

WHAT IF COLORADO SCHOOLS WERE #1?

A BUSINESS GUIDE FOR COLORADO'S NEXT GOVERNOR

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What if Colorado students obtained the levels of education needed to compete in today's economy?

The impact would be an astounding return on investment for the state.

COLORADO'S NEXT GOVERNOR HAS THE OPPORTUNITY TO TRANSFORM EDUCATION IN COLORADO

That's why we developed A Business Guide for Colorado's Next Governor that shows:

- The economic impact if Colorado had the best schools in the country and prepared students for Colorado jobs
- The improvement strategies supported by Colorado voters and employers
- The gubernatorial candidates' plans for getting us there

SEE THE FULL BUSINESS GUIDE AT:
BESTSCHOOLSCO.ORG
[#BestSchoolsCO](https://www.instagram.com/bestschoolsco)

The Impact of Colorado's Skills Gap

VOTERS & EMPLOYERS ARE ALIGNED ON COLORADO'S CHALLENGE TO PREPARE STUDENTS FOR LIFE AFTER HIGH SCHOOL

77% OF EMPLOYERS STRUGGLE TO FIND COLORADANS WITH THE RIGHT SKILLS

62% OF COLORADANS BELIEVE OUR HIGH SCHOOLS ARE NOT PREPARING STUDENTS FOR THE WORKFORCE OR POST-SECONDARY EDUCATION

WHEN ASKED ABOUT COLORADO'S SKILLS GAP,

86% OF EMPLOYERS

SAY IT'S A THREAT TO THEIR BUSINESSES AND

MORE THAN 50% EXPERIENCE:



HIGHER RECRUITING & TRAINING COSTS



PRODUCTIVITY & REVENUE LOSS



SLOWER BUSINESS GROWTH



LOWER WORK QUALITY



HIGHER TURNOVER

Voters & Employers Are Aligned on Solutions

NEARLY 90% OF VOTERS AND EMPLOYERS SUPPORT THESE IMPROVEMENT STRATEGIES:

- Attracting and retaining effective teachers
- Developing workplace and applied skills such as collaboration
- Providing access to work-based learning and career and technical education
- Developing computer and digital literacy skills

OVER 10 YEARS IF COLORADO IMPROVED EDUCATION TO THE LEVELS NEEDED BY THE WORKFORCE,

57,600 MORE HIGH SCHOOL GRADUATES

WOULD OBTAIN SOME FORM OF POST-SECONDARY EDUCATION.

THAT'S ENOUGH TO FILL THE PEPSI CENTER THREE TIMES OVER



IF WE CLOSED THE SKILLS GAP IN COLORADO,
EMPLOYERS WOULD MAKE INVESTMENTS IN THE STATE

HIRED

85% WOULD HIRE
APPLICANTS FROM
COLORADO



84% WOULD GROW
THEIR OPERATIONS IN
COLORADO AND
CREATE MORE JOBS



76% WOULD INCREASE
EMPLOYEE COMPENSATION



IF COLORADO STUDENTS OBTAINED THE LEVELS OF EDUCATION NEEDED TO COMPETE IN TODAY'S ECONOMY

OVER THE SPAN OF 10 YEARS:



Colorado would **gain 57,600 additional graduates** with post-secondary education levels needed for Colorado's jobs



These graduates would **earn an additional \$8.5 billion**

This additional income means **more money flowing into the economy....**



\$1 billion
in new revenue and public savings



\$472 million increase
in auto spending



\$1.4 billion increase
in home spending

Leading to **greater economic outcomes** for Colorado



14,600 new jobs
created



Over \$12 billion
in increased GDP growth

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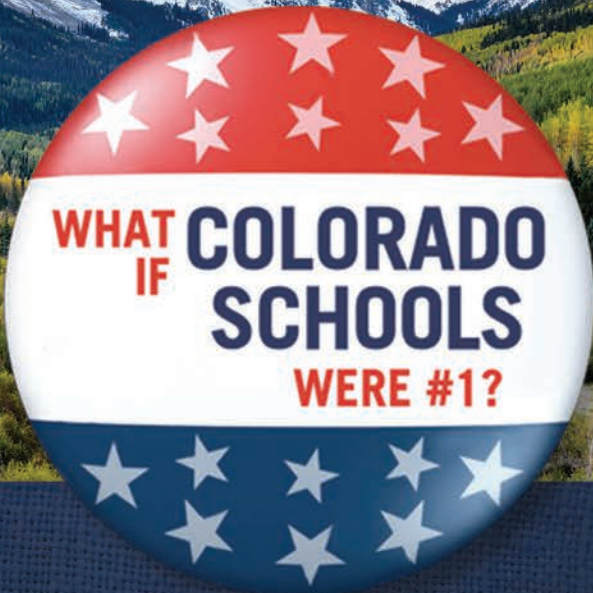
Principles for Transforming Education in Colorado

We recommend Colorado's next governor put these principles into action:

- **Set expectations, get out of the way**
- **Empower local learning providers**
- **Focus on outcomes, not inputs**
- **Fund students, not systems**
- **Equip all families with information and access**
- **Eliminate silos, share everything**
- **Measure performance, continually improve**



Visit BestSchoolsCO.org to access a full candidate survey on key education issues.



A BUSINESS GUIDE FOR COLORADO'S NEXT GOVERNOR

EXECUTIVE SUMMARY

Authors: Kelly Caufield, Colorado Succeeds & Chris Brown, Common Sense Policy Roundtable

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SUMMARY

Education has proven to be a critical lever for creating engaged citizens, thriving communities, and economic development. Yet, our education system was built for a past era, when humans were manufacturing goods on assembly lines and computers didn't exist. This system has not kept pace with the changes to the economy and external environment.

In just two years, more than three-quarters of all jobs in Colorado (including half of all science, technology, engineering, and math jobs) will require some education or training beyond high school. But, Colorado's talent pipeline is one of the leakiest in the country: for every 100 students who start high school, 79 will graduate, and just 28 will go on to successfully earn some type of post-secondary degree or credential within four years.

Not only did we inherit an outdated system, we inherited an inequitable system. Colorado has one of the largest achievement and opportunity gaps in the country. In some grades and subjects, economically disadvantaged and minority students are three grade levels behind their peers.

That alone should make education one of the top issues in the 2018 gubernatorial race. But there are a host of other reasons that should compel the candidates to focus on education.

New polling, surveys, and economic modeling commissioned by Colorado Succeeds, Common Sense Policy Roundtable, 18 industry partners, and the Denver Business Journal show that voters and business owners alike believe that improving Colorado's education system is one of the most important issues facing the state.

For voters, education is eclipsed only by economic concerns, which range from jobs to affordable housing issues.

Voters and employers also worry about the state of Colorado schools, and believe that improving educational outcomes would provide a significant boost to the economy and local businesses. Economic modeling commissioned by our group supports those beliefs with data.

SOME CONTEXT

We'll get to the findings of our economic model, polling, and survey in a moment. But first, it is important to understand the current state of Colorado's schools.

A recent ranking by [U.S. News and World Report](#)¹ carried some great news: Colorado's economy ranked number one in the nation based on a variety of measures, including growth, employment, and the business environment. At three percent, [Colorado has one of the lowest unemployment rates in the nation](#).²

But those same rankings delivered some not-so-great news as well: despite being home to the strongest economy in the country, *U.S. News* ranks Colorado 10th in terms of best states in which to live, with our ranking largely pulled down by the state's education system. We're 45th in high school graduation rate (down from 29th a decade ago), and 20th in college readiness.

In addition, more than a third of Colorado high school graduates need to take remedial courses, at their own expense, before they're deemed qualified for college-level coursework.

These challenges will only grow more daunting over time. As automation and artificial intelligence drive major changes in our economy and society, an increasing proportion of high school graduates will need to continue their education if they are to have any shot at a self-sustaining career. Colorado already has a high number of these jobs, and only Washington, D.C. has a higher portion of careers requiring some post-secondary education.

Voters are on board. Better than nine in 10 said it's important to offer more students the opportunity to extend their education beyond high school. That could mean attending a two- or four-year college or enrolling in a technical training or certification program.

Those graduates who go on to acquire more advanced knowledge and skills are also likely to develop the habits of mind necessary to adapt to a constantly shifting landscape. These changes are already underway. It's past time for Colorado's education system to catch up.

Imagine, then, what it would mean for our economy if Colorado ranked number one among the 50 states in education. How would it benefit the state if more of Colorado's students than in any other state not only graduated from high school, but did so prepared to further their education to meet the qualifications for Colorado jobs currently going unfilled? What would it mean if employers no longer had to import talent from elsewhere?

¹ <https://www.usnews.com/news/best-states/colorado>

² <https://www.denverpost.com/2018/03/12/colorado-unemployment-rate-january/>

VOTERS AND EMPLOYERS ALIKE SEE THE NEED FOR IMPROVEMENT

Our polling of likely voters and survey of Colorado employers, conducted in spring 2018, found significant agreement on the challenges facing the state's education system, as well as how best to address them. There was broad-based consensus that schools are not preparing students with the knowledge and skills needed to succeed.

Voters & employers are aligned on Colorado's challenge to prepare students for life after high school:

- **77 percent** of employers struggle to find Coloradans with the right skills
- **62 percent** of Coloradans believe our high schools are not preparing students for the workforce or post-secondary education

Some 77 percent of employers also struggle to find workers with applied skills like critical thinking, problem-solving, innovation, creativity and design/systems thinking. Two-thirds (65 percent) said that job candidates lack workplace skills like teamwork, communication, leadership, planning, and organization.

While challenges are evident, nearly 90 percent of polled voters and surveyed employers agree on the improvement strategies needed, in particular:

- Attracting and retaining effective teachers
- Developing workplace and applied skills
- Providing access to work-based learning and career and technical education
- Developing computer and digital literacy skills

The quality of Colorado education cannot improve without the state's school districts successfully attracting and retaining the best teachers. Providing school leaders with greater flexibility in hiring and firing was one popular improvement strategy, as was increasing the pay of teachers who take hard-to-fill positions (e.g. in remote rural areas or science/math teachers).

HOW THE SKILLS GAP IMPACTS COLORADO EMPLOYERS

WHEN ASKED ABOUT COLORADO'S SKILLS GAP, **86 PERCENT OF EMPLOYERS SAY IT'S A THREAT TO THEIR BUSINESSES AND MORE THAN 50 PERCENT EXPERIENCE:**



We also asked how their approach might change should Colorado eliminate those skills gaps. Employers' answers revealed how much the state's struggling education system is limiting its economic potential.

IF WE CLOSED THE SKILLS GAP IN COLORADO, **EMPLOYERS WOULD MAKE INVESTMENTS IN THE STATE:**



There is an opportunity for meaningful business engagement to help solve the skills gap, and voters see more business involvement in schools as important.

A large majority of voters – 72 percent – said business should play a greater role in efforts to improve the state's education system.

IMAGINE A STRONGER COLORADO

With these challenges in mind, our coalition commissioned a report using the REMI model (a dynamic economic modeling program) to answer a vital question: what if Colorado schools were number one? We primarily answered this question by measuring the economic impact of Colorado high school graduates going on to obtain the level of post-secondary education needed to meet the workforce demands of the Colorado economy.

There are, of course, many ways to measure the impact of educational attainment on the economy, including achievement results on the National Assessment of Educational Progress (NAEP), which is administered every two years nationwide. What was most important to our business coalition, however, was measuring the impact of meeting the needs of Colorado's workforce.

While this was the primary question, we also sought to understand the economic impact of just graduating more high schoolers within five years, and leaving Colorado post-secondary attainment (college degrees, certifications, etc.) at current levels. The return on investment on this alone would be astounding, particularly if Colorado's economically disadvantaged students graduated at the same level as the best overall graduation rate in the country, which is Iowa at 93 percent.

The answer to both questions is that benefits to Colorado young people, the economy, and to the state as a whole are impossible to overstate. Employers and voters are correct in their sentiment that improving K-12 education in Colorado would turbo-charge the economy.

Increasing the graduation rate for economically disadvantaged high school graduates to a best-in-the-nation 93 percent—up from the current 75 percent—would result in 5,526 economically disadvantaged students graduating in next year's class. This is a significant portion of the total number of new graduates expected (6,155) if Colorado had a 93 percent overall graduation rate. Those economically disadvantaged graduates would generate an additional nearly \$80 million in direct earnings in one year. Over the span of 10 years, bringing up the graduation rate for economically disadvantaged students alone would increase GDP by \$7 billion and generate additional earnings over \$5 billion.

THE EXTRAORDINARY ECONOMIC BENEFITS OF CLOSING THE SKILLS GAP

As impressive as those numbers above are, simply boosting high school graduation rates alone will not come close to producing the transformation Colorado needs. To meet the needs of Colorado employers and the state economy, we simply need to produce more graduates who continue their education beyond high school at the levels needed by the Colorado economy.

Nearly four in five (77 percent) of surveyed employers reported that they have difficulties finding Coloradans with the right skills for open positions. Eliminating that skills gap would have a profoundly positive impact on Colorado.

If Colorado schools produced graduates with sufficient post-secondary education to meet workforce demands, after 10 years of improvement we would see 57,600 more high school graduates earning some form of post-secondary education.

THAT'S ENOUGH TO FILL THE PEPSI CENTER THREE TIMES OVER



The sum of the impacts over the first decade of improvement would mean:

- **An additional \$12 billion** added to state GDP over the decade. By contrast, the National Western Stock Show has an annual economic impact of about \$115 million, according to their website.²
- **\$8.5 billion** in additional earnings over those 10 years
- **A \$1.4 billion** increase in spending on housing over the decade
- **A \$472 million** increase in spending on automobiles and parts over the decade
- **Almost a billion dollars** in new revenue and savings from lower rates of incarceration and fewer people relying on public assistance
- **14,600** new jobs created each year by the tenth year, with that number continuing to increase annually

² <http://www.nationalwestern.com/about/>

THE EXTRAORDINARY ECONOMIC BENEFITS OF CLOSING THE SKILLS GAP

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Over \$12 billion in increased GDP growth

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These gains are extraordinary, but the return on investment wouldn't stop there. A more educated workforce would create additional economic and social benefits including more start-up businesses, new inventions, and a healthier populace, among other positives.

TAKEAWAYS

Our current education system was built for a bygone era. Employers and voters alike see the need for transformational change and improvement.

What would it take to make Colorado the best state in the nation for public education? What would it take to prepare Colorado students for Colorado's jobs? We would need to work together to build a responsive education system; one that adapts rapidly to changing circumstances and develops agile learners prepared to succeed in a transforming global economy.

We've challenged the Colorado gubernatorial candidates to answer: how would you ensure Colorado schools are number one? We believe the following principles help us get there. We recommend Colorado's next governor put these principles into action:

- **Set expectations, get out of the way:** don't over-burden educators with mandates, but measure what matters.
- **Empower local learning providers:** promote ground-up innovation and create the conditions for it to occur.
- **Focus on outcomes, not inputs:** student mastery of skills and competencies matters more than seat time.
- **Fund students, not systems:** it costs different amounts to educate different students. Dollars should be flexible to support personalized learning.
- **Equip all families with information and access:** regardless of income or location, parents deserve a variety of high quality options and the information, transportation, and technology to fulfill their choices.
- **Eliminate silos, share everything:** innovation is most likely to occur in an environment that encourages transparent sharing of information.
- **Measure performance, continually improve:** student achievement should be measured in a way that is accessible, transparent, and actionable to guide continuous improvement.

More details on these principles is available at: www.BestSchoolsCO.org

We look forward to a robust debate on education over the next several months. Colorado's next governor can and must ensure our state is number one.



Visit BestSchoolsCO.org to access the full Business Guide for Colorado's Next Governor.

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A Business Guide for Colorado's Next Governor

EMPLOYER SURVEY #BESTSCHOOLS.CO

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How Colorado Employers View the Skills Gap: Talent Shortages, the Cost of the Gap, and the Improvement Strategies Needed

Colorado Succeeds, Common Sense Policy Roundtable, the Denver Business Journal, and 18 other industry partners conducted an online survey of Colorado employers on the topic of the skills gap and the strategies needed to improve education in the state. The survey was distributed by 20 business groups and industry associations to their members. The survey was distributed throughout March and April of 2018 and facilitated through SurveyMonkey, an online survey tool. 241 completed survey responses were received.

The purpose of the survey was to help inform the gubernatorial candidates of the education and workforce needs and strategies sought by employers.

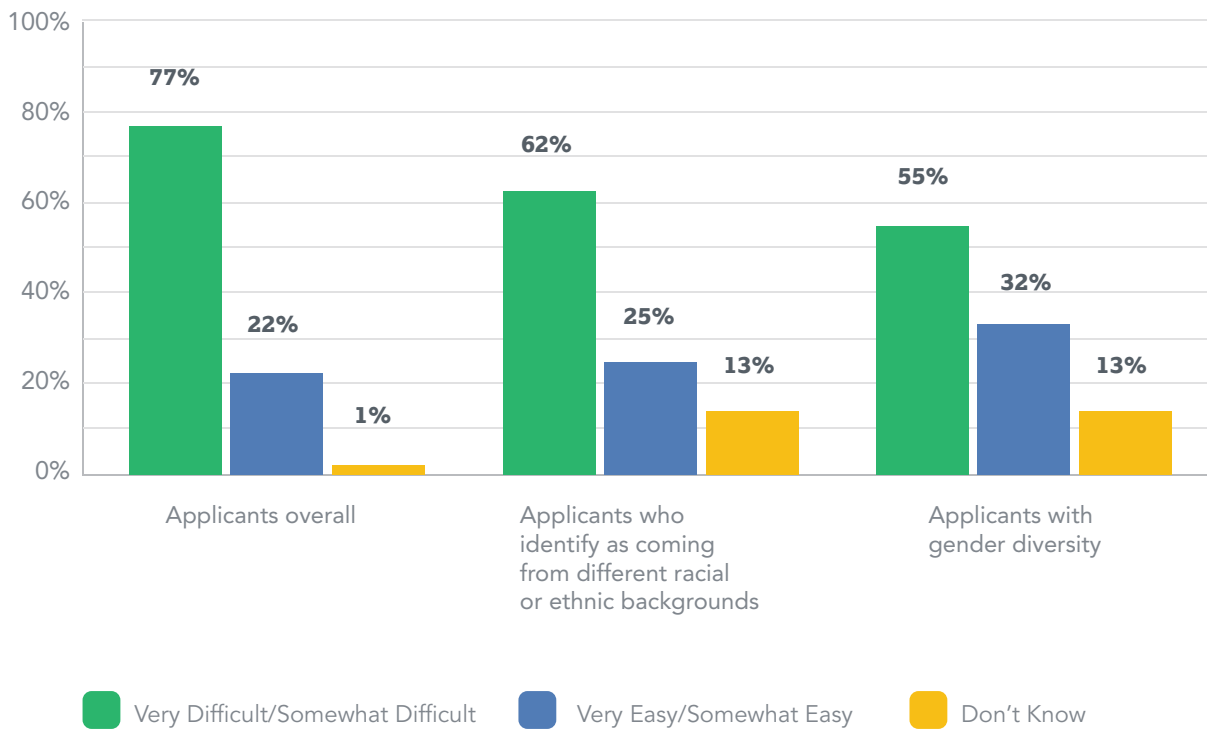
Due to rounding, percentages may not always add up to 100 percent. Please refer to the Appendix for demographic information about the survey participants.



