STEPPING STONES: REVISITING HIGH SCHOOL GRADUATION REQUIREMENTS & STRENGTHENING COLLEGE & CAREER PATHWAYS IN NEVADA

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Guinn Center *For Policy Priorities*

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Executive Summary

In the January 2015 State of the State address, Nevada Governor Brian Sandoval unveiled his ambitious legislative agenda, which included, among other items, an investment of more than $800 million in K-12 education. Collectively, his legislative priorities were designed to build the infrastructure for a New Nevada, characterized by a diversified economy in high growth sectors and a skilled workforce.

Recent estimates indicate that by 2020, roughly 60 percent of jobs will require some sort of post-secondary degree or certificate, but less than a four-year degree ("middle skilled jobs"). As noted by the Nevada Department of Education, "Middle skilled jobs are the majority of the in-demand occupations and those without a high school diploma are excluded from 90 percent of the in-demand occupations."

However, enrollment in post-secondary education and college attainment contains to lag in the Silver State. In fact, college attainment (the percentage of Nevadans with a higher education degree) is well below the national average. Only one-third of our Silver State's population has post-secondary education short of a bachelor's degree. Given that 60 percent of jobs in Nevada (by 2020) will require post-secondary education short of a four-year degree, which only one-third of our population has currently, the Silver State faces a significant skills gap.

Data reveals that most of our students are not graduating from high school college and career ready. Year over year, the State has reported low high school graduation rates, benchmark test scores, and college matriculation for high school graduates. Furthermore, the state's high school graduates who do enroll in a college or university are frequently unprepared for the rigor of postsecondary academics, which has led to high remediation rates at Nevada's institutions for higher education.

Although Nevada has implemented a variety of programs aimed at addressing these issues in recent years, college and career pathways in the state's secondary schools continue to lack rigor and value, and the Silver State continues to lag the performance of other states in the United States. In contrast, several states have taken more innovative approaches to strengthening college and career pathways for their students, resulting in higher graduation and lower dropout rates. Data from these states have shown that these programs are succeeding in providing more opportunities to achieve college and career readiness.

This policy report describes the current high school graduation landscape in Nevada, including graduation rates, dropout rates, assessment data, and college remediation rates. It also compares Nevada to other states with similar population sizes and in the Intermountain West region. The report then identifies and discusses initiatives in other states that have strengthened college and career pathways, increasing graduation rates and bolstering postsecondary opportunities for students. The

policy report concludes by offering a set of recommendations that the State's decision makers, policy leaders, and agency officials may take under advisement.

RECOMMENDATIONS

This section of the policy report discusses possible recommendations that the State's decision makers, policy leaders, and agency officials may take under advisement in an effort to increase the graduation rate, and strengthen college and career pathways and post-secondary outcomes. The recommendations are divided into five critical areas that may benefit from new policies or revisions and expansions of existing legislation. The areas the recommendations address are as follows: (1) expand pathways to a diploma, (2) strengthen CTE programming, (3) expand pathways for students with disabilities, (4) strengthen guidance/advising systems, and (5) support dropout prevention programs.

Expand Pathways to a Diploma

1. Develop two pathways to a diploma: Academic/University and Career/Technical

Nevada currently offers only one 22.5 credit pathway that leads to a standard diploma. Many of the new industries coming to Nevada are looking for highly skilled workers trained in technical fields. The Association for Career and Technical Education reports that many of the fastest-growing industries in the United States are in CTE fields.

Several states have already adopted two pathways that lead to a high school diploma, with one pathway aimed at students planning to enroll in a four-year college or university after graduation, and the second aimed at students looking to enter a technical field. The North Carolina Department of Public Instruction summarized the reasoning for the creation of its two pathways as this, "Over the past few years, the State Board of Education has changed graduation requirements to better reflect the skills and knowledge needed for success at community colleges, colleges and universities, and in business and industry."

Therefore, in keeping with projected job growth in new industries in the State and with the trends showing early success in other states, Nevada should consider creating two pathways that lead to a single high school diploma: one for college-bound students (Academic/University Pathway) and one for CTE-bound students (Career/Technical Pathway). The diploma would to need include an endorsement that signifies which of the two pathways the student completed, but students on either pathway would receive the same diploma.

Ideally, all ninth and tenth grade students would complete a series of core course requirements in English, math, physical education/health, science, and social students. These required courses would ensure that all students receive a solid academic foundation. Students would still be required to complete and pass end-of-course exams in English I, English II, Math I, Math II, and Science. Electives

during these first two years of high school would allow students to the opportunity career opportunities in CTE, and take electives in the arts and foreign languages.

As in Louisiana, students would not be permitted to declare which of the two pathways they are looking to pursue until eleventh grade, at which time the students can commit to the academic pathway or technical pathway. Regardless of choice, students would be required to take an additional two years of English, math, science, and social studies (as is the case in Louisiana and Mississippi). Some of the selections in these subject areas can be specifically tailored toward CTE students, such as Business Writing or Technical Writing. In math, students can take Financial Literacy, Business Math, or Math Essentials. Nevada's policy makers may want to consider requiring students in ninth and tenth grade to take one credit of CTE as a means of exploring their interests.

The purpose of requiring four years of the core academic subjects is to provide a safety net should a student on one pathway decide to pursue the other. This way, a Career/Technical Pathway student would be better prepared for postsecondary academic success if he has had exposure to more advanced concepts in these subjects during the later high school years. To further expand this safety net, all students in Nevada would still be required to take the ACT.

Under these new pathways in Nevada, credit requirements for each of the two pathways would include the following (see Table A):

Table A: Proposed Credit Requirements for High School Graduation Pathways in Nevada

Subject	Academic/ University Pathway	Career/ Technical Pathway
English	4.0	4.0
Math	4.0	4.0
Science	4.0	4.0
Social Studies	4.0	4.0
Health	0.5	0.5
Physical Education	1.0	1.0
Electives	5.0	2.0
Career Readiness/ CTE	1.0	4.0
Computer Skills	0.5	0.5
TOTAL	24.0	24.0

Currently, Nevada students seeking an advanced diploma are required to take 24 credits, which shows that the increased 1.5 credit load for all students is not unprecedented and would not require a dramatic overhaul of the current number of hours a student must take in order to graduate. Furthermore, 18 states in the United States currently require students to take 24-26 credits to receive a

high school diploma. Many of the states with heavier credit requirements have higher overall graduation rates and college matriculation rates and lower college remediation rates. This more demanding schedule would better prepare students for the rigors of college or the demands of a job.

Compared with the current graduation requirements of 22.5 credits (for a standard diploma), students in Nevada would take an additional credit in both social studies and science. Currently, six states require all students to take four credits of science, and eight states require all students to take four credits of social studies.

On the Career/Technical Pathway, students would follow a four-sequence CTE program leading to an industry certification. The two non-CTE electives could either be in occupational-preparation courses or another area of interest for the student, such as the arts, foreign languages, or a core subject area. For courses in the core subject areas taken during the later high school years, school districts should consider offering courses geared specifically toward the students on the Career/ Technical Pathway.

To ensure students can achieve success both leading up to and once on their given pathway, students, parents, guidance counselors, and other stakeholders will need to be vigilant in helping students plan their courses throughout high school.

Strengthen CTE Programming

1. Expand CTE Dual Enrollment Policies across the State

Because CTE dual enrollment programs have shown success in increasing graduation rates and postsecondary enrollment rates, Nevada should consider formalizing a policy that enables students to take CTE enrollment courses at local NSHE institutions. Moreover, CTE courses should be free of charge to students and their families. This policy would likely increase the number of CTE opportunities for students, the number of students who enroll in a CTE program, and the number of students who leave high school better prepared for college and careers.

For these programs, Nevada will also need to establish clear articulation agreements between CTE programs in high schools and the NSHE institutions. These agreements should provide a minimum guarantee of credit for CTE courses taken in dual enrollment courses or equivalent high school courses for a student once upon matriculation to college. While the Nevada Department of Education and the Nevada System of Higher Education have taken great strides to streamline articulation agreements, gaps remain.

Furthermore, state and local education agencies and NSHE institutions will need to continue exploring incentives to increase the number of CTE instructors in both high schools and on community college campuses. Quite frequently, the expansion of CTE courses is limited by the lack of qualified personnel.

2. Expand CTE programs in high-growth, high wage sectors

Funding for CTE programs in Nevada comes from state funds and from Carl D. Perkins funds from the U.S. Department of Education. In 2015, the Governor's Office of Economic Development and Nevada Department of Education (NDE) completed a crosswalk between Career and Technical Education (CTE) programs and the high-demand occupation data. In 2015-2016, NDE used GOED's analysis of high-demand occupations to help prioritize the applications submitted by school districts in Nevada to launch *new* CTE programs (using Perkins funds). Some school districts, including the State's two biggest urban districts, Clark County School District and Washoe County School District, are using GOED's analysis to evaluate applications for new and expanded CTE programs in their districts.

