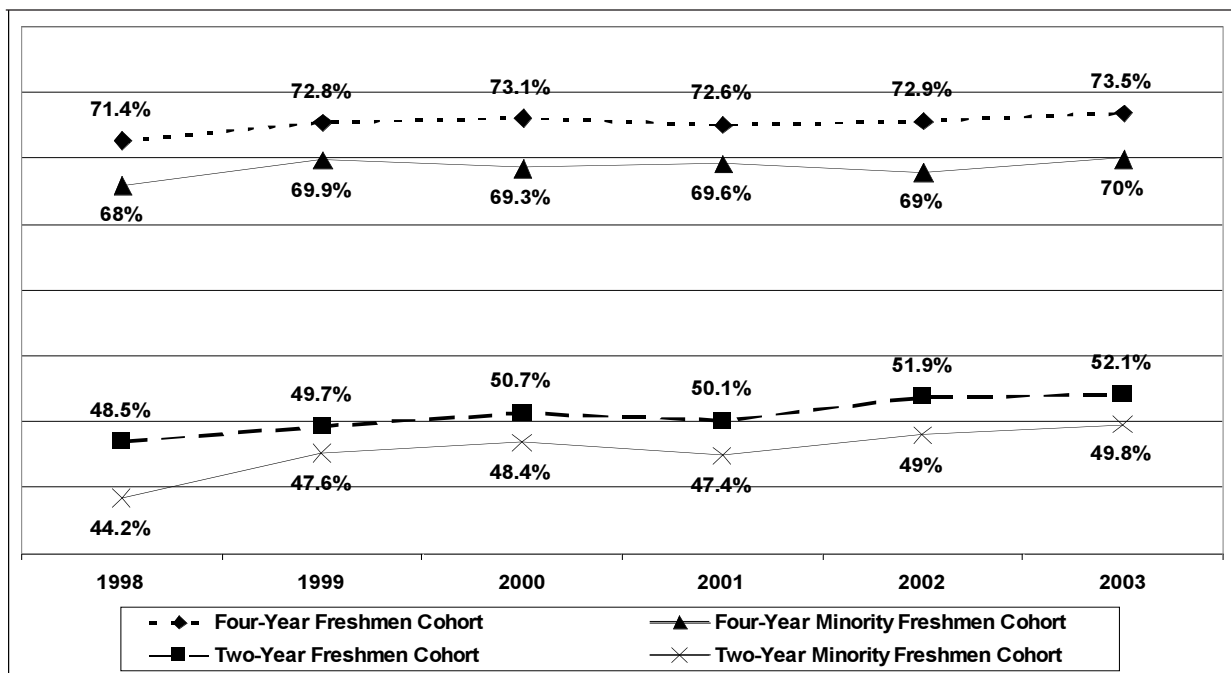
- The retention rates at Colorado's public four-year postsecondary institutions have been much higher than those of public two-year institutions. The retention rates of minority students consistently lag behind those of all students.

Specifically, the one-year retention rates of freshmen at public four-year institutions have ranged from 71.4 to 73.5 percent, while the rates of minority freshmen have ranged from 68 to 70 percent.



- Similarly, the retention rates of freshmen at two-year institutions have remained relatively unchanged, within the 48.5 to 52.1 percent range, slightly above the retention rates of minority freshmen.

Figure 3: Colorado public higher education institutions, freshmen retention rates for the all-student cohort and the minority student cohort (1998-2003)



Persistence rates for all students, and by minority status, in the Colorado public higher education system

Persistence rates track students who may transfer to another college in Colorado. This information is only available for Colorado’s public higher education institutions.

The QIS persistence indicators “measure the percentage of first-time, full-time, certificate or degree-seeking freshmen entering in the summer or fall [of the previous year], who either completed a program by August [of the following year], were enrolled in the fall term [of the following year] at the same institution, or transferred to another Colorado state-supported institution of higher education and enrolled at that institution in the fall term [of the following year].”⁷

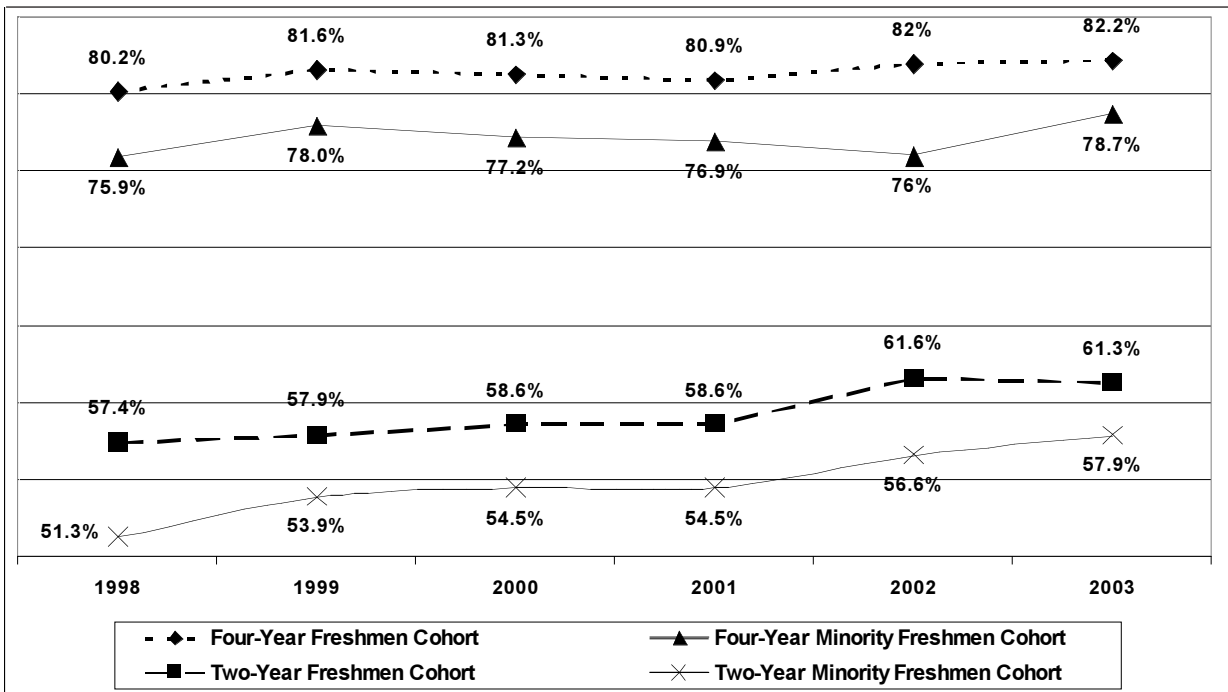
Similar to the retention indicators, the persistence indicators offer rates for an all-student cohort, as well as rates for the minority cohort of freshmen students.

The cumulative persistence rates for all freshmen at the state’s public four-year and two-year colleges remained essentially unchanged during the six academic years covered by QIS, from 1997-98 through 2002-03. Rates range between 57.4 percent and 61.6 percent at two-year colleges, and between 80.2 percent and 82.2 percent at four-year colleges.



- The persistence rates for all minority freshmen in the state’s institutions of higher education also remained stable, but were consistently lower than the persistence rates of all students from 1997-98 through 2002-03. At public two-year colleges, rates ranged between 51.3 percent and 57.9 percent, and at public four-year colleges, they ranged between 75.9 percent and 78.7 percent.

Figure 4: Colorado public higher education institutions, freshmen persistence rates for the all-student cohort and the minority student cohort (1998-2003)



II. Postsecondary Graduation Rates

The retention rate of freshmen is an important indicator of performance for a state higher education system, but graduation rates are even more crucial. Graduation reflects the degree of success in achieving higher education’s ultimate goal: students completing a degree program and attaining educational credentials.

Graduation rates at Colorado public four-year higher education institutions, by minority status

The time it takes to complete the bachelor’s degree is an important gauge of college effectiveness. It’s among the most common indicators used throughout the nation to assess the quality and performance of higher education systems.

The 2001 through 2004 QIS reports provide information on this measure for the cohorts that entered a public higher education institution during the fall semester from



1992 through 1999. The QIS data illustrate how long students in each cohort attended college before earning a bachelor's degree. The data also divide the cohort, showing the percentage that graduated in four, five or six years.

- The percentage of students graduating in four years has increased steadily, from 20.6 percent (2,528 students) for the 1992 cohort to 27.7 percent (4,215 students) for the 1999 cohort.

Similarly, the percentage of students graduating in five years also increased slightly, from 21.6 percent (2,650 students) for the 1992 cohort to 22.7 percent (3,463 students) for the 1998 cohort. However, fewer than six out of 100 students entering a public four-year higher education institution between 1992 and 1997 graduated within six years.