TALENT CHALLENGES

Nearly four out of five (77 percent) employers said it has been difficult to hire people in Colorado with the right skills for open positions.

Figure 1: Experience Hiring People with the Right Skills to Fill Jobs

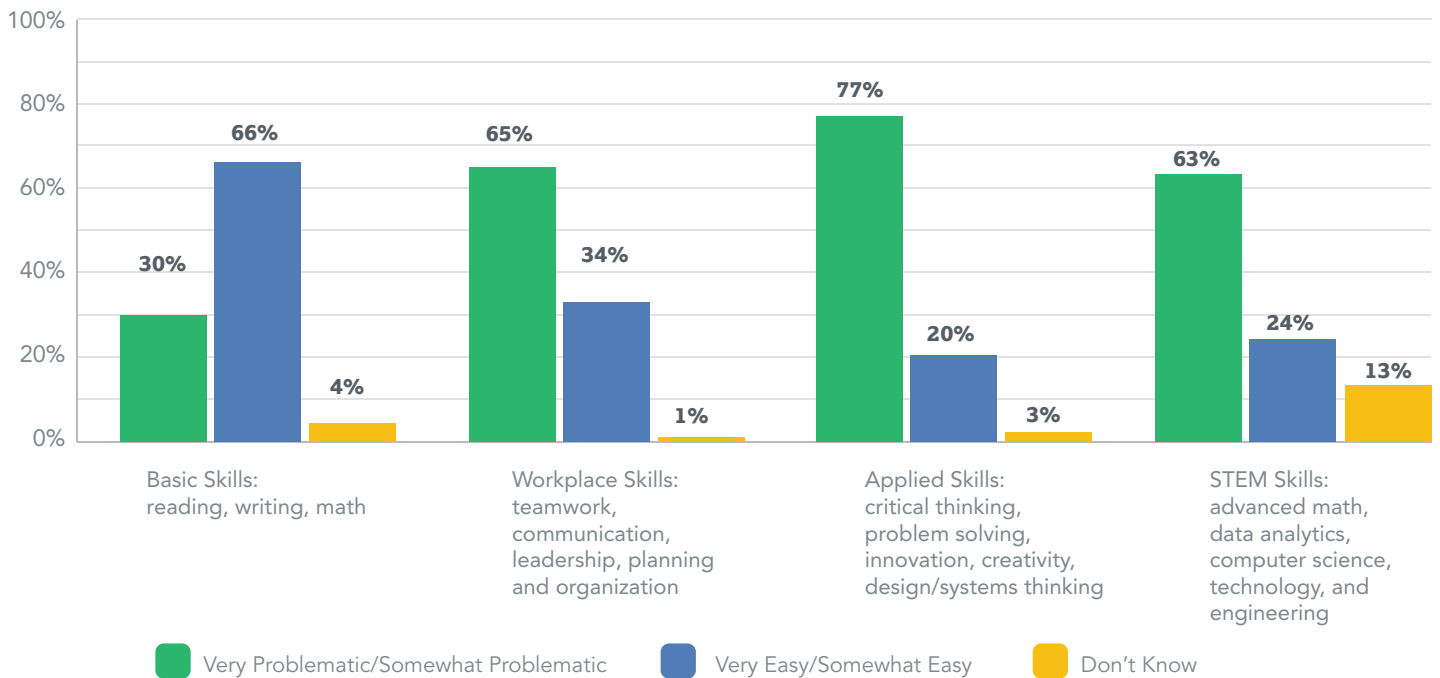




TALENT CHALLENGES

As for specific skills, some 77 percent of employers reported that finding workers with applied skills – including critical thinking, problem-solving, innovation, creativity, and design/systems thinking – is difficult. Sixty-five percent said that job candidates lack workplace skills like teamwork, communication, leadership, planning, and organization.

Figure 2: Experience Finding Qualified Applicants with Specific Skills

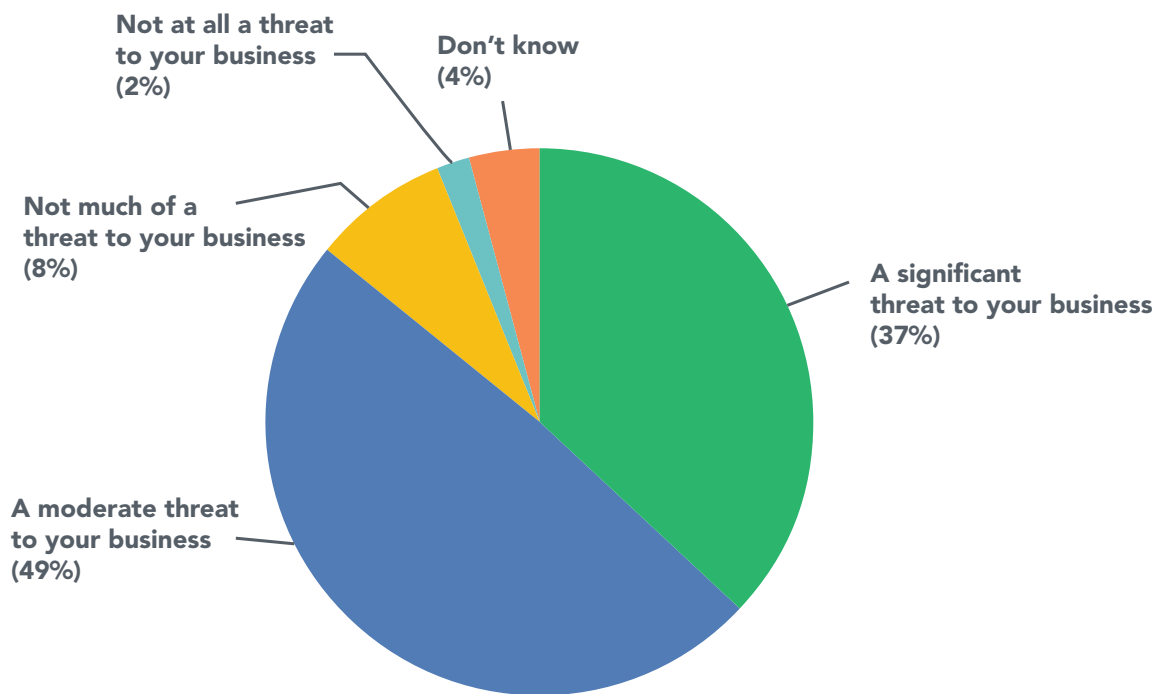




TALENT CHALLENGES

And, the vast majority (86 percent) said the skills gap poses a significant or moderate threat to their business.

Figure 3: Views of the Skills Gap in Colorado

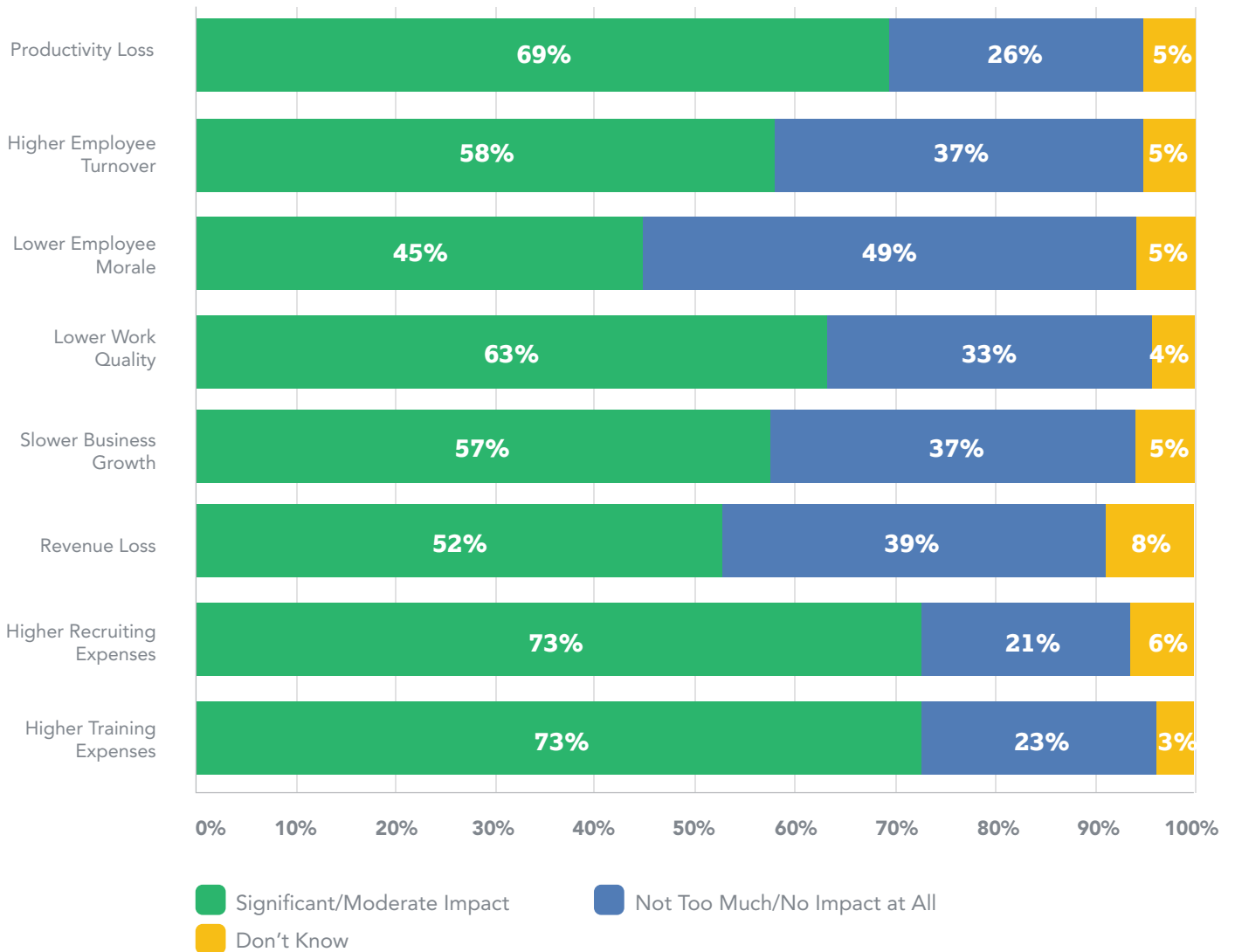




COST OF THE SKILLS GAP

Colorado’s skills gap has real costs for employers. The challenges in finding qualified workers has led almost three in four (73 percent) of surveyed employers to spend more on recruiting and training than they would have otherwise. More than two-thirds (69 percent) of respondents said a lack of local, qualified workers has led to productivity losses. Additional consequences of the skills gap are below:

Figure 4: Impact of the Skills Gap on Colorado Employers

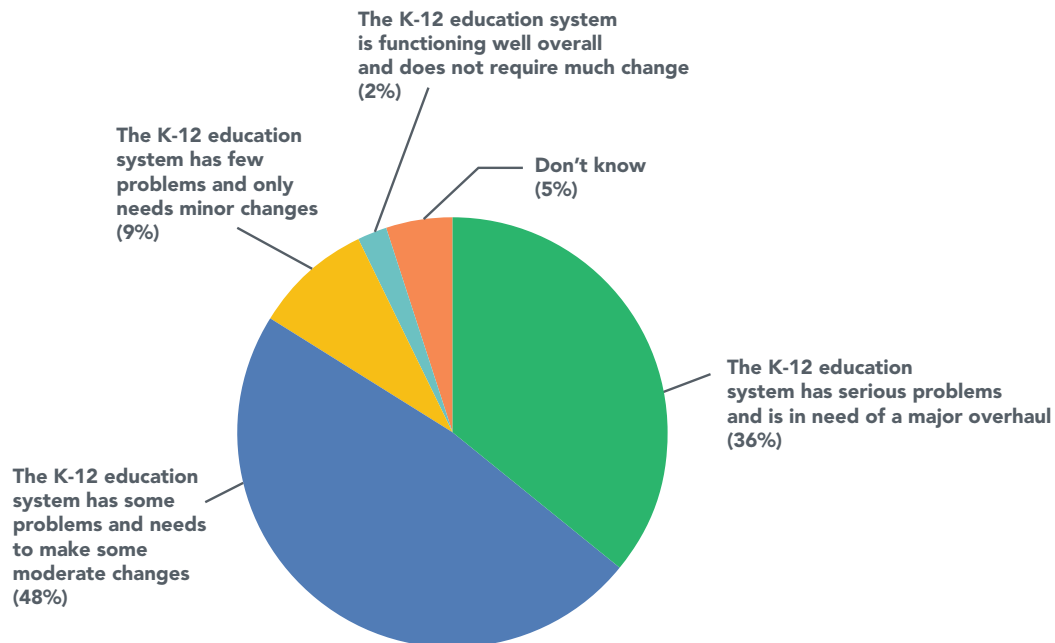




TALENT PIPELINE

As for views of the current education system, more than eight out of 10 respondents said Colorado's K-12 education system has problems that need fixing. More than one in three (36 percent) said the system has serious problems and is in need of a major overhaul. And, almost half of the respondents (48 percent) said the education system is in need of moderate changes:

Figure 5: Views of the Current Education System



As for the strategies needed to improve education in Colorado, the business community put the highest priority on the following areas:

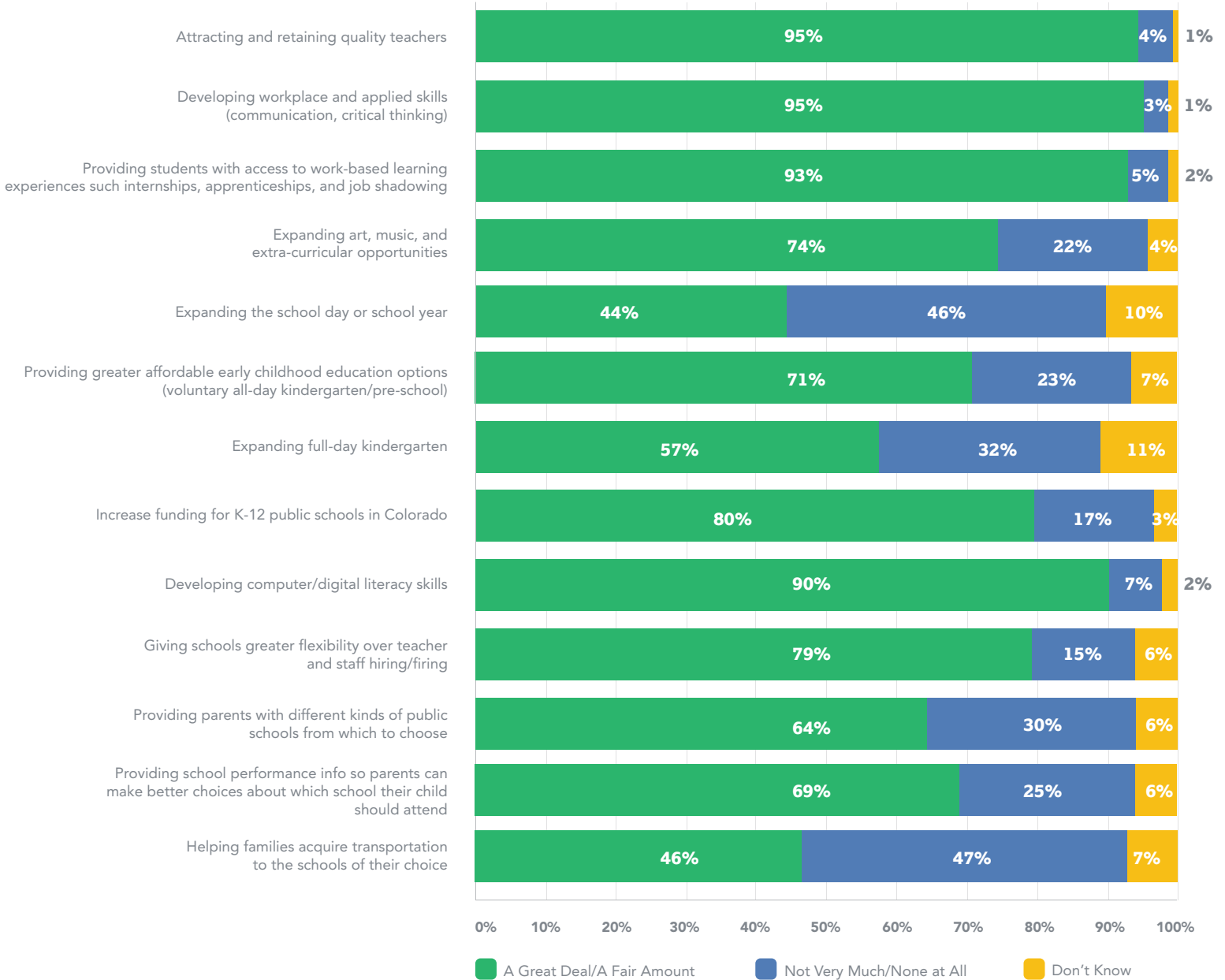
- Attracting and retaining effective teachers (95 percent)
- Developing workplace and applied skills (95 percent)
- Providing students with access to work-based learning experiences/career and technical education (93 percent)
- Developing computer and digital literacy skills (90 percent)



IMPROVEMENT STRATEGIES NEEDED

Other improvement strategies employers considered are below.

