

---

# SWEATING

## THE SMALL STUFF

---



**Rural and Urban Perspectives  
on Post-Secondary Preparation**



**KEYSTONE**  
POLICY CENTER



## INTRODUCTION

**It seems indisputable that preparing students for success beyond high school should be the end goal of Colorado’s public school districts. While few educators would disagree with that statement, there are divergent opinions on how to get there.**

An abundance of research studies released in recent years show that a rapidly growing percentage of well-paying jobs being created or soon to be created will require education or training beyond high school – 70 percent by 2027 is one oft-cited figure.<sup>1</sup> Most of these studies predate the sudden explosion of widely available artificial intelligence tools like ChatGPT, which seem likely to accelerate that trend.<sup>2</sup>

Over time, the definition of what constitutes post-secondary education has shifted. For decades academic tracking in high schools pushed many low-income students and students of color into non-college pathways that ended at high school graduation (if not before) and paved the way for white and more affluent students to go to four-year colleges. As two-year community colleges and associate degrees proliferated, the “college for all movement” gained prominence in the early 2000s. This movement emphasized the importance of a four-year degree but sometimes grudgingly acknowledged the value of two-year degree and industry certifications as well.

More recently, the definition of post-secondary education has broadened further to include trade union apprenticeships, certificate programs, and even military service in some cases. Driving this change has been the growing realization that significant numbers of jobs that pay good wages go unfilled because too few people qualify for them. Continuing some kind of course of study after high school, including narrowly tailored training programs, came to be seen as a viable path to a middle-class lifestyle.

Even so, in many states, only about half of high school students attain any kind of post-secondary credential. Nationally, in 2021 53.7 percent of high school graduates attained “credentials of value,” according to the Lumina Foundation.<sup>3</sup>



**60.5%**

of Colorado residents hold some form of post-secondary credential higher than residents of other states (2021)

**70%**

of well-paying jobs being created or soon to be created will require education or training beyond high school by the year 2027

<sup>1</sup> <https://www.ed.gov/raisethebar/postsecondary-pathways>

<sup>2</sup> <https://www.bis.org/publ/work1135.htm#:~:text=Findings,declines%20for%20the%20bottom%20decile>

<sup>3</sup> <https://www.luminafoundation.org/stronger-nation/report/#/progress>

While more Colorado residents hold some form of post-secondary credential than residents of most other states (60.5 percent in 2021),<sup>4</sup> there remains much room for improvement. The need to close the gap between demand for an adequately educated workforce and the current reality raises important questions this report attempts to address.

### TO DO SO, THIS REPORT:

- **Analyzes the most recent Colorado Department of Education data** available (for the high school graduating class of 2021) to determine what high school offerings appear to correlate with matriculation to two or four-year college programs.
- **Tells the stories of an outlier school** – Denver’s Career Education Center – and school district – Center Consolidated School District 26JT – that are getting significant percentages of their students into post-secondary programs that lead to good jobs.
- **Makes recommendations for policymakers** to consider about how to collect better data, better connect K-12 and higher education systems, and broaden post-secondary pathways for students with differing interests.

While many challenges persist, it is encouraging that some Colorado schools and districts are thinking deeply about the importance of post-secondary attainment, and adjusting or refining their practices accordingly.

Ultimately, districts and schools should be striving to help produce productive, engaged citizens who can live fulfilling lives, pursue happiness, and be able to fend for themselves in an increasingly competitive, fast-changing, and at times chaotic world.

“We should be talking about career and college success, not readiness,” said Roland Shaw, principal of Denver Public Schools’ CEC Early College, a career-focused high school that draws students from across the city.

“We want our kids to be successful after attending CEC, not just to be ready.”

### What data tell us about the importance of post-secondary education

Colorado has long boasted a highly educated workforce, but those bragging rights are weakened by a major, well-known caveat commonly known as the Colorado Paradox. That paradox is that much of our highly-educated talent is imported, not homegrown.

Colorado ranks 39th among the 50 states with only 58 percent of its high school graduates going directly to college. Yet Colorado ranks fourth nationally in the percentage of residents aged 45-63 with a graduate or professional degree (17.4 percent), and ranks third in the percentage of residents 65 and older with such degrees (17.9 percent).<sup>5</sup>

“

**We should be talking about career and college success, not readiness.”**

**Roland Shaw,**  
principal of Denver  
Public Schools’  
CEC Early College

<sup>4</sup> <https://www.luminafoundation.org/stronger-nation/report/#/progress/state/CO>

<sup>5</sup> <http://www.higheredinfo.org/dbrowser/?level=nation&mode=graph&state=&submeasure=254>



Given the proliferation of studies over the past decade about the importance of education beyond high school, it should come as no surprise that people with a post-secondary credential fare better economically than high school dropouts and even high school graduates.

**To drive that point home, here are a few salient data points:**

- While people with bachelor's degrees or beyond earn more than those with less education, there are many jobs that pay well for those with associate's degrees or certificates or apprenticeship completion.

**For example:** In Colorado in 2021, jobs in skilled trades like electrician, plumber and HVAC tech paid an annual average wage of close to \$60,000.<sup>6</sup> None of these jobs require a college degree, though all require post-secondary training, some of it time-intensive. Paid apprenticeships in construction trades, for example, typically take four years to complete, according to the U.S. Department of Labor.<sup>7</sup>

- The median salary for Coloradans with a high school diploma and no additional education or training is \$35,143<sup>8</sup>, while the estimated median salary for holders of associate's degrees after five years is \$47,099.<sup>9</sup>
- In 2022, there were more than a quarter-million unfilled jobs in Colorado with an annual salary of more than \$50,000.<sup>10</sup> Of those jobs, 21 percent required some education beyond high school, but not a bachelor's degree.
- Despite this evident need for post-secondary credentials, just 28.6 percent of low-income Colorado high school graduates in 2018 earned a certificate or degree within four years of graduating. That number was 21.4 percent for Black graduates, 31.3 percent for Hispanic graduates, and 25 percent for American Indian graduates.<sup>11</sup>

<sup>4</sup> <https://www.luminafoundation.org/stronger-nation/report/#/progress/state/CO>

<sup>5</sup> <http://www.higheredinfo.org/dbrowser/?level=nation&mode=graph&state=&submeasure=254>

<sup>6</sup> <https://www.bls.gov/ooh/construction-and-extraction/electricians.htm>

<https://www.bls.gov/ooh/construction-and-extraction/plumbers-pipefitters-and-steamfitters.htm>

<https://www.bls.gov/ooh/installation-maintenance-and-repair/heating-air-conditioning-and-refrigeration-mechanics-and-installers.htm>