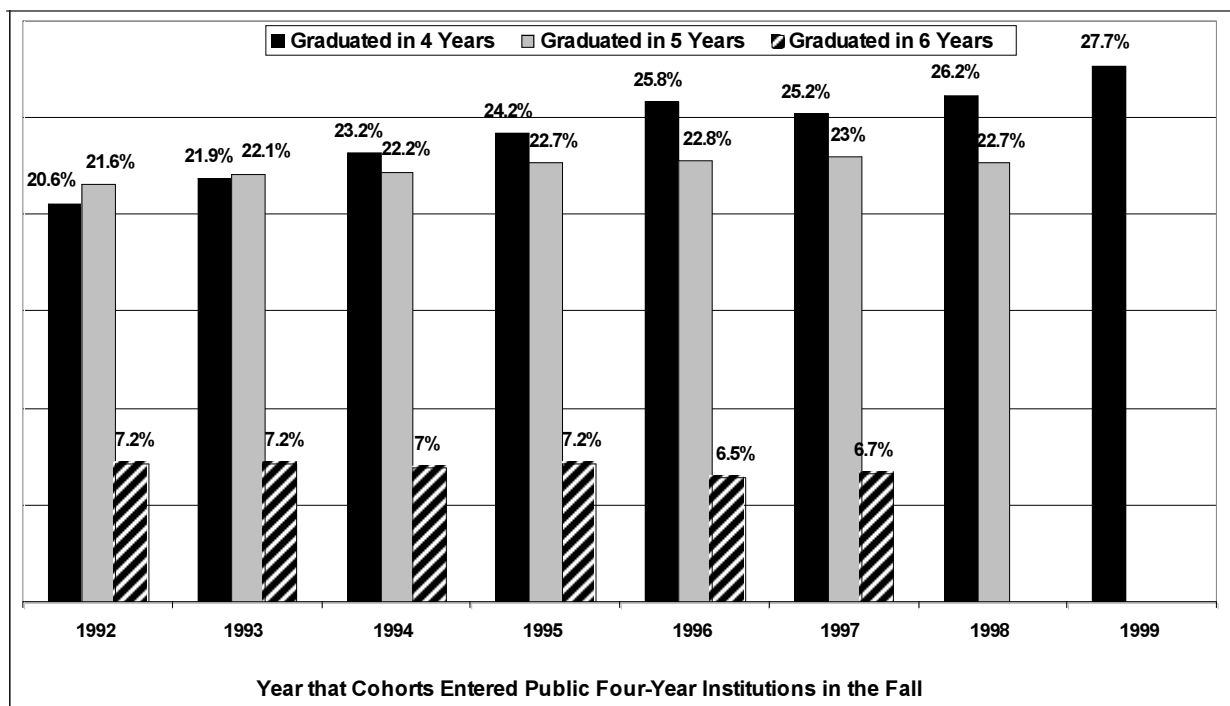
Cumulatively, the QIS data indicate:

- Among first-time, degree-seeking, full-time students who entered college during the fall term from 1992 to 1997, slightly more than half graduated within six years.

Specifically, the rate of graduation within six years ranged from 49.4 percent (6,061 students) for the 1992 cohort to 55.1 percent (7,597 students) for the 1996 cohort, increasing consistently each year. The exception was the 1997 cohort, which dipped slightly to 54.9 percent (8,012 students). This means:

- The remaining students — almost half of each cohort — graduated after seven or more years, discontinued their studies, or transferred to an out-of-state or private institution.

Figure 5: Baccalaureate graduation rates after four, five and six years at public four-year colleges and universities in Colorado (fall 1992 through fall 1999 cohorts)

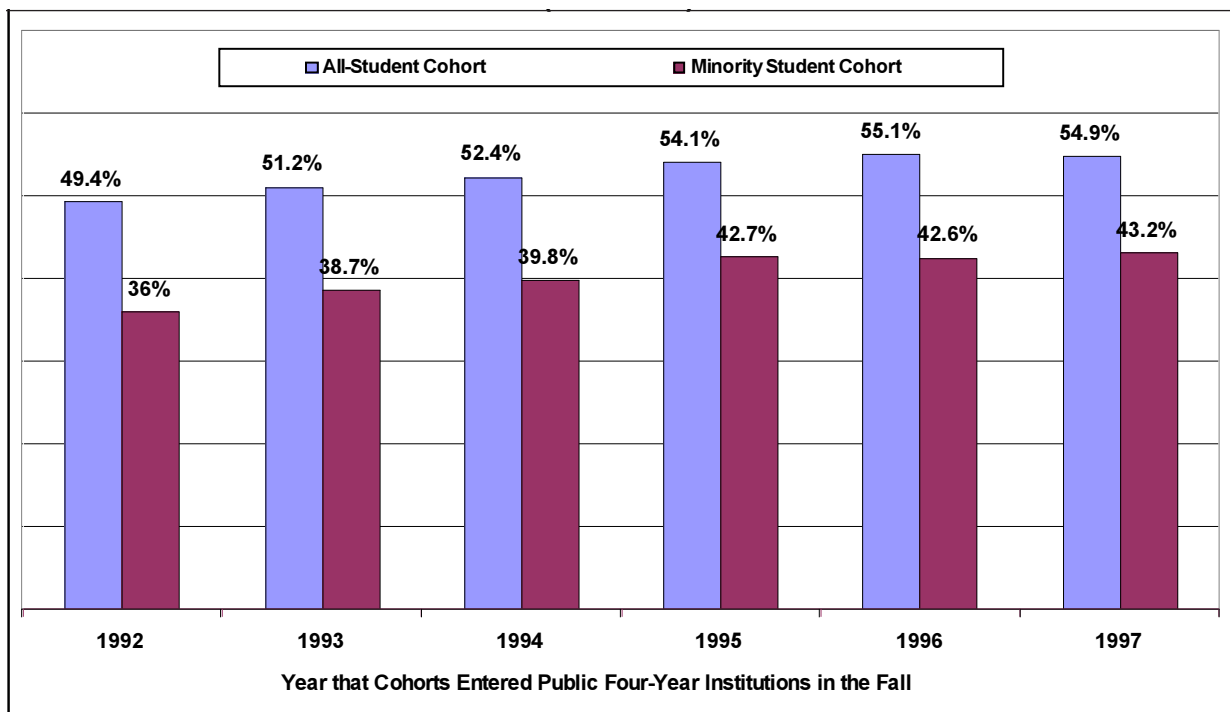




The QIS data allow us to compare graduation rates within six years for all-student cohorts and for minority cohorts. While the QIS reports do not separate the four-, five-, and six-year graduation rates, they do tell us how many minority students graduate within at least six years from a public college or university. The QIS data show that the 1992-95 minority cohort graduation rates are much lower than the rates of the all-student cohorts.

- The all-student cohort six-year graduation rates ranged from 49.4 to 55.1 percent. The minority cohort rates ranged from 36 to 43.2 percent during the same period.
- The all-student cohort rates improved, but the minority cohort's graduation rates consistently lagged 11.4 to 13.4 percent below the graduation rates for all students.

Figure 6: Baccalaureate graduation rates within six years at public four-year colleges and universities in Colorado, by cohort (entering college in the fall of 1992-1997)



Graduation rates at Colorado public two-year colleges, by minority status

Examining graduation rates for Colorado's two-year community colleges, junior colleges and technical colleges offers more insight into recent trends.

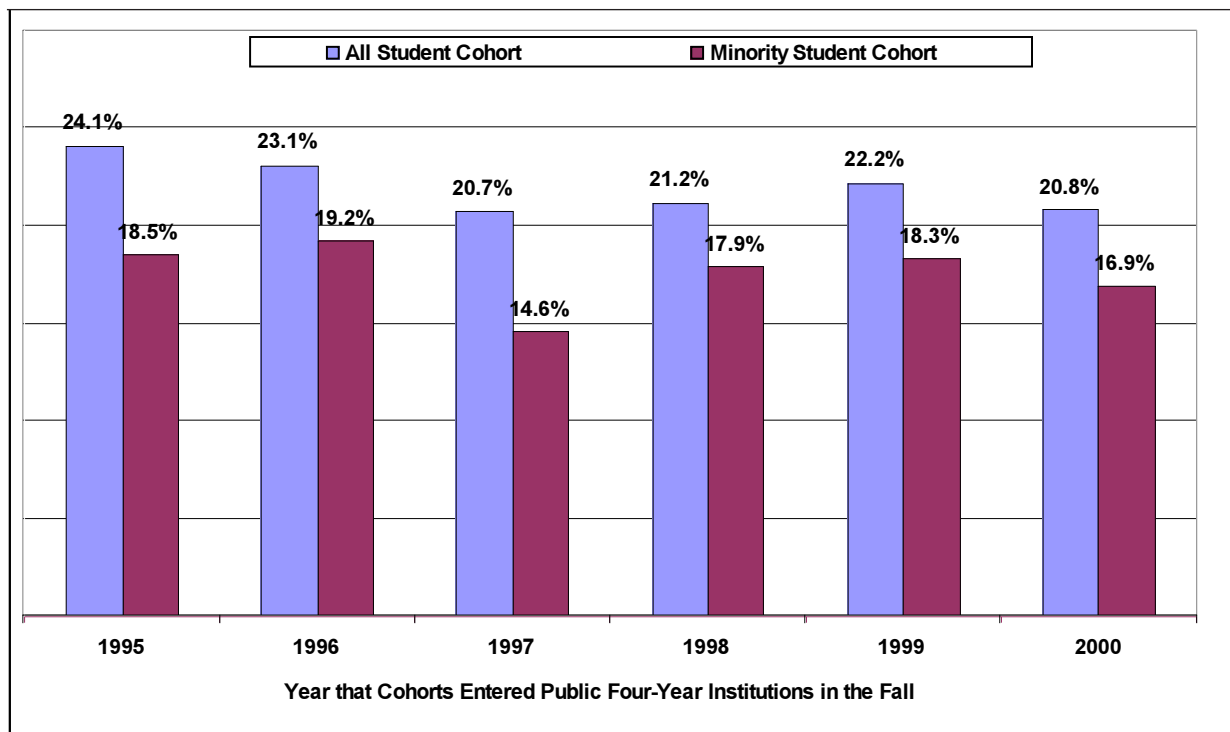
For two-year colleges, the QIS system "measures the three-year graduation rate for first-time, full-time, certificate or associate-degree seeking freshmen who entered a two-year institution in the summer or fall [three years earlier] and either graduated from the original institution or another two-year institution in Colorado's state-supported system of higher education within three years after entry."⁸



Students transferring to private colleges in Colorado or institutions outside the state are not counted, but in-state transfers among public two-year institutions are included. The 2001 through 2004 QIS reports provide the three-year graduation rates for cohorts that entered in the fall semesters of 1995 through 2000.

- The graduation rates for all students who enrolled in public two-year colleges from 1995 to 2000 ranged from 20.7 to 24.1 percent and have been declining slightly during this period. The rates for the minority cohorts consistently lagged, ranging from 14.6 to 19.2 percent.
- For the latest cohort reported, entering in 2000, 21 percent of students graduated from a public two-year institution within three years.

Figure 7: Graduation rates after three years from Colorado public two-year colleges, by cohort (1995-2000)



Graduation rates of associate's and bachelor's degree students within 150 percent of time

The U.S. Department of Education National Center of Education Statistics collects graduation data through the Integrated Postsecondary Education System. IPEDS is a comprehensive system of surveys that collect data from institutions and educational organizations whose primary purpose is to provide postsecondary education.

