

Colorado Rises

ADVANCING EDUCATION AND TALENT DEVELOPMENT



Colorado Commission on Higher Education
Master Plan

#CORises

masterplan.highered.colorado.gov

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Letter From the Commissioners

The Colorado Commission on Higher Education (CCHE), the official body charged with the responsibility of examining the postsecondary needs of the state,¹ laid out four goals for Colorado's system of higher education in its 2012 CCHE Master Plan, *Colorado Competes: A Completion Agenda for Higher Education*.

Today, in 2017, we revisit those goals and examine our progress. While reaffirming the core findings and recommendations from 2012, we recognize that it is not enough to merely stay the course. If the state of Colorado is to prepare its students for changing workforce demands while maintaining its high quality of life and vibrant economy, it must invest more in the educational attainment of all of its citizens. Failure to do so will result in entire segments of our population being left behind, increased social costs and reduced fiscal competitiveness. Colorado simply cannot afford an undereducated citizenry and an underfunded higher education system.

We present this 2017 update to the master plan, *Colorado Rises: Advancing Education and Talent Development*, as a call to action for Colorado—our institutions of higher education, the Governor, the General Assembly and other state policy leaders, business and community leaders. We do so with the highest sense of responsibility to the citizens of Colorado, a great respect for the colleges and universities in our state and a profound sense of urgency.

Colorado continues to rank lowest among the states in per-student funding, resulting in the cost of education being increasingly shifted to students through higher tuition. Rising tuition and related costs in turn create an unprecedented financial burden on Colorado families. In the face of these budgetary challenges, access to and success in higher education remains elusive for too many of our citizens.

We believe that the CCHE's goal of increasing Coloradans' educational attainment is even more important today than it was five years ago. This statewide goal, which extends beyond our public colleges and universities, reflects what is necessary for a healthy workforce and economy. The four strategic goals that follow address a more focused list of objectives for our public institutions that are meaningful, measurable and will improve postsecondary outcomes for the students of Colorado.

Underlying this master plan are the following principles:

- ▶ Higher education is a public good that strongly benefits Colorado's communities and the state;
- ▶ The higher education system should be accessible to all, not just those with adequate personal financial means; and
- ▶ Institutions of higher education have a responsibility to demonstrate their stewardship of public resources.

More than aspirational, the master plan ambitiously sets the priorities that we believe are the most pressing for the educational performance and economic vitality of Colorado. It does not focus on the needs of any one institution, nor does it recommend specific campus practices or instructional activities.

Colorado simply cannot afford an undereducated citizenry and an underfunded higher education system.

We know that pursuing the goals in this plan will be neither easy nor inexpensive. But like any solid investment, the benefits we will ultimately enjoy will be far greater than the cost of disinvestment. The combined lost income and tax revenue, increased unemployment and health care and other public-service costs that have been linked to lower education rates is too high a price for Colorado to pay.

The strategic goals in this plan are a priority list of ambitious, yet attainable, commitments that will expand opportunities and improve quality of life for all Coloradans. We believe they represent the path toward a more economically sound future for the state of Colorado.

Colorado Commission on Higher Education

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Executive Summary

The Colorado Commission on Higher Education presents its master plan, *Colorado Rises: Advancing Education and Talent Development*, as an urgent call to action. If the state of Colorado is to prepare its students for changing workforce demands and maintain its high quality of life and vibrant economy, it must invest more in the educational attainment of all its citizens.

Today Colorado faces a critical decision: Invest in expanded access in order to mitigate affordability and equity gap challenges or bear the weight and financial burden of an undereducated citizenry.

We face a dramatically changing higher education landscape in which postsecondary credentials are more important than ever. At the same time, the state's disinvestment in higher education over the past two decades has put those credentials out of reach for too many Coloradans.

In this plan, the CCHE reaffirms a statewide credential attainment goal of 66 percent by 2025 for our adult population. Our economy demands it. We have made some progress since 2012 when the commission issued its previous master plan, but today our attainment is still only 55 percent.

Reaching our 66 percent statewide attainment goal is dependent on many factors outside the scope of the public system of higher education, including population changes, in- and out-migration and credential production by private institutions. The CCHE identified four strategic goals within the scope of the public system to make this plan actionable:

Today Colorado faces a critical decision: Invest in expanded access in order to mitigate affordability and equity gap challenges or bear the weight and financial burden of an undereducated citizenry.

66%
Statewide
Attainment
Goal



STRATEGIC GOAL #1 Increase Credential Completion	STRATEGIC GOAL #2 Erase Equity Gaps
STRATEGIC GOAL #3 Improve Student Success	STRATEGIC GOAL #4 Invest in Affordability and Innovation

STRATEGIC GOAL #1

INCREASE CREDENTIAL COMPLETION:

This first strategic goal reiterates the importance of increasing credentials to meet workforce needs. It presents the challenge to the public system of higher education to issue approximately 73,500 degrees and certificates above current trends over an eight-year period to meet the 2025 goal. This goal also recognizes the need to anchor credential production to high-demand areas. Currently, Colorado has a higher demand for STEM-educated workers than the national average and a growing shortage of educators. We must increase the number of credentials in both areas.

STRATEGIC GOAL #2

ERASE EQUITY GAPS: The second strategic goal addresses the fact that Colorado’s largest and fastest-growing ethnic group, Hispanic/Latino, has the lowest average educational attainment and the lowest college enrollment rate of any ethnic group in the state. Success in meeting the statewide goal of increasing the credential attainment rate to 66 percent hinges on improving all students’ completion in colleges and universities in the state. That means erasing the state’s current equity gaps.

STRATEGIC GOAL #3

IMPROVE STUDENT SUCCESS: Too few of Colorado’s students are completing their education in a timely manner, if at all. Many are not prepared for college-level work when they arrive; and the longer they take to acquire the required credit hours, the less likely it is that they will complete. The third strategic goal encompasses innovative approaches to improve students’ timely completion.

STRATEGIC GOAL #4

INVEST IN AFFORDABILITY AND INNOVATION: Finally, the CCHE notes that all other goals are achievable only with increased investment in affordability and innovation. This fourth strategic goal assumes a model of shared responsibility among the state, the institutions, and students and their families. While Colorado institutions have focused on maintaining quality in the face of constrained budgets, and students and families having shouldered a larger portion of the cost of education over the past two decades, the citizens must recognize that it is in Colorado’s interest to maintain affordability through increased state investment in postsecondary education.



What Has History Taught Us?

Challenges are not new to higher education. In fact, many of the most significant leaps forward in the nation's higher education system have been in direct response to difficult circumstances.