<sup>7</sup> [https://www.bls.gov/careeroutlook/2017/article/apprenticeships\\_occupations-and-outlook.htm#:~:text=Formal%20apprenticeship%20programs%20usually%20last,Department%20of%20Labor%20\(DOL\)](https://www.bls.gov/careeroutlook/2017/article/apprenticeships_occupations-and-outlook.htm#:~:text=Formal%20apprenticeship%20programs%20usually%20last,Department%20of%20Labor%20(DOL))

<sup>8</sup> <https://www.uscareerinstitute.edu/blog/how-much-more-high-school-graduates-earn-than-non-graduates-Infographic>

<sup>9</sup> <https://cdhe.colorado.gov/data-and-research/research/education-workforce/postsecondary-degree-earnings-outcomes-tools>

<sup>10</sup> Colorado Department of Labor and Employment. (2022). Colorado Job Opening and Labor Turnover Survey 2022 Annual Averages and Labor Force. <https://www.colmigateway.com/vosnet/lmi/default.aspx?plang=E>

<sup>11</sup> <https://cdhe.colorado.gov/data-and-research/tools/data-tools/pathways-to-prosperity-postsecondary-access-and-success-for>

Here are key findings from a Keystone Policy Center analysis of the most recent Colorado Department of Higher Education data (high school graduating class of 2021). For a more detailed description, see the appendix to this report.<sup>12</sup>

While we know that there are a range of factors that contribute to whether a student enrolls in post-secondary education, this analysis focuses on characteristics directly impacted by high school programming, among them course enrollment and academic performance. This is not meant to ignore other factors but rather to help K-12 educators understand what they can possibly do to improve college matriculation rates.

### Matriculation Over Time:

- Over the past five years, more Colorado high school students have enrolled in programs to earn early college credits, such as dual and concurrent enrollment and Advanced Placement courses. However, statewide college matriculation rates, meaning the rates at which high school graduates enroll in college, have not kept pace.
- 3.5 percent of the class of 2021 graduated high school with a college certificate or degree, a drop from 3.8 percent for 2020.

### Correlation With Matriculation:

- Students' SAT scores had the strongest link to eventual college enrollment rates, followed by completion of the Free Application for Federal Student Aid (FAFSA).
- While in past years, the link between dual enrollment (programs in which students attend college, either online or on-campus, earning credit for both college and high school graduation requirements) and college matriculation was not strong, there was significantly higher correlation for the class of 2021 than prior years. There is only one year of post-COVID data available so it is not yet clear if this is a trend or a result of COVID that will adjust in future years.
  - The correlation in 2021, while still not strong, varies depending on the type of dual enrollment program. The terminology can be confusing, but concurrent enrollment (where students take college-level classes at their high school) has weaker correlation than dual enrollment (where students take college classes on a college campus), though that was reversed in earlier years.
- The number of students completing Career and Technical Education certification programs rose much faster than college matriculation rates, suggesting the CTE programs aren't leading more students to head to college.
- There is a stronger association between college matriculation and completing a high school Career and Technical Education (CTE) program than simply enrolling in one. This suggests that program quality is important.
- Both across the state and even within larger districts, the amount of emphasis placed on post-secondary preparation (including but not limited to course offerings, course completion, and FAFSA completion) varies widely. Given this variation, it is hard to draw strong conclusions on the relationship between any single factor and college matriculation.

<sup>12</sup> It's important to note that these figures include only students who enrolled in two- or four-year college programs, and do not include other post-secondary pathways to viable careers, including apprenticeships and certificate programs.

These analyses suggest that there are high school factors that can affect a student's likelihood of attending college, but no single solution that, if implemented, would lead to a large increase in post-secondary matriculation. It is more likely that it is a combination of factors that can help students understand their options and have the experiences likely to make them want to matriculate.

This comprehensive view is supported by anecdotal evidence collected at our outlier school and district, which suggests that placing emphasis on what CEC's Roland Shaw calls "post-secondary success" through a comprehensive and consistent set of strategies and programs does lead to more students enrolling in post-secondary opportunities.

Let's take a closer look at Denver's Career Education Center and the Center School District to see what's working, why, and what approaches these two very different places have in common.

### Denver Public Schools' CEC Early College

“

**At first I was kind of iffy about it, because it wasn't like a normal high school — no sports, nothing like that...but I was more interested in how many college credits I could get by graduation anyway, so it turned out to be a good fit.”**

When Ximena Garcia was an eighth-grader at Denver's Kepner Middle School, she faced a tough decision about where to attend high school. Many of her friends planned to attend one of southwest Denver's two comprehensive public high schools — Abraham Lincoln or John F. Kennedy.

But Ximena wasn't sure either school would suit her. As a DACA student, she didn't know if college was in her future — neither she nor her family could afford full tuition anywhere — so she thought it was important to begin exploring possible careers as early as possible. It also made sense to amass college credits while in high school, so that if she decided college was the path for her, she would have completed some classes at no cost to herself or her family.

She and two friends applied to CEC Early College, a nearly 50-year-old school which admitted students through a lottery, even though it was farther from home than either Lincoln or Kennedy. Neither of her friends got in, but Ximena won the lottery.

“At first I was kind of iffy about it, because it wasn't like a normal high school — no sports, nothing like that,” she said. “But I was more interested in how many college credits I could get by graduation anyway, so it turned out to be a good fit.”

Like all CEC students, Ximena spent a half-day every school day her last two years of high school taking her classes at the Community College of Denver. Some of the classes were regular high school classes, taught by CEC teachers. Others were college classes taught by CCD professors.

The experience of being on a college campus and taking college classes gave her confidence that she could succeed as a college student.

Ximena graduated from CEC in 2018 with enough college credits that she would have been able to get a college degree in three years, if she hadn't changed her major part way through. But the additional costs that change incurred didn't matter in the end, because thanks to connections Ximena forged through CEC, she got a college scholarship from Dream.us,<sup>13</sup> specifically for DACA students. She augmented that with scholarships through the Denver Scholarship Foundation and grants.

She graduated debt-free from Metropolitan State University of Denver in 2022 with a bachelor's degree in communication studies and a minor in human resources management. Today, she works as a human resources coordinator for the Colorado Department of Transportation.

Many of her friends who went to Kennedy or Lincoln and enrolled in college didn't make it through, either because it was too expensive or they didn't feel prepared. “One friend told me he got to college and didn't know how to take notes, how to study, all of those basic things we learned at CEC,” Ximena said.

<sup>13</sup> <https://www.thedream.us/>



### *Better than most, but not good enough*

Ximena’s experience at CEC represents one of several pathways students there can pursue. Her post-high school success is what the school’s leaders want for all of CEC’s 470 full-time students. An additional 270 students attend CEC part-time for career-focused classes or programs.