Since 1997, the annual IPEDS Graduation Rate Survey has provided the percentage of first-time, full-time, degree-seeking students earning an associate's degree within three



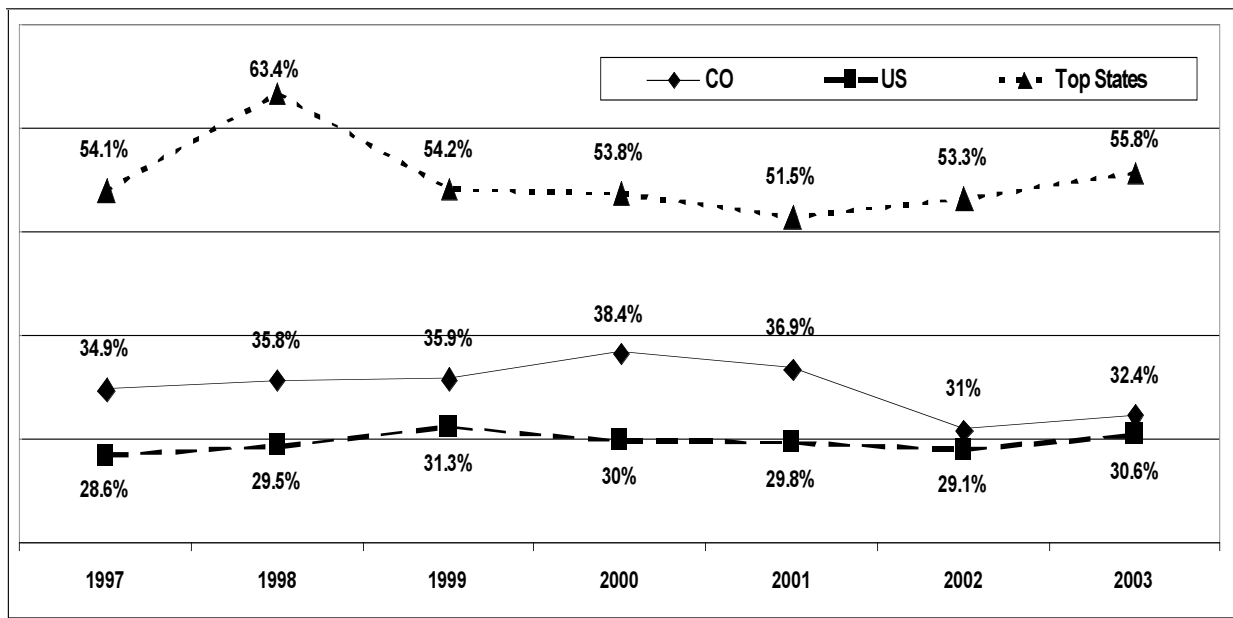
years or a bachelor's degree within six years (within 150 percent of required time for graduation) in Title IV degree-granting institutions. These institutions grant associate's degree or higher and are certified to accept federal financial aid.⁹

In 1997, the survey reported that Colorado's two-year colleges had a 34.9 percent graduation rate, ranking the state 21st in the nation. That topped the 28.6 percent national average, but was below the 54.1 percent average rate of the top three states, Minnesota, Alabama and Massachusetts.¹⁰

By 1999, the graduation rate of the state's two-year colleges improved to 35.9 percent, above the national average of 31.3 percent and below the 54.2 percent average for the top three states of South Dakota, Idaho and North Dakota. With that boost, Colorado's ranking jumped to 16th.

- In 2003, Colorado's graduation rate within three years at two-year colleges (for the cohort entering in 2000) dropped to 32.4 percent, ranking the state 23rd. That was still above the 30.6 percent national average, but well below the 55.8 percent average for the top three states of South Dakota, Wyoming and Arizona.
- The graduation rates for associate's degree-seeking students in Colorado consistently beat the national average, ranking the state in the top-performing half of states.

Figure 8: Two-year college graduation rates for first-time, full-time freshmen graduation within three years (150 percent of the time required for graduation) (1997-2003)



In contrast to two-year colleges, the IPEDS data show Colorado's graduation rates for bachelor's-degree seeking students are consistently below the national average.¹¹

In 1997, Colorado's four-year institutions had a 49.2 percent rate of graduation within six years, the 26th highest in the nation. The national average was 52.2 percent,

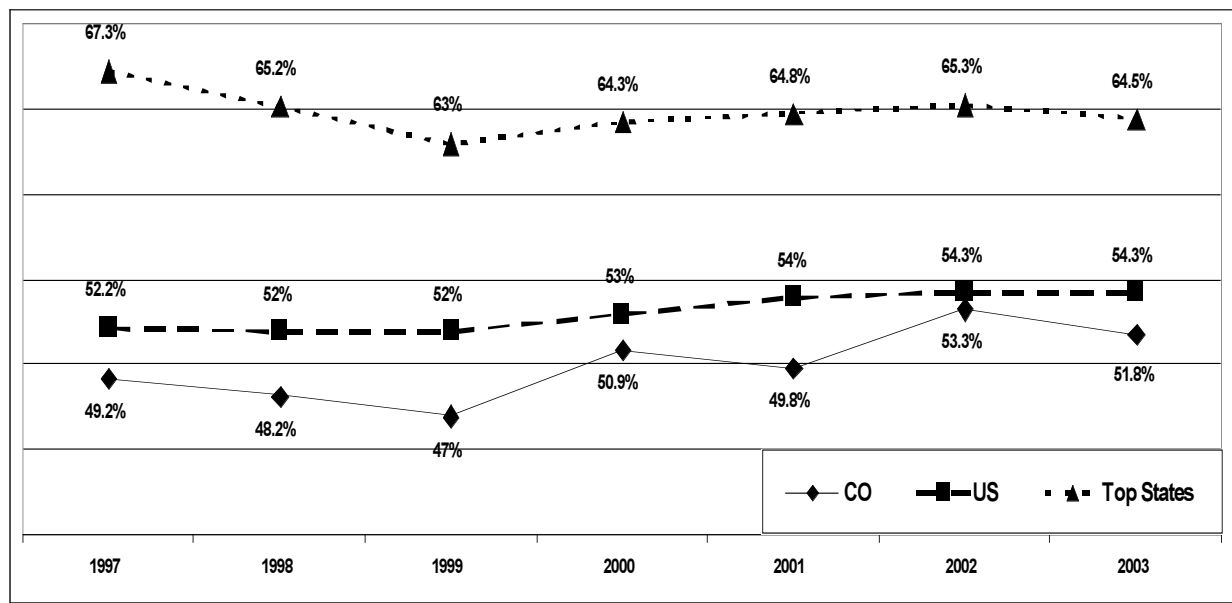


and the top three states of Rhode Island, New Hampshire and Massachusetts hit an average of 67.3 percent.

By 1999, Colorado's six-year graduation rate dropped to 47 percent and its rank fell to 32nd, below the 52 percent national average and well below the 63 percent average of the top three states, Rhode Island, Massachusetts and Connecticut.

- In 2003, the graduation rates of Colorado's four-year colleges within six years (1997 cohort) climbed to 51.8 percent, the 27th highest rate in the nation. That remained below the national average of 54.3 percent, and the 64.5 percent average for the top three states of Massachusetts, Maryland and Rhode Island.
- During recent years, the six-year graduation rates of degree-seeking students attending Colorado's four-year colleges remained steady, consistently ranking the state below the national average.

Figure 9: Four-year college graduation rates for first-time, full-time students graduating within six years (150 percent of the time required for graduation) (1997-2003)



Graduation rates of associate's and bachelor's degree students within 150 percent of time, by race/ethnicity

The IPEDS Graduation Rate Survey also allows us to compare graduation rates within 150 percent of time by race and ethnicity. Table 1 shows the six-year graduation rates from four-year institutions and the three-year graduation rates from two-year institutions for Colorado and the nation in 2003.

- With the exception of black students, students in Colorado graduate from two-year institutions within 150 percent of time at higher rates than the national average.



In contrast, all students graduate from four-year institutions at lower rates than the national average.

- Minority students have lower graduation rates than their white peers. Rates are lowest among black students. The graduation gap is significantly larger at four-year institutions, where Hispanic and black students trail white students by more than 14 points.

Table 1: Graduation rates within 150 percent of time in Colorado and the nation, by race/ethnicity (2003)

	Four-year institutions, bachelor's degree six-year graduation rate (1997 cohort)		Two-year institutions, degree/certificate three-year graduation rate (2000 cohort)	
	Nation	Colorado	Nation	Colorado
White	58.7 %	53.8 %	31.7 %	34.0 %
Hispanic	45.8 %	39.4 %	30.1 %	30.6 %
Black	39.9 %	37.2 %	26.1 %	25.9 %
Other	58.8 %	47.6 %	30.4 %	30.6 %
Total	56.0 %	51.4 %	30.6 %	32.4 %

Graduation rates of recent high school graduates within 125 percent of time

Although the graduation rates in Table 1 include all students, regardless of age, the graduation rates of young adults confirm the poor performance of the state's four-year institutions.

The ACT Institutional Data Questionnaire, which is based on a national survey of postsecondary institutions, offers another measure of the timely completion of undergraduate studies for Colorado's postsecondary students. The 2000 and 2002 editions of the National Center for Public Policy and Higher Education report *Measuring Up: The State-by-State Report Card for Higher Education* provide results of the fall 1999 and 2000 surveys. ACT analyzed the surveys for the percentage of first-time, full-time students earning a bachelor's degree within five years of finishing high school.¹²

This measure assesses the completion rates for recent high school graduates who pursued postsecondary education soon after graduating from high school, and who attained a bachelor's degree within four or five years at the same institution that they entered. It is important to note that part-time, transfer and returning students are not captured in this measure. Nevertheless, the ACT report adds another layer of validity to our examination of completion rates in Colorado.

ACT surveys covering college graduation rates during the 1998-99 and 1999-2000 academic years showed that 49 percent of first-time, full-time students in Colorado obtained a bachelor's degree within five years of graduating from high school.