Figure 6: Employers' Views on Improvement Strategies

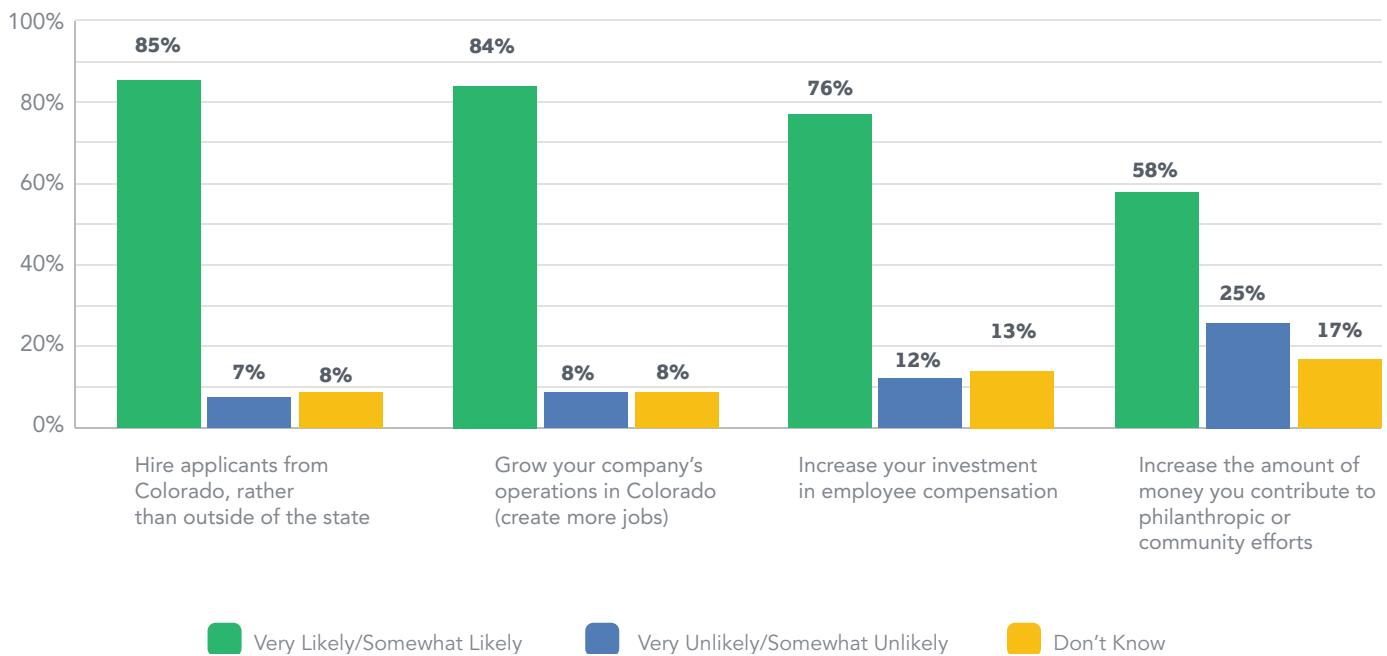




TALENT PIPELINE

Colorado employers were also asked how they would respond if the state's skills gap was addressed. Overwhelmingly positive, employers would significantly increase their investment in the state: 85 percent would hire Coloradans rather than import talent and 84 percent indicated they would grow their operations in Colorado and create more jobs. Seventy-six percent would increase their investment in employee compensation. Seventy-six percent would increase their investment in employee compensation.

Figure 7: Actions Companies Would Take if There Wasn't a Skills Gap in Colorado



There continues to be opportunities for meaningful business engagement to help solve the skills gap. A recent poll of likely statewide voters found Coloradans view more business involvement in schools as important. A large majority of voters – 72 percent – said business should play a greater role in efforts to improve the state's education system.

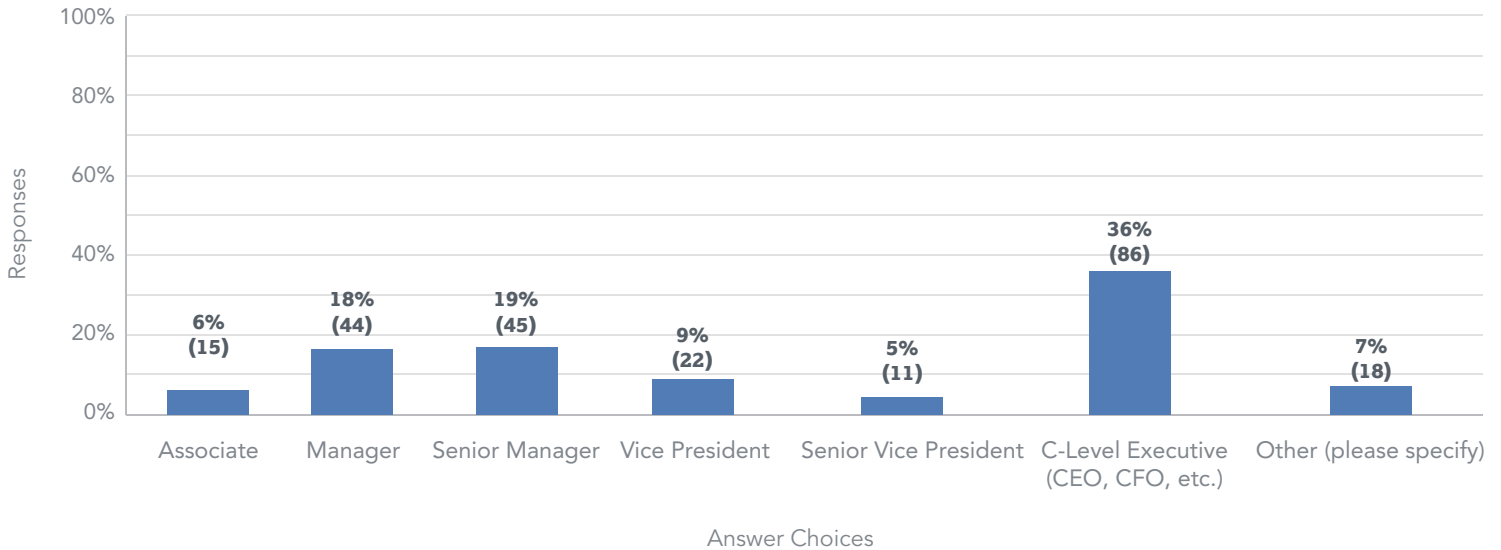
Please visit www.BestSchoolsCO.org to read our recommended principles for how Colorado's next governor could transform education in the state and ensure students' success in post-secondary education and the workforce.



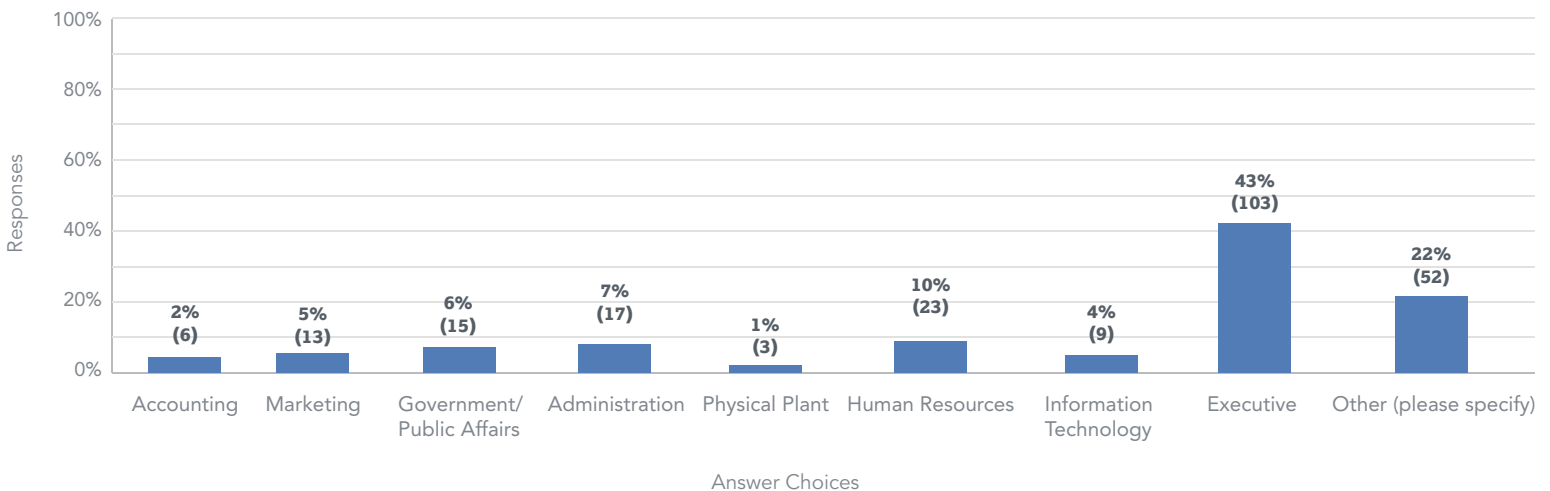
APPENDIX

Demographic Data on Participants

Which of the following best describes your level of responsibility within your company?



Which of the following best describes your function or department within your company?





A Business Guide for Colorado's Next Governor

GUBERNATORIAL CANDIDATE SURVEY
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WELCOME

Colorado voters currently rank education as one of the most important issues facing the state, and education will play an important part of the debates and discussions among the 2018 candidates for governor.

This candidate survey explains where those gubernatorial candidates stand on key education issues and the strategies they support to make Colorado's schools the best in the nation.

Candidates were invited to participate in the survey at the end of March 2018. Responses were collected throughout April 2018. In instances where the candidates exceeded the 200-word limit, answers were cut short to honor word limits. Candidate responses are listed alphabetically.



GENERAL

1. If elected as Governor, what would be your top three education priorities for ensuring Colorado has the best schools in the country? (200-word limit)

MIKE JOHNSTON (D) :

1. Expanding access to high-quality Early Childhood Education and full day kindergarten;
2. Increasing funding for the K-12 system in order to provide more money for schools, increasing teacher salaries, investing in technology and ensuring better learning environments for all students; and
3. Keeping higher education accessible through affordable tuition and innovative post-secondary opportunities aligned to the changing workforce.

CARY KENNEDY (D) :

1. Compensating and supporting teachers as the professionals that they are. Studies show Colorado is one of the three least attractive states to work as a teacher because of low salaries, lack of support and insufficient professional development. We need to ensure a pipeline of talent into teaching and attract and retain top teachers.
2. Focus on equity and engage communities. Colorado's low income students, and students of color are continuing to perform significantly worse than their more affluent and white counterparts. This inequity threatens Colorado's ability to be a fair and just society and is holding back our state's economy.
3. Ensure that all Colorado kids have access to high quality Pre-K and full day Kindergarten. Research has clearly shown the important, and longterm benefits of high quality education in the first years of a child's life. High quality Pre-K and full day kindergarten are especially beneficial for students in high risk situations.



GENERAL

1. If elected as Governor, what would be your top three education priorities for ensuring Colorado has the best schools in the country? (200-word limit)

G R E G L O P E Z (R) :

1. Begin the difficult work of how to close the gap of the budget shortfall.
2. Review the way teachers - especially the best teachers - are being consistently rewarded to increase job satisfaction and retention.
3. Explore every avenue available to increase the level and accessibility of vocational and technical training options that best serve the students and parents of students, who choose to follow a path that makes a student job-ready and career-conscious on Day One after high school graduation.

D O N N A L Y N N E (D) :

Education is the ticket to opportunity in America. As a graduate of public schools, elementary through college, who used my education as a springboard to success, this is my story. If Colorado is going to succeed, we need a world class education system in all parts of the state. As Governor, I will work every day to ensure we have a comprehensive education approach, preschool through higher education, which prepares our children for a successful and vibrant future. I will do this by:

- Adequately fund our schools and higher education institutions and reform the way we distribute education funding.
- Attract, retain and support great teachers.
- Ensure stability for PERA.
- Support college and career readiness efforts for all Coloradans.
- Expand access to affordable, quality child care and early learning programs.
- Increase coordination across state agencies responsible for education.



GENERAL

1. If elected as Governor, what would be your top three education priorities for ensuring Colorado has the best schools in the country? (200-word limit)

J A R E D P O L I S (D) :

Universal full-day kindergarten and preschool will give our children a head start on their learning which will improve their academic performance throughout their education, and also prevent parents from having to choose between their job or taking care of their child. Studies have demonstrated that if we truly care about addressing the achievement gaps that exist along racial, geographic, and income lines, then early childhood education is the best investment we can make. I'm proud of the handful of districts leading in supporting additional preschool and kindergarten slots, but it's time for statewide action.

Paying our teachers a competitive wage will help us end the teacher shortage across the state. Additionally, I will partner with Colorado's business community, counties, and school districts to help provide affordable housing for teachers in high-need areas and pay down student loans for educators.

Finally, we must grow participation in dual and concurrent enrollment programs, and implement Science, Technology, Engineering, Art, and Math (STEAM) education. Traditional pathways to a four-year college aren't for every student, and as governor I will also boost the role of apprenticeships, skills training, and financial literacy to prepare students for success.

D O U G R O B I N S O N (R) :

1. Expand parents' and students' educational options
2. Increase STEM & vocational education
3. Allow districts the flexibility to hire the right teachers for the right job



GENERAL

1. If elected as Governor, what would be your top three education priorities for ensuring Colorado has the best schools in the country? (200-word limit)

WALKER STAPLETON (R) :

1. School Choice: Increase access to school choice, we are for all the above education. Be it public, charter, private or homeschool, let's empower parents to find the best fit for their children to succeed.
2. Smarter Spending: We need to get more out of each dollar in our classrooms.
3. Empower Communities: 21st Century curriculum. Lets give the power back to the teachers, parents and administrators at the local level, and have the state help provide the best tools for them to customize educational outcomes. We need to make sure students are both college and career ready, acknowledging that different students will take different paths.



TALENT PIPELINE

2. What are your top three strategies for increasing the graduation rate and the postsecondary attainment rate? (200-word limit)

MIKE JOHNSTON (D) :

I launched my campaign with a policy called The Colorado Promise (mike4co.com/issues/colorado-promise) because I believe this is the most pressing issue our state will face over the next decade. Now, instead of thinking about 40-year careers in one place, an entire industry can emerge, grow and die in five years. This can make the path to security and prosperity hard to see.

In addition to (1) strengthening our K-12 system, and (2) aligning higher education to the changing demands of the new economy, the (3) Colorado Promise will ensure that every Coloradan — at any stage of their life — has access for up to two years of debt-free tuition for community college or training in exchange for providing meaningful service to the state. Nothing is free in Colorado — you have to work for it — but under the Colorado Promise, that work will allow every Coloradan to get the skills they need for the high-demand and well-paying jobs that are emerging. Those who need it most can also get additional funding for fees, books, and emergency expenses that keep too many struggling students from graduating.



TALENT PIPELINE

2. What are your top three strategies for increasing the graduation rate and the postsecondary attainment rate? (200-word limit)

CARY KENNEDY (D) :

We know what a great education system looks like: it provides universal high quality early education, recruits top talent into teaching and gives educators the tools and resources to meet the needs of each of their students.

In addition, there are specific strategies we can use to support students in completing high school and pursuing postsecondary education:

1. Increase Concurrent Enrollment. I helped develop Colorado's early dual enrollment legislation and we are a national leader in concurrent enrollment. All high school students should be offered skills-based courses like coding, emergency medical training and skilled trades, and the opportunity to participate in apprenticeship programs that build toward a postsecondary credential.
2. Expand Mentorship programs for first-time college students. Programs like Success Boston, which pair high school students with mentors from their community, have shown great success in increasing college acceptance and persistence rates.
3. NonTuition Costs. We need to also focus on the cost of housing and high rates of food insecurity if we are going to fully address the economic barriers facing our low and middle income college students and give them a better chance of completing their degree.



TALENT PIPELINE

2. What are your top three strategies for increasing the graduation rate and the postsecondary attainment rate? (200-word limit)

G R E G L O P E Z (R) :

1. Widen the “knowledge and skills” narrative to all parents-families-students that clearly outlines the definition of “workforce needs” across the state - as those needs include the skills of college graduates, as well as professional trades. I will be a Governor that emphasizes the value of every member our workforce, no matter the “color of their collar.” If a future member of the workforce so chooses, we will ensure high school graduates are job-ready the Monday after graduation, as well as college-ready if that is their chosen path.
2. With respect to graduation rates, we need to work closely with the school districts and “co-discover” why student performance markers may not match the “investment rate” Colorado taxpayers are putting into the school system – region by region. Even with the Education budgetary shortfall, we must find out if school districts are allocating tax dollars in a way that best serves teachers, student resources, local needs, and parents.
3. We need to determine the impact of Common Core on the future “scalability” of student performance. Much has gone into implementation of Common Core, but the camps divided over its effectiveness must be evaluated.



TALENT PIPELINE

2. What are your top three strategies for increasing the graduation rate and the postsecondary attainment rate? (200-word limit)

D O N N A L Y N N E (D) :

Adequately fund our schools and reform the way we distribute education funding: While our education system undoubtedly needs more money, our outdated funding formulas for K-12 and higher education also need to be addressed. These two issues – funding and structural reforms - are inexorably linked and must be simultaneously tackled if we want to make lasting changes to benefit the lives of our children and grandchildren. We must re-align funding for institutions of higher education so that the distinct needs of our research institutions, regional universities and community colleges are accounted for. Similarly, we must ensure that our K-12 funding formula adequately supports mental health and special education services, as well as the needs of English language learners and gifted and talented students.

Attract, retain and support great teachers: I will do this by expanding and investing in proven teacher training programs, including residency models, and finding new incentives, such as loan forgiveness and subsidized housing, to attract and retain teachers, particularly in rural and underserved communities.

Support college and career readiness efforts for all Coloradans: As Governor, I will pursue programs and strategies that have been proven to successfully address educational opportunity gaps.



TALENT PIPELINE

2. What are your top three strategies for increasing the graduation rate and the postsecondary attainment rate? (200-word limit)

J A R E D P O L I S (D) :

The future of Colorado's economy depends on providing avenues to success for young adults regardless of if they choose to attend a four-year college or a trade school. We don't have to wait until a student completes high school, either. My administration will prioritize boosting participation in dual and concurrent enrollment programs throughout the state.

Families can save thousands of dollars on a college education through these programs, and in many cases, even earn an Associates Degree while in high school at no or little cost to them. We should provide students who may have unique needs with more opportunities to earn an education. I'm proud to have founded the New America School which empowers immigrants with an education, as well as the Academy for Urban Learning which helps provide homeless youth with opportunities to learn.

Additionally, Colorado should lead the way on training for advanced robotics and manufacturing. Programs like CareerWise help create a development pipeline for students to receive certification in business, healthcare, financial services, and advanced manufacturing. And, P-Tech schools, like Skyline High School in St. Vrain School District, are leading the way to train students in programming, web design, and other advanced computer skills.



TALENT PIPELINE

2. What are your top three strategies for increasing the graduation rate and the postsecondary attainment rate? (200-word limit)

DOUG ROBINSON (R) :

1. Raise the standards and expectations across the state for student achievement
2. Create a Recovery school district for Colorado, similar to Tennessee and Louisiana
3. Invest more state and private resources in apprenticeship programs, like Career Wise Colorado, to give kids more real world skills and bring employers into school districts

WALKER STAPLETON (R) :

1. Be proactive, support at-risk students sooner: Identify at-risk students and increase support. Use data on attendance, suspensions, and academic failure to identify the most at-risk students. Identify the signs of a potential drop out early and help get them back on track, and sustain that support along the way to graduation. Buddy programs and student/teacher initiatives can be great tools. I support creating smaller learning communities in school to help support students.
2. Job Ready: Emphasize vocational and technical training. We can help get students into high skilled jobs and technical colleges. We need to move away from "factory" view of education, where each student comes out with same curriculum, and create alternative paths to empower students for the best outcomes. I want to emphasize adaptability and transferable skills whether it be in the arts, sciences, or technical disciplines. I would allocate more resources on programs that cultivate partnerships with industry to get more students directly into the work force.
3. College bound students: More access to AP and college level courses in high school. We want our kids to hit the ground running when they get into higher education. We need to emphasize making the transition to college easier.