CEC was identified as an outlier in terms of college matriculation in Keystone’s data analysis, especially given its demographics. Additionally, it significantly exceeded state in several factors that correlated most strongly with post-secondary matriculation. For example: CEC’s class of 2021 FAFSA completion rate of 66.7 percent far outpaced the state average of 46.5 percent. At CEC, 53.8 of students took dual enrollment classes and went on to a post-secondary program, compared to the statewide average of 43.2 percent.

Principal Roland Shaw’s insistence that CEC staff and students focus on post-secondary success rather than the lower bar of readiness stems from a hard truth the data presents. Despite CEC’s long experience developing career-focused programs – it currently offers 19<sup>14</sup> – and abundant opportunities to gain college credits while in high school, just 54 percent of its graduates go on to any kind of post-secondary program.

Almost all CEC students come from low-income families, and the student body is 97 percent Latino. District-wide, just 18 percent of Latino students continue their education past high school, so CEC stands out in relative terms.

According to CDHE data analyzed for this report, 53.2 percent of CEC’s class of 2021 enrolled in college in the fall of 2021, and 71.2 percent of them chose four-year programs. The school had a four-year graduation rate of 95.4 percent.

But Shaw is far from satisfied. “It was a gut-punch for me when I looked at that data and asked myself, how are we as a high school, not preparing half of our students for something better next?” Shaw said.

He would like to see 80 percent of his graduates continuing into what he calls a “meaningful post-secondary opportunity.” A small number of graduates who don’t continue their education can land a stable job that pays well – those who get welding certificates or OSHA construction certification from CEC were examples he cited.

For most, however, a high school diploma means a “dead-end cycle” of service or retail jobs that offer little opportunity for advancement or a livable wage.

<sup>14</sup> According to the [CEC website](#), career programs offered in 2022-23 are: architecture, audio engineering, automotive technology, biomedical science, business, construction & trades, criminal justice/forensics, culinary arts, cybersecurity, digital film, emergency medical technician, exercise & health, intro to medical careers, manufacturing, medical careers/CNA, pre-law, teaching careers, video game design, and welding technology.

Shaw blames schools, not students, for this failure. He said he believes that public high schools everywhere remain fixated on the wrong metric – graduation. He said CEC made that same mistake until recently.

“We’ve typically had very high graduation rates because we are so focused on graduation. But I don’t think that serves high schools very well,” he said. “We haven’t focused on career and college success. We’re focused on graduation. It’s a false metric.”

Changing the collective mindset of any institution can be a slow process, and even a relatively small high school is no exception. But Shaw and his leadership team have been working over the past four years to refocus on getting graduates not only through high school but on through the next step of their educational journey as well.

They have done this by doubling down on some long-held CEC practices, implementing some new ones, and forging new partnerships. During professional development days just before the start of the 2023-24 school year, CEC leadership focused on “really breaking down what it means to pursue career and college success,” Shaw said.

Several CEC teachers who grew up and attended school in Mexico argued for adopting a more expansive, Mexican definition of college than simply a two- or four-year degree. “That language is really important in this building specifically because of the trades and because of these different industry slots,” Shaw said.

“I think it’s also important to recognize that in the trades, students need apprenticeships; they need these opportunities for continuing ed before entering the workforce.”

### *Getting the college experience early*

CEC has long pushed dual and concurrent enrollment. Juniors take all of their core high school classes in dedicated CEC classrooms on the Community College of Denver (CCD) campus, and some juniors and many seniors also take college classes while they’re on the campus. CEC in recent years has run a bus from the high school to CCD, because the cost and scarcity of parking in the area caused some students not to show up there.

For Ximena Garcia, that early exposure to college campus culture provided a helpful peek into her future. “It helped me know what to expect, doing college work in high school, and the professor’s they actually treat you like a college student,” she said. “I moved into college pretty easily because of that experience back in high school.”

Principal Shaw said that when he first took the helm at CEC, he was of the mindset that “all concurrent enrollment is good.” But as he learned more about the range of offerings and the wide variety of college courses offered (as well as the varied qualifications of teachers to be college-level instructors), his outlook shifted.

“Over the years my focus has shifted to concurrent enrollment credit that leads to certifications and degrees is good,” he said. This year, Shaw said, about 20 CEC students will graduate with high school diplomas as well as associate’s degrees.

That’s a marked increase over years past. One reason is that since Shaw arrived, CEC has linked many of its career programs to concurrent enrollment classes. This means, for example, that a student in the audio engineering pathway at CEC is also working toward an audio engineering certificate from Front Range Community College.

“

**I think it’s also important to recognize that in the trades, students need apprenticeships; they need these opportunities for continuing ed before entering the workforce.”**



### *Requiring students to prepare for life after high school*

CEC requires all seniors to fill out the FAFSA, and counselors and teachers help them complete the complex federal financial aid form. It's worth noting here that state data referenced earlier in this report show that FAFSA completion had one of the strongest correlations of any measure to college matriculation.

Students are also required to apply for at least one scholarship, apply to at least one post-secondary program, and attend CEC's College and Career Success Day. CEC has a Denver Scholarship Foundation Future Center, staffed by a full-time counselor, onsite.

Equally important, in recent years CEC has shifted from what Shaw termed an "exploratory program," where students could get a taste of different options, from culinary to automotive repair, to one where students are encouraged to try out a few different offerings in their first couple of years, and then to focus on a career pathway. Our analyses suggest that these type of CTE programs and completion of them is much more strongly correlated with college matriculation than just enrolling in a single CTE course.

"Best practice Career and Technical Education, what we see happening around the country and what we're trying to emulate here over the last four years is the aligning to meaningful career and college certifications to job opportunities," Shaw said.

CEC's concurrent enrollment courses are also rigorous, to the extent that a significant number of students struggle in them, especially at the outset, said Hilary O'Kelly, one of CEC's three full-time counselors. But less rigorous college classes serve no one well, she said, because it gives students a false idea of what college coursework is like. Despite the challenges, a higher percentage of CEC students than full-time college students pass courses at CCD, O'Kelly said.

"Our teachers who teach college classes align and follow Community College of Denver's syllabus, the different assignments students have to do, and they do that with fidelity," O'Kelly said. "I can't speak to how that's done to other schools, but I've heard there are places where classes might have the name of concurrent enrollment, and then teachers close the door and do something else."

Counselors at CEC check in regularly with all concurrent enrollment students to ascertain where they might be struggling and to provide a variety of supports. These include combing through the course syllabus to see what assignments might not be completed, helping with study skills, and coaching students to ask their college instructors for help when they are struggling.

O’Kelly, who was a counselor in Jeffco Public Schools before coming to CEC, said the relatively small student load for counselors also helps them personalize their services. In Jeffco, she was responsible for 350 students. At CEC, she works with about half that number. But more of the CEC students are first-generation college-goers, so the work tends to be more intensive than counseling students from more privileged backgrounds, she said.