During the Civil War, President Abraham Lincoln signed the Morrill Land Grant Act to address the need for industrial growth. The act provided the stimulus for incredible advancements in human capital and technological innovations in new states and territories and triggered unprecedented proliferation in the number of institutions of higher learning, including our own Colorado State University, the state's first public university.

Following World War II, the establishment of the GI Bill offered financial assistance as a benefit to returning veterans, opening access to higher education to hundreds of thousands of Americans. Within a generation of the end of World War II, the most rapid expansion of Colorado's public postsecondary sector resulted in a doubling of the percent of adults with a college degree and the founding of many of our community colleges as well as Metropolitan State University of Denver and the University of Colorado Colorado Springs.

In addition, the Higher Education Act of 1965—a bill forged from the struggles for equality and justice that took place during the Civil Rights Era—opened the door to

higher education to millions of citizens previously unable to gain access to many public and private institutions of higher education. The act challenged all states to view education not as a private good for the privileged few, but a public good for the needs of all. It created many of the nation's foremost financial aid programs, including what is now the Pell Grant program. By 1970, in part because of the opportunities the act provided, the average educational attainment of African-American youth age 20-24 had increased by more than 25 percent as compared to that of older (age 25 and above) African-Americans.

These expansions of the higher education system were the result of intentional, visionary public policies and direct public investments. In each case, there was clear recognition that public investments would yield powerful dividends—and the results show they did.

Today, Colorado faces another historic opportunity to respond to the changes in our society. But whereas past changes to the public higher system, as described above, were almost exclusively focused on growth, today we must confront a far more complex challenge—one that is rooted in changing demographics, the implications of the

1911

•Fort Lewis property in Hesperus transferred to the state of Colorado to establish an "agricultural and mechanic arts high school." The Fort Lewis high school expands into a two-year college in the 1930s, and in 1948 becomes Fort Lewis A&M College

1912

•The University of Colorado at Denver begins as the Extension Center of University of Colorado's Department of Correspondence and Extension

1921

•Adams State University founded as a teachers' college

1870

•Colorado Agricultural College founded, to become Colorado State University in 1957

1876

•The University of Colorado Boulder formally established
•The Colorado School of Mines (founded in 1873 by the Episcopal Church) becomes a state institution

1890

•The University of Northern Colorado founded in 1890 as the Colorado State Normal School

1901

•Western State Colorado University originally founded as the Colorado State Normal School for Children

•Morrill Land Grant Act

•Colorado becomes state

1862

knowledge economy and the changing expectations of employers. The rapid pace of automation in nearly every sector is making many jobs obsolete, redefining others and creating whole new industries. These changes are driving the need for more educated workers who can adapt, learning new skills to remain relevant in the evolving job market. In this environment, the traditional four-year bachelor's degree is no longer the only measure of postsecondary success. Students and employers are calling for new delivery models that will result in quality credentials earned faster and at less cost. We must serve a different kind of student with different needs.

At the same time, we must convince an increasingly skeptical audience of families, employers and legislators that a greater investment in higher education will yield larger returns and strengthen our economy.

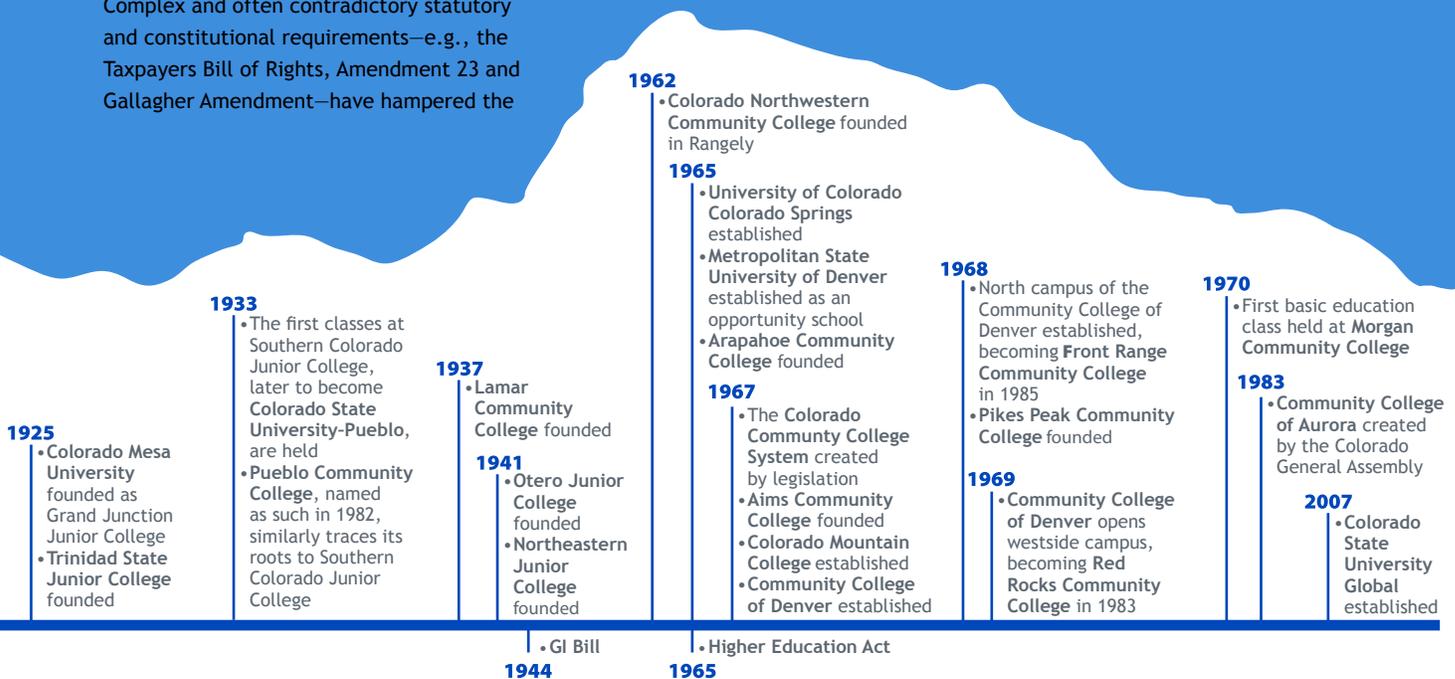
While Colorado has begun to recover from the Great Recession and state funding for higher education has increased \$150 million from 2012 to today,² funding still remains lower than it was before the recession. Complex and often contradictory statutory and constitutional requirements—e.g., the Taxpayers Bill of Rights, Amendment 23 and Gallagher Amendment—have hampered the

state's ability to invest fully in its priorities. In fact, Colorado has remained in the bottom five states for the past five years in public support for higher education.³ Compounded by inflation and rising costs, the impact on families is significant.