SCHOOL CHOICE

3. How would you make sure all Colorado students have access to a high performing school, regardless of their zip code? (200-word limit)

MIKE JOHNSTON (D) :

As the only former teacher and principal in this election, I have deep ties to the education community across the state and have worked with stakeholders on all sides of education conversations to find solutions in the best interest of our students. I believe that all families should have access to a high performing school for their children. For this reason I have supported the opportunity for districts to open various types of schools including “innovative” and charter schools to meet the needs of their students. That being said, I firmly believe all schools should be held to the same standards and accountability systems. This was important to me when I founded Mapleton Expeditionary School of the Arts in Thornton, and again as when I was a State Senator, where I sponsored legislation requiring charter schools to serve a representative population of students, including special education and at-risk students. Choice also means that public schools need the funding, accountability and transparency to serve families.

CARY KENNEDY (D) :

I believe that different children learn differently and that our education system must address the unique needs and talents of a diverse student population. But choice in education is meaningless if a child’s neighborhood school isn’t a great choice. We must ensure that neighborhood schools have the resources, support and a pipeline of teacher talent to provide a rich and engaging education. We need all schools, including charter schools, to engage their communities and innovate with new models for learning and meeting the unique needs of each student.



SCHOOL CHOICE

3. How would you make sure all Colorado students have access to a high performing school, regardless of their zip code? (200-word limit)

G R E G L O P E Z (R) :

Colorado first must determine what it means, through established metrics, what it means to be a “high-performing school.” After all, if the case is being made in this questionnaire that the state is not benefiting from a talent pipeline conveying knowledge and skills to our students, we must agree what the “model school” comprises. The existing choice in program has been a subject of debate for some time, as parents try to distinguish the “performance trajectory” of their neighborhood school. If not deemed adequate by the parents, they enter the laborious and competitive process of placing their student elsewhere, in a choice-in alternative – thereby leaving the neighborhood school to wither on the vine [in the current scheme of underperforming schools and their rate of “rehabilitation”]. To best serve the parents and students, state government must be clear on choices between public and private/charter alternatives, and the barriers to each that lay in the current state policies. To improve performance among students, the current model must be evaluated and improved.

D O N N A L Y N N E (D) :

Colorado currently offers school choice; however, it could be improved in the following ways:

1. Improve transparency by providing more user-friendly data to parents about school performance and quality.
2. Conduct outreach campaigns to parents who might not know about the information in #1. Encourage schools and districts to promote this data as well.
3. Encourage more autonomy in schools so that they connect their curriculum directly to the needs of their community (thereby strengthening the local schools).
4. Encourage more innovation schools in rural areas, as transportation and distance are obstacles to students choosing schools outside of their districts.
5. Share with school districts across the state the lessons learned in school districts like DPS and Jefferson County that have robust choice programs.



SCHOOL CHOICE

3. How would you make sure all Colorado students have access to a high performing school, regardless of their zip code? (200-word limit)

J A R E D P O L I S (D) :

Our teacher shortage is one of the most troubling issues our state faces. Children, particularly in rural areas, are struggling to earn a high-quality education because many school districts are unable to recruit talented teachers to serve in them. A large part of the reason for this is that Colorado teachers have suffered a 7.7 percent reduction in pay over the last decade. The single best thing we can do to correct this is to pay a competitive wage.

We can also do more to support high-quality public school choice. Parents should be empowered to choose their public school, whether a public charter, neighborhood, or magnet school, that's best for their child, regardless of zip code. But too often, transportation is one of the biggest barriers to accessing school choice. As governor, I will work closely with school districts to support the creation of cost-effective transportation options for students, so that students can attend the public school that best prepares them for their bright future. I will also continue to advocate for strong accountability for all schools including schools of choice. While many public charter schools benefit from additional flexibility, that flexibility should always be coupled with thoughtful transparency and accountability.

D O U G R O B I N S O N (R) :

School choice is key to improving student outcomes. This doesn't have to simply be a choice between public and charter schools; we should also be looking at online schools, trade schools and all innovative forms of education. Furthermore, we need to be allowing great teachers to teach students anywhere through blended learning platforms.



SCHOOL CHOICE

3. How would you make sure all Colorado students have access to a high performing school, regardless of their zip code? (200-word limit)

W A L K E R S T A P L E T O N (R) :

I am a strong advocate for school choice. I think that it is insane to limit someone's access to a world-class education based on where their parents get their mail. I support expanding access to charter schools and empowering parents, teachers, and students in their communities. I want to be clear that this is not at the expense of public schools. We need to continue to provide support and funding across the board. But too often entrenched interests characterize school choice as an either-or scenario. This is nonsense; it has to be an all-the-above attitude, where the metric of success is how many students we are empowering to lead thoughtful, happy, and successful lives as members of a vibrant society in Colorado.

Students in Colorado's Charter Schools outperform their peers both nationally and on the state level in math and reading scores. I support continuing to empower charter schools and efforts like HB 1375, which became law last year. This law allows charter schools to access local funding and continues to improve the quality of education and variety of enriching activities at charter schools.



FUNDING

4. How would you ensure Colorado's schools have the financial resources they need to succeed? (200-word limit)

MIKE JOHNSTON (D) :

In 2013, I fought for the largest single increase in education funding across the state, and when that did not pass at the ballot box, I sought out creative and innovative funding measures to meet the needs of Colorado students, including social impact bonds for ECE expansion and increases in K-3 funding. I believe we need to both increase the funding that goes to the preK-12 system and be more careful with how those funds are allocated.

As a state senator, I sponsored a revised funding formula for this exact reason: too many schools that served high-needs students were not getting the state funding support they deserved and needed to serve these students. This requires that we provide state funding supplements to rural school districts to ensure that schools are safe, clean, and inspiring learning environments. For schools in urban and suburban parts of the state, the focus should be on providing additional funding to schools that are committed to educating high needs students and English language learners.

I will continue to support and fund programs that promote teacher development, incentivize teachers to work in communities that need more great teachers, and ensure teachers can continue to develop their craft.



FUNDING

**4. How would you ensure Colorado's schools have the financial resources they need to succeed?
(200-word limit)**

CARY KENNEDY (D) :

Colorado lacks the financial investment to adequately support its public education system. It is the reason our teachers are amongst the worst paid in the nation and why we can't make real progress on the educational equity gap.

I have spent my career working to stop the ongoing erosion of funding in public schools caused by TABOR. I was the author of Amendment 23 that protected funding for schools and I helped develop Referendum C that prevented further cuts. As State Treasurer, I created Building Excellent Schools Today which has invested over \$1 billion to renovate dilapidated schools across the state.

I will lead as governor by using my financing expertise to identify new opportunities to reform our inadequate, inequitable and outdated system for funding public education and by building and leading a coalition to pass a successful school financing ballot measure. It must start with permanent TABOR reform. For the first time in twenty-five years there is bipartisan support in the legislature to permanently change the revenue cap in TABOR, and with your help I will build a bipartisan coalition to pass permanent TABOR (and Gallagher) reform. This reform needs to restore equity to our school finance structure.



FUNDING

4. How would you ensure Colorado's schools have the financial resources they need to succeed? (200-word limit)

G R E G L O P E Z (R) :

I certainly respect the sentiments of the respondents in the statewide poll. They are sincere and observe the negative outcomes of K-12 results daily; there is dissatisfaction, and naturally they may feel money is the answer. The budget shortfall must be addressed, and specifically why the shortfall exists by not adhering to Amendment 23. Further, to echo an earlier sentiment in the questionnaire, we must find out if the tax dollars collected and spent so far, serve the interests [through allocation] of the front-line educators, the available resources to the students, and adequately meet the needs in these areas as our population grows [with projections looming].

As my professional history demonstrates, I'll be the first to "ring the bell," when all avenues are exhausted, and action must be taken. If I learn our schools are truly running at optimum efficiency within the current operation matrix, and an influx of money would truly lift our schools to next-level performance, you can bet I'll ring the bell once again, and marshal the support needed to have money fuel the goals & objectives hindered by the shortfall.

D O N N A L Y N N E (D) :

Quite simply, the pie of money we have for education is not big enough. Politicians that claim otherwise are out of touch with the needs of this state. I support changes to TABOR and the formula behind it, and as governor I will lead the effort and build a statewide coalition to implement those changes. But I am also very realistic and pragmatic, and I do not believe that we will repeal the requirement for voters to decide on tax increases.

I am proud that this administration has been able to secure extra funding for our schools in the budget that was just passed the state legislature, and I'm proud to have been a part of those efforts. We suggested a 5% increase in funding for K-12 schools - it is just a start, and I know that more must be done.



FUNDING

4. How would you ensure Colorado's schools have the financial resources they need to succeed? (200-word limit)

J A R E D P O L I S (D) :

There is no reason that Colorado schools should be shortchanged in their funding at a time when our economy is one of the strongest in the nation. The negative factor has robbed rural schools of critical funds by nearly \$800 million, and our School Finance Act is not keeping up with the needs of our schools, teachers, and students. I'll work with our legislature to improve our funding formulas in the School Finance Act, and much like I did with Amendment 23, I will build a winning coalition to go to the ballot box and pass an initiative to better fund our schools and early education opportunities.

At the end of the day, we must have the political will to modernize it to fit our modern needs. I'm glad that bipartisan discussions to do so are being considered in the Capitol, such as Senator Larry Crowder and Representative Dan Thurlow's efforts to alter TABOR's formula to provide the state more revenue and increased flexibility to invest in schools and infrastructure. As governor, I would be eager to begin expanding the amount of interests in this conversation to ensure that we have a bipartisan and agreed-upon framework to update TABOR.

D O U G R O B I N S O N (R) :

The amount of education funding that goes to administrative costs has risen dramatically. Over the last 20 years, the Colorado student population has increased by 53%. Meanwhile, the number of administrators in our schools has increased by 85%. That's ridiculous. We need to emphasize getting more money into our classrooms to our teachers, ensuring that education is being prioritized over bureaucracy. Simply throwing money at the problem isn't the issue. We should be paying down the negative factor, but before we talk about how much we want to spend, we need to talk about what we want to achieve.



FUNDING

4. How would you ensure Colorado's schools have the financial resources they need to succeed? (200-word limit)

WALKER STAPLETON (R) :

First off, we need to address PERA and health care spending, which are crowding out education spending in the state. If we can rein in the spending in these areas it will free up more money for our schools.

However, getting dollars into the school is just half the battle. Once they get there we need to make sure more of the money is going towards resources, retaining and rewarding amazing teachers, and providing students access to tools they need to succeed, not to administrative costs and backfilling the pension liability.



EARLY CHILDHOOD EDUCATION

5. Do you think Colorado should be doing more, doing less, or doing the same amount to ensure affordable opportunities for children to access quality early care and education programs? If you think we should be doing more, how would you increase access to quality early care and education programs in Colorado? (200-word limit)

<p>MIKE JOHNSTON (D)</p>	<p>Doing more.</p> <p>In my education policy, I called for providing free full-day kindergarten to all students across the state, and eliminating the 3- and 4-year old Pre-K waitlist to give our kids access to a high quality start to their school career.</p>
<p>CARY KENNEDY (D)</p>	<p>Colorado should be doing more to ensure that every child has access to quality early care and education. Research has shown the longterm, important benefits of high quality early education.</p> <p>Early in my career I worked for Educare Colorado (now Qualistar) and developed legislation that brought (and continues to provide) millions in federal funding to expand quality early education. I also helped secure sustainable funding for the Nurse Family Partnership program that provides wraparound services to first time, low-income mothers. Nurse Family Partnership works by having specially trained nurses regularly visit low income, first-time moms-to-be, starting early in the pregnancy, and continuing through the child’s second birthday. During my time at Educare, I also helped expand access to high quality childcare programs. Parents in Colorado struggle to support their children’s early learning. Infant care costs \$14,950 per year, far out of reach for most families. Early Care and Education can span a wide range of programs from infant care to four year old preschool. Paid family leave will allow moms to provide their own infant care which currently costs \$14,950 per year. In terms of preschool access, the recent NIEER report ranked us in the middle of the pack but put us at 39th for funding. We have the infrastructure establish to spend dollars well, so we should increase our financial commitment.</p>



EARLY CHILDHOOD EDUCATION

5. Do you think Colorado should be doing more, doing less, or doing the same amount to ensure affordable opportunities for children to access quality early care and education programs? If you think we should be doing more, how would you increase access to quality early care and education programs in Colorado? (200-word limit)

<p>GREG LOPEZ (R)</p>	<p>Doing the same.</p> <p>I believe ECE is an integral part of educational development for parents wishing to enroll their children in those state-funded programs. As a matter of statute, children are not required to attend public school until they reach age 6 by August 1 of a given year. So, while 1 in 4 children are enrolled in an ECE program, I have yet to see a significant study or demonstrative demand from the parents of the “other three” to provide state resources or state infrastructure to fill the “void.” As a result of respectable support from the state, and through grants available by the federal government, a number of Colorado non-profit ECE centers have been established “organically,” and thrive (and are rated by such organizations as Qualistar). Many parents wish to keep their children at home as a matter of choice, until age 6. But as Governor, if I reviewed data revealing a true shortage of ECE programs/facilities with a significant demand from parents across the state, I will be happy to evaluate our options and work with ECE leaders to create a solution with an accompanying implementation plan.</p>
<p>DONNA LYNNE (D)</p>	<p>Reports have revealed what many Colorado parents already know – that the cost of childcare and preschool in Colorado is extremely high. In fact, Colorado is one of the most expensive states in the country for childcare. For some working families, the cost of preschool for a single child can account for almost 30% of their income. When quality, affordable childcare or preschool isn’t available, the entire community suffers. Children lose important educational opportunities, caregivers face limited employment options, and employers miss out on an engaged and work-ready labor force.</p> <p>This is an immediate and statewide problem, that as Governor, I will address by:</p> <ul style="list-style-type: none"> • Investing \$100M in early care and education through targeted expansions of programs designed to serve working families • Partnering with communities to leverage local resources • Fostering partnerships with businesses to develop flexible, family-friendly policies



EARLY CHILDHOOD EDUCATION

5. Do you think Colorado should be doing more, doing less, or doing the same amount to ensure affordable opportunities for children to access quality early care and education programs? If you think we should be doing more, how would you increase access to quality early care and education programs in Colorado? (200-word limit)

<p>JARED POLIS (D)</p>	<p>Early childhood education is one of the best predictors of future academic and economic success and our state absolutely needs to be doing more to give kids a high-quality education throughout their lives.</p> <p>I am the only candidate running for governor on a pledge to bring universal full-day kindergarten and preschool to Colorado families within two years of my election. My plan will allow any parent to send their child to a preschool or kindergarten of their choice at no additional cost to them.</p> <p>We will accomplish this by building a winning coalition of Democrats, Republicans, business leaders, and advocates for our schools, to write and pass a ballot measure that will boost funding for early education opportunities. I've done this before when I helped lead the coalition to pass Amendment 23, numerous local bonds and mill levies, and I'm not afraid to roll up my sleeves to do it again as governor.</p>
<p>DOUG ROBINSON (R)</p>	<p>We should be doing more to ensure early access but not in the way the Democrats are proposing. Early access to learning does make a difference. Investing in children at this age provides better educational outcomes and saves us money down the road.</p> <p>We should partner with private foundations to help us expand the Colorado Preschool program, while also lobbying for additional federal resources to grow the Head Start program. As Governor, I would work with the Trump Administration to get Colorado an additional block grant to assist in expanding the number of slots available in our early childhood education programs.</p>
<p>WALKER STAPLETON (R)</p>	<p>I would like to see more progress made in early childhood education in the state of Colorado. We need to increase access by making our dollars go further for state preschool programs through increasing local community engagement. Preschool plays an instrumental role in getting students school-ready and closing the performance gap. But ultimately, it all starts in the home. I think we need to work with our partnerships in the non-profit and private sector around the state, to empower new parents with the tools they need to help their children succeed. This starts with an emphasis on engaging children, reading in the home, and promoting family values.</p> <p>Yes, I would like to increase access to these programs, but think that it is crucial that the directives be led on the community and local level. It is paramount that these early childhood education initiatives are coupled with support for new parents starting in the home.</p>



TEACHERS AND LEADERS

6. Please rank order your top 3 strategies for recruiting and retaining excellent educators in Colorado. (200-word limit)

<p>MIKE JOHNSTON (D)</p>	<ol style="list-style-type: none"> 1. Expand online, blended, or virtual instructional practices 2. Develop “grow your own” strategies where districts develop local talent 3. Hold educator preparation programs accountable for producing effective teachers that stay in the classroom
<p>CARY KENNEDY (D)</p>	<ol style="list-style-type: none"> 1. Pay teachers as professionals. 2. Support, train and empower teachers as leaders. 3. Improve resources and opportunities for students.
<p>GREG LOPEZ (R)</p>	<ol style="list-style-type: none"> 1. Allow teachers in hard-to-fill positions like science and math or in rural areas to be paid more 2. Expand online, blended, or virtual instructional practices 3. Hold educator preparation programs accountable for producing effective teachers that stay in the classroom
<p>DONNA LYNNE (D)</p>	<ol style="list-style-type: none"> 1. Allow teachers in hard-to-fill positions like science and math or in rural areas to be paid more 2. Develop “grow your own” strategies where districts develop local talent 3. Require a minimum salary to be paid to all educators
<p>JARED POLIS (D)</p>	<ol style="list-style-type: none"> 1. Allow teachers in hard-to-fill positions like science and math or in rural areas to be paid more 2. Develop “grow your own” strategies where districts develop local talent 3. Offer loan forgiveness to all educators
<p>DOUG ROBINSON (R)</p>	<ol style="list-style-type: none"> 1. Expand online, blended, or virtual instructional practices 2. Allow teachers in hard-to-fill positions like science and math or in rural areas to be paid more 3. Relax teacher credentialing rules
<p>WALKER STAPLETON (R)</p>	<ol style="list-style-type: none"> 1. Relax teacher credential rules - Make sure we have qualified teachers in the classroom but do not have them meet arbitrary requirements that do not translate into teaching in the classroom 2. Collect better data on the state level regarding current and future hiring needs 3. Hold educator preparation programs accountable for producing effective teachers



RETIREMENT SECURITY

7. What are your top three recommendations for improving Colorado's public retirement system (PERA) in a way that helps to retain and recruit the highest quality public workforce? (200-word limit)

MIKE JOHNSTON (D) :

1. Because people are living and working longer, I believe we should extend the retirement age to age 65.
2. We should allow the cost of living adjustment to fluctuate based on actual economic conditions rather than peg it in statute with no fluctuation.
3. We should also explore an option for pensions to be portable. In a world where folks may have 8 or 10 different careers and many will not teach for a full 40 years, they should be able to move in and out of the retirement fund without losing all the benefits.
4. Finally, I also support the recommendation that came out of the PERA board calling for shared sacrifice among employers and employees.