State and local education agencies should use real time occupation data to prioritize funding for *existing* CTE programs in high-growth, high-wage sectors. In its recent needs assessment of career and college pathways in Nevada, the Guinn Center found that students around the Silver State do not have equal access to CTE programs in strategic sectors. For example, in North Las Vegas, only one high school offers a CTE program in health sciences, one of four strategic sectors identified by GOED. (The remaining three strategic sectors include: advanced manufacturing, education, and information technology.) And in North Las Vegas' Canyon Springs High School and Mojave High School, enrollment in CTE programs that align with the four strategic sectors accounted for less than 10 percent of total student enrollment.

3. Expand CTE academies within comprehensive high schools

School districts that have undertaken initiatives to house CTE programs within comprehensive high schools (e.g., Select Schools in CCSD and Signature Academies in WCSD) should continue to explore ways to expand Select Schools and Signature Academies. Rural districts should also explore the feasibility of piloting these types of schools. As part of these Select Schools/Signature Academies, districts should develop partnerships with local businesses and industries to provide work experiences and internship opportunities to students. The purpose of these academies is to give students real-world experiences in their chosen CTE fields so that they are better prepared to enter the workforce.

Nevada could also consider developing six-year academies, such as in Colorado. This program pairs a high school with a local community college or a local high-growth industry. Students in these academies begin in ninth grade and graduate after six years in fourteenth grade, having obtained both a high school diploma and an associate's degree in a STEM field. The schools selected for participation in this program often have high populations of students with higher risks of not graduating, such as students of color and student from low-income communities. The strategic partnership between these schools and the local college or industry is designed to bolster graduation rates for these populations.

4. Revise or eliminate end-of-program assessments

Like many other states, Nevada has a higher graduation rate for students who participate in CTE programs. However, unlike many other states, Nevada has a low rate for the number of students who earn an industry certification at the end of the CTTE program. Only 45.0 percent of CTE program completers earn an industry certification by graduation in Nevada, 24.7 percent lower than the 69.0 percent of students in Florida and 13.5 percent lower than the 58.5 percent of students in Mississippi. The low rate in Nevada suggests that the competencies taught in these programs are not aligned to the assessments.

Moreover, 55.4 percent of CTE students in Nevada are passing their requisite end-of-programs assessments. This means that 10.4 percent of students who pass these assessments do not earn the corresponding certifications, which suggests that the assessments are not necessarily aligned with industry standards, regulations and protocols or that students are not being given adequate support and guidance in obtaining these certificates. Unlike Nevada, Colorado does not require end-of-program assessment for CTE certifications. Instead, students follow the required to steps to obtain an industry certification, whether that requires "an assessment, examination, or license that is administered and recognized by an industry third-party or governing board."

In Nevada, taking the end-of program obtaining the industry certification is a two-step process that requires a student to take the end-of-program assessment and the industry certification. In addition, students must maintain a 3.0 grade point average in all CTE courses. Research indicates that the low completion rate was due in part to this GPA requirement.

The State should consider streamlining the process to eliminate the difference between students who pass the end-of-program assessment and students who obtain an industry certification. Education officials may want to consider allowing students to demonstrate proficiency on one of three ways: 1) industry certification, 2) end-of-program assessment, or 3) 3.0 grade point average in all CTE courses. In short, Nevada should make appropriate adjustments to the end-of-program assessments to ensure (1) that the curriculum and assessments are aligned to industry standards, and (2) that students are given sufficient guidance toward obtaining an industry certification.

5. Offer performance pay for teachers and school districts

To ensure that CTE programs throughout the state continue to receive necessary support accountability and continues to grow—Nevada, like Florida already has—should consider offering performance pay to teachers and school districts based on CTE end-of-program assessment data and industry certification rates. First, for school districts, the previous year's certification rates and the rigor of the program would be considered in assigning the weights. Programs that lead to more college credit would give more weight than programs than those that lead to less college credit or no college credit at all.

Secondly, Nevada should consider awarding bonuses to CTE teachers based on the pass rates of students whom they directly taught on the CTE end-of-program assessments. Programs that lead to more college credit would be given higher bonuses than those that lead to no college credit.

Expand Pathways for Students with Disabilities

1. Limit issuance of the adjusted diploma

Nevada should consider limiting the issuance of the adjusted diploma for students with disabilities, as this current pathway does not lead to many post-secondary or employment opportunities. Louisiana, which does not offer an adjusted diploma, has two main methods of helping students with disabilities obtain a diploma: (1) the transitional ninth grade year and (2) the Alternative Pathway to a Diploma.

The Alternative Pathway does not lead to a separate diploma. Instead, the student's IEP team sets alternative goals, credentials, and performance criteria for classroom and end-of-course assessments the student must meet in order to meet the diploma requirements. This pathway can be applied toward either an Academic/University Diploma or a Career/Technical Diploma.

The transitional ninth grade year helps prepare struggling students for the academic rigor of high school. By adopting these two strategies, Nevada could likely transform the dismal graduation and career and educational attainment rates for students with disabilities.

2. Increase CTE opportunities for students with disabilities

Nevada should encourage students with disabilities to participate in CTE programs. CTE participation among students with IEPs is lower than their representation in the general population: 11.8 percent of K-12 public school students have an IEP, but only 8.4 percent of CTE students have an IEP. Nationally, 10 percent of students in CTE programs have an IEP, a 1.6 percent higher participation rate than in Nevada.

In Lyon County, a special education teacher at Dayton High School has helped students with disabilities work towards obtaining industry certifications in their areas of interest. As part of this program, students with disabilities were paired with an instructional aide who attended all CTE classes with the student and provided intensive tutoring support to the student. Two students who went through the Certified Nursing Assistant CTE program at Dayton High School successfully passed their Nevada State Board of Nursing Certifying Exam for Nursing Assistants.

To increase these opportunities for students with disabilities who are eligible for special education services, the State should (1) allow students with disabilities to take alternative performance assessments in CTE programs as needed according to the students' IEPs, (2) ensure that the articulation agreements between school districts and NSHE institutions are honored for students with disabilities who take alternative CTE assessments, (3) increase the number of special education instructional aides

in CTE programs to work individually with students with disabilities, and (4) offer professional development to CTE teachers on how to adapt their programs to students with disabilities.

Strengthen Guidance/Advising Systems

1. Enforce use of the Academic Plan

Nevada statute (Nevada Revised Statute 388.205) requires that an academic plan be developed for ninth grade pupils. Research undertaken by the Guinn Center found that implementation and enforcement of this legislative requirement is absent. Interviews confirmed that high school teachers and parents of high school students have little, if any, awareness about the Academic Plan or the legal requirement that every student have an Academic Plan, which should be reviewed annually in grades 9-12. State and local education agencies are not requiring enforcement of the academic plan.

Many other states, like Colorado and Vermont, require an equivalent Academic Plan as early as seventh grade. Research indicates that Colorado and Vermont are implementing their respective versions of the Academic Plan. To ensure accountability, the Colorado Legislature authorized the Department of Education to adopt regulations to oversee the implementation. Additionally, the Department of Education established a working group to monitor implementation of the Academic Plan and share best practices.

The Nevada Department of Education should establish regulations and requirements around the use of the Academic Plan for all students. State education officials should explore ways to incorporate use of the academic plan into the Nevada School Performance Framework or the Nevada Educator Performance Framework. State educational officials could also explore ways to link completion of Academic Plans to the disbursement of state fund, such as Perkins Funds.

Over the past two years, senior officers at the Governor's Office of Economic Development (GOED) have led the development of formal career pathways in specific sectors. These career pathway frameworks indicate required coursework, qualifications, and certificates needed for different types of positions within a sector, as well as on- and off-ramps. GOED implemented the LEAP framework for advanced manufacturing and life sciences. Similar sorts of career pathways have been developed by Workforce Connections in southern Nevada, and are also being considered by JAG Nevada and CSN. These sorts of tools can help guidance counselors advise students on college and career pathways.

2. Begin use of the Academic Plan in middle school

As noted above, several states require development of the Academic Plan as early as seventh grade. Nevada lawmakers should require school districts to develop an Academic Plan for each student beginning in middle school. Some districts in Colorado have reported that following implementation of the Individual Career and Academic Plan (ICAP), high school graduation rates increased.

3. Provide professional development for counselors

Many guidance counselors may not understand the types of careers in high-growth industries or the skills required for jobs in different sectors. And historically, school districts have had limited resources with which to fund programs or professional development opportunities to expose guidance counselors to learn first-hand about workforce development needs (and opportunities). In response to this challenge and the need to strengthen awareness about different post-secondary opportunities, the Washoe County School District has started a small pilot program to expand professional development opportunities for guidance counselors. For example, working closely with the regional development authority, the Washoe County School District CTE director has started an "Ambassador program" which physically takes CTE teachers, administrators and counselors, and core academic teachers, out to local businesses to learn first-hand about workforce development needs in the region.