Today, Colorado faces another historic opportunity to respond to the changes

Our public institutions have proven their resilience and resourcefulness in maintaining quality, preserving access and cutting costs over the past decade in the face of declining state investment. Nevertheless, important challenges lie ahead for both our institutions and our citizenry. Failing to meet them will result in even higher costs to our economy and our way of life, threatening to undermine the American foundational tenet that an educated citizenry raises all ships.

in our society.





The Colorado Goal: 66 Percent Statewide Attainment

The benefits of a high-quality higher education system that is accessible to all Coloradans are well established.

For many years, it was enough to describe those benefits in terms of the gains to an individual. Adults with postsecondary degrees and certificates earn higher incomes than those without such credentials. They enjoy a healthier lifestyle, and they have lower unemployment rates.

But we must also recognize the public impact of higher education. Adults with postsecondary education rely on fewer social services and public safety nets. They create jobs that yield tax revenue and contribute toward building a stronger economy and a better society. They are more likely to be engaged in their communities, volunteer and serve on boards.

The reality today is that increasing the number of Coloradans with postsecondary education is crucial to our state's future economic vitality. The majority of jobs in Colorado already require some sort of postsecondary education; research suggests that by 2020, almost three-fourths of jobs will require some education beyond high school.⁴ Colorado's 2016 *Talent Pipeline Report* found that 97 percent of so-called "top jobs"—in-demand jobs that show high growth and pay above a living wage—demand some level of formal postsecondary education or training.⁵ In fact, economists estimate that the demand for college-educated adults in Colorado is the fifth highest among all states in the nation. In contrast, the demand for high school-only trained adults in Colorado is the second weakest in the nation.

In spite of these trends, today only 55 percent of the adult population in the state has a degree or certificate and only

49 percent has an associate or higher degree. Almost one-third of Colorado's adult population lacks education of any type after high school. Moreover, attainment levels are not equal: Only 29 percent of Hispanics, our fastest-growing population, and 39 percent of African Americans have a certificate or degree,⁶ as compared to 64 percent for the white majority.

The CICHE's 2012 master-planning process, which included extensive study of and discussions with public institutions and

Economists estimate that the demand for college-educated adults in Colorado is the fifth highest among all states in the nation.

other stakeholders, resulted in the identification of increased postsecondary credential attainment as the state's top higher education priority, as it is key to a vibrant Colorado economy. The Lumina Foundation's well-publicized goal of 60 percent attainment for the nation was a starting point. But the commission realized that in order to drive measurable change, Colorado's skills-based economy and workforce needs would demand a more ambitious goal.

Statewide Attainment



IMPACT OF A POST-SECONDARY DEGREE OR CERTIFICATE

▶ INDIVIDUAL IMPACT

- Earn higher income
- Enjoy healthier lifestyle
- Lower unemployment rate

▶ PUBLIC IMPACT

- Rely on fewer social services and public safety nets
- Contribute to a stronger economy and better society through job creation and tax revenue
- More likely to be engaged in their communities, volunteer and serve on boards.



Therefore, it established as the overarching goal to “increase the number [sic] of Coloradans aged 25 to 34 who hold a high-quality postsecondary credential—that is, a certificate or degree—to 66 percent by 2025.”⁷

In 2017, the CCHE reaffirms an attainment goal of 66 percent for our adult population.

Increasing statewide credential attainment relies on many factors, only some of which are within the control of the public system of higher education. A larger number of births than deaths has led to natural growth of Colorado’s population for many decades and, in turn, affected our education attainment levels. In addition, Colorado has historically been an in-migration state—that is, educated individuals move into Colorado in greater numbers than they leave Colorado. Net migration has been positive since 1991—and we expect this trend to continue. And Colorado is home to hundreds of private higher education institutions—both for-profit and not-for-profit—that contribute to the statewide education attainment level. Private schools currently contribute approximately one-quarter of the state’s total annual credential

production and we expect them to continue to do so. The commission believes that while formidable, the 66 percent credential attainment goal is achievable. Colorado’s attainment has grown from 53.5 percent to 55 percent since 2012 when the previous master plan was developed.⁸ Assuming current trends in Colorado’s population, migration and credential production rates by all institutions—public and private—continue, the commission projects Colorado will achieve a statewide attainment rate of 57.5 percent by 2025.

The gap between 57.5 percent and the master plan’s Colorado goal of 66 percent is the challenge to our public system of higher education, our students and families and the state.

Taking into account the continued contributions of natural population changes, in-migration, and private schools, this 8.5 percent gap requires an additional 73,500 credentials from our system of public higher education over the period 2018-2025, or 9,200 credentials annually above current production and trends over this same period of time.

The Four Strategic Goals

To inform and guide the work of the system of higher education in meeting the statewide goal of 66 percent credential attainment, the CCHE identified four strategic goals within the scope of the public system of higher education:

STRATEGIC GOAL 1

Increase credential completion.

STRATEGIC GOAL 2

Erase equity gaps.

STRATEGIC GOAL 3

Improve student success.

STRATEGIC GOAL 4

Invest in affordability and innovation.

Part of the CCHE's role, through the Department of Higher Education, is to annually assess progress. To focus attention on the strategic goals, drive change and hold the system of higher education accountable, the commission also identified specific targets and indicators of progress for each of the goals.

With a statewide attainment goal of 66 percent and four measurable strategic goals, discussed in more detail in the subsequent pages, **this master plan lays out a path forward.**



STRATEGIC GOAL 1

Increase Credential Completion

As already noted, by 2020, nearly three-quarters of jobs in Colorado will require some level of education beyond a high school diploma. As the economy continues its rapid shift to information services and technology, colleges and universities are more critical than ever in preparing individuals for the knowledge economy.

Colorado institutions of higher education have taken this challenge seriously and are considered among the most productive in the nation.⁹ The public system produced approximately 48,850 credentials in the last academic year. Based on growth over the last 10 years, we project an increase of 4.5 percent per year through 2025. While that is good news, we are not increasing production fast enough to meet our economy's demand.

Producing an additional 73,500 certificates and degrees by 2025, on top of this already upward-sloping trend line, is no small challenge. It will require Colorado's institutions to continue to outperform their peers in efficiency and productivity, a laser focus on student success from all levels within the system of higher education and, of tantamount importance, resources.