Building relationships with students is key, O’Kelly said, to gaining their trust and getting them to really listen when she begins discussing college and career options with them. “Instead of just saying ‘no, I’m not thinking about college,’ as many of them do, with trust I can get them ‘OK, I can see myself in college, or an apprenticeship,’ or wherever might spark their interest,” she said.

CEC counselors use a technology platform called Maya Learning that provides students with an in-depth look at different careers, what it takes to enter them, and what the pay potential is. That kind of tangible, practical information helps focus students on the future in ways more abstract conversations cannot.

## A Notable Success Story

“  
I felt well  
prepared when  
I got here.  
I took  
challenging  
classes at CEC  
and at CCD,  
so I was ready  
for the  
expectations  
of the Stanford  
classroom  
environment.”

Although she is an outlier graduate of CEC, staff at the school like to point to Xitlali Ferrel-Alvarez as an example of the heights it is possible for their students to reach. Xitlali graduated from CEC in the spring of 2023, and is currently a freshman on a full-ride scholarship at Stanford University.

Xitlali comes from a background similar to many of her CEC peers. She grew up in a single-parent home in southwest Denver and attended DPS’s Bryant-Webster dual-language school from kindergarten through eighth grade. Spanish was her first language.

Her older sister also graduated from CEC, and her mother urged her to go there as well because of the preparation it offered for whatever type of post-secondary education Xitlali might choose.

Xitlali started her four years at CEC focused on culinary arts, but developed a passion for criminal justice and spent most of her time there focused on that field. That passion has not cooled; she hopes to become a lawyer.

No one else in her immediate family has attended college, but Xitlali said she started thinking seriously about college as a middle-schooler. She told her mother that her dream was to attend college outside of Colorado.

Not once during her years at CEC did she hear a discouraging word about attending college out of state, Xitlali said. “People had my back through the entire process,” she said. In fact, seeing how bright and motivated she was, her criminal justice teachers took her under their wing, giving her extra assignments and pushing her to get involved in student government.

Xitlali also got connected to Mile High 360, a nonprofit dedicated to empowering first-generation students to attend college. She credits counselors there, along with CEC counselor Michele Stobbe with helping get her into Stanford. The Denver Scholarship Future Center also provided important support, she said.

As she wrapped up her first few months at Stanford, Xitlali said she did not feel intimidated by her classmates or the level of work expected of her. “I felt well prepared when I got here. I took challenging classes at CEC and at CCD, so I was ready for the expectations of the Stanford classroom environment,” she said.

<sup>15</sup> <https://www.milehigh360.org/>

### *Career education and broken barriers*

Shaw said while CEC still has work to do to meet his goals for post-secondary success, he takes pride in what the school has accomplished during his tenure. It would be wise, he said, for DPS to offer more students the kind of opportunities available only at CEC.

Education can be the great equalizer, and schools like CEC need to be available to all students who want to take advantage of their programs, Shaw said.

“What we’re trying to do here is give our kids opportunity, so they have the ability to join the privileged class of American society,” he said. That’s a hard barrier and becomes a harder and harder barrier as time goes on. But if schools aren’t the place to break down those barriers, I don’t know what is.”

### **Center Consolidated School District 26JT**

Center Consolidated School District 26JT sits in the heart of the scenic, high-altitude San Luis Valley, in south-central Colorado. It’s a remote, rural, agricultural area, with large tracts of land dedicated to cultivation of a variety of crops, including potatoes, alfalfa, barley, and carrots.

Center’s schools reflect the agricultural nature of the area, as well as the fact that the San Luis Valley (and all of southern Colorado) was part of Mexico until the mid-19th century. Historically, about one in four of Center’s 607 preK-12th-grade students belong to migrant farmworker families, most of them from Mexico. This poses significant educational challenges, because students leave for extended periods of time as their parents follow work opportunities to Arizona and California during the winter months.

A large percentage of these students may also be undocumented, which creates additional challenges when it comes to financial aid for higher education.

Center students are almost universally low income: 92 percent qualify for subsidized lunches. The student body is 91 percent Latino. Historically, the district has had a high dropout rate. Twenty-five years ago nearly two-thirds of students didn’t finish high school. In 2021-22, the most recent year for which data is available, the district’s dropout rate was 6.8 percent. That’s triple the state average of 2.2 percent for that year. The state has changed its dropout calculation formula over time, and the 2021-22 figure includes students in grades 7-12, so this is not an apples to apples comparison to earlier years.

According to CDHE data analyzed for this report, 66.6 percent of Center High School’s class of 2021 enrolled in college in the fall of 2021, and more than half of them chose four-year programs. The school’s four-year graduation rate was 83.3 percent. Additionally, Keystone’s analysis found that Center was an outlier on many factors that are strongly correlated with college matriculation — suggesting the school’s actions may have had a strong impact on students deciding to attend college.

Students can take concurrent enrollment college classes for credit through Colorado State University, Adams State University (in neighboring Alamosa), and Trinidad State Junior College, which has a satellite campus in Alamosa.

## Jacqueline Aguilar: An Exemplar

**“  
I was such an  
angry child  
in middle  
school...I felt  
like I didn’t  
have people  
believing in  
me. And then  
I got into high  
school and I  
had a support  
system of  
teachers who  
wanted me to  
graduate  
on time.”**

Jacqueline Aguilar is a product of the Center school district; she attended district schools from kindergarten through 12th grade. She grew up attending school and helping her family by working in the fields as well. She graduated in the spring of 2020, and is now a junior at Adams State College in nearby Alamosa, majoring in sociology with an emphasis on social work.

According to Jacqueline, if you had asked her middle-school teachers – or herself – if she was college material after she was forced to repeat seventh grade, they would have replied with an emphatic no.

“I was such an angry child in middle school,” she said. “I felt like I didn’t have people believing in me. And then I got into high school and I had a support system of teachers who wanted me to graduate on time.”

By taking extra classes at Center’s virtual school while attending the in-person high school full-time, Jacqueline was able to catch up and graduate with her original class. She credits a lot of her success to Katrina Ruggles, a veteran Center educator and counselor who leads the district’s post-secondary readiness work.

Jacqueline said Ruggles’ Senior Seminar class (see more information later in this report) and the district’s ICAP (Individual Career and Academic Plan) Days helped her figure out how to get into college and what to study. “Ms. Ruggles was a huge part of what I was able to accomplish, and without the Senior Seminar and ICAP Days, I’m not sure it would have been possible.”

Like many Center students, Jacqueline comes from a family where no one before her has attended college. As a result, she needed people at the high school to help her navigate the complexities of scholarships, applications, grants, and courses of study.

“As a first generation student, it’s hard to explain to my parents or to understand myself what I had to do for college, how much it costs,” Jacqueline said. “In Senior Seminar they presented scholarship opportunities, took us on college visits and stuff like that. It was a really huge eye opener for what I wanted to do.”