CARY KENNEDY (D) :

While serving as Colorado State Treasurer and a member of the PERA board, I helped lead the development and passage of SB 1001, the last successful PERA legislation that reduced PERA's unfunded liability by \$9 billion – the largest improvement to the financial health of PERA in its history. I participated in dozens of town halls throughout the state and worked with state and local leaders and PERA members to develop the compromise.

Retirement security is an important component of professional compensation. PERA helps us recruit, and keep, the best and brightest to educate our children, plow our roads, and keep our highways safe. It also provides economic stability for communities throughout Colorado that have a large retirement population.

Properly managing Colorado taxpayers' money has been central to my work both as State Treasurer and as CFO of the City of Denver. A pension is a promise and I helped develop the legislation that improved PERA's financial status by \$9 billion the largest improvement in it history (SB 1). As Governor, I will continue to provide this leadership to ensure we maintain our commitment to public employees and keep our state on sound financial footing.



RETIREMENT SECURITY

7. What are your top three recommendations for improving Colorado's public retirement system (PERA) in a way that helps to retain and recruit the highest quality public workforce? (200-word limit)

G R E G L O P E Z (R) :

1. Begin with the end in mind, and never make PERA recipients secondary to the FIRST priority they deserve, and whose security has been promised.
2. Reform the board structure so that appointees and participants are not conflicted by votes they cast before sending recommendations to the statehouse for approval, that make them choose between themselves/self-interest, and the PERA recipients of today and tomorrow.
3. Bring in an outside expert without a conflict of interest to examine every aspect of the PERA charter/rules that may leave room for [conscious or unconscious] investments to be made that do not have a high-rate of success or long-term security – and make reviews of the process known and actively communicated to stakeholders across the board. Let the sunshine in!

D O N N A L Y N N E (D) :

PERA is a promise that our state has made to our public employees, and as governor I will not break that promise. There is often a trade off in total compensation for employees in the public sector with regards to salaries and other benefits. I do not believe that career public servants should sacrifice because of bad decisions made by politicians in the past.

But we must also be honest about the current state of PERA. It is underfunded, and we must do more to ensure that it is around for generations of public workers to come. As governor, I will work with stakeholders to ensure that however we decide to strengthen PERA, it is through a shared sacrifice and not laid on the back of teachers and retirees.



RETIREMENT SECURITY

7. What are your top three recommendations for improving Colorado's public retirement system (PERA) in a way that helps to retain and recruit the highest quality public workforce? (200-word limit)

J A R E D P O L I S (D) :

1. Protecting the defined benefit system
2. Ensuring that long-term sustainability of PERA is a shared sacrifice among beneficiaries
3. Putting policies into place that automatically adjust contribution rates to ensure long-term sustainability and reduce the need for legislative action

Over 500,000 Coloradans rely on the benefits they earned over a lifetime of service to the public. Communities all over Colorado benefit from the retirement income provided to retirees in our state through the PERA system. In fact, \$3.8 billion in benefits were paid to retirees living in Colorado in 2016 alone.

I believe that a pension is more than a fund, but it's a promise. We've made a promise to thousands of public servants that if they forego Social Security and enter into PERA, they will be afforded a dignified retirement in exchange for their service to their community. As governor, I intend for Colorado to keep that promise.

D O U G R O B I N S O N (R) :

1. Solve our governance issue. Currently we have a 16 person board with 12 of them PERA beneficiaries. I would shrink the Board and require the majority to be outside experts in asset management and finance. This is critical to make sure we don't get in this same situation again.
2. Reform the current plan - Keep retirees benefits the same, raise the retirement age, the average of highest years served to 7, decrease the cost of living adjustment.
3. Switch to a defined contribution vs defined benefit plan for new enrollees.



RETIREMENT SECURITY

7. What are your top three recommendations for improving Colorado's public retirement system (PERA) in a way that helps to retain and recruit the highest quality public workforce? (200-word limit)

WALKER STAPLETON (R):

As Colorado's Treasurer, reforming PERA has been one of my top priorities. Frankly, we can no longer ignore this problem, as it endangers the financial future of our children as well as the well being of our state employees. PERA is draining money that should be going directly into the classroom but instead is being used to backfill the pension liability. Fixing this system so that funding increases translate into immediate raises for teachers, lowering student-teacher ratios and increasing technology in the classroom will be critical to attracting and retaining teachers.

I believe fixing PERA is contingent upon four main principles:

- 1) Taxpayers have done their part already, no more bailouts for PERA
- 2) Provide real retirement options and choice for public employees.
- 3) Retirement age needs to be moved to be more in line with federal retirement programs like Social Security.
- 4) Restructure PERA's corporate governance putting independent voices on the board that do not have a vested economic interest in maintain the status quo.



THE ECONOMIC VALUE OF INVESTING IN COLORADO'S FUTURE WORKFORCE

May 2018

Conducted by



About the REMI Partnership

A partnership of public and private organizations announced in July 2013 the formation of a collaboration to provide Colorado lawmakers, policy makers, business leaders, and citizens, with greater insight into the economic impact of public policy decisions that face the state and surrounding regions. The parties involved include the Colorado Association of REALTORS®, the Colorado Bankers Association, Colorado Concern, Common Sense Policy Roundtable and Denver South Economic Development Partnership. This consortium meets monthly to discuss pressing economic issues impacting the state and to prioritize and manage its independent research efforts.

For this report Common Sense Policy Roundtable partnered with Colorado Succeeds, a leading voice in Colorado for improving the state's education system, to answer a vital question: What if Colorado schools were number one? This report primarily answers this question by measuring the economic impact of Colorado high school graduates going on to obtain the level of post-secondary education need to meet the workforce demands of the Colorado economy.

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Introduction

In August 2017 more than 64,800 students across Colorado started their fourth year of high school. By May 2018, only 51,000 students, or just 79% of the class, are projected to graduate. At the end of the next school year, another 3,400 members of that same class will complete their high school education within five years of leaving 8th grade, bringing the 5-year graduation rate to 84.1%.

This means more than 10,600 students from the class of 2017-2018 remain without a high school degree within five years of entering high school. Next year's class will produce another 10,600 -- or more -- students without a high school degree and every class for the foreseeable future will likely be similar.

While Colorado's K-12 graduation rate is improving, increasing from 75.4% in 2012, it still ranks 45th nationally (National Center for Education Statistics, 2017).

Although 84% of each class will graduate within five years, only 64% will go on to obtain some form of post-secondary education. This includes bachelor's degrees, master's degrees, and associate degrees, as well as industry certificates and other forms of post-secondary education credentials. Meanwhile, 74% of jobs in Colorado will require some form of post-secondary education by 2020. (Data is from the report *Recovery; Projections of Jobs and Education Requirements through 2020*, released by the Georgetown University Center on Education and the Workforce (Carnevale, Smith, & Strohl, 2013))

This begs a simple question; **What if Colorado schools were number one?** More specifically, what would be the value to the Colorado economy of improving the level of education of more students going through our K-12 system?

While there are numerous ways to measure the value to society of improving education outcomes, this paper researches what value would be added to the state's economy. Understanding not only why education matters to each of us individually but understanding why education matters to our state's economic health provides context to those who are weighing multiple policy priorities with limited budgets. This paper presents a series of results and a description of our methodology across different economic impact scenarios. For example:

If next year's 12th grade class achieved a level of education proportional to workforce needs, an additional 6,200 students would obtain some form of post-secondary education against the current baseline. If the 5-year graduation rate were increased by an additional 9 percentage points to match Iowa's as the highest in the country, next year's class would see an additional 4,267 students ultimately obtain some form of post-secondary education against the baseline, assuming today's rates of post-secondary educational attainment.

However, the results show that just graduating more students from K-12 each year is insufficient progress. The current and future workforce demands higher levels of education than our current K-12 graduates are achieving on average. And too many students graduate from high school unprepared to do college-level work. Currently, more than a third of Colorado high school graduates need to take remedial courses, before they're deemed qualified for college-level coursework (Colorado Department of Higher Education, 2016).

Knowing that 74% of projected 2020 Colorado jobs will require some form of post-secondary education, these challenges will only grow more daunting over time. As automation and artificial intelligence drive major changes in our economy and society, an increasing proportion of high school graduates will need to continue their education beyond high school.

While Colorado is fortunate to be able to attract a world-class talent pool from the across the country and world, improving the likeliness of Colorado's students to compete and thrive in today's labor market is important to the future economic health of the state.

The economic impacts of our two scenarios show that just 10 graduating classes with increased levels of educational attainment would add between \$850 million and \$1.4 billion in Gross State Product every year. Over the span of 10 years, the increase in GDP would be over \$12 billion.

Economic Impact Scenarios

Whether by measuring the post-secondary educational attainment outcomes of today's 12th grade classrooms against what is demanded by today's workforce, or by measuring the difference between the current K-12 graduation rates and the best in the country, it is clear a sizeable gap exists. The goal of this research is not just to identify that a gap exists but to provide some insights into what the impacts would be if that gap were eliminated. To do this, we developed two separate economic impact scenarios that measure the change in the actual number of students, the increase in direct earnings and the macroeconomic impacts to the state.

Scenario 1 - What if each graduating class of high school seniors went on to obtain the forms of higher education that are currently demanded by the Colorado job market?

Scenario 2 - What if Colorado could achieve the highest graduation rate in the country, and the additional graduates continued to obtain forms of higher education at current rates?

The results for each scenario are presented across three areas of impacts.

1. Direct change in education attainment by the number and percent of students from each class
2. Direct change in earnings by each class
3. Statewide economic impacts for single class and consecutive graduating classes over time

For the second scenario, along with determining the impact if the overall graduation rate improved, we also created two additional simulations to be able to isolate the impacts if two groups within the overall student population were able to achieve the best graduation rate in the country. Those groups include;

1. Economically disadvantaged students - These are students who qualify for free and reduced lunches.
2. Racial equity gap - This includes students of racial groups who on average achieve lower graduation rates than the overall class average. (further detail in Methodology)

The following sets of tables and figures provide estimates of the impact to the Colorado economy of improving the education attainment of each 12th grade graduating class over the next 20 years. There are various ways to capture the economic impacts of improving K-12 schools, including measuring the correlation of student achievement through the National Assessment of Educational Progress (NAEP) and a state's economic growth (Hanushek, Ruhose, & Woessman, 2016), but the scenarios in this report focus on understanding the macroeconomic impacts related to increased productivity and higher average wages across each level of education.

Timing and Scope of the Impacts

A forecast of the next 20 years of 12th grade classes was used to establish the number of students associated with the potential increase in education attainment and increase in economic value. However, the timing of the potential economic impacts would not occur immediately following the graduation of each additional class. While we describe the class size and additional graduates by a specific year, we present the direct earnings and macroeconomic impacts over a 20-year window not specifically tied to a given set of years. Upon graduating high school, students still need to spend several more years obtaining higher forms of education, and then be in the workforce for several more years before beginning to earn the average increase in earnings associated with the different form of education. The increase in direct earnings and macroeconomic impacts represent the full potential impacts in a single year once, likely beginning within 10-20 years following the completion of high school.

Understanding that the full potential impacts may not occur for some time following the completion of K-12 and even post-secondary attainment, also accounts for the fact that there will be an increase in monthly expenses to pay for the additional education in the form of student loans. While the burden of student loans can be significant, the difference in average monthly earnings is greater than the average monthly cost of student loans and on average cumulative net earnings of higher forms of education surpass the earnings with just a high school diploma between the ages of 30 and 36 (Ma, Pender, & Welch, 2016).

While this study aims to quantify the macroeconomic impacts of the earnings and productivity from a more educated workforce, there are many other forms of economic impacts that could be attributed to improving K-12 schools. While we only capture the average earnings increase, it is likely that some new graduates would start businesses and invent new products which could have significantly greater impacts than the averages suggest. There are other studies that suggest that improved schools immediately increase the value of surrounding properties as people are willing to pay more to live within better performing school district (Black, 1998).

According to the report, *Value of a High School Diploma*, released June 2017 by the Alliance for Choice in Education (Alliance for Choice in Education, 2017), the benefits of completing high school and then graduating from different forms of post-secondary education go well beyond the direct increase in earnings. The report's findings conclude that students without high school diplomas are less able to live independently, have less stable family lives, and are less engaged civically. Over the lifetime of a high school dropout the cost to the individual is over \$1.1 million and the cost to society is \$292,000 due to lower tax revenues, and higher costs related to social programs and incarceration. In 2016 there were 12,456 non-high school completers estimated to cost over \$18.3 B more over their lifetimes.

Discussion on Categories of Education Attainment

This report uses a consistent categorization of education attainment, given the lowest common denominator across the various forms of data we needed to collect. There are more detailed categories of education than are displayed in this report however for our purposes we needed to use a consistent framework across all our data points. The level of detail in state earnings data by education attainment varies from the overall educational attainment of Colorado natives. Here are the categories of educational attainment that are used throughout the study.

- Less than high school
- High school only
- Some college/no degree
- Certificate
- Associate's degree
- Bachelor's degree
- Master's degree of higher

While most categories are self-explanatory the categories of some college/no degree and certificates warrant slightly more discussion. Some college/no degree is generally a catch-all for individuals with a high school degree but no formal degree from a 2-year associate's program or 4-year bachelor's program or some more advanced degree. It includes individuals who start some form of higher education but never finish as well as other forms of educational attainment such as apprenticeships and long-term on-the-job-training. Technically, the category of certificates is also reported as being included in the category of Some college/no degree in some data sets. Using data from the Talent Pipeline report (Colorado Workforce Development Council, 2017), the estimate of the percentage of current and needed levels of certificates was isolated in the estimates for overall educational attainment. Similarly, the current share of each class who obtain an associate's degree was also separated from the some college/no degree category using data from the Carnevale/Georgetown study. The estimated change in both the number of student who obtain a certificate or an associates degree was aggregated back into the category of some college/no degree when multiplying by average annual earnings.

The report by the Georgetown Center on Education and Workforce that concluded 74% of all jobs in Colorado would require some form of post-secondary education by 2020, used the sum of some college/ no degree including certificates, associate’s degree, bachelor’s degree and master’s degree or higher. According to Table 1, which is developed using Census data on Colorado specific levels of education attainment by the Colorado native adult population over the age of 25, 64% have some form of post-secondary education. While these estimates are developed in a similar manner to the figures published by the Colorado Department of Higher Education, as part of their 2017 Master Plan (Colorado Department of Higher Education, August 2017) there are some key differences to point out.

The Colorado Master Plan uses the overall state average including non-native born adults including those born in other parts of the United States and other countries. US residents born in other states, along with US residents born in other countries both have higher levels of post-secondary education than native born Coloradans. Non-US natives born outside the US overall have a lower level of post-secondary education overall however still have higher levels of master’s degrees or higher. Also, the Master Plan excludes the category of some college/no degree from its estimate of the current level of post-secondary attainment. Therefore, the Master Plan cites the figure that 55% of the adult population in Colorado have a degree or certificate. Using the same methodology for just the Colorado native born education attainment of the adult population, only 46% of have a degree beyond high school or a certificate.

Scenario 1 Results

The premise of scenario 1 is that the final educational attainment of each 12th grade class is proportional to demands of the Colorado workforce. Based upon the final educational attainment of Colorado residents born in Colorado, currently only an estimated 64% of each class go on to obtain some form of post-secondary education.

Table 1: Educational attainment for each 12th grade class

Education level	Current	Projected Workforce Need
<i>Less than high school</i>	8%	7%
<i>High school only</i>	28%	20%
<i>Some college/No degree</i>	18%	16%
<i>Certificate</i>	7%	7%
<i>Associate’s Degree</i>	9%	9%
<i>Bachelor’s Degree</i>	21%	29%
<i>Master’s Degree or higher</i>	9%	12%

The sum of the education level categories, some college/no degree through the bottom to Master’s or higher, represent the total share of higher education beyond a high school degree. While the 5-year graduation rate is 84%, education attainment data for native Coloradans suggest only 8% of the population have less than a high school degree. For Scenario 1 we chose to use the education attainment rates rather than the graduation rates to be more conservative in our assumptions for the increase in earnings and associated economic impacts. There is no change in the categories of Certificate, and Associate’s degree given the Census data does not report native educational attainment as such a detailed level. We assumed the current statewide average for both the baseline current class outcomes to be able to separate the category of some college/no degree and to be able to compare to the demands of the workforce.

Table 1 compares the current post-secondary attainment levels compared to what those levels need to be to meet the demands of Colorado employers. Based upon the percentages in Table 1, below is the estimated difference in educational attainment by the number of students for the 2018-2019 12th grade class.

Figure 1: Estimated change in number of students by educational attainment for class of 2019

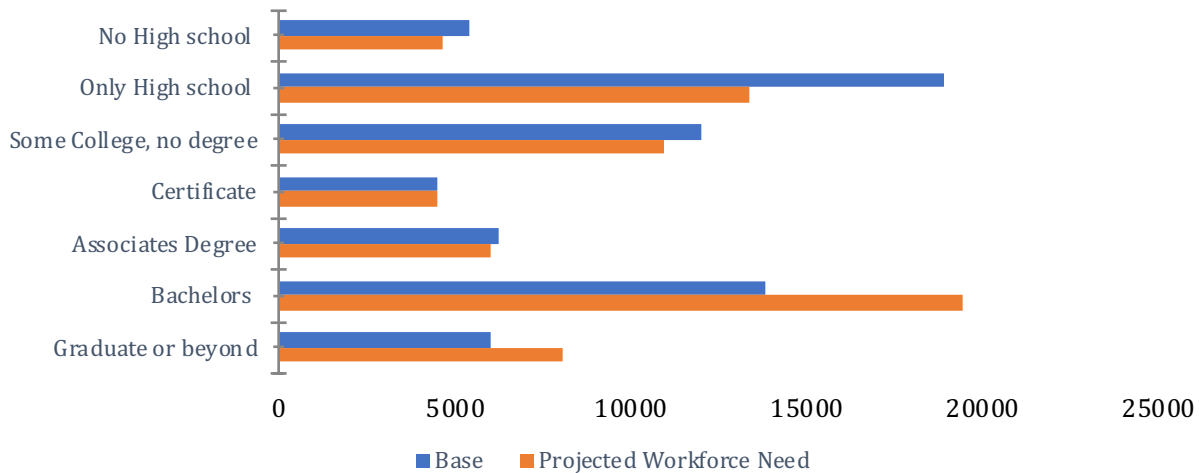
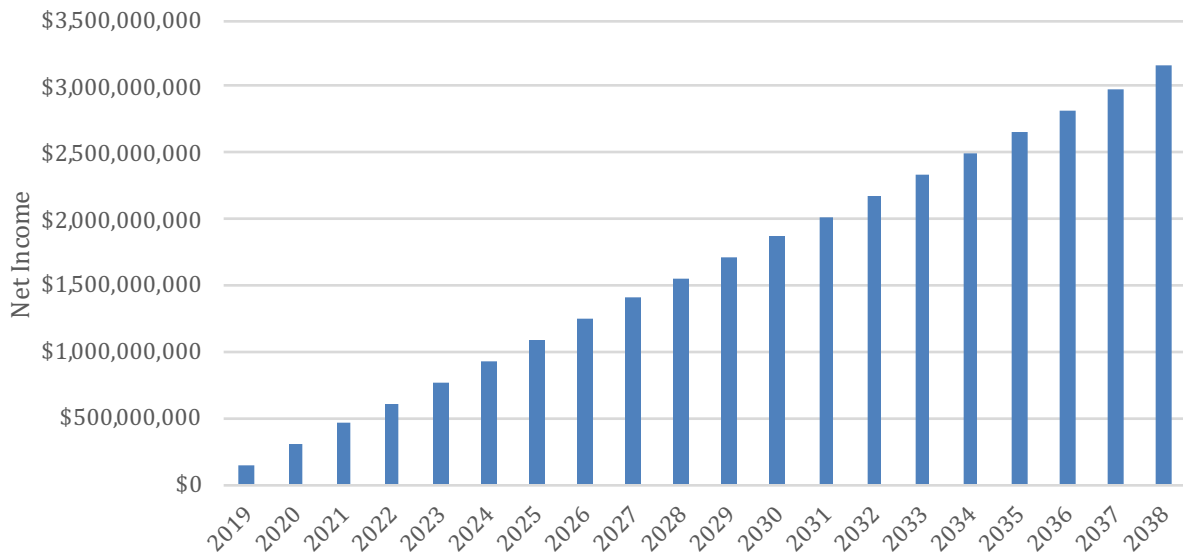


Figure 1 shows the difference in education levels for the current base projection of next year's class of Colorado high school seniors compared to the outcome if the post-secondary education level of next year's graduating class equaled the estimated demands for post-secondary education by the 2020 job market. By increasing the level of post-secondary educational attainment for the class of 2019, an additional nearly 6,200 students would obtain some form of post-secondary education compared to the current baseline.