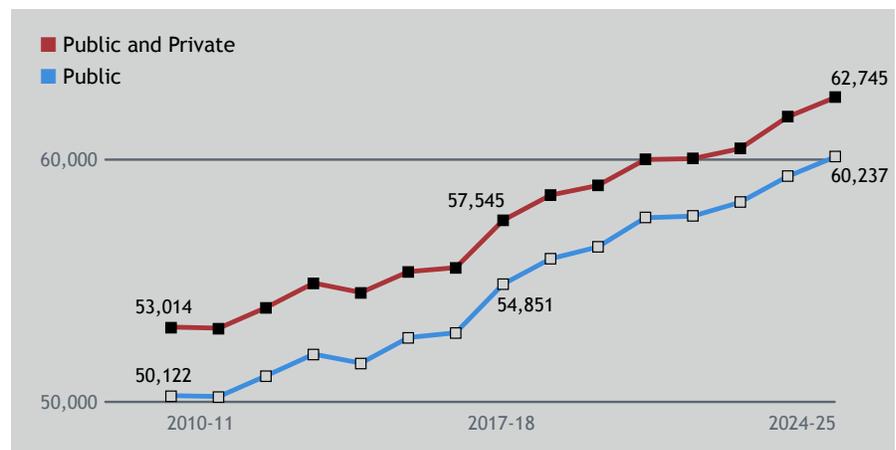
At the most basic level, increased credentials—that is, output—will require increased input and significant improvement in outcomes. Unlike many states that are facing a decline in high school graduates, the number of high school graduates in Colorado is forecast to increase by 18.5 percent between 2012 and 2025,¹⁰ helping with the input side of the equation. The CCHE realizes that it must work with and support our K-12 education partners to ensure that the systems are aligned, that the academic requirements for high school graduation line up with postsecondary expectations of incoming students and that our institutions of higher education are providing enough K-12 teachers.



The equation is also helped by the changing landscape of postsecondary education. As job preparation has become even more important for students, apprenticeships, short-term programs leading to certificates and other credentials play an increasingly important role as alternatives to the traditional four-year degree.

We are not increasing production fast enough to meet our economy's demand.

Colorado High School Graduates Forecast



SOURCE: Colorado Department of Education

STRATEGIC GOAL 1

Credential Completion

2017 CURRENT	2025 GOAL
Public system produced approximately 48,850 credentials in 2016	Produce an additional 73,500 certificates and degrees by 2025

STRATEGIC GOAL 1 TARGETS AND INDICATORS

- ▶ INCREASE ANNUAL CREDENTIAL COMPLETION
 - 9,200 credential completions per year on top of natural growth
 - Increase certificate completion, as a proportion of total credential completion, from 25 percent (15,845) in 2017 to 33 percent (20,915) by 2025
- ▶ INCREASE HIGH-DEMAND CREDENTIAL COMPLETION
 - Increase STEM credentials, including health care, from 12,500 to 14,500 by 2025¹⁴
 - Increase educator-preparation credentials from 2,800 to 3,280 by 2025

As the Lumina Foundation said in discussing its national attainment goal, we should consider “all high-quality credentials—not just degrees—as valuable, so long as they lead to further education and employment...”¹¹ For purposes of the master plan, the CCHE includes all certificates issued by our public institutions as credentials.¹² Compared to other states, the percentage of individuals in Colorado with certificates is relatively low, thus allowing for growth in this area. Going forward, as new credentials and credentialing approaches are explored and adopted, the commission anticipates revisiting its definition.

Of note are the approximately 400,000 adults in Colorado who are already in the labor force with some postsecondary education but no credential. Completing a credential will not only help the state’s attainment rate, but, in most cases, will also open up new career opportunities and pathways for these individuals. Colorado’s institutions have engaged in efforts in the past to identify and reach out to such individuals; the CCHE and Department of Higher Education are moving forward on a more coordinated statewide effort.

The CCHE notes that not all credentials are equal. Three-quarters of Colorado’s top jobs (those with projected high openings, above-average growth rates, and which offer a living wage for a family of three) require skills in science, technology, engineering and/or math (STEM). Many of these jobs are concentrated in health care, finance and IT professions. Colorado has a higher demand for STEM-educated workers than the national average; to meet the needs of employers, we must increase credential production in these areas.

Colorado also has a growing shortage of educators. The number of students completing an educator-preparation program at Colorado colleges and universities declined 24 percent between 2010-2016.¹³ Subsequently, rural districts, in particular, are facing significant challenges in recruiting and retaining educators. This looming crisis will have a severe impact across the P-20 system of education. The commission thus places a high priority on producing more teaching credentials and will continue to collaborate with the Colorado Department of Education and all stakeholders to support a strong educator pipeline into our local schools and districts.



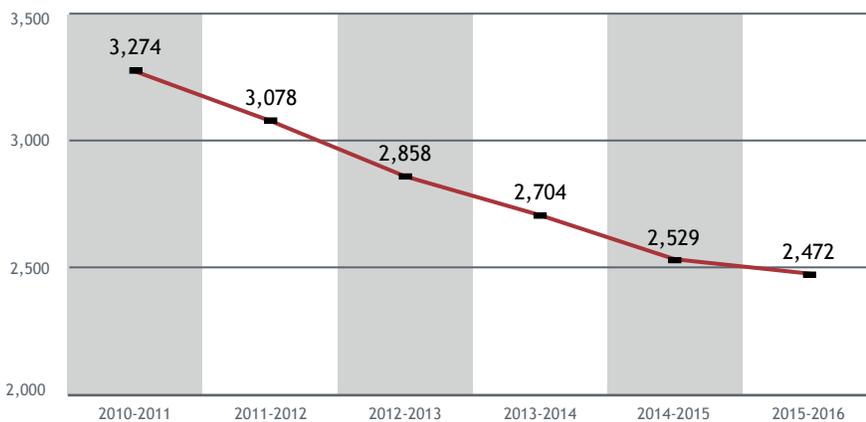


Finally, the CCHE recognizes that not all institutions can or should be expected to increase credential production at the same rate; nonetheless, they all have a role to play in this strategic goal. All institutions must focus on better outcomes for the students they enroll, utilizing increased student support systems and additional approaches to help students succeed (see Strategic Goal 3 of this plan). For some, increasing credentials will mean reaching

out to new student populations to increase enrollment and completion numbers. In addition, we recognize that the role and mission of some institutions positions them to better address the need for increased credentials in high-demand areas such as STEM and teacher education.