### *Varied supports that have withstood the test of time*

Katrina Ruggles has worked for the Center School District since 2000, and over much of that time has played a key role in developing and refining the district’s post-secondary readiness strategy and programming. Today, that includes three main components: ICAP class, Capstone projects, and Senior Seminar. These are aligned with research on the value of teaching the importance of college early.<sup>16</sup>

“We have really focused on post-secondary readiness at the district level, and thanks to the hard work of Katrina and some other staff, we have had experienced, highly competent boots on the ground carrying out that work,” said Center Superintendent Carrie Zimmerman.

<sup>16</sup> [https://repository.lsu.edu/cgi/viewcontent.cgi?article=6489&context=gradschool\\_dissertations](https://repository.lsu.edu/cgi/viewcontent.cgi?article=6489&context=gradschool_dissertations)

## ICAP Class

At the start of the 2023-24 school year, Center began requiring an ICAP class for all middle- and high-school students. Previously, the district had held several “ICAP days” each year, where students focused on exploring different career paths and developing a plan for their future.

As defined by the Colorado Department of Education, ICAP (Individual Career and Academic Plan) is “a multi-year process that intentionally guides students and families in the exploration of career, academic and post-secondary opportunities. With the support of adults, students develop the awareness, knowledge, attitudes, and skills to create their own meaningful and powerful pathways to Post-secondary and Workforce Readiness.”<sup>17</sup>

ICAP days “diverted from our regular schedule, and it was a little bit of a lift for some of our teachers,” Zimmerman said. “We didn’t have equal buy-in across the board, so we thought it would be better to have teachers who are really passionate about this teaching those classes, as part of the regular schedule.”

Middle school students start exploring what Zimmerman called “career clusters” to see what fields interest them, and what high school classes they need to take to further those interests. Once in high school, students start narrowing their interests. In ninth and tenth grade, they focus on the state’s post-secondary and workforce readiness skills.<sup>18</sup> Developed by CDE in 2018, these 22 skills fall under four broad categories: entrepreneurial skills, personal skills, civic/interpersonal skills, and professional skills.

During their junior year, Center students work on capstone projects (see below), and seniors take the Senior Seminar class.

## Capstone Projects

While it’s common in other districts and schools for students to undertake capstone projects their senior year (hence the name), Center has shifted that work to junior year, so that students can use their projects as part of their college application materials, which they work on during Senior Seminar (see below).

While Center has been requiring capstone projects for some time, in recent years it has “really blossomed,” Ruggles said. In the past students worked on capstones during advisory time. Now it is a class all juniors take, taught by language arts teacher Kindra Rounds. In earlier grades, students work on “mini-capstones” to get ready for the main event.

Capstone projects must be connected to a student becoming post-secondary or workforce ready. Students start by researching a topic, then write a proposal. “It can be related to their future career, but it can also be more focused on, for example learning good communication skills, or organizational skills,” Ruggles said.

Each student has a mentor, either school staff or a community member, to help guide them through the capstone process. It culminates in the spring for most students, though some implement their capstones in the late fall.

One example of a capstone Ruggles offered was two students who planned and put on a car show a few years back on the high school football field. The field was filled with cars and people. Music blared over the public address system. “I could not believe how many people there were,” Ruggles said.

The two students (one of whom was her son Cale) then mentored younger students, who kept the car show going. It is now an annual event, with vendors and food (made by students with an interest in culinary careers) added to the mix. Other students interested in marketing help publicize the event.

<sup>17</sup> <https://www.cde.state.co.us/postsecondary/icap>

<sup>18</sup> <https://www.cde.state.co.us/standardsandinstruction/2018coloradoessentialskills>

Over the last couple of years, other students have worked in veterinary clinics, planned and produced podcasts, built and worked in local greenhouses, among many examples. “It’s a robust process and what is important is that students are in charge of a lot of their own learning,” Ruggles said.

## Senior Seminar

Senior Seminar, taught by Ruggles since 2006, is a mandatory, half-credit class for all Center High School 12th-graders. Its purpose is to help young people on the cusp of graduation focus on the future in more than abstract ways.

Each student starts with a deep exploration of who they are and what they would like to do in the world. “Then we ask, what kind of path do we need to create to get you there?” Ruggles said. Building good resumes is one of the first steps in this process.

Early in the school year, seniors start working on the personal essays that will become a key part of college and scholarship applications. With the help of school staff, all students fill out the daunting FAFSA form for financial aid.

College-bound students work on their applications in the fall, and those headed for technical training or military service get help doing whatever paperwork is required. College admissions officers come to the class regularly, and students go on college visits.

Senior Seminar also includes a financial literacy component, so that newly-minted graduates understand at least the basics of building a good credit score, managing money, investing, insurance, and doing tax returns. There are also lessons on job applications, job interviews, and other practical aspects of becoming employed and employable.

All students must also do 40 hours of volunteer work and 16 hours of job shadowing.

Throughout the year, students are building e-portfolios of all the classwork they’ve done in Senior Seminar, and they present those during what Ruggles terms “power exit interviews.”

“They present on what their plan is and why they are post-secondary and workforce ready, and that’s how we end the year,” she said.

Jacqueline Aguilar said without Senior Seminar, she might not have attended college. “Having that class and being able to ask questions and have people who know other resources was what made it possible for me to come to college,” she said.

## RECOMMENDATIONS

The successful post-secondary work being done at CEC Early College and in the Center School District is based on many years of experience. Both institutions have kept a persistent focus on not only getting high school graduates into post-secondary opportunities, but being prepared to succeed there.

A 2023 report by the CDHE, “Pathways to Prosperity,”<sup>19</sup> provides some useful recommendations for strengthening post-secondary strategies in high schools across Colorado:

- CDHE should work with institutions of higher education, K-12 partners, and the workforce to encourage preparation, enrollment and credential attainment of low income, students of color, students with disabilities and students from rural areas. Encourage similar practices which have already proven to work (Colorado School Counselor Corps Grant Program, GEAR UP and COSI are good examples).
- Create new incremental credentials that recognize knowledge and skills developed along the degree pathway.
- CDHE should work with college academic advisors to assist in training and designing student pathways, identify student pain points and solutions, and inform policy related to student success.
- CDHE must continue to work with institutions of higher education, CCHE, K-12 partners, and statewide leadership to intentionally remove structural barriers, providing students with the specific supports they need to succeed.

We endorse these recommendations, but would add additional recommendations that we believe are equally important, and that the Colorado General Assembly should mandate, preferably during the 2024 legislative session.

First, the state needs to develop standards that define what post-secondary readiness entails in Colorado high schools. Currently, there are almost as many definitions as there are schools. Vague platitudes and jargon are no substitute for tangible, actionable standards.