This rate placed Colorado 25th among 48 states for the 1998-99 period. (Data was not available for Alaska and Wyoming.) Colorado fell below the national average of 51.6



percent and below the 68 percent average of the top three states of Vermont, Delaware and Connecticut.

- Because the rate in other states changed for 1999-2000, ACT bumped Colorado's rank up one spot to 24th among all states, although its actual graduation rate remained the same. Colorado's 49 percent rate compares to the 67 percent average of the top three states of Delaware, Massachusetts and New Hampshire,¹³ and the 50.9 percent national average.

Graduation rates, by sector

Examining graduation rates from Colorado's higher education sectors — public, private non-profit and private for-profit colleges — allows us to compare their respective performance. Using the data from the 2000 IPEDS Graduation Rate Survey, the National Information Center for Higher Education Policymaking and Analysis of Boulder, Colo., offers a national snapshot of the relative performance of higher education sectors. This report compares six-year graduation rates among Colorado institutions by sector and among states by sector.¹⁴

Colorado's six-year graduation rate in 2000 for all four-year colleges and universities was 50.9 percent. The national average was 53 percent, while the top three states of Rhode Island, New Hampshire and Massachusetts averaged 64.3 percent. By this measure, Colorado ranked 28th in the nation. But divided by sector, the numbers change significantly.

- Colorado's public four-year institutions had a six-year graduation rate of 48.9 percent, close to the 48.3 percent national average and earning a 21st place rank. The top three states of Delaware, Iowa and Virginia averaged 62.5 percent.
- Colorado's private, nonprofit four-year institutions achieved a higher rate and ranking. With a higher six-year graduation rate of 65.7 percent, they ranked 12th in the nation. The national average for private nonprofit colleges was 62.1 percent. The top three states of Maine, Rhode Island and Massachusetts averaged 72.5 percent.
- However, Colorado's public colleges and universities awarded bachelor's degrees within six years to 14,474 students, nearly nine times the 1,543 degrees awarded by their private nonprofit counterparts.

The 2003 IPEDS Graduation Survey also enables a comparison of six-year and three-year graduation rates for Colorado and the nation, by sector, as shown in Table 2.

- Colorado's four-year and two-year private nonprofit institutions have higher graduation rates within 150 percent of time than the national average for that sector.
- Private for-profit colleges in Colorado had lower graduation rates than the national average for their sector.
- Colorado's public institutions have an overall slightly lower graduation rate within 150 percent of time than the national average.
- Overall, the private nonprofit sector has the highest graduation rates within 150 percent of time.



Table 2: Graduation rates within 150 percent of time in Colorado and the nation, by sector (2003)

	Four-year institutions, bachelor's degree six-year graduation rate (1997 cohort)		Two-year institutions, degree/certificate three-year graduation rate (2000 cohort)	
	Nation	Colorado	Nation	Colorado
Public	52.8 percent	51.4 percent	23.5 percent	21.3 percent
Private nonprofit	62.9 percent	64.2 percent	50.1 percent	81.4 percent
Private for-profit	24.7 percent	15.8 percent	59.2 percent	46.1 percent
Total	56 percent	51.4 percent	30.6 percent	32.4 percent

III. Postsecondary Completion: What degrees do Colorado students earn?

Degrees, certificates and diplomas awarded, by sector

When comparing and interpreting the graduation rates of public and private colleges, it is important to keep in mind the significant difference in the number of students served by these two sectors. The 2003 IPEDS Completion Survey report of the U.S. Department of Education clearly shows that public colleges serve the vast majority of students in the state.¹⁵

In the 2002-03 academic year, a total of 51,235 bachelor's and graduate degrees were awarded in Colorado. Of these:

- Public colleges and universities gave 37,023 degrees, or 72.3 percent
- Private nonprofit colleges and universities gave 7,202 degrees, or 14.1 percent
- Private for-profit colleges gave 7,010 degrees, or 13.7 percent

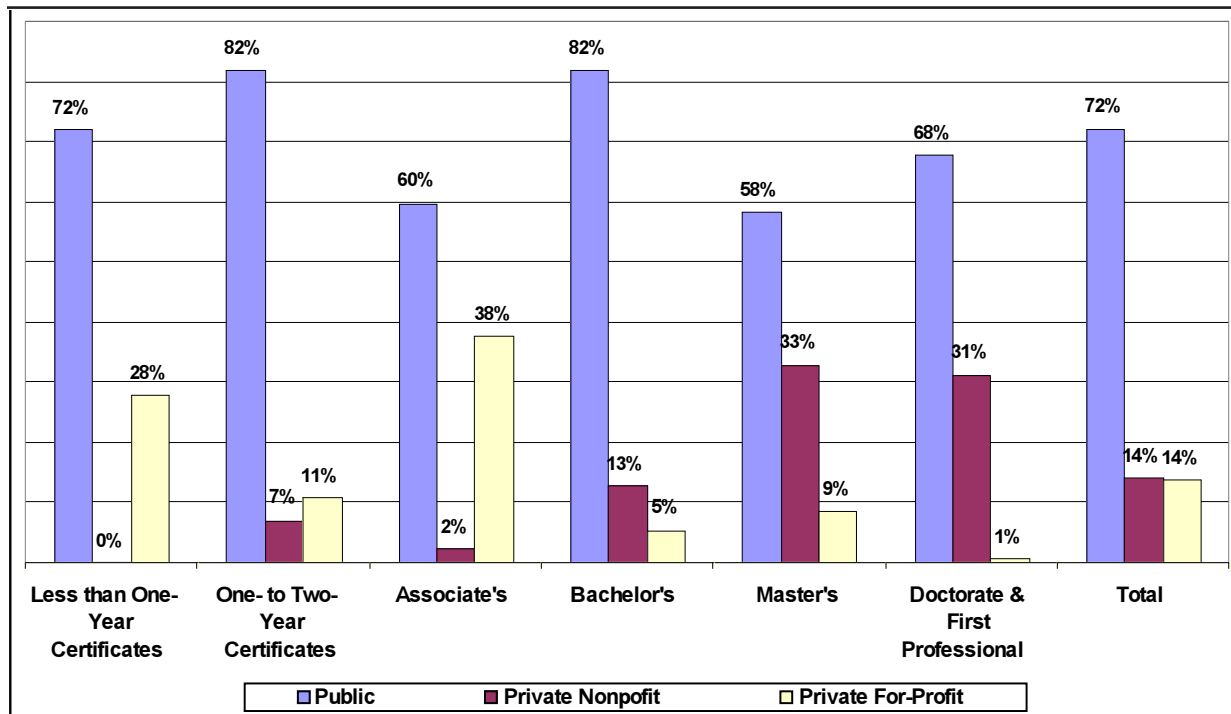
In the 2002-03 academic year, public colleges and universities awarded:

- 72.2 percent of the 4,622 less than one-year certificates
- 82.1 percent of the 2,261 one- to two-year certificates
- 59.9 percent of the 8,860 associate's degrees
- 81.9 percent of the 24,260 bachelor's degrees
- 58.4 percent of the 9,232 master's degrees
- 68 percent of the 1,792 doctorate and professional degrees

Of the state's private colleges, nonprofits awarded a larger share of bachelor's and graduate degrees, while for-profits awarded more undergraduate certificates and associate's degrees.



Figure 10: Percent of certificates and degrees awarded in Colorado, by sector (2002-03)



Degrees and certificates awarded, by race and ethnicity

We can also measure the college graduation rates for racial and ethnic groups. The National Information Center for Higher Education Policymaking and Analysis, using NCES data, calculated undergraduate and graduate certificates and degrees awarded in each state to each racial and ethnic group.¹⁶

During the 2002-2003 academic year, Colorado's tally was 4,622 certificates earned in less than one year, 2,261 one- to two-year certificates, 8,860 associate's degrees, and 24,260 bachelor's degrees. The data indicate that minorities, especially blacks, earn a small portion of certificates and degrees in Colorado.

- White students earned about seven of 10 less than one-year certificates, one- to two-year certificates, and associate's degrees, and almost eight out of 10 bachelor's degrees.

The highest relative percent of Hispanics and black students earn degrees at the lowest levels of undergraduate studies, typically certificates and associate's degrees.

- Hispanics receive 13.9 out of every 100 one- to two-year certificates
- Blacks receive 5.9 out of every 100 associate's degrees.



Figure 11: Distribution of undergraduate certificates and degrees awarded, by race (2002-03)