4. Promote completion of the Free Application for Federal Student Aid (FAFSA)

Recent research of completed FAFSA applications conducted by Data Insight Partners, a Nevada-based data analytics and research firm, found a strong correlation between the completion rate of FAFSA applications and high school graduation rates. Data Insight Partners noted that as of March 17, 2017, 11,237 FAFSA applications from Nevada students had been completed, reflecting a 33 percent increase over the same period last year (as of March 17, 2016, 8,450 applications had been completed). Previous research found that FAFSA application assistance (provided through H&R Block) "increased college enrollment rates the following school year. Enrollment rates increased 30 percent among high school seniors and 20 percent for young adults already out of high school, with particularly large results for those with annual incomes less than $22,000. The program also increased the percentage who received a federal student grant." Building on this research, Data Insight Partners found that "for Nevada high schools with at least 100 graduates, the correlation between graduation rates and the rate of graduates completing the FAFSA was 0.691." As part of stronger guidance and advising efforts, district officials, education leaders, and nonprofit organizations (e.g., JAG Nevada and Communities in Schools) should expand efforts to help students complete the FAFSA.

Support Dropout Prevention

1. Support existing dropout prevention programs in the State

As discussed previously, Nevada has several programs that target at-risk populations and help prepare them for college and career: JAG Nevada, GEAR UP, and Communities in Schools, as well as others. Each of these programs has demonstrated success in supporting the students they serve. However, many of these programs are very small in comparison the number of eligible students across the State. For example, GEAR UP only serves 5,500 students in 32 schools in 10 counties. Political leaders have stated their goal of having JAG Nevada in every high school in the Silver State. Policymakers and education leaders should explore implementing a combination of evidence-based support services, such as JAG

Nevada, Communities in Schools, and GEAR UP, to improve graduation rates and increase college and career readiness.

2. Create a transitional year for struggling students (including students with disabilities)

Using information from students' middle school assessments, school districts would identify non-proficient eighth graders and place them in a transitional ninth grade year on a high school campus, in the same way that Louisiana does. These students do not begin earning high school credit during the transitional year. Rather, the time is used to help them develop the academic foundations needed to be successful with the secondary-level academic coursework in the following for years. This method is used in lieu of having a student repeat eighth grade and remain on the middle school campus, which studies have found increases the likelihood that the student will drop out.

Transitional students would not be counted in the graduation rate for the cohort that enters high school the same year they do. Rather, these students are counted in the graduation rate for the cohort that enters the following year, which is the same year these students would enroll in mainstream classes on the high school campus.

3. Offer more specialized course clusters for students to explore areas of interest in depth

Using the model from Texas, Nevada should consider creating clusters of related courses in specialized content areas that will enable a student to explore more deeply an area of interest. Students who successfully complete these clusters would be eligible for a special endorsement on their diplomas that would signify to colleges and universities that the students are proficient and highly motivated to succeed in the area. More importantly, the National Dropout Prevention Center reports that students are more likely to attend school when they are taking courses related to their interests.

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Introduction

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Recent estimates indicate that by 2020, roughly 60 percent of jobs will require some sort of post-secondary degree or certificate, but less than a four-year degree ("middle skilled jobs"). As noted by the Nevada Department of Education, "Middle skilled jobs are the majority of the in-demand occupations and those without a high school diploma are excluded from 90 percent of the in-demand occupations."[1]

However, enrollment in post-secondary education and college attainment contains to lag in the Silver State.[2] In fact, college attainment (the percentage of Nevadans with a higher education degree) is well below the national average.[3] Only one-third of our Silver State's population has post-secondary education short of a bachelor's degree (see Table 1).[4] And less than one-fourth of the population has either a bachelor's degree and/or a graduate (professional) degree. Given that 60 percent of jobs in Nevada (by 2020) will require post-secondary education short of a four-year degree, which only one-third of our population has currently, the Silver State faces a significant skills gap.

Table 1: Educational Attainment in Nevada, 2015[5]

	Total	Percentage
Population 18 to 24 years	252,819	
Less than high school graduate	49,936	19.8%
High school graduate (includes equivalency)	87,274	34.5%
Some college or associate's degree	102,299	40.5%
Bachelor's degree or higher	13,310	5.3%
Population 25 years and older	1,884,237	
Less than 9th grade	116,829	6.2%
9th to 12th grade, no diploma	164,068	8.7%
High school graduate (includes equivalency)	532,115	28.2%
Some college, no degree	489,887	26.0%
Associate's degree	147,840	7.8%
Bachelor's degree	285,510	15.2%
Graduate or professional degreee	147,988	7.9%

Data reveals that most of our students are not graduating college and career ready. Year over year, the State has reported low high school graduation rates, benchmark test scores, and college matriculation for high school graduates. In fact, the high school graduation rate in Nevada continues to be one of the lowest in the nation and falls well below the national average.[6] The U.S. Department of Education reported that the national high school graduation rate for the 2014-2015 cohort was 83 percent, whereas Nevada had only a 70.9 percent graduation rate.[7] The bleak educational outcomes are far worse for Nevada's highest-need populations. The Silver State ranks last or nearly last in graduation rates for at-risk populations, including students of color, low-income students, students with limited English proficiency, and students with disabilities.[8]

Furthermore, the state's high school graduates who do enroll in a college or university are frequently unprepared for the rigor of postsecondary academics, which has led to high remediation rates at Nevada's institutions for higher education. As of 2012, almost one-third of Nevada high school graduates who attended NSHE institutions were enrolled in at least one remedial course.[9] In 2015, 47 percent of Clark County School District high school graduates were enrolled in at least one remedial course at NSHE institutions.[10]

Although Nevada has implemented a variety of programs aimed at addressing these issues in recent years, college and career pathways in Nevada's secondary schools continue to lack rigor and value, and the Silver State continues to lag the performance of other states in the United States.[11] In contrast, several states have taken more innovative approaches to strengthening college and career pathways for their students, resulting in higher graduation and lower dropout rates. Data from these states, which include California, Colorado, Florida, Louisiana, Mississippi, North Carolina, and Texas, have shown that these programs are succeeding in providing more opportunities to achieve college and career readiness. For example, 69.7 percent of high school students who participate in the Career and Technical Education (CTE) programs in Florida graduated with an industry certification.[12] In contrast, only 45.0 percent of students in Nevada were awarded an industry certificate.[13]

This policy report describes the current high school graduation landscape in Nevada, including graduation rates across different demographics, dropout rates, statewide assessment data, college remediation rates, the State's CTE program, and the pathways to graduation for students with disabilities. It also compares these data to other states with similar population sizes and neighboring states in the Intermountain West region. The report then identifies and discusses initiatives in other states that have strengthened college and career pathways, increasing graduation rates and bolstering postsecondary opportunities for students. Finally, the policy report concludes by offering a set of recommendations that the State's decision makers, policy leaders, and agency officials may take under advisement.

Current Student Achievement Data and Outcomes

High School Graduation Rates

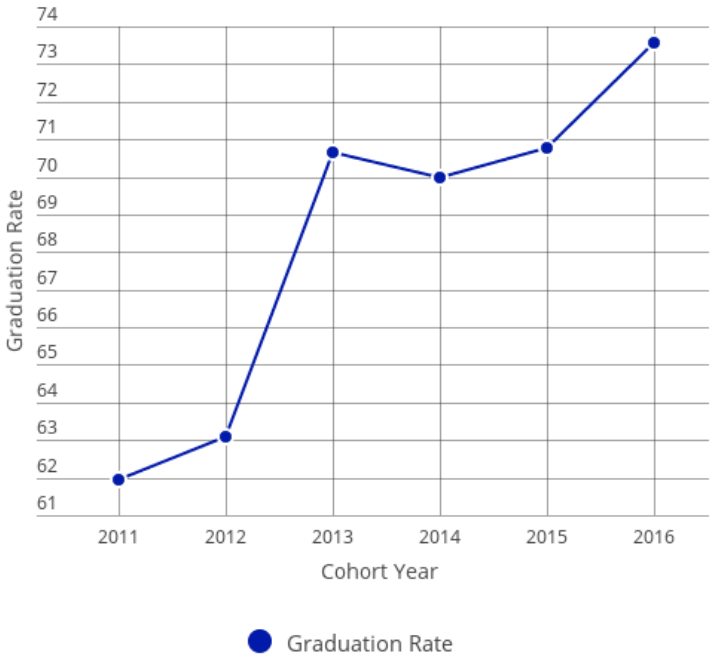
The Silver State has been plagued for years with a reputation as one of the worst states for education in the United States. According to annual data published by the Annie E. Casey Foundation, Nevada ranked 49th of the fifty states in education in 2016, barely registering an improvement from last place in the prior year.[14] The Research Center at Education Week gave Nevada a D overall in 2016 and rated the state last in quality of education. Nevada also earned a D in the chance for success and K-12 achievement categories.[15]

Historically, Nevada has reported low high school graduation rates, benchmark test scores, and college matriculation for high school graduates. Nevada has a high number of high school dropouts and individuals working in low-skilled jobs.[16] The bleak educational outcomes are often worse for Nevada's highest-need populations: students of color, student in low-income areas, and students with disabilities.