Second, the state must develop measures for effective dual and concurrent enrollment programs. Other than the nationally normed SAT, policymakers and researchers have little useful data with which to work. That must change. After all, as Peter Drucker once said, what gets measured gets managed.

Additionally, the state should build on existing data system linkages between K-12 and higher education to allow for student level analysis of the relationship between high school programs and longer-term outcomes. This data system should also include more detail on the types of dual enrollment programs, allowing researchers to identify characteristics of more effective dual enrollment programs.

Finally, the state should explore the development of a longitudinal data system that can track individuals from K-12 through both higher education and the workforce, allowing us to understand the ultimate impact of K-12 programming on life career outcomes

We’ll leave the last word on post-secondary readiness and success to CEC graduate and Stanford freshman Xitlali Ferrel-Alvarez:

“What has been so important to me is having people believe in me every step of the way. I knew it was going to be an intimidating experience coming here and meeting all of these amazing people. But my teachers and counselors at CEC told me “‘yes, they’re amazing, but you’re amazing too. You are going to do something awesome there.’ And that kind of encouragement has been a huge help as I have adjusted to being here, so far from home.”

<sup>19</sup> [https://cdhe.colorado.gov/sites/highered/files/2023\\_CDHE\\_Postsecondary\\_Report.pdf](https://cdhe.colorado.gov/sites/highered/files/2023_CDHE_Postsecondary_Report.pdf)

# APPENDIX

**Overview:** This report looks at the rate of college matriculation for schools and districts in Colorado and seeks to understand what variables in high schools are most directly correlated with higher rates of college matriculation. High school programmatic variables are only looked at for their correlation with college matriculation, not causation. Additionally, the report attempts to primarily consider factors for which there is high quality data available and that high schools and K-12 school districts have the ability to influence.

**Data Sources:** All data used in this report is publicly available. The majority came from the Colorado Department of Higher Education and is published annually as part of the appendices to the report on [Post-Secondary Access](#). Additional data was used from the Colorado Department of Education, primarily as it relates to [SAT scores](#) and school and district [student demographics](#).

**Methodology:** All analyses described below were conducted for all school districts in Colorado as well as all high schools with reported college matriculation rates. Analysis at both the school and district level were utilized because some initiatives are driven at the school level (i.e., FAFSA completion) while others at the district level (concurrent enrollment offerings.). It is important to note that the majority of districts in Colorado only have 1-2 high schools, so often these results are similar.

The dependent variable for each analysis was college matriculation as provided in the CDHE data set and defined as: *“the number of students who enrolled in a public or private college or university either within or outside of Colorado in the subsequent fall after high school graduation based on data from the National Students Clearing house (NSC) or the State Unit Record Data System (SURDS) divided by the total number of students who graduated from high school based on data provided by CDE.”*<sup>1</sup>

The independent variables considered for their correlation with college matriculation rate are listed below; note that not all findings are reported due to a lack of correlation or concerns with data quality following the analysis.

Independent Variable	Description <sup>2</sup>
<b>Dual Enrollment Percentage</b>	The number of students who enrolled in dual enrollment, Concurrent Enrollment, ASCENT or any other program that allows students to take a college course in high school for credit divided by the total number of students who graduated from high school based on data provided by CDE
<b>Concurrent Enrollment Percentage</b>	The number of high school graduates enrolled in Concurrent Enrollment in high school as defined by the Concurrent Enrollment Act based on data in SURDS divided by the total number of students who graduated from high school based on data provided by CDE
<b>CTE Course Enrollment Percentage</b>	The number of high school graduates who enrolled in at least one career and technical education (CTE) courses in high school based on data from the Colorado Community College System divided by the total number of students who graduated from high school based on data provided by CDE
<b>FAFSA Completion Rate</b>	Percent of students who complete and submit the FAFSA in the fall prior to high school graduation
<b>Four Year Graduation Rate</b>	Number of students in s high school cohort receiving a regular diploma within four years of entering ninth grade in 2018-19 <b>DIVIDED BY</b> Number of students entering from ninth grade <b>plus</b> number of transfers in <b>minus</b> number of verified transfers out <sup>3</sup>
<b>Four Year Graduation Rate</b>	Mean scale score on SAT or 10th Grade PSAT (for Class of 2021students who did not take SAT in 2020 due to COVID)

<sup>1</sup> [https://cdhe.colorado.gov/sites/highered/files/documents/HighSchoolCohortDataFile\\_HS2009-2021\\_RANGE.xlsx](https://cdhe.colorado.gov/sites/highered/files/documents/HighSchoolCohortDataFile_HS2009-2021_RANGE.xlsx)

<sup>2</sup> Most descriptions taken from: [https://cdhe.colorado.gov/sites/highered/files/documents/HighSchoolCohortDataFile\\_HS2009-2021\\_RANGE.xlsx](https://cdhe.colorado.gov/sites/highered/files/documents/HighSchoolCohortDataFile_HS2009-2021_RANGE.xlsx)

<sup>3</sup> <https://www.cde.state.co.us/cdereval/gradcurrentfaq#:~:text=A%3A%20The%20four%2Dyear%20on,years%20after%20entering%20ninth%20grade.>

First descriptive statistics were calculated for both college matriculation rate and all the independent variables being considered to understand the range of performance as well as any shifts over time. Then, simple regressions were calculated to show the relationship (defined by  $r^2$  value) between the independent and dependent variable. For ease of communication, multi variable regressions were not conducted. Additionally, we did not control for demographics in our analyses. However, in identifying outliers to highlight we did consider student demographics given the known correlation between some variables and demographics. Regressions were conducted on the two most recent years of available data (High School Graduating Class of 2020 and 2021), although the report focuses on the most recent year.

**Additional Findings:** While the main body of the report provides a summary of the data analyses conducted, the following section outlines the findings in greater detail. These findings are intended to supplement the case studies provided in the body of the report.

**Shifts Over Time:** Both graduating classes since the COVID-19 pandemic have had lower rates of college matriculation than cohorts who graduated in 2019 and previous. SAT scores also declined since COVID-19 in many places. Many other variables, notably graduation rate, did not see the same decline. This raises questions about the rigor of graduation rate and the value of this credential moving forward. Key statistics over time are presented below for both districts and schools.<sup>4</sup> Additionally, rates of students participating in dual enrollment, CTE and other similar offerings has risen without a corresponding rise in matriculation rates, raising questions about the impact these offerings have on a student's ultimate outcomes.

<sup>4</sup> NOTE that these are not weighted averages or state rates rather just averages of each district or school with a result.