Teaching Degrees from Public Colleges and Universities



SOURCE: Colorado Department of Education



STRATEGIC GOAL 2

Erase Equity Gaps

Colorado's demographic profile is changing rapidly. These changes are visible on campuses throughout the state and are even more pronounced in the state's K-12 system. Our colleges and universities are enrolling and graduating increasing numbers of students who come from low-income families and are the first in their family to attend college. Increasing proportions of enrolled students represent communities historically underserved by colleges and universities, particularly the Hispanic/Latino community.

In spite of this progress, many students are not being served well, or at all.

This master plan uses the term equity gap to refer to the gap between the current attainment level for a demographic group and our 66 percent attainment goal.

Colorado's largest- and fastest-growing ethnic group, Hispanic/Latino, has the lowest average educational attainment and the lowest college enrollment rate of any ethnic group in the state.

The gap between the educational attainment of the white majority and Hispanic minority is the second largest in the nation, behind only California.¹⁵ While the four-year high school graduation rate for white students in Colorado is 84 percent, for Hispanic students it is 70 percent. And whereas the postsecondary credential attainment rate for whites in Colorado currently is 64 percent, for Hispanics it is 29 percent. The past years have seen consistent increases in credentials awarded to Hispanic students, but those increases are a long way from keeping up with the overall growth of the Hispanic population or the needs of Colorado's knowledge economy.

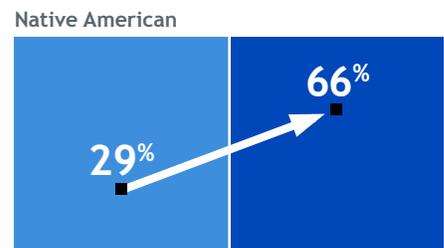
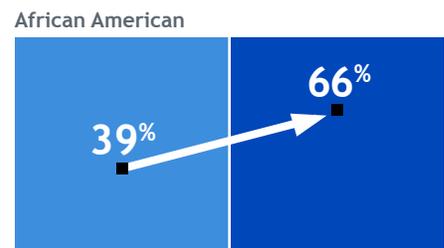
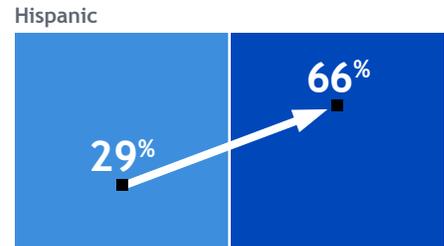
The story for African Americans in Colorado is even more sobering. While their 39 percent attainment rate currently is higher than that for Hispanics and has increased slightly since 2012, their 10-year completion rate has actually decreased, making the gap even more challenging to address.

Across the state, we see not only racial/ethnic attainment gaps, but also attainment gaps for students from low-income families and those who are the first in their families to attend postsecondary education.

STRATEGIC GOAL 2

Equity Gaps

2017 CURRENT	2025 GOAL
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STRATEGIC GOAL 2 TARGETS AND INDICATORS

► INCREASE THE AGE 25-34 POPULATION CREDENTIAL ATTAINMENT:

- Of the Hispanic population from 29 percent (2017) to 66 percent by 2025
- Of the African American population from 39 percent (2017) to 66 percent by 2025
- Of the Native American population from 29 percent (2017) to 66 percent by 2025

► INCREASE NUMBER OF ANNUAL CREDENTIAL COMPLETION BY MINORITY AND LOW-INCOME STUDENTS

► INCREASE CERTIFICATE COMPLETION BY MINORITY AND LOW-INCOME STUDENTS

► INCREASE HIGH-DEMAND CREDENTIAL COMPLETION INCLUDING:

- Increase STEM credential completions by minority and low-income students
- Increase educator-preparation credential completions by minority and low-income students



The CCHE and the Department of Higher Education have made erasing these equity gaps—including for our fast-growing Hispanic population—a top priority, and institutions have myriad student support programs in place to enroll and retain students from underserved backgrounds. In a 2014 initiative called Colorado Completes!, the commission highlighted student support programs at institutions across the state with demonstrated achievement in retaining and assisting minority, low-income and first-generation students to succeed. From first-year intensive coaching to peer advising

to community-focused engagement of students, these efforts are showing success. But the challenge still looms large. We must advance solutions that meet the scale of this problem. Erasing equity gaps is both challenging and essential.

The CCHE recognizes that success in meeting the statewide goal of increasing the college attainment rate to 66 percent hinges on improving all students' access to, progress in and completion in colleges and universities in the state.

STRATEGIC GOAL 3

Improve Student Success

Colorado should rightfully be proud of the many accomplishments of its postsecondary system. Nonetheless, in spite of its recognition as one of the most highly educated states, Colorado ranks at or below average in student persistence and completion. Not enough of our students are completing in a timely manner, or at all, after enrolling.

Currently in Colorado, only about half of students who enroll in a public postsecondary institution complete within 150 percent time (within three years for a two-year degree or within six years for a four-year degree). Indeed, the pipeline of public education in Colorado has leaks throughout: Only about one-quarter of Colorado 9th graders graduate high school in four years, then immediately enroll in a postsecondary certificate or degree program in the fall and complete a postsecondary credential in 150 percent time.¹⁶

There are many indicators of future success for students along their education pipeline, beginning as early as third grade reading proficiency. In middle and high school, attendance, grades and exposure to college-level work are consistently viewed as indicators of future success. Once a student enters postsecondary education, indicators of likely on-time completion include completing credit-bearing gateway courses in English and math within the student's first 30 credit hours and taking 15 credits per semester. We also know that for many college students, "other life factors" increasingly get in the way and can reduce a student's likelihood of completing.

Already noted is the priority that the commission has placed in recent years on working with the state's K-12 system and putting into place policies to ensure that K-12 guidelines and requirements align with postsecondary expectations. While work remains to be done, we believe our efforts

in such areas as alignment of the CCHE's admissions and developmental education policies with the State Board of Education's graduation guidelines, concurrent enrollment, coordination with educator-preparation programs and informing school districts about guided pathways and

In spite of its recognition as one of the most highly educated states, Colorado ranks at or below average in student persistence and completion.



success of our students.

In many ways, time is the enemy to postsecondary student success: The longer a student takes to acquire the required credit hours, the less likely it is that he or she will complete. Conversely, evidence is strong that students who complete at least 15 credit hours per semester—dubbed the "15-to-finish" strategy and what researchers describe as high academic intensity—are far more likely to persist, successfully transfer and complete a college degree.



STRATEGIC GOAL 3
Student Success

For many students who must work or have other family obligations, increasing credit hours would be possible only with increased financial aid. This is a trade-off that will pay off for Colorado in the long run.