Modest Gains in Recent Years

Between 2011 and 2016, the high school graduation rate improved slightly, with an 8.8 percent increase over the five-year period.[17] The graduation rate increased every year during this time, except between the 2013 and 2014 cohorts, when the rate fell by 0.65 percent (see Figure 1).[18]

Figure 1: High School Graduation Rates in Nevada, 2011-2016[19]



As Figure 1 illustrates, the largest increase in the graduation rate took place between 2012 and 2013, when the rate increased by more than 7.5 percent from 63.1 to 70.7. This growth means that an additional 1,113 high school students in Nevada graduated in 2013 than in 2012.[20] Governor Brian Sandoval and the Nevada Department of Education (NDE) attributed this significant improvement to more effective English Language Learner (ELL) education, and the long-term effects of full-day kindergarten programs.[21] Still, 33 percent of high school students in Nevada did not graduate on time in 2013.[22]

Many school districts have shown improvements in their graduation rates since 2011, and the State's overall graduation rate has risen by nearly 9 percent (see Table 2).[23] There is some variation in high school graduation rates across school districts in Nevada.[24] In general, school districts in Southern Nevada have lower graduation rates than those in Northern Nevada. The state's largest school district, Clark County School District, had the third-worst graduation rate at 72.1 percent in 2015. The worst graduation rate in the state was reported by Churchill County at 67.2 percent, followed by Nye County at 69.2 percent. [25]

Eureka County School District reported the highest graduation rate in 2015, at 100 percent. The second-highest rate was 90.6 percent for Douglas County School District, and the third-highest was Mineral County School District at 88.9 percent.

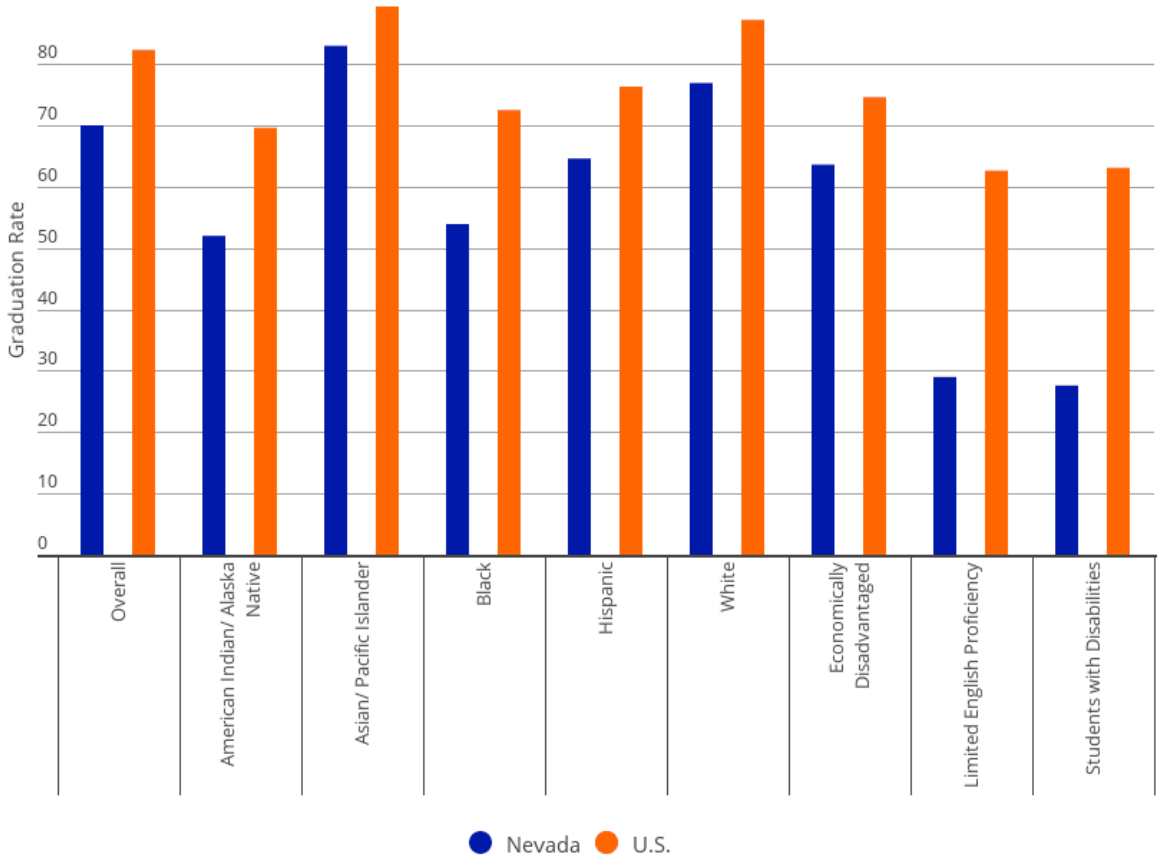
Table 2: High School Graduation Rates by Nevada School District, 2011-2016[26]

	2011	2012	2013	2014	2015	2016
Carson	81.0%	77.9%	75.9%	77.9%	74.3%	80.3%
Churchill	77.7%	75.7%	72.0%	71.2%	67.2%	59.7%
Clark	59.3%	61.6%	71.5%	70.9%	72.1%	74.9%
Douglas	82.8%	80.4%	85.0%	88.1%	90.6%	88.5%
Elko	74.6%	72.0%	70.5%	76.8%	80.0%	85.1%
Eureka	88.2%	78.3%	95.0%	86.4%	100.0%	100.0%
Humboldt	64.3%	63.5%	67.1%	78.5%	83.0%	76.3%
Lander	69.8%	80.9%	71.6%	71.3%	75.3%	80.3%
Lincoln	86.4%	76.3%	76.8%	80.8%	72.6%	82.4%
Lyon	72.7%	78.0%	78.6%	78.6%	74.7%	81.3
Mineral	67.3%	53.9%	51.5%	64.7%	88.9%	74.2%
Nye	65.9%	56.3%	70.2%	67.0%	69.2%	68.9%
Pershing	72.6%	80.4%	80.4%	80.0%	83.3%	88.3%
Storey	87.5%	81.5%	87.9%	93.1%	80.0%	100.0%
Washoe	70.0%	69.6%	72.6%	72.7%	75.0%	76.6%
White Pine	75.6%	70.8%	77.6%	77.8%	81.3%	83.2%
Overall	62.0%	63.1%	70.7%	70.0%	70.8%	73.6%

Graduation Rates by Selected Demographics

When broken down by demographics, the graduation rates in Nevada remain well below the national average. Nevada's graduation rate falls at least 5 percent below the national average (see Figure 2). [27]

Figure 2: High School Graduation Rates in Nevada and the U.S. by Demographics, 2014[28]



The Silver State ranks last or nearly last in graduation rates for at-risk populations, including students of color, low-income students, students with limited English proficiency, and students with disabilities. [29] Table 3 shows Nevada's rank among the 50 states and the District of Columbia in each of these categories.[30, a]

[a] Data for the class of 2015 provided by the Nevada Department of Education shows slight increases in the graduation rates for certain at-risk minority populations: the graduation rate for American Indians/Alaska Natives rose to 58.4 percent, 55.5 percent for African Americans, and 66.7 percent for Latinos. See Nevada Department of Education. 2015-2016 State Accountability Report. State of Nevada. 2016. http://nevadareportcard.com/PDF/2016/00.E.pdf.

Table 3: Graduation Rates for At-Risk Populations in Nevada, 2014[31]

Demographic	Graduation Rate	National Rank
American Indian/ Alaska Native	52.0%	48th
Black	53.9%	51st
Hispanic	64.6%	48th
Economically Disadvantaged	63.6%	47th
Limited English Proficiency	29.0%	50th
Students with Disabilities	27.6%	51st
Overall	70.0%	49th

For both students with limited English proficiency and students with disabilities, the graduation data in Nevada is particularly bleak, as fewer than 30 percent of students in either category are likely to graduate from high school. In 2015, 16.8 percent of K-12 public school students in Nevada were designated as English Learners, and 48.9 percent of students are eligible for free or reduced priced lunch (FRL). Only Arizona has a graduation rate for students with limited English proficiency lower than Nevada at 18 percent. Nevada ranks last in graduation rates for students with disabilities.[32]

Nevada also ranks last in the graduation rate for African American students, with a graduation rate of 53.9 percent. Nevada's graduation rate for African American students is nearly 20 percent below the national average of 72.5 percent.[33] For Latino students, the low graduation rate of 64.6 percent is another cause for alarm, given that they comprise the largest ethnic group in Nevada's K-12 education system at 41.7 percent in 2015.[34]

Graduation Rates for Students with Disabilities

Nationally, educational outcomes and post-secondary outcomes for students with disabilities lag those of their peers who do not have disabilities.[b] As shown in Table 3, Nevada ranks last (51st) in graduation rates for students with disabilities.[35] High school students enrolled in special education services in Nevada have several graduation options and certifications available to them with differing requirements based on the abilities of the student.[36] Each has distinct criteria and aims to meet the needs and assess the abilities of the student. In Nevada, students must earn a minimum of 22.5 credits and pass requisite exams to receive a standard high school diploma. In previous years, students in Nevada were expected to pass the Nevada High School Proficiency Exam, which assessed proficiency in reading, mathematics, writing, and science. Passing rates for students with disabilities were low, preventing many from graduating with a standard high school diploma.