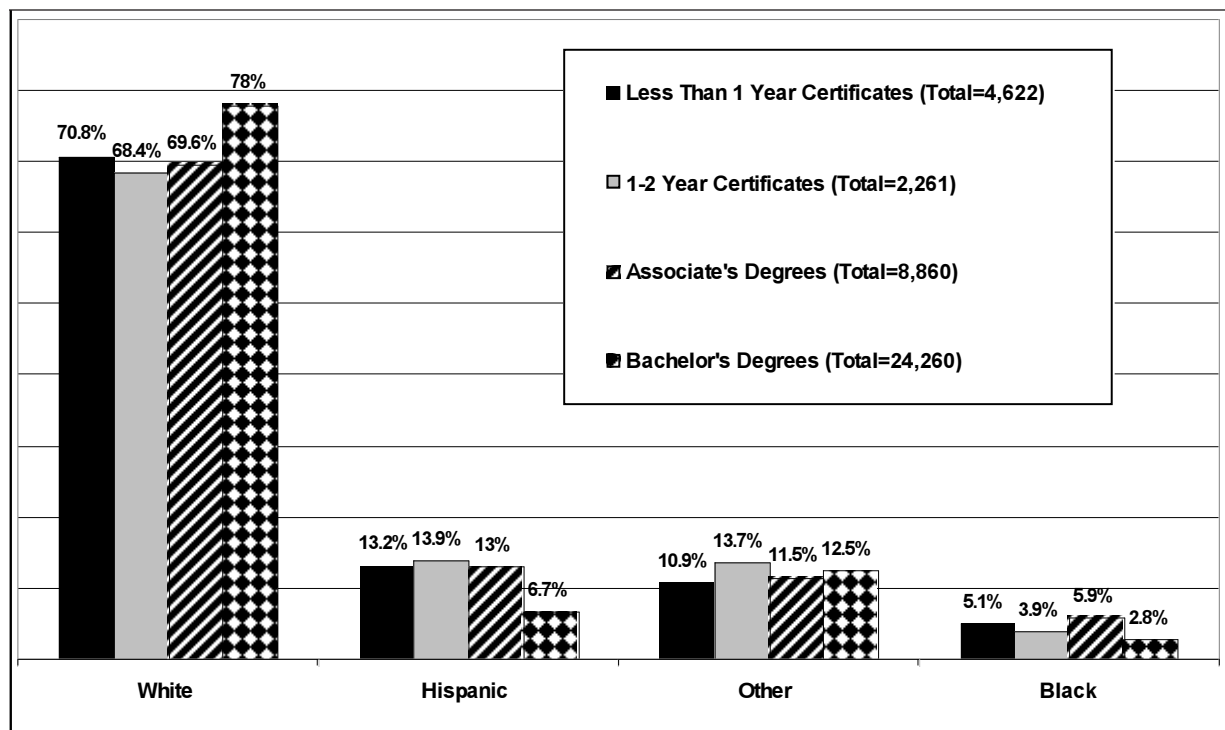
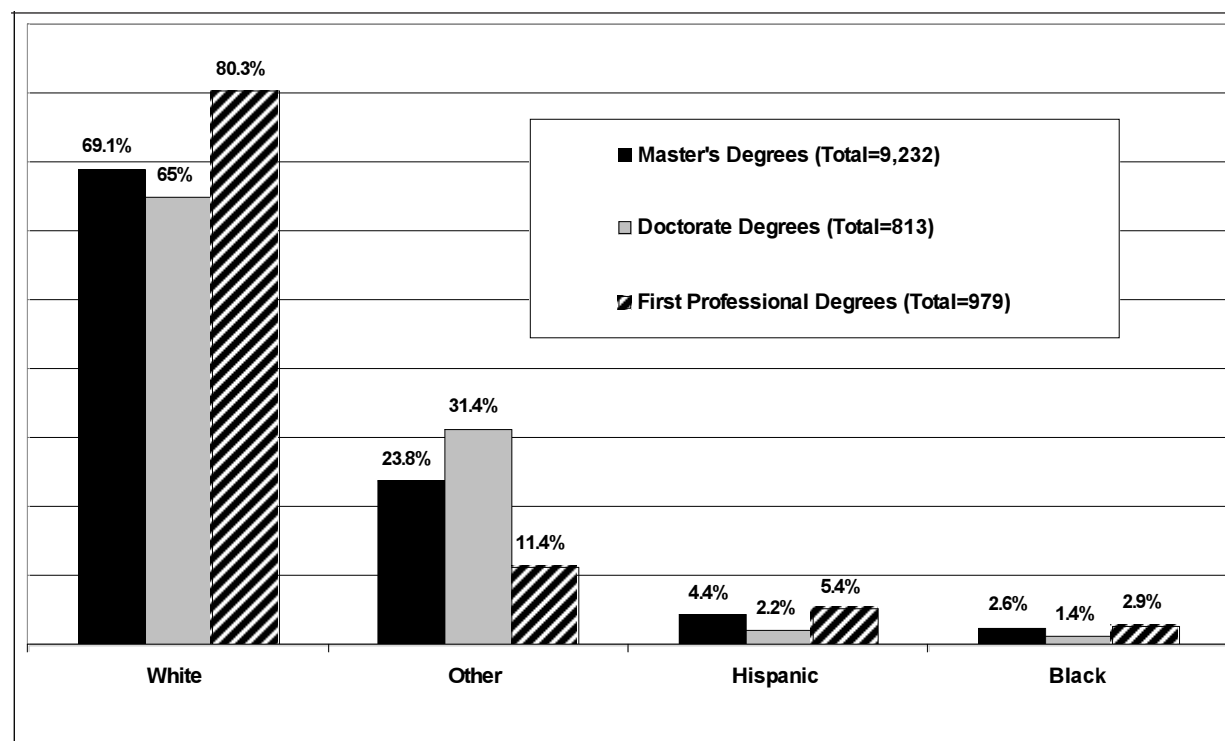


Figure 12: Distribution of graduate degrees awarded, by race (2002-03)





In 2002-03, students at Colorado colleges and universities earned 9,232 master’s degrees, 813 doctorate degrees and 979 first professional degrees. (A first professional degree is for a doctorate in law, theology, medicine or veterinary medicine.)

At the graduate level, Hispanic and black students’ share of degrees is more disappointing, as shown in Figure 12 on the page 18.

- Hispanic students earned 4.4 percent of master’s degrees, 2.2 percent of doctorate degrees, and 5.4 percent of first professional degrees.
- Black students earned 2.6 percent of master’s degrees, 1.4 percent of doctorate degrees and 2.9 percent of first professional degrees.

Degrees and certificates awarded from Colorado public higher education institutions, by race/ethnicity

Despite the high productivity of Colorado’s colleges and universities, there are significant disparities in the number and types of credentials awarded among the different racial and ethnic groups. The Colorado Commission on Higher Education reports the number of degrees and certificates awarded annually by public institutions. It allows us to compare the “productivity share” for each racial and ethnic category. An examination of the available data, which covers seven academic years from 1997-98 through 2003-04, indicates the white share represents 75 percent of certificates and degrees awarded, as shown in Table 3.¹⁷ Also:

- Although the respective shares of total degrees and certificates awarded for each racial and ethnic category have remained relatively stable over this period, the Hispanic and black shares improved slightly in the 2003-04 academic year. Hispanics earned a 9.2 percent share and blacks earned a 3.3 percent share of degrees and certificates.
- Hispanic and black students are over-represented in the lowest levels of postsecondary education. The highest Hispanic and black shares are in certificates and associate degrees.

Table 3: Certificates and degrees awarded by public higher education institutions, by race/ethnicity (1998-2004)

Categories do not add up to 100, because the table excludes foreign students and those of unknown race.

CERTIFICATES							
	1997-98	1998-99	1999-00	2000-01	2001-02	2002-03	2003-04
White	72.2%	73.6%	73.4%	74.1%	73.8%	73.9%	69.1%
Hispanic	17.5%	16.7%	15.7%	13.8%	13.2%	13%	15.6%
Black	2.8%	3%	3.5%	3.7%	3.8%	3.9%	5.8%
Asian American	2.3%	2.1%	2.4%	2.7%	1.9%	2.1%	2.2%
Native American	2.1%	1.2%	1.4%	1.6%	1.4%	1.4%	1.6%

Table 3 continued on next page

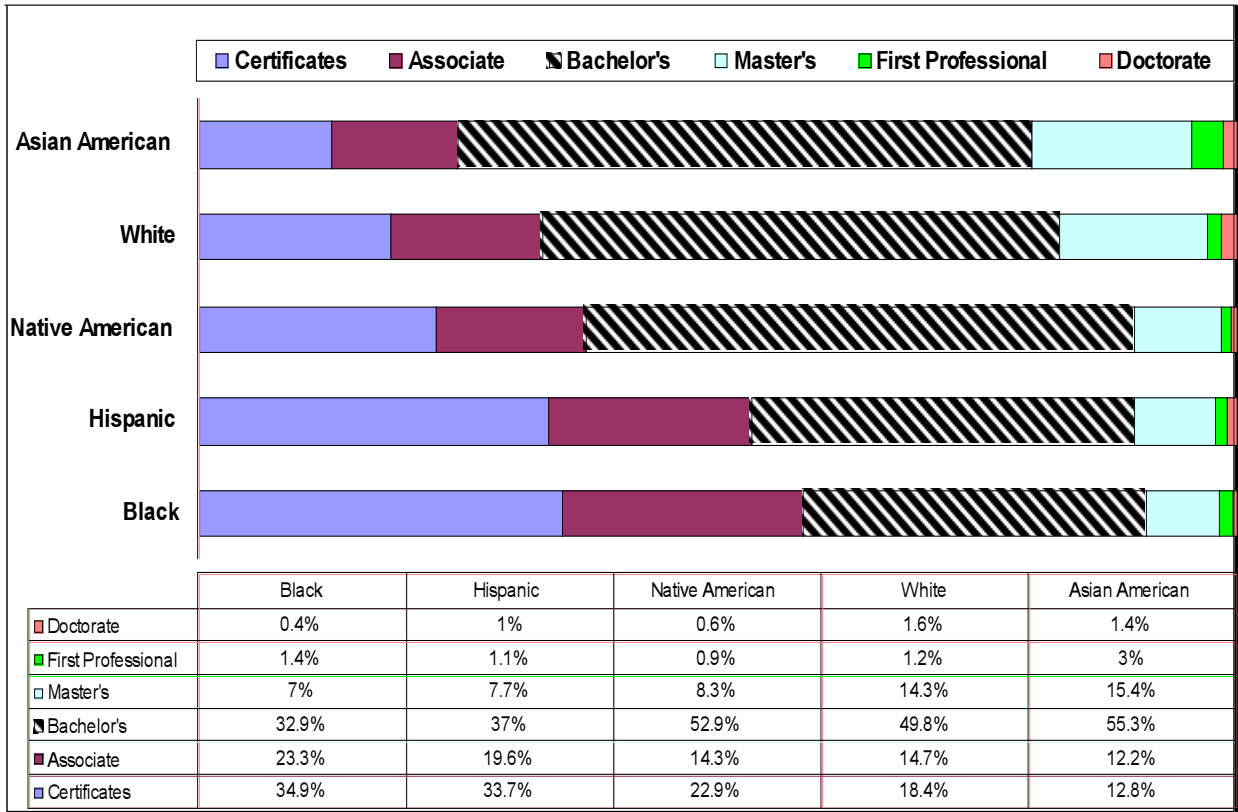


Table 3 continued: Certificates and degrees awarded by public higher education institutions, by race/ethnicity (1998-2004).