The shift in the educational attainment of each class then leads to changes in average earnings by level of education. Using the average wage by level of educational attainment from Figure 8 in the appendix and multiplying each average by the total number of students by education level for each class in both the baseline and in the alternative, we estimate the difference in total earnings.

Overall, because the level of education increases, the net impact on total earnings by graduating class increases. Figure 2 shows the cumulative increase in earnings as each graduating class adds to the net positive impact in earnings. For the simulations, only 90% of 12th grade graduates from Colorado would remain in the Colorado workforce in any given year. The other 10% were assumed to move out of state and therefore we excluded from the simulation. While the percentage of individuals born in Colorado that still live in Colorado is below 90%, much of the out-migration occurs in early years, prior to graduating high school. And while a greater share of Coloradans chooses universities outside of Colorado a large portion of those student eventually return to Colorado to live and work after completing their education. Other studies have estimated the impacts based on 100% of graduates but we chose to be more conservative.

Figure 2: Cumulative annual increase in earnings under Scenario 1 (2016\$)



The change in educational attainment for each graduating class causes some categories of education attainment to see less total earnings while others see more. The net impact is positive with over \$150M generated per year by the first graduating class, and over \$1.55B in earnings generated each year with just 10 additional graduating classes.

The additional earnings each year further increases local consumption demand, as that money is spent within the local economy. Using the dynamic economic simulation model called PI+, developed by REMI, we can capture the full regional economic impact as the additional consumption increases local sales in business across retail, healthcare, recreation, professional services and other sectors, and creates jobs and increases the overall size of the economy. Within PI+, entered the difference in direct earnings as an increase in the wage bill policy variable. The model then takes a portion out of the income for taxes and then increases the amount of local consumer spending according to historically estimated averages. As the dollars are spent on various consumer goods and services, a significant portion of the dollars “leak” out of the state as goods and services are imported and not directly produced in-state. Therefore, results concepts such as Gross State Product are slightly lower than even the direct earnings, as the increase in consumer spending goes to increasing value added in a different part of the country or the world.

Table 2: Scenario 1 Summary Annual Impacts - Increase in CO K-12 graduates with post-secondary education, increase in direct earnings and summary economic impacts

Scenario 1 Summary Annual Impacts	Year 1	Year 10	Year 20
Additional Students with Some Post-Secondary Education that Stay in CO	5,573	57,683	116,746
Increase in Direct Earnings (\$2016 Millions)	\$150,280,600	\$1,555,587,900	\$3,148,394,800
Total Jobs Impact (Units)	1,480	14,560	20,860
Total GDP Impact (\$2018 Millions)	\$195	\$2,206	\$4,014
Consumer Spending (\$2018 Millions)	\$206	\$2,277	\$4,391
Total Dynamic Fiscal Impact to State (excluding cost savings) (\$Millions)	\$8.617	\$128.084	\$302.372
Savings on Public Assistance, Supplemental Security Income and SNAP (\$Millions)	\$3.85	\$39.87	\$80.69
Savings on Lower Incarcerations (\$Millions)	\$0.48	\$26.98	\$103.66

The summary annual impacts show the benefits in a single year of having more educated and more productive Colorado 12th grade graduates. The impacts in Year 1 represent the economic impacts generated because of just a single additional 12th grade class with higher levels of post-secondary education attainment. Year 10 and Year 20 show the impact in a single year with just 10 or 20 additional graduating classes living and working in Colorado. While a single graduating class would contribute an additional \$195 million to state GDP, after 10 years with 10 additional graduating classes, they would contribute an additional \$2.2 billion to the state's GDP.

Table 3: Cumulative Macroeconomic Impacts Scenario 1

Scenario 1 Summary Annual Impacts	10 Year Sum	20 Year Sum
Increase in Direct Earnings (\$2016 Millions)	\$8,516,867,000	\$32,719,225,600
Total GDP Impact (\$2018 Millions)	\$12,465	\$44,397
Consumer Spending (\$2018 Millions)	\$12,500	\$46,945
Total Dynamic Fiscal Impact to State (excluding cost savings) (\$ Millions)	\$660.167	\$2,840.053
Savings on Public assistance, Supplemental Security Income and SNAP (\$ Millions)	\$218.28	\$838.57
Savings on Lower Incarcerations (\$Millions)	\$107.43	\$757.27

The 10-year sum and 20-year sum, represent the cumulative impact over a span of multiple years. Therefore, the 10-year sum equals Year 1, plus Year 2, plus Year 3 and so on through Year 10. The results related to an annual stock of people or jobs do not have a cumulative sum given the same people and job exist from year-to-year whereas a value such as GDP starts at \$0 and accrues throughout the year.

Table 4: Scenario 1 - Impact on consumer spending of single improved graduating class (\$2018M)

Consumer Spending Category (\$2018 M)	Year 1	10 Year Sum
Motor vehicles and parts	\$8.62	\$472.24
Furnishings and durable household equipment	\$9.08	\$583.05
Recreational goods and vehicles and other durable goods	\$15.24	\$993.27
Food and beverages purchased for off-premises consumption	\$9.40	\$612.27
Clothing and footwear	\$6.00	\$375.21
Motor vehicle fuels, lubricants, and fluids	\$2.31	\$149.18
Fuel oil and other fuels	\$0.06	\$3.01
Other nondurable goods	\$18.95	\$1,155.37
Housing	\$22.15	\$1,413.12
Household utilities	\$2.74	\$168.36
Transportation services	\$10.51	\$543.96
Health care	\$28.41	\$1,843.53
Recreation and other services	\$72.77	\$4,187.39

The increase in earnings generated by each graduating class will largely go to increasing consumer demand on different products and services. Table 4 shows the amount that several categories of consumer spending would increase. While spending on housing will increase by over \$22 million a portion of that will go the purchasing on new homes. As such the total value of the purchase will be much higher than just the increase in annual spending on a mortgage.

Scenario 2 Results

The results of Scenario 2 estimate the economic value created by increasing the annual graduation rate in Colorado to the best in the country. Importantly, this scenario assumes additional graduates with each class then go on to earn higher forms of post-secondary education proportional to the current levels of post-secondary education in Colorado. The purpose of this scenario is not to suggest that just improving 12th grade graduation rates will lead to an increase in economic growth, but rather use the graduation rate as a means of testing the value of getting more students to graduate 12th grade and pursue post-secondary education at the current rates of attainment.

As noted in the introduction, given the high level of education demanded by the Colorado job market, this scenario still does not see enough Colorado educated 12th grade graduates go on to earn the types and number of post-secondary education needed. Further, this scenario demonstrates that improving the high school graduation rate to the highest in the country is not enough.

For Scenario 2 we also isolated to two groups within each graduating class. Along with the entire class, we measured the impacts from just improving the graduation rate of the students designated as economically disadvantaged and students that are within the racial equity gap. Economically disadvantaged students are those that qualify for free and reduced lunch and represent 45% of the entire graduation base. Student within the racial equity gap are those that identify in a racial category that has a graduation rate below the entire class average and represent 37% of the entire grad base. Each race that is part of this category is shown in the methodology section.

Figure 3: Annual increase in additional Colorado 12th grade graduates over time

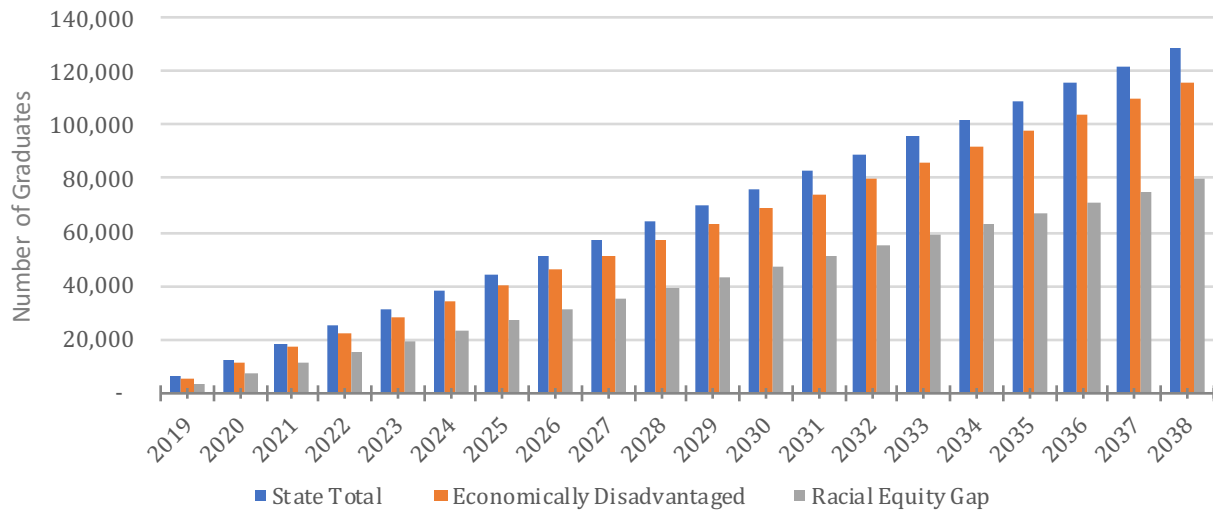


Figure 3 shows the annual growth in additional 12th grade graduates by category after multiple years of the number one graduation rate in the country. While there would just be an additional 6,155 with next year's class, after 10 years of improved graduation rates there would be 63,715 additional 12th grade graduates and 128,955 after 20 years.

With the addition of more high school graduates, some will go on to complete additional forms of post-secondary education. Of those that graduate high school, table 4 shows the current average distribution of final education attainment.

Table 5: Share of final levels of educational attainment for those that graduate high school

% of HS graduates who receive no further education	30.7%
% of HS graduates who achieve some college but don't obtain a degree	19.6%
% of HS graduates who receive a certificate	7.3%
% of HS graduates who receive an associate's degree	10.2%
% of HS graduates who receive a bachelor's degree	22.5%
% of HS graduates who receive a graduate or professional degree	9.8%

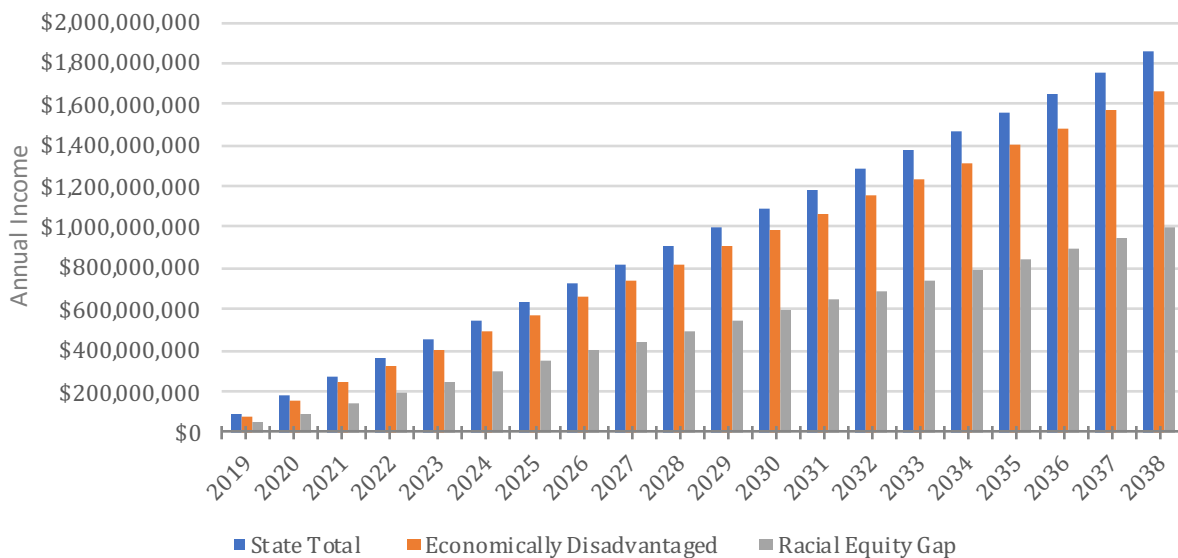
The additional graduates from figure 3, are then assumed to obtain forms of higher education. The difference in annual earnings relative to less than a high school degree are shown in Table 6, and resulting net increase in total earnings for each additional graduating class is shown in Figure 4.

Table 6: Difference in earnings by level of education attainment relative to no high school

Education Level	\$ difference	% of Less than high school only
Less than high school graduate	\$0	100%
High school graduate (includes equivalency)	\$6,948	130%
Some college/No degree or Associate's degree	\$11,294	148%
Bachelor's degree	\$25,365	207%
Graduate or professional degree	\$39,984	268%

Source: Median Earnings in the Past 12 months (2016 inflation adjusted dollars) for population over age of 25 by education attainment in Colorado, U.S. Census

Figure 4: Cumulative additional annual earnings with each new class



The total additional earnings were then entered the model through the same policy variables described in scenario 1. The following tables show the economic impact results for all three simulations.

Table 7: Scenario 2 Entire Class Summary Annual Impacts - Increase in CO K-12 graduates with post-secondary education, increase in direct earnings and summary economic impacts

Scenario 2 Summary Annual Impacts	Year 1	Year 10	Year 20
Additional Students with Some Post-Secondary Education that Stay in CO	5,540	57,344	116,060
Increase in Direct Earnings (\$2016 Millions)	\$88,339,000	\$914,416,300	\$1,850,710,900
Total Jobs Impact (Units)	870	8,560	12,260
Total GDP Impact (\$2018 Millions)	\$115	\$1,296	\$2,358
Consumer Spending (\$2018 Millions)	\$121	\$1,338	\$2,579
Total Dynamic Fiscal Impact to State (excluding cost savings) (\$Millions)	\$5.065	\$75.287	\$177.727
Savings on Public Assistance, Supplemental Security Income and SNAP (\$Millions)	\$3.65	\$37.82	\$76.55
Savings on Lower Incarcerations (\$Millions)	\$4.62	\$47.78	\$96.70

The summary annual impacts show the benefits in a single year of having more educated and more productive Colorado 12th grade graduates. The impacts in Year 1 represent the economic impacts generated because of just a single additional 12th grade class with higher levels of post-secondary education attainment. Year 10 and Year 20 show the impact in a single year with just 10 or 20 additional graduating classes living and working in Colorado. While a single graduating class would contribute an additional \$115 million to state GDP, after 10 years with 10 additional graduating classes, they would contribute an additional \$1.30 billion to the state's GDP.

Table 8: Scenario 2 Summary Cumulative Impacts - Entire Class

Scenario 2 Summary Annual Impacts	10 Year Sum	20 Year Sum
Increase in Direct Earnings (\$2016 Millions)	\$5,006,442,800	\$19,233,238,200
Total GDP Impact (\$2018 Millions)	\$7,325	\$26,085
Consumer Spending (\$2018 Millions)	\$7,346	\$27,582
Total Dynamic Fiscal Impact to State (excluding cost savings) (\$ Millions)	\$388.047	\$1,669.309
Savings on Public assistance, Supplemental Security Income and SNAP (\$ Millions)	\$207.07	\$795.52
Savings on Lower Incarcerations (\$Millions)	\$261.59	\$1,004.97

The 10-year sum and 20-year sum, represent the cumulative impact over a span of multiple years. Therefore, the 10-year sum equals Year 1, plus Year 2, plus Year 3 and so on through Year 10. The results related to an annual stock of people or jobs do not have a cumulative sum given the same people and job exist from year-to-year whereas a value such as GDP starts at \$0 and accrues throughout the year.

Table 9: Distribution of Consumer Spending Scenario 2 - Entire grad class(\$2018M)

Consumer Spending Category (\$2018 M)	Year 1	10 Year Sum
Motor vehicles and parts	\$5.07	\$277.47
Furnishings and durable household equipment	\$5.34	\$342.55
Recreational goods and vehicles and other durable goods	\$8.95	\$583.56
Food and beverages purchased for off-premises consumption	\$5.52	\$359.90
Clothing and footwear	\$3.53	\$220.48
Motor vehicle fuels, lubricants, and fluids	\$1.36	\$87.69
Fuel oil and other fuels	\$0.03	\$1.77
Other nondurable goods	\$11.14	\$679.08
Housing	\$13.02	\$830.72
Household utilities	\$1.61	\$98.97
Transportation services	\$6.18	\$319.59
Health care	\$16.70	\$1,083.39
Recreation and other services	\$42.77	\$2,460.51

The increase in earnings generated by each graduating class will largely go to increasing consumer demand on different products and services. Table 8 shows the amount that several categories of consumer spending would increase. While spending on motor vehicles and parts will increase by over \$5 million a portion of that will go the purchasing on new and used vehicles. As such the total value of the purchase will be much higher than just the increase in annual spending car payments.