Evidence also suggests that students who graduate from high school with some college credit are more likely to enroll and succeed in postsecondary education. Dual enrollment enables high school students to concurrently enroll in college courses tuition-free, thus shortening their time-to-degree, decreasing costs and increasing their chances for success. Colorado implemented a framework for dual enrollment in 2009 that has resulted in sustained annual increases, with more than 30 percent of Colorado 11th and 12th graders having participated in some kind of dual enrollment program by academic year 2015-2016.

Colorado has been a leader in other innovative approaches that shorten the time required and lower the cost for students to earn a credential. Colorado Early Colleges allow students to earn an associate degree at no cost while still in high school. And through Pathways in Technology Early College High Schools (P-TECH), under which the departments of Education and Higher Education support partnerships among school districts, postsecondary institutions and industry, students can similarly earn a high school diploma and associate degree while also gaining work experience in six years (four years of high school and two equivalent years of college).

Many students are not prepared for college-level work when they arrive; thus, they require remedial courses (also known as developmental education) before they can begin their college-level classes. Remediation increases a student's time-to-degree and lowers a student's chances of success. A U.S. Department of Education study found that 58 percent of students who

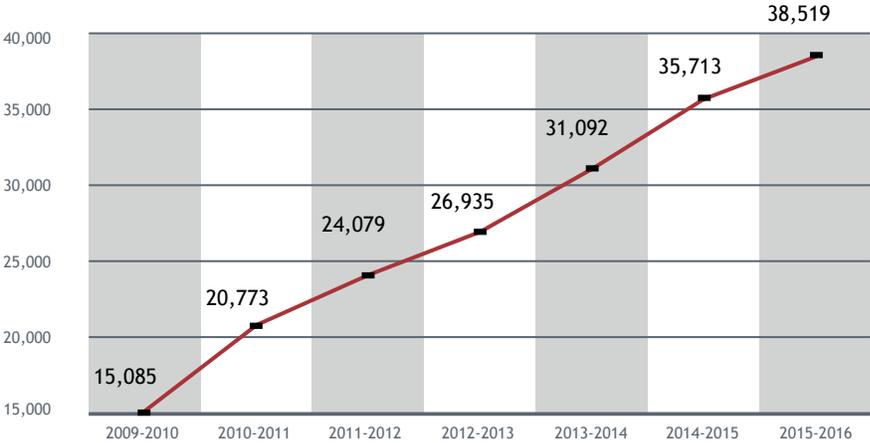
do not require remediation earn a bachelor's degree, compared to only 17 percent of students enrolled in remedial reading and 27 percent of students enrolled in remedial math.¹⁷ Remediation remains a challenge for Colorado, both in the number of students who are unprepared for college-level work and in institutions' over-placement of students who could have passed the college-level courses into remediation.

<p>2017 CURRENT 50% of students who enroll in a public institution finish in 150% time.</p>	<p>2025 GOAL increase persistence and retention, decrease time to degree</p>
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Dual Enrollment in Colorado

Number of High School Students Concurrently Enrolled in a College Course



SOURCE: Colorado Department of Education

STRATEGIC GOAL 3 TARGETS AND INDICATORS

▶ IMPROVE STUDENT PERSISTENCE AND RETENTION

- Increase first-to-second-year and second-to-third-year retention rates

▶ REDUCE REMEDIATION NEEDS OF STUDENTS

- Increase number of students successfully completing introductory gtPathways courses in English and math

▶ REDUCE AVERAGE TIME-TO-DEGREE

- Improve on-time graduation rates

▶ REDUCE AVERAGE CREDITS TO DEGREE

- Improve percentage of students who return for the second year with sophomore standing (30 credit hours or more)

Note: The Commission, in consultation with institutions, will establish specific annual targets.



In 2016, 36 percent of high school graduates entering a Colorado institution of higher education were identified as needing remedial courses. Over the last five years, Colorado has made strides to improve its remedial education approach, adding supplemental academic instruction (SAI), or co-requisite remediation. This strategy allows students with only limited remedial needs to enter credit-bearing courses while

getting the support they need. SAI is gaining traction: Today, more than 1,575 students are enrolled in SAI programs statewide.

Finally, transferring among and between public institutions has become common, with national statistics suggesting that over one-third of students transfer at least once during their postsecondary education. However, transfer can result in lost credits, duplication of coursework and increased time-to-degree. Colorado has made smooth transfer for students a priority, and institutions have sought to support transfer students and ensure their successful and timely completion. Today, Colorado has 1,200 courses approved under its Guaranteed Transfer Pathways (gtPathways) that are part of every associate degree and most bachelor's degrees; these courses are guaranteed to transfer and apply to the general education core curriculum at any public institution.

This strategic goal encompasses all of these approaches and others that the state and institutions employ to improve students' timely completion. By getting more students successfully across the finish line, we increase their chances of a fulfilling career and the state's economic vibrancy.

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STRATEGIC GOAL 4

Invest in Affordability and Innovation

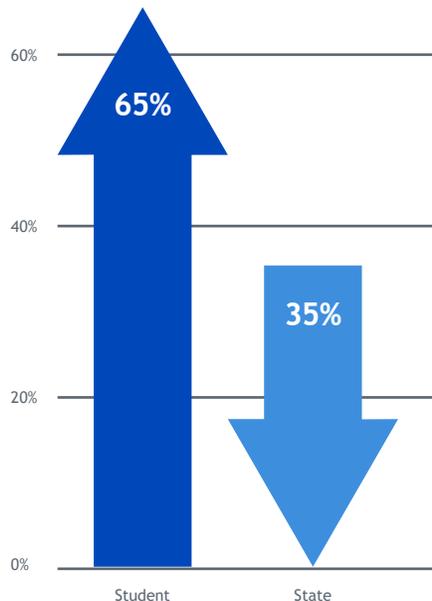
The preceding three goals in this master plan are an economic necessity and must be a state priority. The stakes are high. We must increase attainment, erase attainment gaps and improve student success if Coloradans want to maintain a strong quality of life, meet workforce demands and continue to have a vibrant economy.

But these goals are only achievable with increased public investment. Colorado must invest in this critical public good. Declining affordability will continue to constrain enrollment and keep us from reaching our attainment goal. Moreover, the students we must focus on to increase attainment—whether they are first-generation, low-income, minority, adult or from other underserved populations—are those most likely to come from backgrounds where they lack traditional support systems and thus require increased services to succeed.