ASSOCIATE DEGREES							
	1997-98	1998-99	1999-00	2000-01	2001-02	2002-03	2003-04
White	75.8%	75.9%	76%	74.9%	74.4%	73.9%	74.2%
Hispanic	11.7%	12.2%	11.5%	12.4%	12.5%	13%	12.2%
Black	4.8%	4.4%	4.6%	5.3%	5.5%	4.8%	5.2%
Asian American	2.4%	2.2%	2.8%	2.7%	2.2%	2.6%	2.8%
Native American	1.3%	1.2%	1.3%	1.1%	1.3%	1.7%	1.4%
BACHELOR'S DEGREES							
	1997-98	1998-99	1999-00	2000-01	2001-02	2002-03	2003-04
White	80.7%	79.2%	80.4%	78.7%	79%	79.1%	78.4%
Hispanic	7%	7.6%	6.9%	7.5%	7.5%	7%	7.2%
Asian American	3.8%	4.3%	4.3%	4.2%	4.1%	3.9%	3.9%
Black	2.2%	2.1%	2.2%	2.4%	2.3%	2.4%	2.3%
Native American	1.4%	1.4%	1.4%	1.3%	1.4%	1.3%	1.6%
MASTER'S DEGREES							
	1997-98	1998-99	1999-2000	2000-01	2001-02	2002-03	2003-04
White	75.4%	73.8%	72.5%	73.5%	73.2%	72.5%	72.6%
Hispanic	4%	3.7%	4.2%	4.9%	4.6%	4.3%	4.8%
Asian American	2.9%	3.7%	3.4%	3.1%	3%	3.4%	3.5%
Black	1.4%	1.9%	1.6%	1.7%	1.6%	1.4%	1.6%
Native American	0.5%	0.6%	0.6%	0.7%	0.8%	0.8%	0.8%
FIRST PROFESSIONAL							
	1997-98	1998-99	1999-2000	2000-01	2001-02	2002-03	2003-04
White	79.7%	77.6%	82.5%	81.2%	76.6%	74.7%	73.2%
Hispanic	8.9%	8.3%	6.3%	5.7%	7.2%	6.4%	8.3%
Asian American	4.1%	7.4%	5.9%	8.4%	7.2%	9.9%	8.5%
Black	2.4%	2.1%	2%	1.2%	3.3%	3.7%	3.9%
Native American	2.4%	1.5%	1.3%	1.8%	1.4%	0.7%	1.1%
DOCTORATE							
	1997-98	1998-99	1999-2000	2000-01	2001-02	2002-03	2003-04
White	69.5%	67.1%	69.0%	70.6%	68.0%	62.7%	65.8%
Asian American	3.1%	2.2%	2.8%	2.8%	3.0%	2.8%	2.6%
Hispanic	2.3%	3.0%	3.8%	1.6%	2.0%	2.0%	5.1%
Black	1.3%	1.1%	1.7%	1.9%	1.2%	1.5%	0.7%
Native American	0.4%	0.0%	0.5%	0.0%	0.3%	1.3%	0.5%
TOTAL							
	1997-98	1998-99	1999-2000	2000-01	2001-02	2002-03	2003-04
White	77.9%	76.9%	77.5%	76.7%	76.6%	76.2%	74.8%
Hispanic	8.2%	8.5%	8.1%	8.4%	8.5%	8.2%	9.2%
Asian American	3.3%	3.7%	3.7%	3.7%	3.4%	3.5%	3.4%
Black	2.5%	2.5%	2.6%	2.9%	2.9%	2.8%	3.3%
Native American	1.3%	1.2%	1.2%	1.2%	1.3%	1.3%	1.4%



Figure 13: Distributions of degrees and certificates awarded by public colleges and universities per 100 students, by race (2003-04)



Degree attainment rates, by income

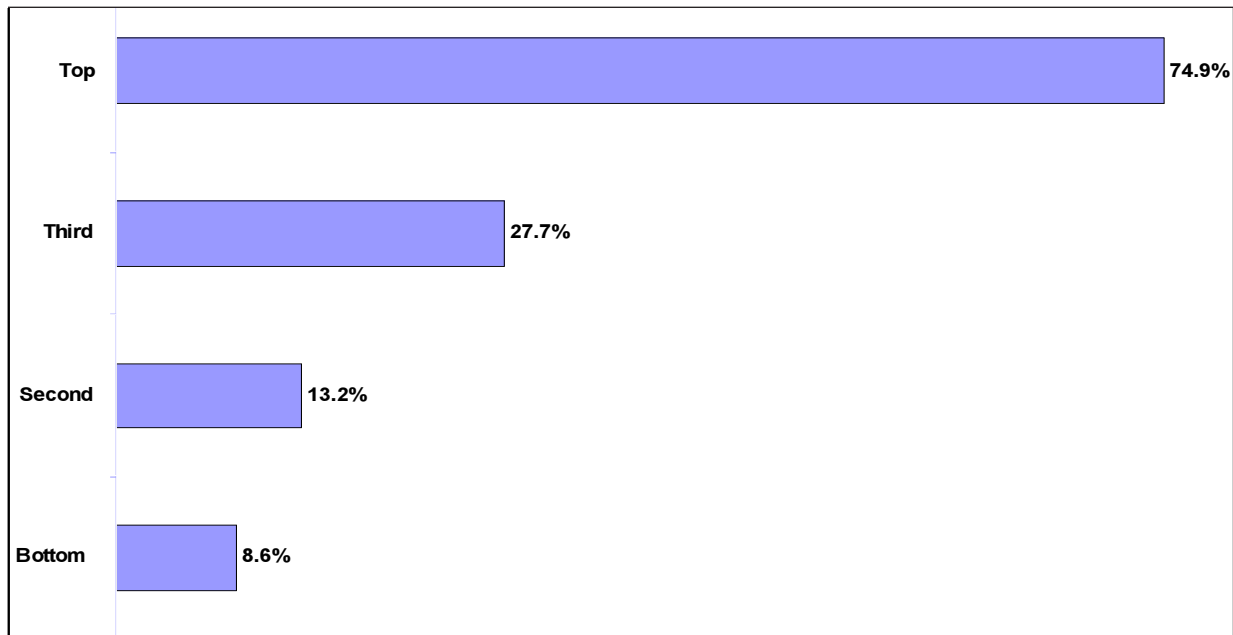
Colorado and national sources of college and university data do not assess postsecondary participation, retention, persistence or completion by income. However, national data on those who earn a degree, the result of successful postsecondary participation, can be used to assess the overall performance of low-income students.

In 2003, the estimated rate for students to earn a bachelor’s degree by age 24 was approximately 8.6 percent for students from families in the bottom quartile of family income, 13.2 percent for students from families in the second quartile, 27.7 percent in the third quartile, and 74.9 percent in the top income quartile.¹⁸

A student in the top income quartile has about 9 times greater chance of earning a bachelor’s degree by age 24 than a student from the bottom quartile, as shown in Figure 14, next page.



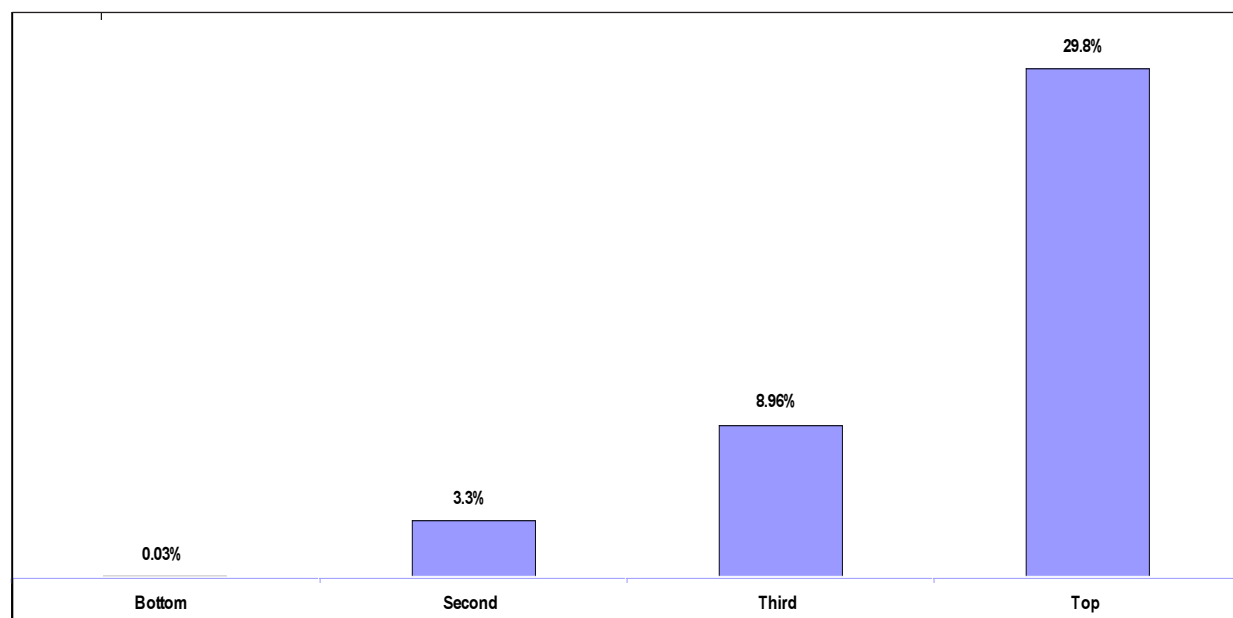
Figure 14: Estimated bachelor's degree attainment by age 24, by family income quartile (2003)



From 1977-79 to 2001-03, the rate of students ages 18-24 earning bachelor's degrees grew. The increases were greater in higher-income quartiles.

The total family income quartiles were split with the bottom quartile below \$26,000, the second quartile at \$26,000 to \$63,000, the third quartile at \$63,000 to \$95,000, and the top quartile above \$95,000.

Figure 15: Change in estimated bachelor's degree attainment rate by age 24, by family income quartile (1977-79 to 2001-3)





IV. Postsecondary productivity

The research and analysis presented in this paper tracks student graduation from a variety of angles. But how well are Colorado's colleges and universities doing in graduating students when compared to the size of the potential student population? It turns out that Colorado ranks in the top 10 among the 50 states in awarding certificates, degrees and diplomas, in large part because the state's colleges attract thousands of students from other states.