Table 10: Scenario 2 Economically Disadvantaged Students Summary Annual Impacts - Increase in CO K-12 graduates with post-secondary education, increase in direct earnings and summary economic impacts

Scenario 2 Summary Annual Impacts - Economically Disadvantaged	Year 1	Year 10	Year 20
Additional Students with Some Post-Secondary Education that Stay in CO	4,974	51,485	104,201
Increase in Direct Earnings (\$2016 Millions)	\$79,312,800	\$821,064,800	\$1,661,774,400
Total Jobs Impact (Units)	780	7,690	11,010
Total GDP Impact (\$2018 Millions)	\$103	\$1,164	\$2,117
Consumer Spending (\$2018 Millions)	\$109	\$1,201	\$2,316
Total Dynamic Fiscal Impact to State (excluding cost savings) (\$Millions)	\$4.547	\$67.600	\$159.581
Savings on Public Assistance, Supplemental Security Income and SNAP (\$Millions)	\$3.28	\$33.96	\$68.73
Savings on Lower Incarcerations (\$Millions)	\$4.14	\$42.90	\$86.82

The summary annual impacts show the benefits in a single year of having more educated and more productive Colorado 12th grade graduates. The impacts in Year 1 represent the economic impacts generated because of just a single additional 12th grade class with higher levels of post-secondary education attainment. Year 10 and Year 20 show the impact in a single year with just 10 or 20 additional graduating classes living and working in Colorado. While a single graduating class would contribute an additional \$103 million to state GDP, after 10 years with 10 additional graduating classes, they would contribute an additional \$1.164 billion to the state's GDP.

Table 11: Scenario 2 Economically Disadvantaged Students Cumulative Macroeconomic Impacts

Scenario 2 Summary Cumulative Impacts - Economically Disadvantaged	10 Year Sum	20 Year Sum
Increase in Direct Earnings (\$2016 Millions)	\$5,006,442,800	\$19,233,238,200
Total GDP Impact (\$2018 Millions)	\$7,325	\$26,085
Consumer Spending (\$2018 Millions)	\$7,346	\$27,582
Total Dynamic Fiscal Impact to State (excluding cost savings) (\$ Millions)	\$388.047	\$1,669.309
Savings on Public assistance, Supplemental Security Income and SNAP (\$ Millions)	\$207.07	\$795.52
Savings on Lower Incarcerations (\$Millions)	\$261.59	\$1,004.97

The 10-year sum and 20-year sum, represent the cumulative impact over a span of multiple years. Therefore, the 10-year sum equals Year 1, plus Year 2, plus Year 3 and so on through Year 10. The results related to an annual stock of people or jobs do not have a cumulative sum given the same people and job exist from year-to-year whereas a value such as GDP starts at \$0 and accrues throughout the year.

Table 12: Distribution of Consumer Spending Scenario 2 - Economically disadvantaged

Consumer Spending Category (\$2018 M)	Year 1	10 Year Sum
Motor vehicles and parts	\$4.55	\$249.12
Furnishings and durable household equipment	\$4.79	\$307.56
Recreational goods and vehicles and other durable goods	\$8.04	\$523.94
Food and beverages purchased for off-premises consumption	\$4.96	\$323.15
Clothing and footwear	\$3.17	\$197.96
Motor vehicle fuels, lubricants, and fluids	\$1.22	\$78.73
Fuel oil and other fuels	\$0.03	\$1.59
Other nondurable goods	\$10.00	\$609.74
Housing	\$11.69	\$745.91
Household utilities	\$1.45	\$88.87
Transportation services	\$5.55	\$286.94
Health care	\$14.99	\$972.75
Recreation and other services	\$38.40	\$2,209.19

The increase in earnings generated by each graduating class will largely go to increasing consumer demand on different products and services.

Table 13: Scenario 2 Racial Equity Gap Students Summary Annual Impacts - Increase in CO K-12 graduates with post-secondary education, increase in direct earnings and summary economic impacts

Scenario 2 Summary Annual Impacts - Racial Equity Gap	Year 1	Year 10	Year 20
Additional Students with Some Post-Secondary Education that Stay in CO	3,422	35,420	71,688
Increase in Direct Earnings (\$2016 Millions)	\$47,822,400	\$495,020,500	\$1,001,884,800
Total Jobs Impact (Units)	470	4,630	6,640
Total GDP Impact (\$2018 Millions)	\$62	\$701	\$1,276
Consumer Spending (\$2018 Millions)	\$66	\$724	\$1,396
Total Dynamic Fiscal Impact to State (excluding cost savings) (\$Millions)	\$2.742	\$40.753	\$96.207
Savings on Public Assistance, Supplemental Security Income and SNAP (\$Millions)	\$2.26	\$23.36	\$47.28
Savings on Lower Incarcerations (\$Millions)	\$2.85	\$29.51	\$59.73

Table 14: Scenario 2 Racial Equity Gap Students Cumulative Macroeconomic Impacts

Scenario 2 Summary Cumulative Impacts - Racial Equity Gap	10 Year Sum	20 Year Sum
Increase in Direct Earnings (\$2016 Millions)	\$2,710,244,600	\$10,411,939,400
Total GDP Impact (\$2018 Millions)	\$3,965	\$14,117
Consumer Spending (\$2018 Millions)	\$3,976	\$14,927
Total Dynamic Fiscal Impact to State (excluding cost savings) (\$ Millions)	\$210.057	\$903.620
Savings on Public assistance, Supplemental Security Income and SNAP (\$ Millions)	\$127.91	\$491.38
Savings on Lower Incarcerations (\$Millions)	\$161.58	\$620.75

Table 15: Distribution of Consumer Spending Scenario 2 - Racial Equity Gap

Consumer Spending Category (\$2018 M)	Year 1	10 Year Sum
Motor vehicles and parts	\$2.74	\$150.16
Furnishings and durable household equipment	\$2.89	\$185.37
Recreational goods and vehicles and other durable goods	\$4.85	\$315.80
Food and beverages purchased for off-premises consumption	\$2.99	\$194.82
Clothing and footwear	\$1.91	\$119.32
Motor vehicle fuels, lubricants, and fluids	\$0.73	\$47.47
Fuel oil and other fuels	\$0.02	\$0.96
Other nondurable goods	\$6.03	\$367.58
Housing	\$7.05	\$449.70
Household utilities	\$0.87	\$53.58
Transportation services	\$3.34	\$172.95
Health care	\$9.04	\$586.38
Recreation and other services	\$23.15	\$1,331.64

The increase in earnings generated by each graduating class will largely go to increasing consumer demand on different products and services.

Methodology

To determine the economic impact to the state of Colorado from improving the educational attainment of its K-12 graduates, detailed simulations were developed to reflect the change in annual earning and productivity for each graduating class against the status-quo. The simulations were run through the dynamic forecasting and simulation model, Tax-PI. Tax-PI is a dynamic economic model custom built by the company REMI, to reflect the Colorado economy and be able to answer what-if questions regarding the impacts of alternative policy or economic scenarios.

Scenario 1 - What if each graduating class of high school seniors went on to obtain the forms of higher education that are currently demanded by the Colorado job market?

Scenario 2 - What if Colorado could achieve the highest graduation rate in the country, and have the additional graduates obtain forms of higher education at current rates?

Within the context of Scenario 2, this study modeled three separate simulations to isolate two specific subgroups of K-12 students to better understand their impacts in relation the to the state averages. Along with general insight, this may prove most helpful in determining specific policy choices to obtain these improved outcomes.

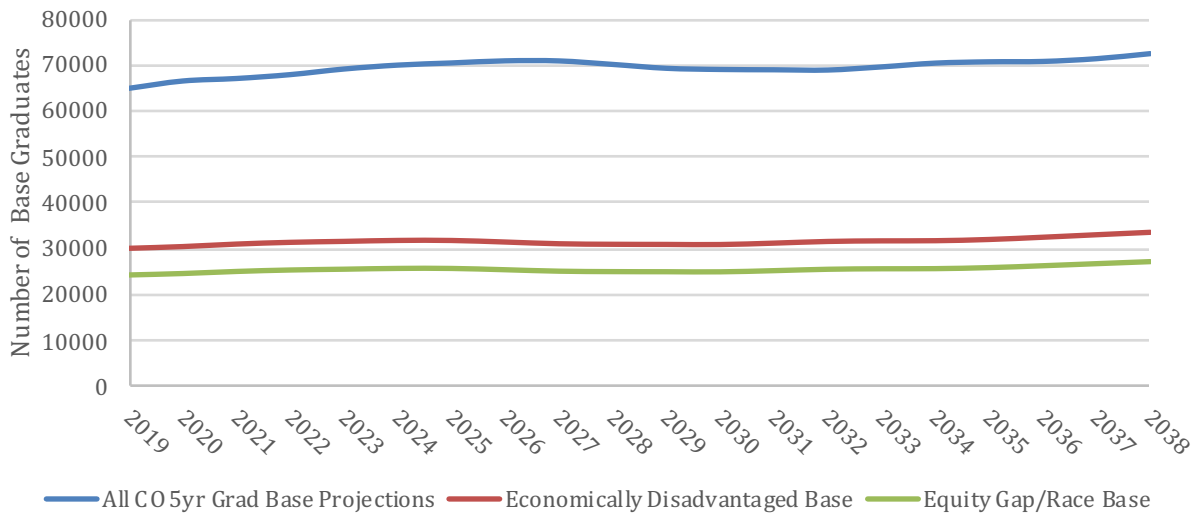
Within Scenario 2, the three simulations estimate the impacts of improving the K-12 graduation rate across three groups of students;

1. Total number of students from each K-12 graduation class
2. Economically disadvantaged students only
3. Students from racial equity gap only- Students from racial categories with graduation rates below state average
 - a. American Indian and Alaska Native
 - b. Black or African American
 - c. Hispanic or Latino
 - d. Native Hawaiian or other Pacific Islander
 - e. Two or more races

Developing the baseline

The initial step was to estimate what the current educational attainment and income would be for each graduating class over the next 20 years as a baseline. The projected size of each 12th grade class from 2019 to 2038 is developed using a five-year average from 2012 to 2016 of the size of the 12th grade class from historical data released by the Colorado Department of Education relative to the size of the population cohort of 17 to 18-year-olds from the historical data from the Colorado Office of Demography. This approach showed that the 12th grade class size was equal to 44.12% of the 17 to 18-year-old cohort. This ratio was then applied to the annual projections of that cohort from the Colorado Office of Demography. The Western Interstate Commission for Higher Education(WICHE) has released separate estimates for the projections of Colorado's 12th grade class size however they only provide estimates through 2031 and we desired a 20-year window through 2038. Our estimates are comparable as our 2031 estimate is a class size of 69,366 students and WICHE's estimate is 70,002.

Figure 5: Baseline projection of annual class size

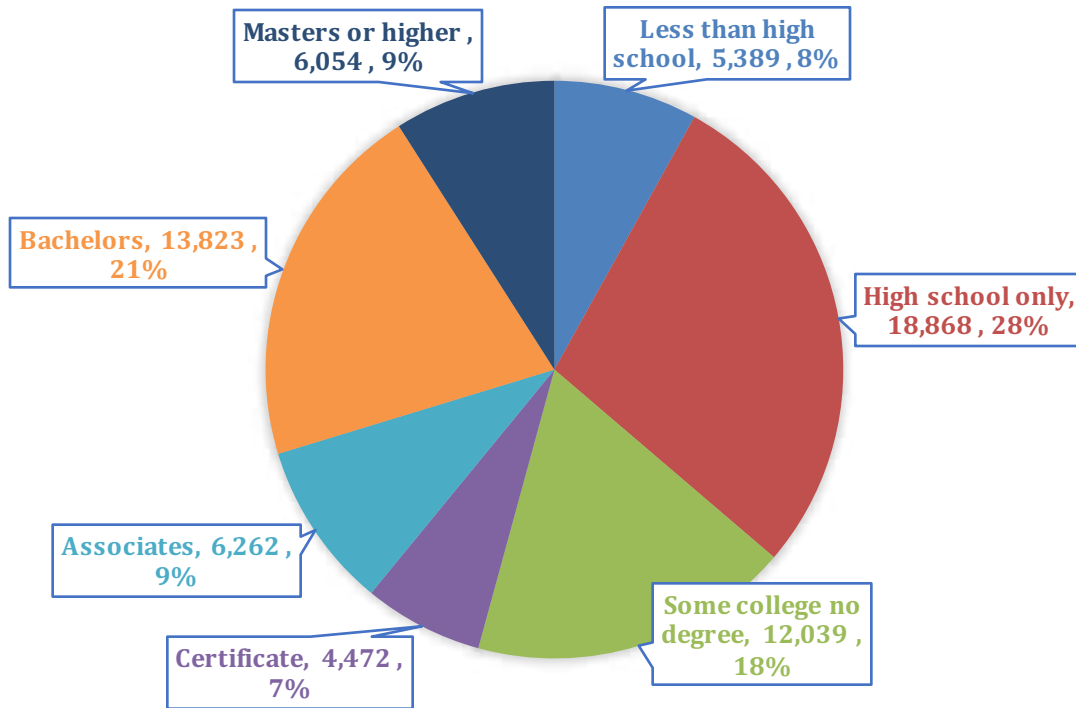


After developing the baseline for the number of students, we then estimated the level of final education based upon the current estimates of educational attainment of Colorado natives from the Census. While this is not an exact estimate for each graduating class, currently Colorado does not have any means to track the actual performance of 12th grade graduates as they move on to obtain further levels of education and choose to remain in Colorado or not. Therefore, we also assumed only 90% of each graduating class ultimately was present in the Colorado workforce each year.

While the current 4-year graduation rate in Colorado is 79% and the 5-year graduation rate is 84.1%, the estimates from the census suggest that only 8% of all native adults have less than a high school education. This would mean that roughly 8% of each 12th grade class obtains some form of high school equivalency credential or some other form of education such as a certificate or formal apprenticeship.

Here is the current assumed distribution for the education attainment for each 12th grade class;

Figure 6: Current education attainment distribution assumed for each high-school class



The categories of certificates and associates degrees were separated from the category of some college/no degree described in the section 'Discussion on Categories of Education Attainment'.

Upon determining the number of students by level of educational attainment, we then estimated the total annual earnings for each class based upon the average annual earnings by level of education.

Figure 7: Annual average earnings by level of education

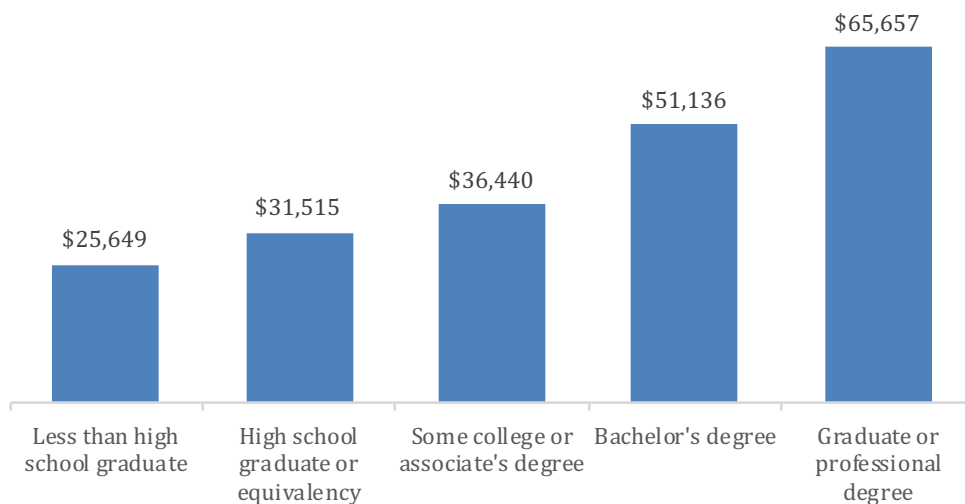


Table 16: Baseline Summary Annual Impacts

Baseline	Year 1	Year 10	Year 20
Base Income (\$)	\$2,321,730,163	\$24,032,745,705	\$48,640,498,770
Total Jobs Impact (Units)	\$24,873	\$218,060	\$312,084
Total GDP Impact (\$2018 Million)	\$2,131	\$21,575	\$36,013
Consumer Spending (\$2018 Million)	\$2,717	\$28,840	\$55,201

Table 17: Baseline Summary Cumulative Impacts

Baseline	10 Year Sum	20 Year Sum
Base Income (\$)	\$131,579,640,978	\$505,489,159,500
Total Jobs Impact (Units)	\$1,346,212	\$4,073,449
Total GDP Impact (\$2018 Million)	\$127,211	\$422,209
Consumer Spending (\$2018 Million)	\$159,859	\$593,633

Developing the alternative scenario projections

Scenario 1 - What if each graduating class of high school seniors went on to obtain the forms of higher education that are currently demanded by the Colorado job market?

Starting with the same grad base as described for the baseline scenario, Scenario 1 increases the educational attainment for each class to match the needs of the current labor market.

Table 18: Education attainment of current class compared to needs of workforce

Education Level	Baseline	Scenario 1	% Change
No High school	4,850	4,215	-13.1%
Only High school	16,981	12,043	-29.1%
Some College/No degree	10,835	9,824	-9.3%
Certificate	4,025	4,025	0.0%
Associates Degree	5,635	5,419	-3.8%
Bachelors	12,441	17,462	40.4%
Graduate or beyond	5,448	7,226	32.6%

The total number of students by level of education attainment, was then multiplied by the average wage for each level of education. The difference between the baseline, and Scenario 1 represents the overall increase in earnings because of higher overall levels of education.

Table 19: Annual Earnings by level of education attainment

Education Level	2016 estimate - Median earnings in past 12 months
Less than high school graduate	\$25,649
High school graduate (includes equivalency)	\$31,515
Some college/No degree or associate's degree	\$36,440
Bachelor's degree	\$51,136
Graduate or professional degree	\$65,657

Table 20: Change in direct earnings by level of education

Education Level	Baseline	Workforce Need	% Change
No High school	\$ 115,891,564	\$ 100,720,391	-13.1%
Only High school	\$ 523,745,924	\$ 371,450,917	-29.1%
Some College/No degree	\$ 381,263,414	\$ 345,710,144	-9.3%
Certificate	\$ 141,638,162	\$ 141,638,162	0.0%
Associates Degree	\$ 198,301,711	\$ 190,701,511	-3.8%
Bachelors	\$ 612,843,788	\$ 860,205,856	40.4%
Graduate or beyond	\$ 348,045,601	\$ 461,583,780	32.6%

The increase in earnings is assumed to be driven by an increase in labor productivity as opposed to simply an increase in costs to employers. While there is a strong economic linkage between increases in education and increases in labor productivity, the exact value associated with each incremental improvement in education is not conclusive in the literature. As such, upon review of similar economic impact studies related to education attainment, and other material, we chose a conservative assumption of an increase in labor productivity equal to 1.5 times the increase in earnings. In the model baseline, the current ration of labor productivity to earning is just over 2.5. Put another way, the average annual labor productivity is two-and-a-half times higher than the average annual earnings. We chose not to assume the full difference of 2.5 given that additional education would only add some marginal increase in labor productivity rather than the full baseline average. The total dollar value representing the increase in labor productivity was then divided by the total value of labor productivity in the REMI baseline to obtain the value as a percentage change as is needed for the model input.