[b] For more information on post-secondary transitions for students with disabilities, see Guinn Center, Pathways to Nowhere: Post-secondary Transitions for Students with Disabilities. January 2017. https://guinncenter.org/wp-content/uploads/2014/01/Guinn_Pathways_Jan-2017.pdf; Companion video: https://guinncenter.org/podcasts/

Alternative graduation options include an adjusted diploma and an adult standard diploma. The "Adjusted diploma" is a diploma, which denotes graduation from high school of a student with a disability after the student has met special requirements or adjusted standards. This graduation option is typically awarded to students with disabilities that struggle to pass standardized summative examinations. The adjusted diploma is still considered a high school diploma but indicates the adjustments made on school transcripts. The student and the Individualized Education Program (IEP) team must decide whether to pursue a pathway that leads to an adjusted diploma (as opposed to a standard diploma), and the student must meet requirements in their IEP.[37]

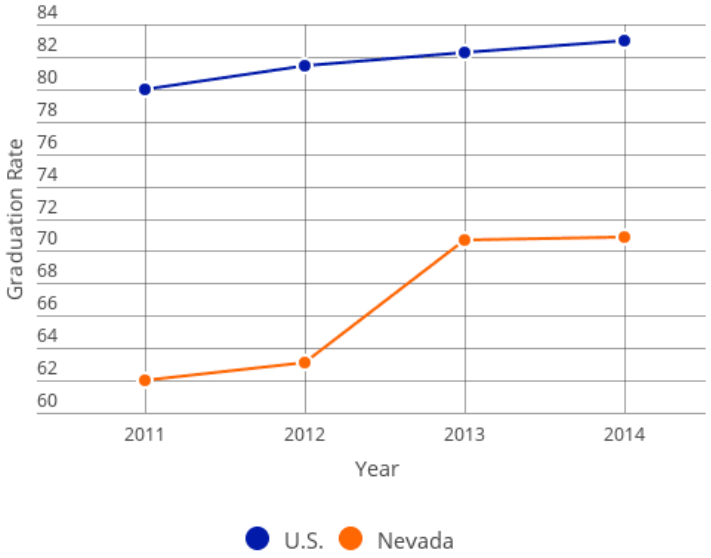
In accordance with their IEPs, students may be placed in classroom environments that limit their access to the general education curriculum and standards. Self-contained and resource room placements provide supports and services to facilitate access to the general education curriculum as much as possible, but the pace and rigor often fall far below grade level expectations. When these students participate in standardized testing, they are presented with information and topics about which they have limited to no familiarity. An adjusted diploma pathway may take these factors into consideration and allow a student to exit high school with some credentials.

Adult high school programs are geared towards out-of-school individuals who want to earn a high school diploma or a Nevada State Certificate of High School Equivalency. This option may apply to students that are no longer attending but are enrolled in a high school. Students attending established high schools who want to earn credit from Adult Education to be transferred to their high schools may earn an "adult standard diploma." This option is a diploma which evidences the graduation from high school of a person who has met the requirements for graduation through: (1) an adult high school program established by a school district; or (2) an alternative program for the education of pupils at risk of dropping out of school established by a school district.

National High School Graduation Data

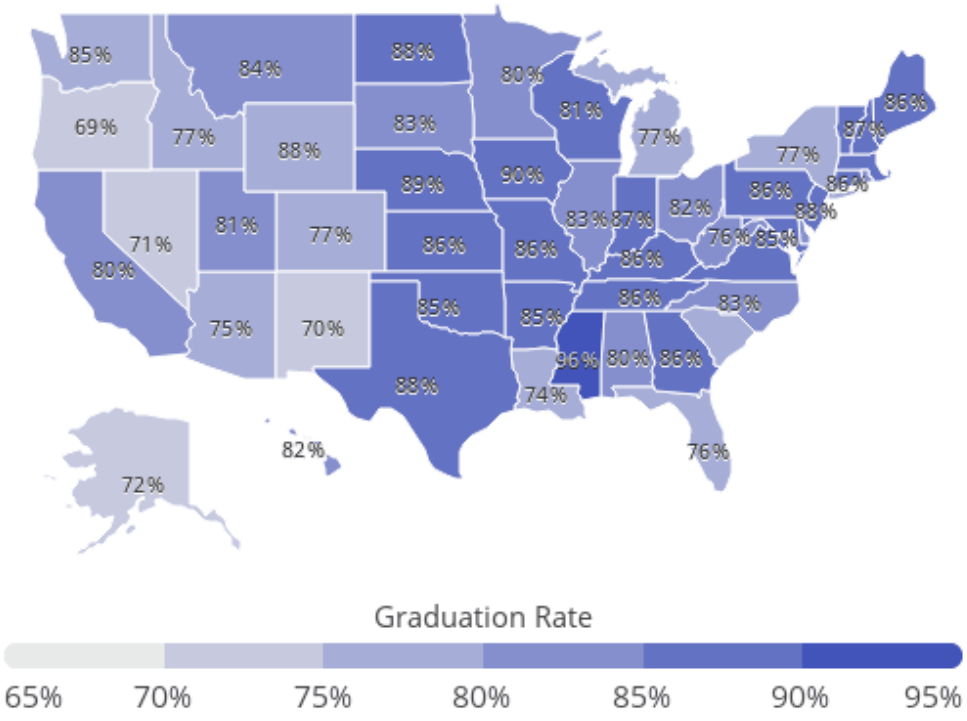
Despite some improvements, the high school graduation rate in Nevada continues to be one of the lowest in the nation and falls well below the national average.[38] The U.S. Department of Education reported that the national high school graduation rate for the 2014-2015 cohort was 83 percent, whereas the 2013 cohort in Nevada had only a 70.9 percent graduation rate.[39] Figure 3 compares graduation rate in Nevada to the U.S. from 2011 to 2014, the most recent national data available from the U.S. Department of Education.

Figure 3: High School Graduation Rates in the U.S. and Nevada, 2011-2014[40]



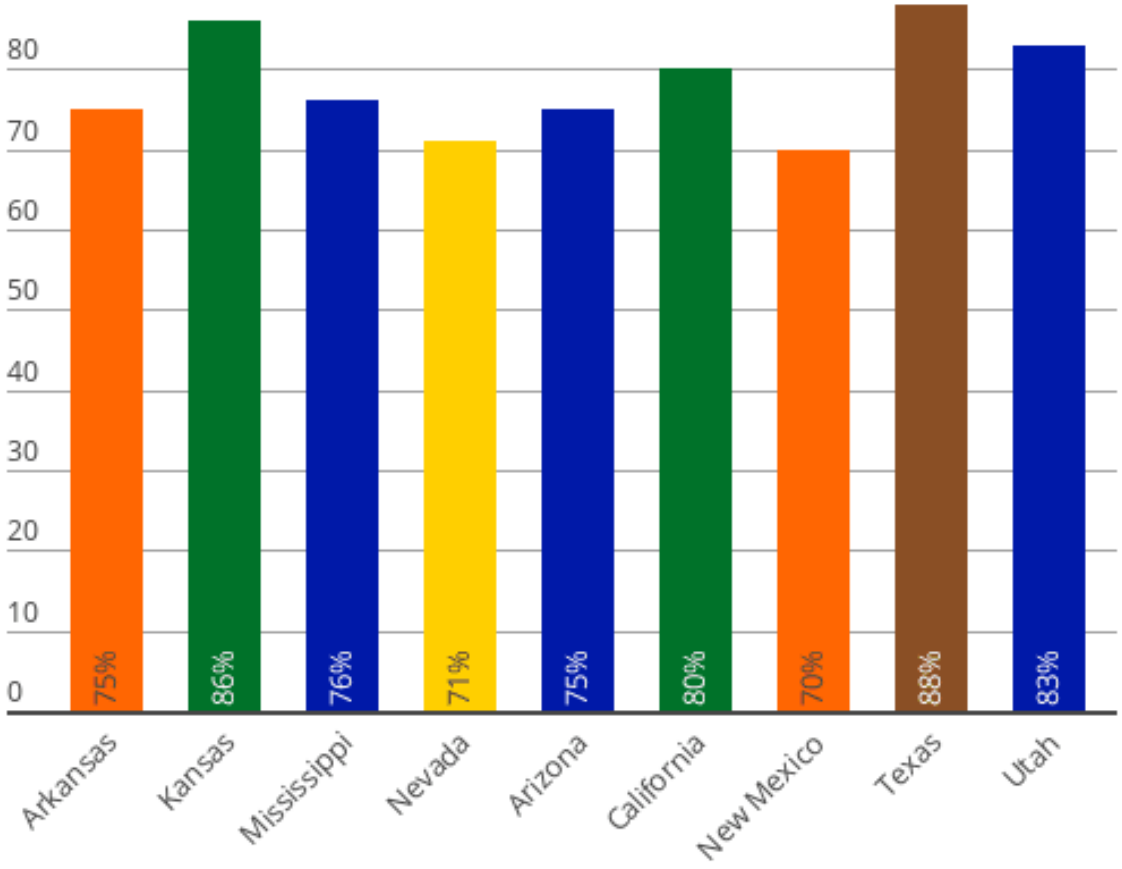
Even with the 7.5 percent gain between 2012 and 2013, Nevada's graduation rate remains more than 10 percent below the national average. Map 1 illustrates the high school graduation rates for the 2013 national cohort by state. Only New Mexico (70 percent), Oregon (69 percent), and the District of Columbia (62 percent) reported lower graduation rates than Nevada in 2013.[41]