History has shown us that increased investment will yield powerful dividends. It is no coincidence that the U.S. economy grew exponentially following the Morrill Land Grant Act of 1862 that greatly expanded access to higher education for all Americans, and again after the post-war bills further expanded education opportunities. And yet in the face of this historical evidence, the state has consistently disinvested in higher education over the past 15 years.

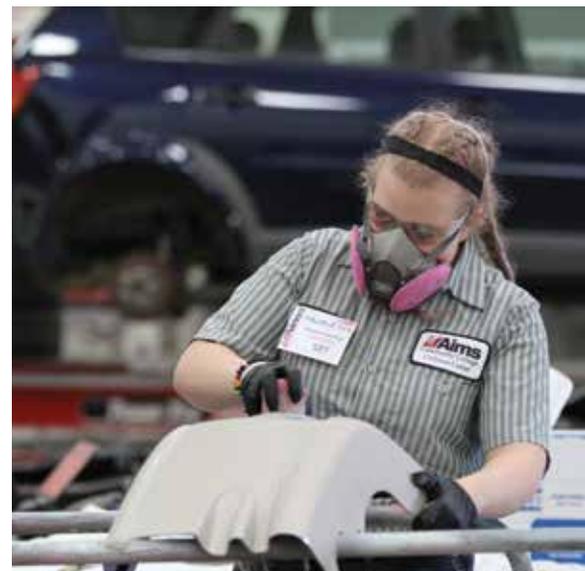
Instead, the increasing costs of higher education have been financed through rising tuition. Since the 2012 CCHE master plan was issued, tuition at four-year colleges in Colorado grew 38 percent, while median income grew by only 13 percent.

The Cost of Education: Student vs. State Burden



History has shown us that increased investment will yield powerful dividends.

The result of the state's disinvestment in higher education is that students and families today bear a far-greater proportion of the total costs of education than they did a decade ago. In 2000, the state funded two-thirds of a student's cost of higher education, while the student was responsible for one-third. By 2016, that ratio had flipped and the state now funds only one-third. Despite some increases in state support for higher education, state funding per pupil is below where we were 15 years ago. We have made little progress in reversing the burden on students and families.





STRATEGIC GOAL 4 TARGETS AND INDICATORS

- ▶ INCREASE PUBLIC INVESTMENT IN STUDENT SUCCESS, RESEARCH AND INNOVATION
 - Increase state investment
 - Increase funding for need-based student aid (federal, state, institutional)
- ▶ DECREASE AVERAGE UNDERGRADUATE FEDERAL STUDENT DEBT
 - Decrease percentage of students with debt
 - Of those students with debt, decrease average debt load
- ▶ INCREASE INNOVATION
 - Innovate new education-delivery methods and business models

Note: The Commission, in consultation with institutions, will establish specific annual targets.

Today, over 60 percent of students enrolled at public institutions graduate with debt.

With students having to shoulder more of the cost of an education comes increased student loan debt. Today, over 60 percent of students enrolled at public institutions graduate with debt. The average debt is \$25,877 for a bachelor's degree and \$13,374 for an associate degree.¹⁸ The CCHE recognizes that debt itself is not necessarily bad—loans allow students of all socioeconomic demographics to continue education beyond high school. However, too many Colorado students are assuming more debt than they can reasonably handle or they end up in default without a postsecondary certificate or degree. Even if students obtain a credential, an overly burdensome debt can prevent them from purchasing a home, getting access to other credit and climbing the economic ladder.

This fourth goal—a precondition to meeting the three preceding goals—assumes a model of shared responsibility among the state, the institutions, and students and their families. Each has a role that will contribute to affordability, and through affordability, to increased attainment.

Our institutions have done well at maintaining quality in the face of constrained budgets. They are using innovative delivery and management approaches and new revenue streams. Our own analysis shows that our institutions spend less than what would be expected on salaries and related costs relative to peers around the country.¹⁹ And they have implemented many of the strategies discussed under the third goal that reduce the cost of education to the student, most notably strategies designed to shorten the time-to-degree. Institutions need the flexibility to explore innovative models, while still providing accountability.

The commission believes that students and families have done their part and are paying at their limit. State-by-state comparisons and affordability studies suggest that we are very near the point of pricing many of our own students out of any opportunity for higher education.²⁰ At the same time, students and families have the responsibility to be informed and understand the consequences of the decisions they make. Taking advantage of credit-earning programs during high school shortens time-to-degree and lessens cost; transferring and changing majors lengthens the time and increases cost. In short, the longer a student takes to complete, the more it costs the student and the institution.

With institutions and students doing their part, the state must recognize that it is in Colorado's interest to maintain affordability through increased investment. To be clear, the CCHC recommends increased public investment as a means to maintain and increase affordability and to accelerate attainment.

Too often, higher education is perceived as a private good, and therefore a discretionary

expense, considered after other public services. We do not suggest that public safety, health care and K-12 education are a lesser priority. Rather, we suggest that the state should not view these competing areas as a zero-sum game. Higher education is a public good. Increasing our investment today will result in far greater gains to our communities and our economy, resulting in a larger pie for all.

Conversely, the state cannot afford the costs to our communities and Colorado of not investing. The correlation between decreased educational attainment and unemployment, crime, poor health and an increased dependence on social services is indisputable. The cost of education is high, but the cost of disinvesting is much higher and we believe too expensive a price for the state to bear.

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Conclusion

It is hard to overstate the urgency with which the CCHE delivers this master plan. The recommendations offered are not a luxury but a necessity.



Colorado is not alone in recognizing the need to increase educational levels among its citizenry. A majority of states have articulated an attainment goal for higher education credentials. But Colorado has always been—and prides itself on being—among the most educated states. And now we must do even more to remain competitive and meet the demands of our economy and workforce.

In putting forth this master plan and the four goals, the CCHE and the state's system of higher education are committing themselves to years of hard work.

For its part, the commission commits to continuing to advocate for our high-quality system of higher education and the value of investment, and to providing a policy environment that encourages innovation and fosters improvement in higher education institutions in the state.

Our institutions are committed to upholding their roles and missions by increasing student access and continuing to provide high-quality education. Now, as we challenge them to do even more, we must invest more in them.

This master plan challenges the state—its elected leaders, business and community leaders along with the entire citizenry—to acknowledge the benefits of investing in our economic and civic well-being so that we can remain competitive in the national and global economy.

Colorado has an opportunity to ensure that all Coloradans—no matter their ethnic, geographic or economic background—have the opportunity to become engaged, productive citizens. That investment in our citizens represents a critical investment in the vitality of our state and our future economy. The stakes are high. Colorado must compete—we must rise to this challenge.