Table 21: Increase in labor productivity as a percent relative to the baseline

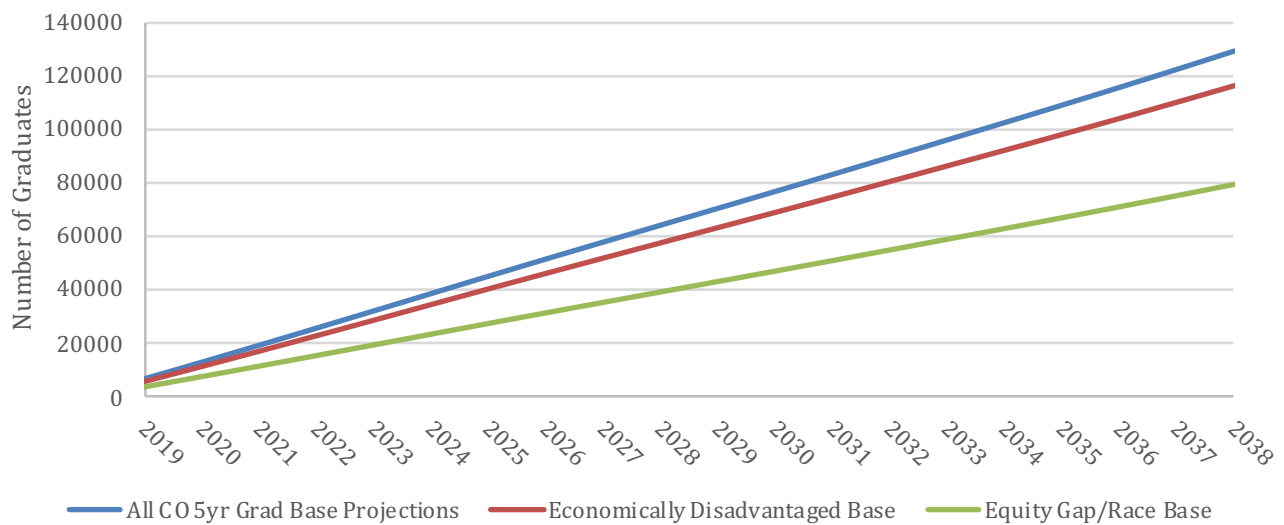
		Year 1	Year 5	Year 10	Year 15	Year 20
Scenario #1	All CO Graduates	0.038%	0.181%	0.330%	0.442%	0.528%

The net increase in earnings, along with the increase in labor productivity were both then entered the Tax-PI model as policy variables. For the earnings, the wage bill policy variable was selected while the labor productivity policy variable as a percent was selected to input the labor productivity increase.

Scenario 2 - What if Colorado could achieve the highest graduation rate in the country, and have the additional graduates obtain forms of higher education at current rates?

Scenario 2 uses the same starting class size as developed for the baseline scenario. The estimates for the grad base of students for the economically disadvantaged segment and the racial equity gap were developed using a 5-year average of each group relative to the entire class size from 2012 to 2016. The 5-year average for the economically disadvantaged group relative to the entire class is 45.14% and 36.56% for the racial equity gap. These percentages were then multiplied by the annual grad base size from the baseline projection.

Figure 8: Baseline projection of cumulative number of Graduates over time



Each grad base was then multiplied by the current 5-year graduation rate for each group. A 5-year graduation rate represents the relative number of students who graduate high school within 5-years of transitional from 8th grade. The current 4-year graduation rate, or the relative number of students who complete high school in 4 years of transitioning from 8th grade is 79%, over 4% lower than the 5-year rate. We chose to use the 5-year rate as we wanted to be conservative in our estimates of the economic impacts, as the 4-year rate would have assumed that over 2,600 students never completed high school who simply took another year to graduate. An argument could be made to use the 4-year rate as other similar studies have done, given the difference represents a population that is less likely to move onto higher forms of education but is talented enough to complete high school.

Overall graduation rate = 84.1%

Economically disadvantaged graduation rate = 75%

Racial equity gap graduation rate = 77.8%

Iowa currently has the highest 5-year graduation rate in the country at 93.3%. While Iowa also reports a graduation rate for each group of students in Scenario 2, we chose to use the 93.3% to represent the aspirational target for each group. We saw no reason to assume a lower graduation rate for each group students. It should be noted that the graduation rate for each group in Iowa is above the rate in Colorado, which suggests that the difference in the overall rate is not simply an artifact of less diversity.

The estimate for the additional number of students that would graduate each year and be able to go on to earn higher forms of education was derived by taking the difference in applying the current graduation rate and the highest graduation rate in the country to the baseline grad base.

Table 22: Cumulative annual increase in graduates assuming best graduation rate in the country.

	2019	2023	2028	2033	2038
State Total	6,155	31,602	63,715	95,680	128,955
Economically Disadvantaged	5,526	28,373	57,205	85,903	115,779
Racial Equity Gap	3,802	19,520	39,356	59,100	79,653

The additional number of graduates each year was then multiplied by the shares of educational attainment based upon the current distribution of Colorado natives.

Table 23: Percent distribution of educational attainment for students who graduate high school

	Current
Less than high school	8%
High school only	28%
Some college/No degree	18%
Certificates	7%
Associates	9%
Bachelors	21%
Masters or higher	9%

The sum of the education level categories, some college/no degree through the bottom to Master's or higher, represent the total share of higher education beyond a high school degree. While the 5-year graduation rate is 84%, education attainment data for native Coloradans suggest only 8% of the population have less than a high school degree. For Scenario 1 we chose to use the education attainment rates rather than the graduation rates to be more conservative in our assumptions for the increase in earnings and associated economic impacts. There is no change in the categories of Certificate, and Associate's degree given the Census data does not report native educational attainment as such a detailed level. We assumed the current statewide average for both the baseline current class outcomes to be able to separate the category of some college/no degree and to be able to compare to the demands of the workforce.

The total number of students by final level of education attainment, was then multiplied by the difference in annual average earnings relative to not completing high school.

Table 24: Additional average annual earnings relative to less than high school

Education Level	\$ difference	% of High School
Less than high school graduate	\$0	100%
High school graduate (includes equivalency)	\$6,948	130%
Some college or associate's degree	\$11,294	148%
Bachelor's degree	\$25,365	207%
Graduate or professional degree	\$39,984	268%

Table 25: Increase in labor productivity as a percent relative to Tax-PI baseline

Scenario #2	Year 1	Year 5	Year 10	Year 15	Year 20
All CO Graduates	0.022%	0.106%	0.194%	0.260%	0.310%
Economically Disadvantaged	0.020%	0.095%	0.174%	0.233%	0.278%
Racial Equity Gap	0.012%	0.057%	0.105%	0.140%	0.168%

The total percentage increase in macro impacts for scenario 1 and scenario 2 entire class illustrates in the following tables.

Table 26: Economic impacts of scenarios relative to baseline

Scenario 1	Year 1	Year 10	Year 20
Direct Earnings (\$2016 Million)	6.47%	6.47%	6.47%
Job Impacts (Units)	5.95%	6.68%	6.68%
Total GDP Impact (\$2018 Million)	9.15%	10.23%	11.15%
Consumer Spending (\$2018 Million)	7.58%	7.90%	7.95%
Scenario 2 Entire Class	Year 1	Year 10	Year 20
Direct Earnings (\$2016 Million)	3.80%	3.80%	3.80%
Job Impacts (Units)	3.50%	3.93%	3.93%
Total GDP Impact (\$2018 Million)	5.40%	6.01%	6.55%
Consumer Spending (\$2018 Million)	4.45%	4.64%	4.67%

Conclusion

With each graduating class, more and more Colorado students fall behind what is demanded by the Colorado labor market. The rapid growth in skills that require more and more formal education and training present a challenge for Colorado educated students to be able to compete given the gap in post-secondary attainment and high school graduation rates. The challenge to close the gap is not insignificant, but the benefits of doing so are clear. The economic value in the form of higher earnings from a more highly educated Colorado native population benefits not only the students themselves, but all Coloradan's as growth in consumer demand and labor productivity give employers the confidence they need to invest and grow their business in Colorado.

References

- Alliance for Choice in Education. (2017). *Value of A High School Diploma*.
- Black, S. A. (1998). *Measuring the Value of Better Schools*. Federal Reserve Bank of New York, Economic Policy Review. Retrieved from <https://www.newyorkfed.org/medialibrary/media/research/epr/98v04n1/9803blac.pdf>
- Carnevale, A. P., Smith, N., & Strohl, J. (2013). *Recovery, Job Growth and Education Requirements Through 2020 State Report*.
- Colorado Department of Higher Education. (2016). *2015 Legislative Report on Remedial Education*. Retrieved from https://highered.colorado.gov/Publications/Reports/Remedial/FY2015/2015_Remedial_relMay2016.pdf
- Colorado Department of Higher Education. (August 2017). *Colorado Rises Advancing Education and Talend Development*. Colorado Commission on Higher Education Master Plan. Retrieved from <https://highered.colorado.gov/publications/CDHE-Master-Plan-2017.pdf>
- Colorado Department of Local Affairs. (n.d.). *State Demography Office Data*. Retrieved from <https://demography.dola.colorado.gov/data/>
- Colorado Workforce Development Council. (2017). *Talent Pipeline Report*. Retrieved from https://www.colorado.gov/pacific/sites/default/files/2017_Talent_Pipeline_Report_WEB.pdf
- Employment, C. D. (2018, April). *Occupational Projections (short-term) for multiple occupations in Colorado in 2017-2019*. Retrieved from <https://www.colmigateway.com/vosnet/lmi/default.aspx?pu=1&plang=E>
- Hanushek, E. A., Ruhose, J., & Woessman, L. (2016). *It Pays to Improve School Quality*. Education Next.
- Ma, J., Pender, M., & Welch, M. (2016). *Education Pays 2016 The Benefits of Higher Education for Individuals and Society*. The College Board.
- National Center for Education Statistics. (2017). *Table. 1 Public high school 4-year adjusted cohort graduation rate (ACGR), by race/ethnicity and selected demographic characteristics for the United States, the 50 state and the District of Columbia: School year 2015-2016*.



PUBLIC OPINION STRATEGIES



Drake
research & strategy, inc.

TO: INTERESTED PARTIES

FROM: LORI WEIGEL / PUBLIC OPINION STRATEGIES
BOB DRAKE / DRAKE RESEARCH & STRATEGY INC.

DATE: APRIL 10, 2018

RE: COLORADO VOTERS' VIEWS OF IMPROVING K-12 EDUCATION IN COLORADO

The bipartisan research team of Public Opinion Strategies (R) and Drake Research & Strategy (D) recently completed a statewide survey of Colorado voters. The survey was sponsored and funded by Colorado Succeeds, Common Sense Policy Roundtable, and several other partnering organizations. Responses to the survey show that education is a top-tier issue of concern for voters, who express strong support for a number of policy proposals to improve education. Voters statewide increasingly embrace vocational and technical training, and reforms that relate to preparing students better for the workplace are on par with school safety and teacher quality as an area they would like to see addressed.

Key Highlights:

- Education is second only to economic issues such as jobs and the cost of living in the state.
- Voters grade the quality of schools in the state as fairly mediocre. A plurality of voters offer up a grade of “C,” with only two-in-five grading schools as an “A” or a “B.” As is often the case, voters do view K-12 schools in their community more positively than those statewide.
- Three of the four policy initiatives tested in the survey receive strong majority support from the electorate: giving schools greater flexibility and discretion; increasing early childhood education opportunities; and allowing teachers in hard-to-fill positions to be paid more.
- Reforms that relate to students being able to fare well in the workplace are nearly on par with long-time areas of focus such as attracting and retaining quality teachers and school safety.
- Three-quarters (78 percent) agree that “for most young people who want more education after high school, vocational or technical training makes more sense than a four-year college or university.” This is twelve points higher than last tested in 2005.



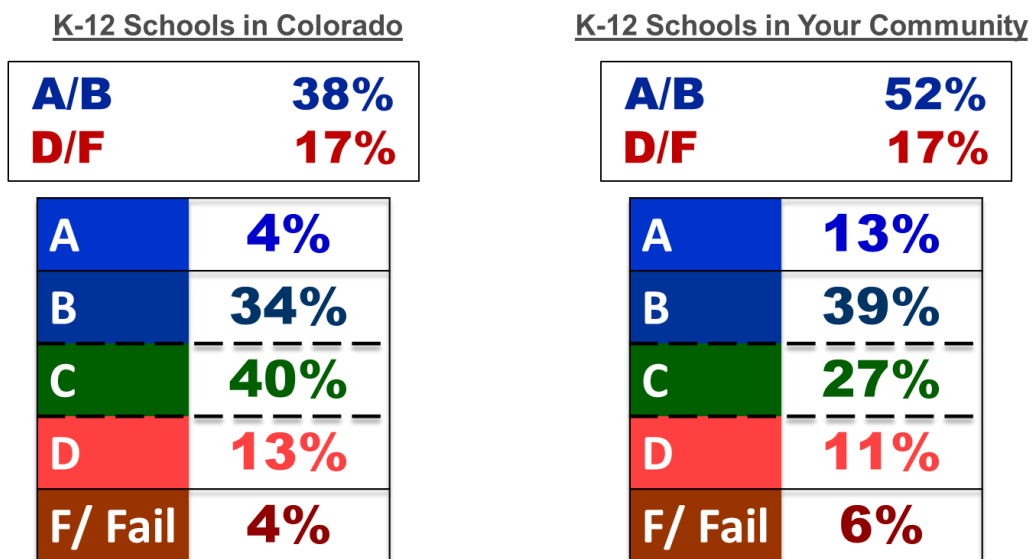
Detailed Findings:

1. Education is a top-tier issue for Colorado voters, eclipsing other “hot topics.”

- Nearly one-in-five Colorado voters (19 percent) volunteer education as the most important issue or challenge facing Colorado, greater than the number who point to traffic and growth (15 percent), crime and drugs (15 percent) or drought and environmental issues (11 percent).
- Education is only eclipsed by economic concerns, which range from jobs to affordable housing issues (26 percent).

2. More Colorado voters grade K-12 public schools in Colorado as a “C,” but offer better grades (“B” average) for schools in their local community.

- As the following graph depicts, voters judge their local schools more positively than they do if asked about schools statewide.



- Notably, voters’ marks for Colorado schools dipped during the economic downturn, but have rebounded since then.

	2005	2011	2012	2018
A/B	42%	30%	34%	38%
D/F	11%	21%	18%	17%

- Parents, especially college-educated parents, are the most apt to judge their local schools as deserving an “A” or “B” grade (58 percent and 66 percent, respectively). Voters in suburban areas and small towns are also far more positive (60 percent and 57 percent) than those who say they live in a city (43 percent) or rural area (41 percent).



3. A number of potential reforms intended to improve K-12 public education in Colorado were tested, and most are widely embraced by 2018 voters.

- Respondents were asked whether they would support or oppose a randomized list of four different proposals “which might be considered by the next Governor of Colorado.” A majority express overwhelming support for three of the four policy reforms detailed below. Support for the fourth reform falls well below the others.

<i>Ranked by % Strongly Support</i>	Strongly Support	Total Support
Give local schools greater flexibility over teacher and staff hiring and firing, types of courses offered, course materials and approaches to learning	44%	86%
Increase affordable opportunities for parents to send their children to quality early childhood education programs if they choose	44%	85%
Allow teachers in hard to fill positions like science and math or in rural areas to be paid more	43%	84%
Make it easier to create more charter schools	24%	51%

* “Total Support” in the above column includes those saying both “Strongly” and “Somewhat” support

- The three proposals with the strongest support levels garner support throughout the state and will all key demographic and partisan sub-groups. Support for creating more charter schools does tend to elicit a more ideological response, with fully 69 percent of Republicans supporting creation of more charter schools, but fewer than half of independent voters and just 36 percent of Democrats offering up support.

4. Reforms that relate to students being able to fare well in the workplace are nearly on par with long-time areas of focus such as attracting and retaining quality teachers and school safety.

- Respondents rated 19 potential areas which some people think should be the focus of improving public schools in Colorado. For each one in the randomized series, respondents indicated how much focus should be placed on that particular item – a great deal, a fair amount, not very much or none at all. While main-stays like teachers and school safety are rated as being areas for the greatest focus, a host of areas related to gaining skills and expertise that is valued in the workplace rate nearly as high among Colorado voters, as seen in the following graph:



<i>Ranked by % A Great Deal</i>	A Great Deal	Total Great Deal/ Fair Amount
Attracting and retaining quality teachers	77%	98%
Maintaining a safe environment where students can learn without worrying about being harmed	73%	95%
Developing skills useful in the workplace, such as communication, critical thinking, collaboration and creativity	67%	93%
Providing career and technical training in areas like health care, coding and web development, automotive, carpentry, and culinary arts to help prepare students for the workforce	66%	95%
Providing students with access to work-based learning experiences, such as internships, apprenticeships and job shadowing	59%	92%
Ensuring lower income students are able to achieve at the same or close to the same levels as higher income students do	58%	86%
Providing more students the opportunity to further their education beyond high school, such as technical training, community college or other higher education	57%	91%
Developing computer and digital literacy skills	54%	89%
Having one of the highest high school graduation rates in the country	51%	88%

- This emphasis on having tangible skills for after school appears to be on the rise. This survey repeated a few questions asked thirteen years ago regarding education. What is relatively unchanged is the view that “Colorado’s high schools are not providing the education that today’s students need to succeed in college or enter the workforce.” A solid majority of 62 percent agree with this statement, while 25 percent disagree—a feeling shared equally across the political spectrum and with most key demographic sub-groups. This is comparable to responses in 2005 (60 percent agree, 31 percent disagree).
- However, there has been a significant 11 point increase in the proportion of Colorado voters who indicate agreement with the view that “for most young people who want more education after high school, vocational or technical training makes more sense than a four-year college or university.” More than three-quarters (78 percent) now agree with this view, while only 15 percent disagree. In 2005, 67 percent expressed agreement.

Conclusion:

In conclusion, the survey clearly demonstrates that education is on the minds of Colorado voters, and could be an issue at the forefront of voters’ minds as this year’s election season unfolds. While most Coloradans view their local schools positively, they take a dimmer view of K-12 public schools statewide. They embrace a range of reforms, particularly those that enable students to gain skills that will help them in the workplace. There has been a consistent sense that high schools are not meeting this need currently, and greater acceptance of vocational and technical training in the last decade.



Methodology:

This survey was sponsored and funded by Colorado Succeeds, Common Sense Policy Roundtable, and several other partnering organizations. It was conducted by the bipartisan research team of Public Opinion Strategies (R) and Drake Research & Strategy (D) from March 17-21, 2018.

The analysis in this memorandum is based on N=500 telephone interviews among a statewide sample of Colorado voters who have participated in elections similar to the 2018 general election, or have recently registered to vote in the state. The margin of sampling error for weighted estimates based on the full sample is ± 4.38 percentage points at a confidence interval of 95 percent, not including the design effect. Sampling error is larger for demographic, partisan and geographic population subgroups. Calls were completed on both cell-phone and landline telephone.

Comparisons in the memo are made to a similarly conducted statewide survey of 693 voters that was conducted July 21 to July 28, 2005.