College Enrollment Rate	Class of 2021	Class of 2020	Class of 2019	Class of 2018
District Average	49.1%	47.8%	54.3%	56.0%
District Median	48.3%	48.1%	54.8%	56.0%
School Average	43.5%	50.9%	57.2%	57.4%
School Median	45.3%	50.0%	57.9%	58.7%

HS Graduation Rate	Class of 2021	Class of 2020	Class of 2019	Class of 2018
District Average	85.9%	86.3%	86.3%	84.3%
District Median	88.2%	88.8%	88.2%	87.0%
School Average	77.7%	85.9%	85.3%	81.9%
School Median	87.0%	90.4%	90.0%	88.9%

FAFSA Completion Rate	Class of 2021	Class of 2020	Class of 2019	Class of 2018
District Average	43.0%	47.8%	55.6%	47.7%
District Median	48.9%	52.6%	57.2%	53.9%
School Average	46.5%	56.6%	55.4%	54.8%
School Median	51.3%	57.5%	57.1%	57.1%

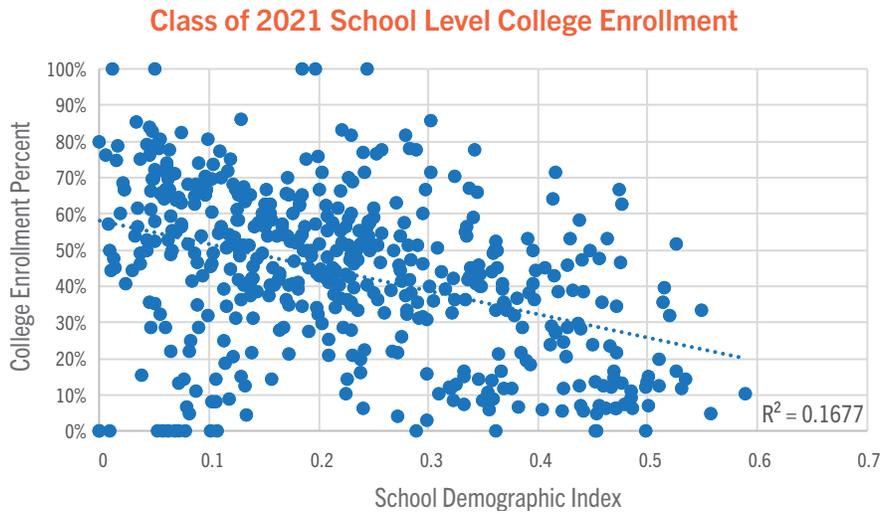
SAT Score	Class of 2021	Class of 2020	Class of 2019	Class of 2018
District Average	906.8	965.1	978.0	N/A
District Median	900.0	959.5	970.0	N/A
School Average	909.8	996.3	1008.3	N/A
School Median	907.0	985.0	1004.0	N/A

Dual Enrollment Rate	Class of 2021	Class of 2020	Class of 2019	Class of 2018
District Average	51.1%	49.9%	48.7%	48.1%
District Median	50.0%	50.5%	49.4%	47.1%
School Average	43.2%	49.8%	47.0%	45.6%
School Median	41.7%	50.0%	45.8%	44.2%

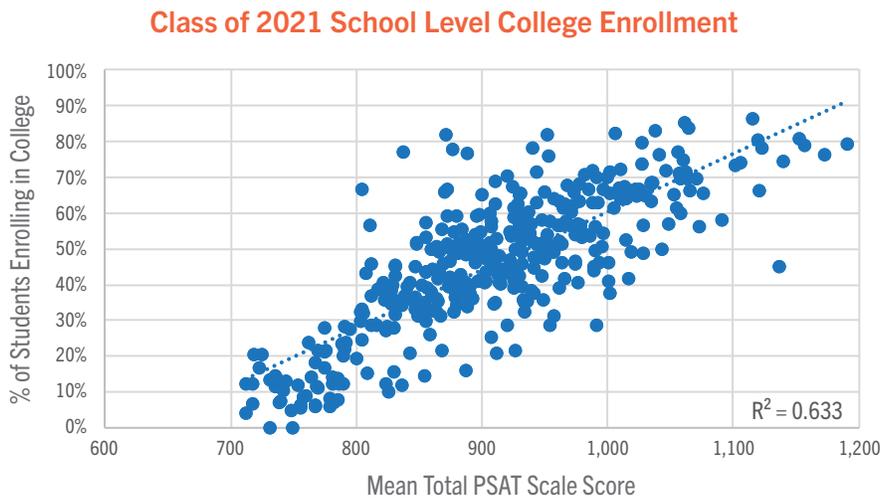
CTE Completion Rate	Class of 2021	Class of 2020	Class of 2019	Class of 2018
District Average	70.4%	78.7%	82.5%	82.3%
District Median	74.8%	86.2%	87.5%	90.0%
School Average	61.3%	71.9%	75.5%	73.9%
School Median	62.2%	75.0%	80.0%	78.1%

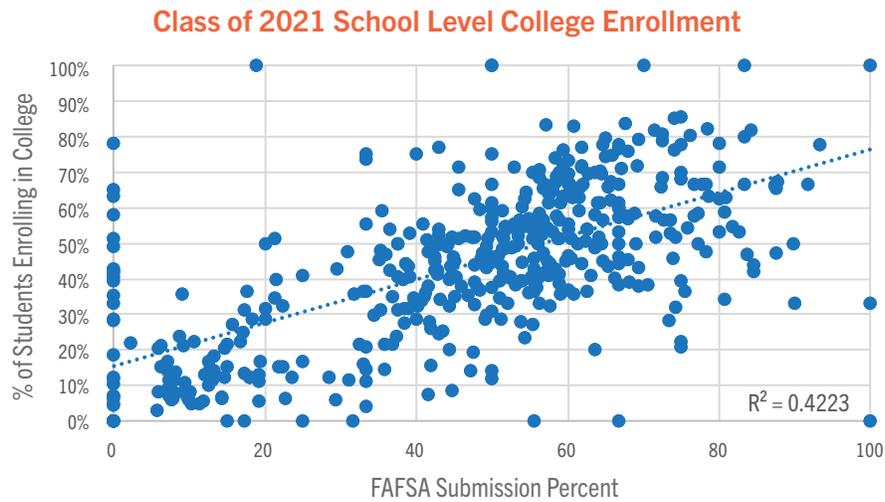
**Relationship Between High School and Matriculation:** While these trends over time provide useful information, in order to inform behavior and policy it is important to understand the relationship between college matriculation and key variables, both within and outside of the K-12 system’s control.

At the school level, there is a strong correlation between demographics and college matriculation ( $r=.16$  at school level). This is less strong ( $r=.04$ ) at the district level. Additionally, within large districts this correlation remains and there is wide variation in college matriculation rates over time. There is also wide variation within demographic groups, which should be explored further to understand why these schools and districts are getting different results.