In 2002, the most recent data available, Colorado imported 1,639 more out-of-state students than it exported to other states, ranking the state 19th. Of all freshmen who enrolled in Colorado colleges and universities, 26 percent were out-of-state students.

Colorado's public four-year colleges alone reported a net import of 3,315 students, placing Colorado in third place for this specific measure. Most students came from California, Texas and Illinois.¹⁹

Without the strong efforts of public four-year colleges and universities to recruit and attract out-of-state students, who pay much higher tuition, Colorado would be exporting more students to other states than it would be importing.

With this influx of out-of-state students in mind, we can measure the overall productivity of Colorado colleges and universities in two ways:

- Compare the number of students who graduate each year to the total number enrolled in college.
- Compare the number of students who graduate each year to the total number of Colorado high school graduates three and six years earlier.

Neither measure is exact, but by comparing Colorado's rates against other states, we can see that the productivity of Colorado's higher education system is average, but its four-year colleges are highly productive in awarding certificates and degrees.

Degrees compared to college enrollment

A useful measure of postsecondary productivity is the number of all certificates, degrees and diplomas awarded per 100 undergraduate students at all colleges and universities.

Using NCES data from the IPEDS Completion Survey and IPEDS Fall Enrollment Survey, the National Center for Public Policy and Higher Education calculated this ratio, with special tabulations provided by Pinkerton Computer Consultants, for all 50 states. The results are published in the National Center's *Measuring Up* reports. While this measure is not a cohort statistic, it captures student transfers among all institutions, both two-year and four-year, as well as part-time students.

This measure reflects the total certificates, degrees and diplomas awarded during an academic year, divided by total enrollment at these institutions in the fall of the same year.²⁰

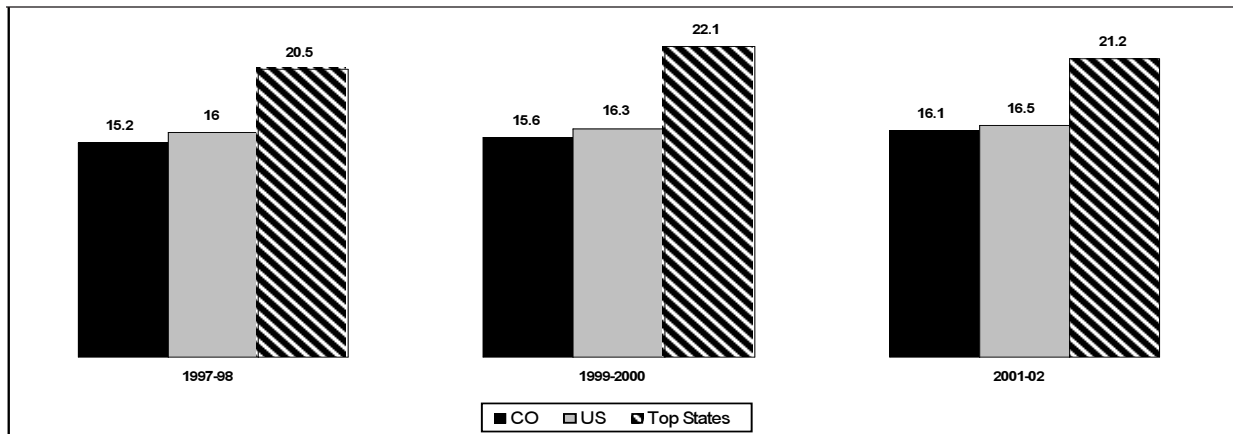


During the 1997-98 academic year, Colorado institutions yielded a 15.2 ratio. In other words, for every 100 students enrolled at all of Colorado's colleges and universities that year, 15.2 earned a certificate, degree or diploma. The national average was 16, placing Colorado 35th in the nation for overall graduation. The top three states of New Hampshire, Pennsylvania and North Dakota averaged a ratio of 20.5.

In the 1999-2000 academic year, Colorado's graduation productivity ratio improved slightly to 15.6. Students earned 34,726 degrees, diplomas and certificates. The national average also rose slightly, to 16.3, so Colorado retained its 35th place ranking. The top three states of Alabama, New Hampshire and Pennsylvania marked an average ratio of 22.1.

By the 2001-02 academic year, Colorado awarded 37,012 undergraduate certificates, degrees and diplomas awarded to its total 229,667 undergraduates. State and national ratios remained about the same: Colorado fell slightly to 16.1, continuing to rank 35th, while the national average rose slightly to 16.5. That year's top three states, Vermont, Iowa and New Hampshire, averaged a 21.2 ratio.

Figure 16: Certificates, degrees and diplomas awarded per 100 undergraduate students (1997-98, 1999-2000, 2001-02)



Degrees compared to high school graduates

Creative use of available data by the National Information Center for Policymaking and Analysis of Boulder, Colo., compares the total number of high school graduates in the state with the number of degrees awarded within 150 percent of the normal time.

This measure looks at the state's potential pool of college students, and compares them to the actual graduation rates at two-year and four-year colleges. Colorado's performance closely tracked the national average for associate's degrees. But the state consistently ranked in the top 10 for bachelor's degrees.

The center used the NCES IPEDS Completion Survey data along with high school graduation data from the Western Interstate Commission on Higher Education to calculate the number of associate's degrees awarded per 100 students who graduated from high school three years earlier, and the number of bachelor's degrees awarded per 100 students



who graduated from high school six years earlier. The center’s analysis spanned college graduations from 1996 through 2003.

This measure takes the cohort concept back to the point of high school graduation, and compares college graduation rates to the potential student body if every high school graduate could go on to college. As a result, the measure illustrates rates for both entry into college and successful completion, to the extent feasible.

By this measure, Colorado’s performance in graduating all potential students from college consistently fell from 1996 to 2002, and then partially rebounded in 2003.

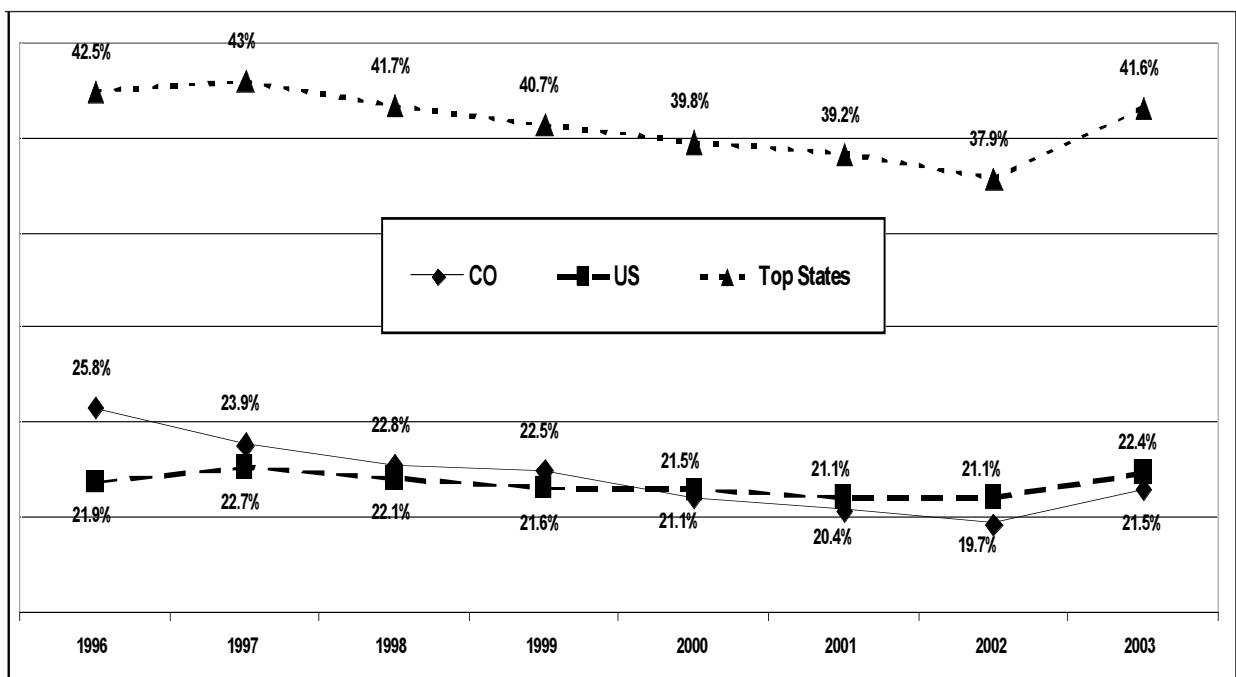
During the 1995-96 academic year, Colorado colleges awarded 8,636 associate’s degrees, representing 25.8 percent of the 33,478 students who graduated from high school three years earlier, in 1992-93.²¹ This ranked the state 10th, above the national average of 21.9 percent, but below the average 42.5 percent rate in the top three states, Rhode Island, Florida and Washington.

By 2000, Colorado closely matched the national average of 21.5 percent, with a 21.1 percent rate, compared to the 39.8 percent in the top three states of Florida, Rhode Island and Washington.

In 2002, Colorado’s performance hit its lowest point from 1996-2003. The state’s graduation rate fell to 19.7 percent, compared to the national average of 21.1 percent, and the 37.9 percent average in the top three states of Florida, Rhode Island and Washington. Colorado’s ranking fell to 21st.

- In 2003, Colorado’s productivity rate for associate’s degrees bounced up 21.5 percent, slightly below the national average of 22.4 percent and well below the 41.6 percent average for the top three states of Florida, Wyoming and Rhode Island.