Map 1: High School Graduation Rates in the U.S. by State, 2013 Cohort[42]



Compared with the four states with populations within one percent of the size of the population in Nevada (Arkansas, Kansas, Mississippi, and Utah), the Silver State has the lowest graduation rate (see Figure 4).[c] The high school graduation rate in Kansas is 16 percentage points higher than Nevada. In the Intermountain West, Nevada is not alone in reporting a low graduation rate. The graduation rate for New Mexico's high school students is 1 percent lower at 70 percent.

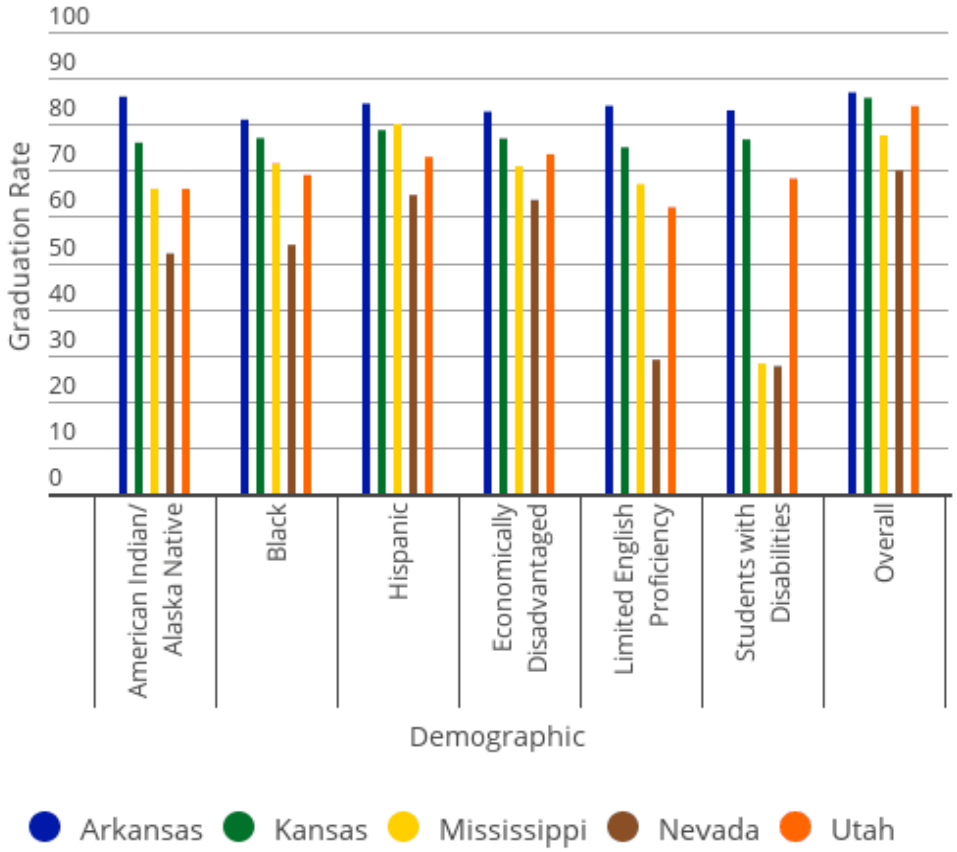
Figure 4: High School Graduation Rates of Selected U.S. States, 2013 Cohort[43]



When compared to other states within one percent of the population size of Nevada, the graduation rates in the Silver State for selected at-risk populations were also. Figure 5 compares the graduation rates for American Indians/Native Alaskan, African American, and Latino students; economically disadvantaged students; students with limited English proficiency; and students with disabilities in Arkansas, Kansas, Mississippi, Nevada, and Utah. [44]

[c] Arkansas population: 2.97 million; Kansas population: 2.90 million; Mississippi population: 2.99 million; Nevada population: 2.84 million; and Utah population: 2.94 million.

Figure 5: Graduation Rates for At-Risk Populations in States with Similar Population Sizes, 2014[45]

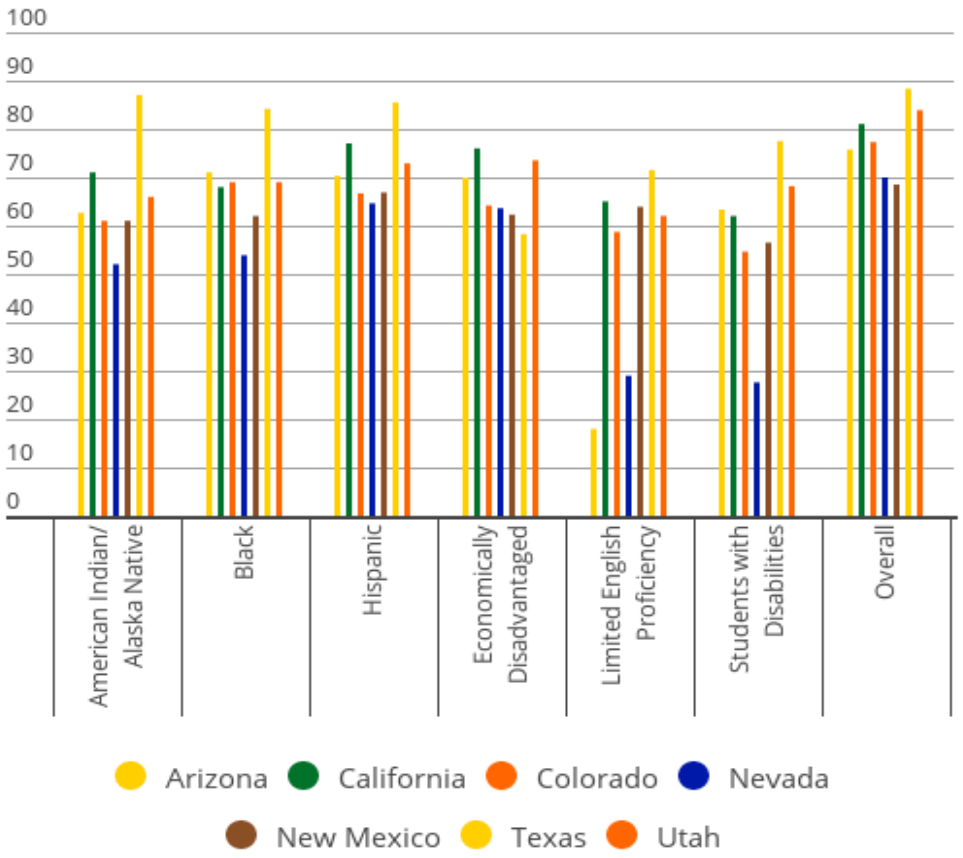


For the most part, these states have maintained the graduation rates for these at-risk populations within 10 percent or less of their overall graduation rate. The notable exceptions, which warrant focused attention to address, are:

- The graduation rates for students with disabilities in Mississippi and Nevada, which are both less than 30 percent and less than half each state's overall graduation rate.
- The graduation rates for American Indian/Alaska Native students in Nevada and Utah, which are more than 15 percent below the overall graduation rate.
- The graduation rate for students with limited English proficiency in Nevada, which is 41 percent below the overall graduation rate. [46]

As previously mentioned, Nevada has some of the worst graduation rates in the country for these selected demographics. Accordingly, the Silver State also performs poorly compared to its Intermountain West peers in the graduation rates for at-risk populations (see Figure 6).[47]

Figure 6: Graduation Rates for At-Risk Populations in the Intermountain West States, 2014[48]



In this comparison, there are only two instances where states in the Intermountain West had lower graduation rates for at-risk populations than Nevada:

- The graduation rate for economically disadvantaged students in New Mexico was 62.3 percent in 2014, 1.3 percent lower than the 63.6 percent rate in Nevada. In this category, New Mexico is ranked 49th and Nevada is ranked 47th in the U.S.
- Students with limited English proficiency in Arizona had a graduation rate of 18 percent in 2014, 11 percent lower than the 29 percent graduation rate in Nevada. The two states are ranked last and second-to-last in this category nationally.[49]

Among states with similar populations to Nevada, both the Silver State and Mississippi have jarring differences between statewide graduation rates and the graduation rates for students with disabilities (see Table 4). In Nevada, only 27.6 percent of students with disabilities went on to earn a traditional high school diploma in 2014, 42.4 percent lower than the overall graduation rate of 70.0 percent. One of the reasons that the graduation rate for students with disabilities is alarmingly low is because the Silver State offers a second pathway – namely the adjusted diploma.[50] Similarly, the graduation rate for

students with disabilities in Mississippi of 28.1 percent is 49.5 percent lower than the overall rate of 77.6 percent. The differences between the graduation rates for students with disabilities and the overall graduation rate for the remaining three states are all less than 20 percent: 3.8 percent in Arkansas, 9.0 percent in Kansas, and 15.7 percent in Utah.