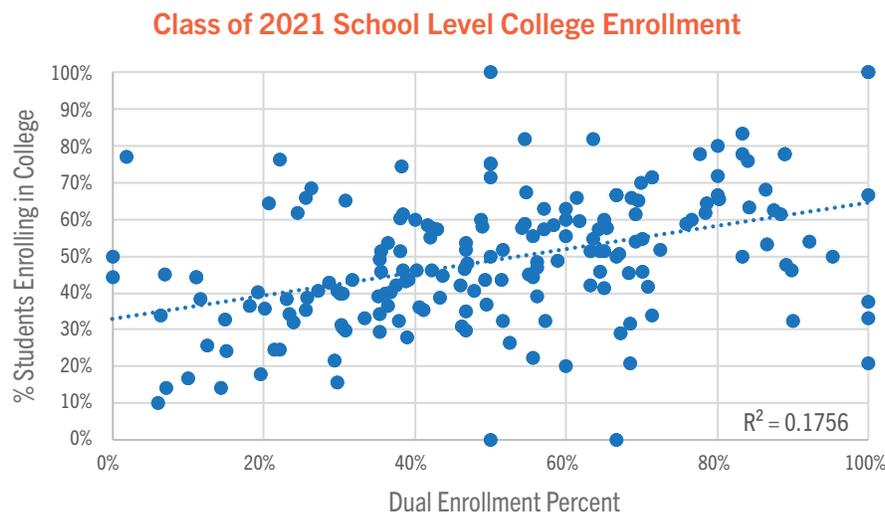


Among traditional measures of college success there is varying levels of relationship between them and college enrollment. At the school level, SAT scores are most correlation with college enrollment, followed by FAFSA completion.

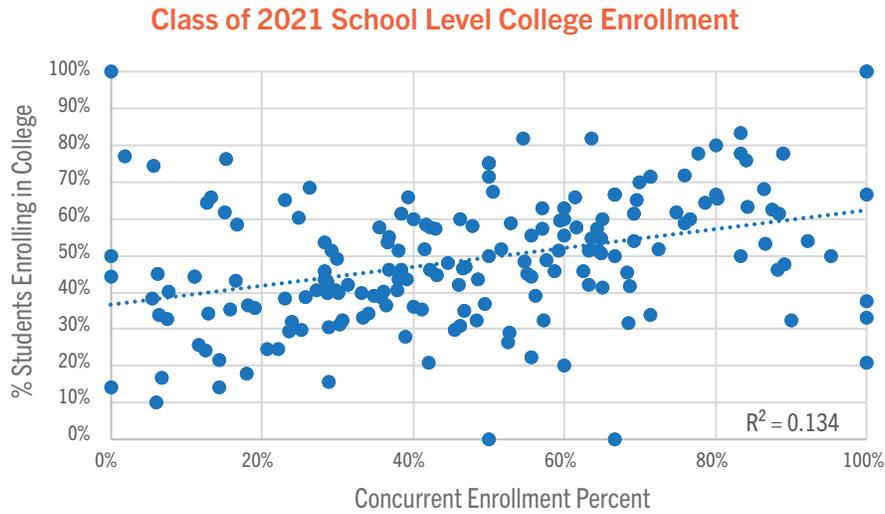




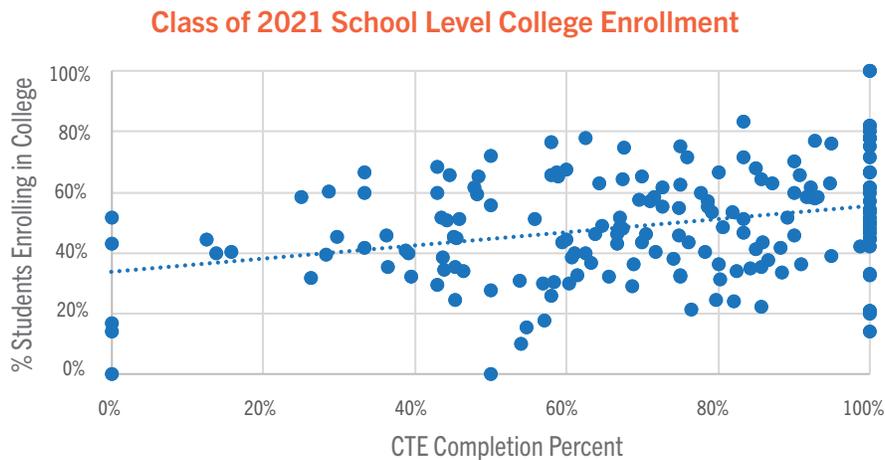
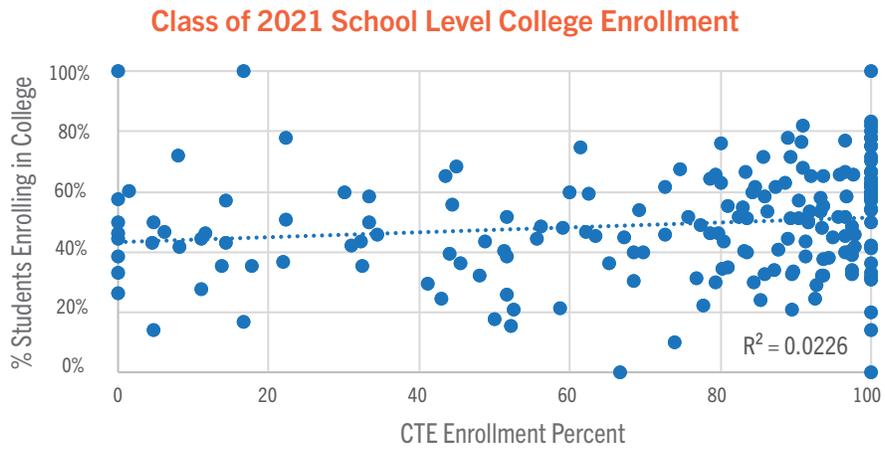
For the class of 2021 there was significantly higher correlation between dual enrollment and college matriculation than in prior years. There is only one year of post-COVID data available so it is not yet clear if this is a trend or just a result of COVID that will adjust in future years.



Additionally, the correlation varies depending on the type of dual enrollment program. For example, dual enrollment has a stronger correlation that looking solely at concurrent enrollment programs though this was reversed in prior years.



There is stronger association between completion of a CTE program and college matriculation than just enrollment in these programs, suggesting the important of program quality. There is limited data on the completion of advanced courses so a similar conclusion cannot be drawn.



## ACKNOWLEDGMENTS

This report was sponsored by the Keystone Policy Center with support from the Walton Family Foundation. The report was written by Alan Gottlieb, Maya Lagana and Van Schoales. All data utilized for this report was publicly available from the Colorado Department of Education and the Colorado Department of Higher Education. Any data for this report can be provided upon request of the Keystone Policy Center.



KEYSTONE  
POLICY CENTER