Investment in our citizens represents a critical investment in the vitality of our state and our future economy.

Endnotes

¹ C.R.S. 23-1-108(1.5)(b)(1)

² The state provided \$519 million in FY 11-12. In FY 16-17, state funding reached \$673 million.

³ State Higher Education Executive Officers Association (SHEEO), SHEF: FY 2016, issued 2017.

⁴ Recovery: Job Growth and Education Requirements Through 2020, State Report. Anthony P. Carnevale, Center on Education and the Workforce, Georgetown University, 2013.

⁵ The *Colorado Talent Pipeline Report*. Colorado Workforce Development Council, issued 2016.

⁶ Attainment levels noted in this report are measured using the 25-34 years age bracket.

⁷ The CCHE in 2012 chose to specify the age group 25-34 in its credential attainment goal to parallel with the national goal set by President Obama, as well as to recognize that this is the age group currently being served by institutions and to allow for international comparisons. The CCHE in 2017 has amended the attainment goal to cover the adult working population, but will continue to utilize the 25-34 age bracket as our lead measure.

⁸ The 2012 master plan reported an attainment rate of 51 percent. Since that time, the methodology used nationwide and in Colorado has changed to encompass more certificates; thus, the attainment in 2012 using today's methodology would have been 53 percent.

⁹ State Higher Education Executive Officers Association (SHEEO), SHEF: FY 2016, issued 2017.

¹⁰ Western Interstate Commission for Higher Education, *Knocking at the College Door*, 2016.

¹¹ Lumina Foundation, *A Stronger Nation*, 2016.

¹² *Certificates: Gateway to Gainful Employment and College Degrees*, Anthony P. Carnevale, Stephen J. Rose and Andrew R. Hansen, Center on Education and the Workforce, Georgetown University, 2012.

¹³ Colorado Department of Higher Education and Colorado Department of Education, *Educator Preparation Report AY 15-16*, December 2016.

¹⁴ While the CCHE considers all health care as a priority, not all health care credentials are included in this statistic.

¹⁵ American Community Survey, U.S. Census Bureau, 2015.

¹⁶ These numbers reflect students who follow the “traditional” public system of education in Colorado; they do not take into account students who go into the military, an apprenticeship or other “nontraditional” education pathways.

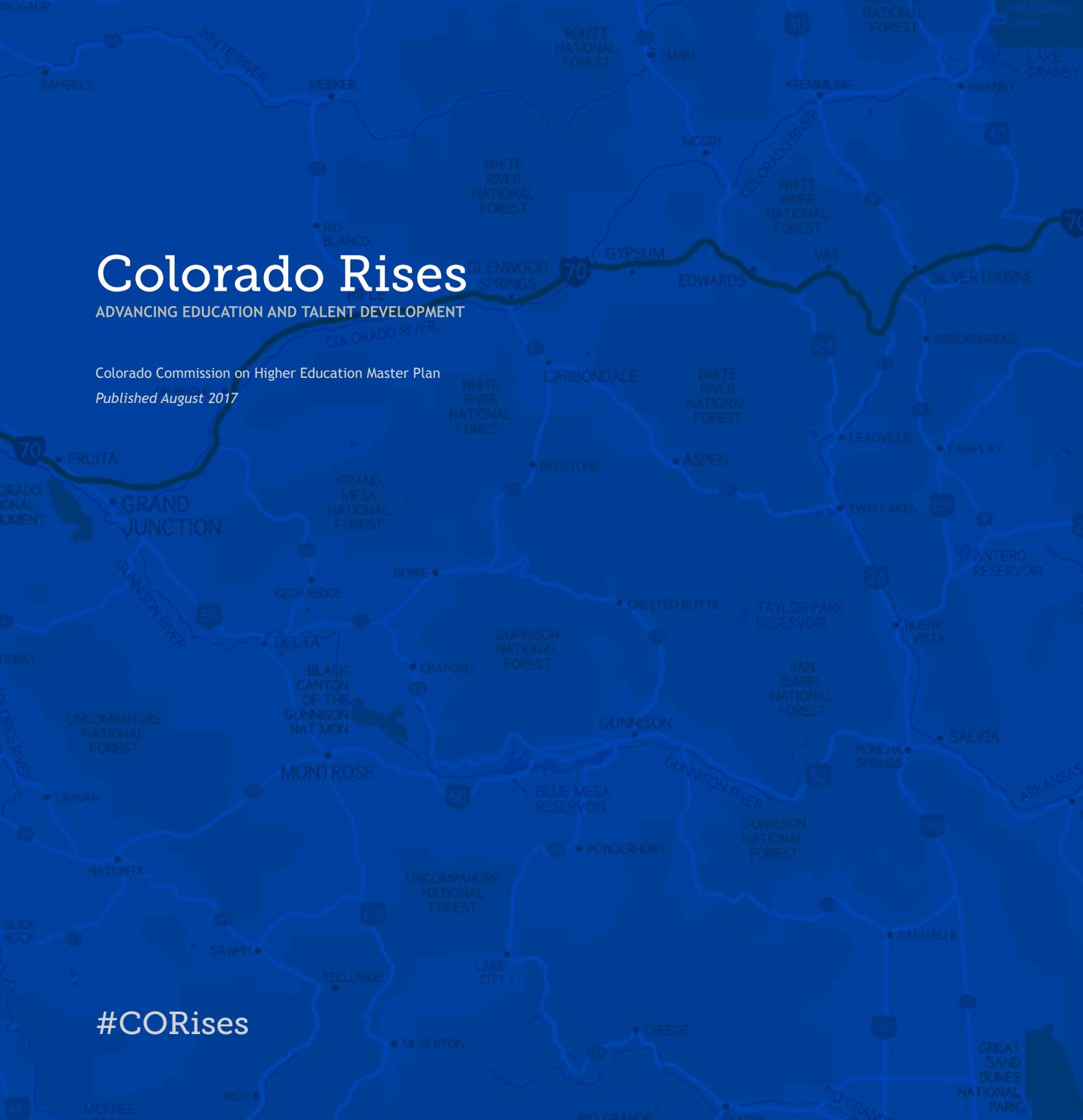
¹⁷ U.S. Department of Education.

¹⁸ Colorado Department of Higher Education, *Financial Aid Report 2015-2016*.

¹⁹ NCHEMS Cost Study

²⁰ Institute for Higher Education Policy, *Limited Means Limited Options: College Remains Unaffordable for Many Americans*, March 2017

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Colorado Rises

ADVANCING EDUCATION AND TALENT DEVELOPMENT

Colorado Commission on Higher Education Master Plan

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