Table 4: Graduation Rates for Students with Disabilities in Selected U.S. States, 2014[51]

	Students with Disabilities	Overall
Nevada	27.6%	70.0%
Arkansas	83.1%	86.9%
Kansas	76.7%	85.7%
Mississippi	28.1%	77.6%
Arizona	63.3%	75.7%
California	62.0%	81.0%
Colorado	54.6%	77.3%
New Mexico	56.5%	68.5%
Texas	77.5%	88.3%
Utah	68.2%	83.9%

In the Intermountain West, New Mexico and Colorado, in addition to Nevada, report that the graduation rate for students with disabilities is below 60 percent (see Table 4). The difference between the graduation rates for students with disabilities and the overall graduation rates for the other states in the region are as follows: Arizona, 12.4 percent lower; California, 19.0 percent lower; New Mexico, 12.0 percent lower; Texas, 11.8 percent lower; Utah 15.7 percent lower. Sadly, the 42.4 percentage point difference or gap in Nevada is staggering, and the biggest in the country.[52]

As graduation rates in Nevada and around the country have inched up, there are growing concerns about the value of the diploma. As reported on March 26, 2017 by Kevin Mankhen:

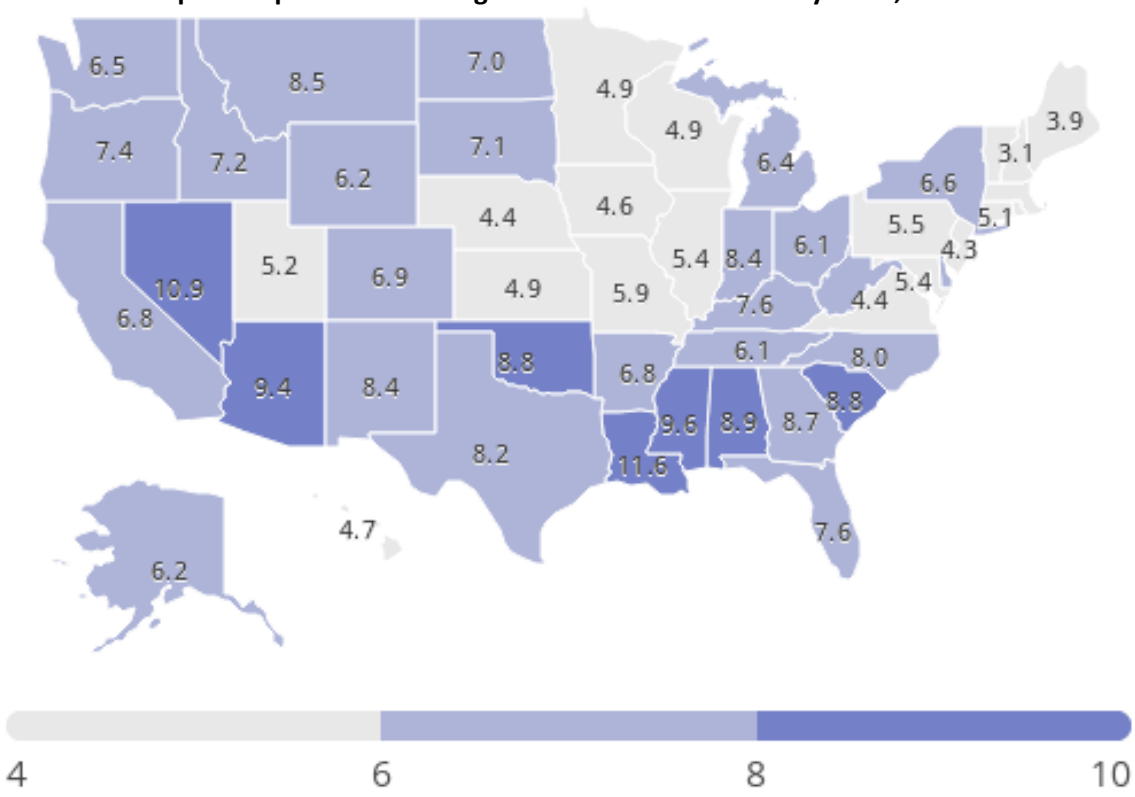
> "In rapid succession, state officials in both Alabama and Tennessee admitted that their much-improved graduation rates were artificially lifted through a combination of administrative oversight and statistical legerdemain. Both cases recall other recent episodes in which major jurisdictions juiced reports and loosened standards in order to make their results more palatable. Dropouts were made to disappear from the records. Students in alternative programs were left out of the count. Others were waved through even after failing exit exams"[53]

Closer to home, educators and students in the Silver State have expressed similar concerns with the overuse of the APEX credit recovery system, which is not perceived to have comparable standards of rigor, or practices in some schools that allow greater flexibility but undermine the quality of instruction.[54]

High School Dropout Rate

In addition to having a low graduation rate, Nevada reports a high dropout rate. Data from the U.S. Department of Education's Nation Center for Education Statistics (NCES) ranks Nevada as having the second-highest dropout rate among individuals age 16 through 24 in 2013 at 10.9 percent. This figure is well above the 6.8 percent national average. The only state reporting a higher dropout rate than Nevada is Louisiana at 11.6 percent. Nevada and Louisiana are the only two states with dropout rates reported at more than 10 percent.[55] Map 2 illustrates the dropout rate for individuals between 16 and 24 by state for 2013.

Map 2: Dropout Rate Among Persons 16-24 Years Old by State, 2013[56]



Compared with the four states of similar population sizes, Nevada has the highest dropout rate among individuals age 16 to 24 in 2013 (see Table 5).[57] Only Mississippi, with a 9.6 percent dropout rate, comes close to the 10.9 percent dropout rate in the Silver State. Neighboring Utah has a dropout that is less than half of Nevada's. Nearly all states in the Intermountain West—with the exception of Utah—have dropout rates at or above the 6.8 percent national average.[58]

Table 5: Dropout Rates for Selected U.S. States for Persons Aged 16-24, 2013[59]

	Dropout Rate (2013)
Nevada	10.9%
Arkansas	6.8%
Kansas	4.9%
Mississippi	9.6%
Arizona	9.4%
California	6.8%
Colorado	6.9%
New Mexico	8.4%
Texas	9.2%
Utah	5.2%

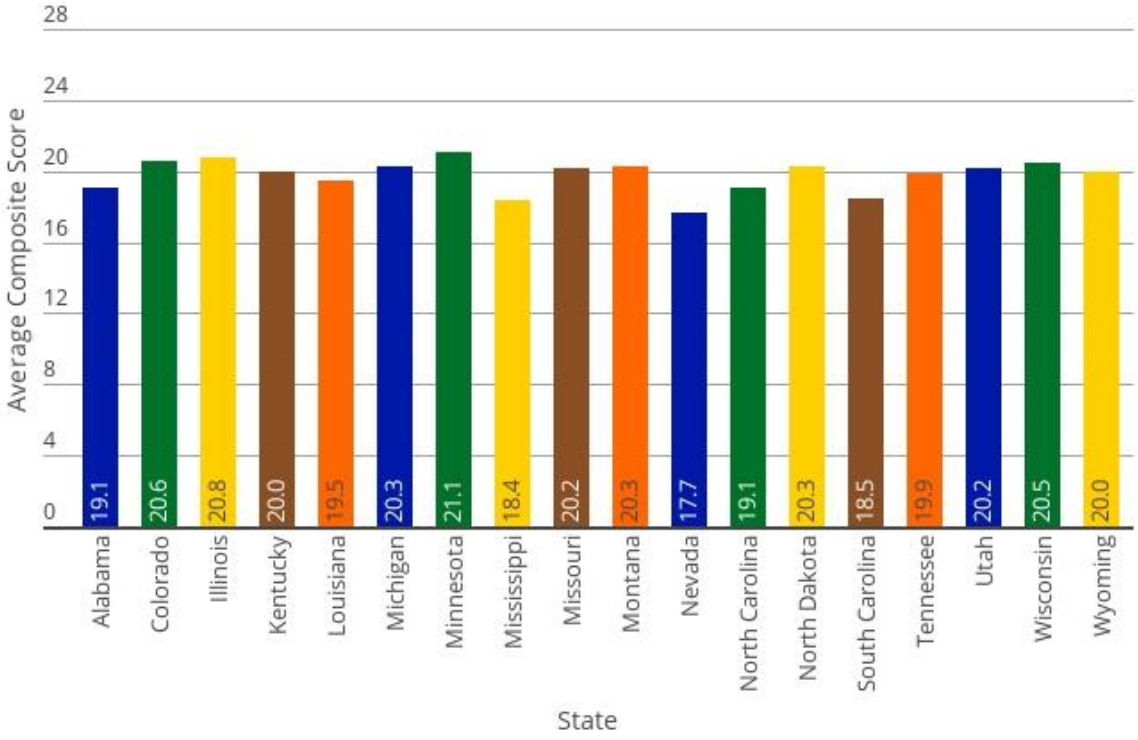
Low ACT Scores

Even those students that do graduate in Nevada are not leaving high school prepared for post-secondary opportunities – whether it be college or career. Nevada is one of more than one dozen states that require high school students to take the ACT exam, either with or without the writing portion.[d] Among the 18 states that require the ACT and among all 50 states and the District of Columbia, Nevada had the lowest average composite score of 17.7 out of 26 possible points. This score is also well below the national average composite score of 20.8.[60]