Figure 17: Associate’s degrees awarded as a percentage of high school graduates three years earlier (1996-2003)





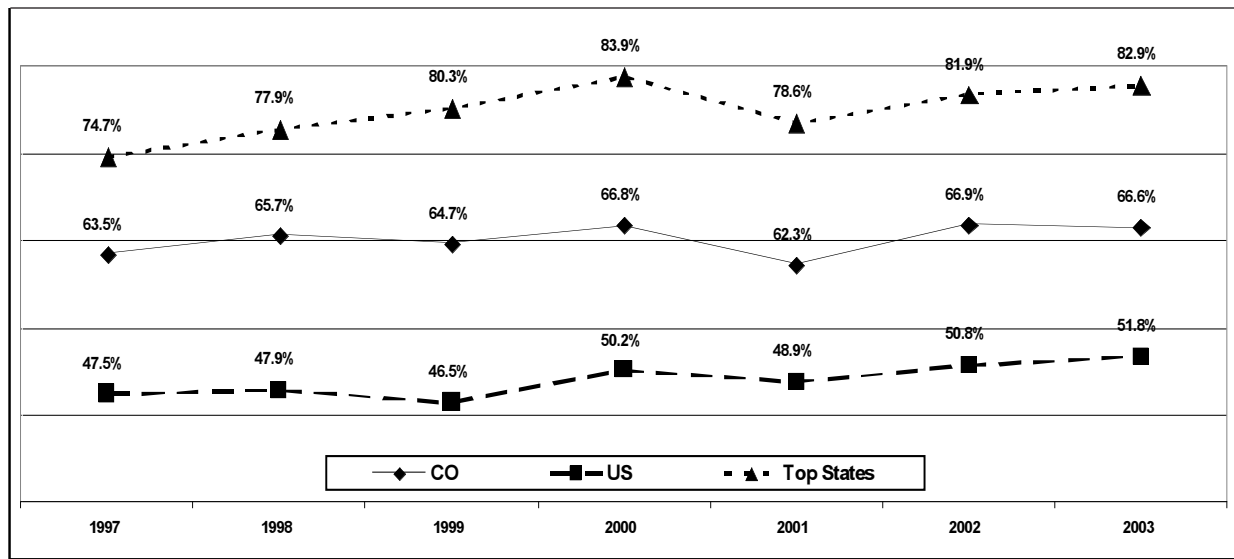
During the 1996-97 academic year, Colorado also awarded 20,680 bachelor's degrees, representing 63.5 percent of the 32,572 students who graduated from high school in the state in 1990-91.²² This performance ranked the state seventh in the nation. The national average was 47.5 percent and the top three states of Rhode Island, Vermont and Delaware averaged 74.7 percent.

By 1999, Colorado's rate increased to 64.7 percent and the state ranked sixth, compared to the national average of 46.5 percent and the 80.3 percent average of the top three states, Rhode Island, Vermont and Massachusetts. By 2001, Colorado ranked fifth, with a 62.3 percent rate, well above the 48.9 percent U.S. average, but still below the 78.6 percent average rate of the top three states, Rhode Island, Massachusetts and Vermont.

- In 2003, the last year for which data is available, the number of bachelor's degrees awarded by Colorado institutions represented 66.6 percent of the total high school graduates six years earlier. This ranked the state fourth in the nation, above the national average of 51.8 percent, but below the 82.9 percent average rate of that year's top three states, Rhode Island, Massachusetts and Delaware.

Overall, the productivity of the state's four-year institutions is significantly higher than the national average and continues to improve.

Figure 18: Bachelor's degrees awarded as a percentage of high school graduates six years earlier (1996-2003)





Endnotes

¹ For example: Susan P. Choy. 2002. *Access & Persistence: Findings from 10 Years of Longitudinal Research on Students*. Washington, D.C.: American Council on Education, Center for Policy Analysis; Berkner, Lutz, He, Shirley, and Catladi, Emily Fox. 2002. *Descriptive Summary of 1995-96 Beginning Postsecondary Students: Six Years Later*, NCES 2003-151. Washington, D.C., U.S. Department of Education, National Center for Education Statistics; Bradburn, Ellen M. *Short-term Enrollment in Postsecondary Education: Student Background and Institutional Differences in Reasons for Early Departure*, 1996-98, NCES 2003-153. Washington, D.C., U.S. Department of Education National Center for Education Statistics, 2002; Consortium for Student Retention Data Exchange (1999). Executive summary 1998-1999 *CSRDE report: The retention and graduation rates in 269 college and universities*. Norman, Okla.: Center for Institutional Data Exchange and Analysis, University of Oklahoma.

² It is important to note that this measure of Title IV degree-granting institutions does not account for transfers across institutions or for out-of-state transfers, and the survey accounts for most, but not all, of the Title IV degree-granting institutions.

³ National Information Center for Higher Education Policymaking and Analysis. *Retention Rates – First-Time College Freshmen Returning Their Second Year (Two-Year Colleges)*. Unpublished Analysis by ACT, Iowa City, IA. www.higheredinfo.org (Completion)

⁴ National Information Center for Higher Education Policymaking and Analysis. *Retention Rates – First-Time College Freshmen Returning Their Second Year (Four-Year Colleges)*. Unpublished Analysis by ACT, Iowa City, IA. www.higheredinfo.org (Completion)

⁵ Colorado Commission on Higher Education. December 2003. *Quality Indicator System Report*. Page 4. <http://www.state.co.us/cche/qi/rept2003.pdf>

⁶ The QIS retention and persistence rates are based on tracked student cohorts, and exclude new students, such as those who might have been enrolled part-time their first term, all non-degree students and all transfer students. Those institutions with a large percentage of non-degree, part-time or transfer students within their entering freshman class have smaller cohorts for QIS purposes.

⁷ Colorado Commission on Higher Education. December 2003. *Quality Indicator System Report*. Page 4. <http://www.state.co.us/cche/qi/rept2003.pdf>

⁸ Colorado Commission on Higher Education. December 2003. *Quality Indicator System Report*. Page 4. <http://www.state.co.us/cche/agenda/agenda03/jan03/jan03via-atta.pdf>

⁹ Title IV institutions are certified eligible by the U.S. Department of Education to participate in federal financial aid programs established under Title IV of the Higher Education Act of 1965 as amended and grant associate's or higher degrees, and are located within the 50 states or the District of Columbia. Title IV institutions are required to participate in the Department's Integrated Postsecondary Education Data System (IPEDS), a system of surveys designed to collect data from all primary providers of postsecondary education and established as the core postsecondary education data collection program for the National Center for Education Statistics.

¹⁰ National Information Center for Higher Education Policymaking and Analysis. *Graduation Rates – Three-Year Graduation Rates for Associate Students*. www.higheredinfo.org (Completion) During the 1997-2003 period for which graduation rates have been released by NCES, between 70.3 and 94.5 percent of all two-year postsecondary institutions in the U.S., serving between 83.9 and 99.7 percent of all enrolled undergraduates, responded to the survey. It includes 78.1 to 100 percent of Colorado institutions that served 84.2 to 100 percent of all enrolled two-year undergraduates in the state. The calculation does not account for transfers



across institutions. This indicator reports the 2003 graduation rates for two-year Title IV degree-granting institutions.

¹¹ National Information Center for Higher Education Policymaking and Analysis. *Graduation Rates – Six-Year Graduation Rates of Bachelor’s Students*. www.higheredinfo.org (Completion) During the 1997-2003 period, between 64.1 and 78.7 percent of all four-year postsecondary institutions in the U.S., serving between 91.7 and 98.1 percent of all enrolled undergraduates, responded to the survey. This includes 55 to 72.7 percent of Colorado institutions that served 90.5 to 96.8 percent of all enrolled four-year college undergraduates in the state. This indicator reports the 2003 graduation rates for two-year Title IV degree-granting institutions.

¹² This measure is calculated using data from the *ACT Institutional Data Questionnaire*, unpublished analysis conducted by ACT, Iowa City, Iowa. In National Center for Public Policy and Higher Education. 2002. *Technical Guide: Documenting Methodology, Indicators, and Data Sources for Measuring Up 2002: The State-by-State Report Card for Higher Education*: p. 36. The fall 1999 survey covered 3,219 institutions and the 2000 survey covered 3,415 institutions.

¹³ For Delaware, 1999 data have been used due to the large standard error.

¹⁴ National Information Center for Higher Education Policymaking and Analysis. *Six-Year Graduation Rates by State and Sector - 2000*. (Spreadsheet). www.higheredinfo.org

¹⁵ National Information Center for Higher Education Policymaking and Analysis. *Special Analysis: 2002-2003 Completions By State, Sector, Level, Race, Gender*. (Spreadsheet). www.higheredinfo.org

¹⁶ National Information Center for Higher Education Policymaking and Analysis. *Special Analysis: 2002-2003 Completions By State, Sector, Level, Race, Gender*. (Spreadsheet). www.higheredinfo.org

¹⁷ Colorado Commission on Higher Education. *Degrees & Certificates Awarded by Colorado Public Higher Education Institutions*. <http://www.state.co.us/cche/I&R/degreesawarded/index.html>

¹⁸ Mortenson, Tom. 2005. *Family Income and Higher Educational Opportunity, 1970 to 2003*. Postsecondary Education OPPORTUNITY: The Environmental Scanning Research Letter for Postsecondary Education. Number 156 (June).

¹⁹ Mortenson, Tom. 2004. *Interstate Migration of College Freshmen, 1986 to 2002*. Postsecondary Education OPPORTUNITY: The Environmental Scanning Research Letter for Postsecondary Education. Number 148 (October).

²⁰ This measure is calculated using data from the National Center for Education Statistics Completion and Call Enrollment Surveys. Washington, D.C.: U.S. Department of Education. State-level data provided by Pinkerton Computer Consultants. The numerator is the total number of associate’s degrees, bachelor’s degrees, certificates, and diplomas awarded through the academic year. The denominator is the full-time and part-time undergraduate enrollment in the fall of the same year. In National Center for Public Policy and Higher Education. 2004. *Technical Guide: Documenting Methodology, Indicators, and Data Sources for Measuring Up 2004: The State-by-State Report Card for Higher Education*: p. 41.

²¹ National Information Center for Higher Education Policymaking and Analysis. *Associate Degrees Awarded Per 100 High School Graduates Three Years Earlier*. www.higheredinfo.org (Completion)

²² National Information Center for Higher Education Policymaking and Analysis. *Bachelor’s Degrees Awarded Per 100 High School Graduates Six Years Earlier*. www.higheredinfo.org (Completion)

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