Figure 7 compares the scores of the 18 states that require high school students to participate either version of the ACT exam. Those states are: Alabama, Colorado, Illinois, Kentucky, Louisiana, Michigan, Minnesota, Mississippi, Missouri, Montana, Nevada, North Carolina, North Dakota, South Carolina, Tennessee, Utah, Wisconsin, and Wyoming.

[d] In 2013, the Nevada Legislature passed Assembly Bill (AB) 288, which requires that Nevada public high school students beginning in 2014 would be required to take the ACT (with writing) as Nevada's College and Career Readiness Assessment (CCR)

Figure 7: Average Composite Scores of States that Require the ACT Exam, 2016[61]



Two of the four states with a population similar to Nevada's require the ACT exam. The average composite score for Mississippi was 18.4, 0.7 points higher than Nevada. Utah had a score of 20.2, 2.5 points higher than Nevada.[62] Colorado, the other Intermountain West state that requires the ACT, had an average composite score of 20.6, 2.9 points higher than Nevada.[63]

In addition to low composite scores, few students in Nevada met the four subject area benchmarks on the ACT. Data for 2016 reveals that only 37 percent of students met the benchmark in English, 26 percent in reading, 21 percent in math, and 18 percent in writing (see Table 6).[64] All four of these figures are significantly below the national average rate at which students met the benchmarks: 61 percent in English, 44 percent in reading, 41 percent in math, and 36 percent in writing.

Of all 50 states and the District of Columbia, Nevada ranked last in the percent of students reaching the English, reading, and writing benchmarks. For the math benchmark, Nevada ranked second-to-last just ahead of Mississippi, which had 20 percent of students meeting the benchmark.[65] The poor performance of Nevada's high school students on the ACT exam has two major impacts: low numbers of high school graduates matriculating into college and high numbers of students in college requiring remediation classes at Nevada's public colleges and universities.

Table 6: Percentage of Students That Met Four Subject Area Benchmarks on the ACT Exam, 2016[66]

	Nevada	U.S.
Math	21%	41%
English	37%	61%
Reading	26%	44%
Writing	18%	36%

College-Going Rate in Nevada

Not surprisingly, given the low graduation rate and the low ACT scores, Nevada is ranked 44th nationally for the rate at which high school graduates enter college immediately after graduation.[67] Only 51.8 percent of Nevada's high school graduates in the 2010 cohort enrolled in college in the fall of the same year, compared to the national average of 62.5 percent.[68] Although the college-going rate in Nevada has improved since 2000, it has consistently remained well below the national average (see Figures 8 and 9).[69] Among states with similar populations, Nevada's college going rate is lower than its peers. For example, only 26.6 percent of Nevada's 18-24 year olds are enrolled in college, compared to 35.3 percent in Arkansas, 43.3 percent in Kansas, 36.7 percent in Mississippi, and 37.6 percent in Utah.[70]

Figure 8: College-Going Rates of Recent High School Graduates in Nevada, 2000-2010[71]

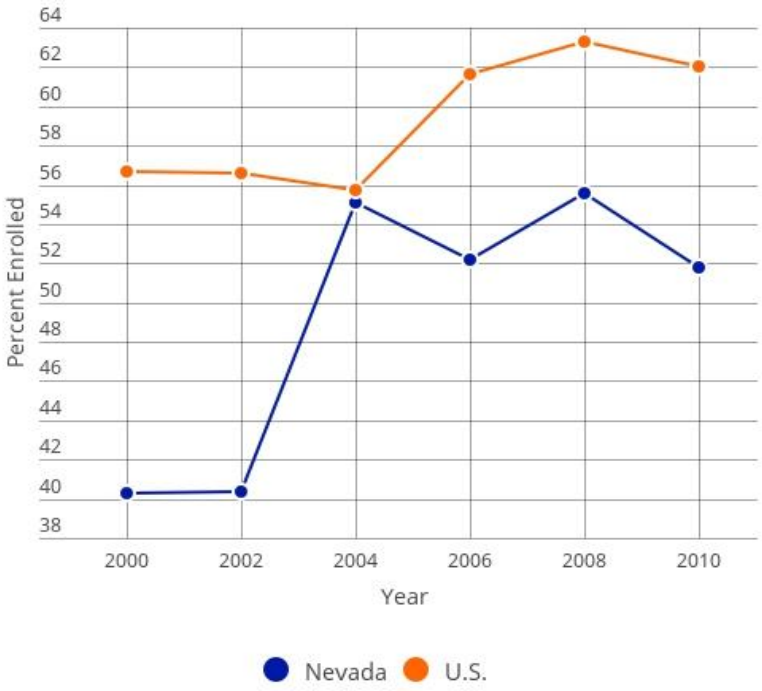
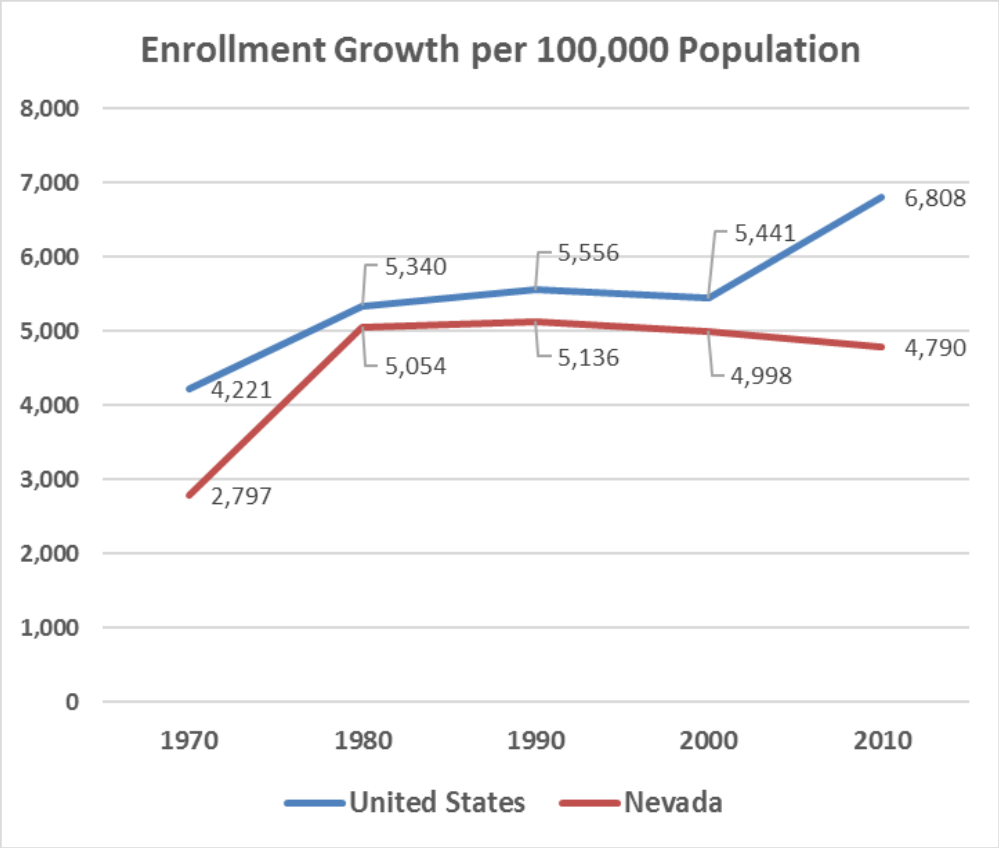


Figure 9: Enrollment Growth per 100,000 Population



High school students in Nevada graduate with one of three types of diplomas: standard, advanced, and advanced honors. The Standard Diploma requires 3 years of math and 2 years of science while the Advanced Diploma requires 4 years of math, 3 years of science, and a 3.25 GPA (unweighted). On average, students who graduate with advanced diplomas have higher continuation rates at NSHE institutions (see Table 7).[e]

[e] The remaining students may either enroll in institutions outside of Nevada or not enroll at all.

Table 7: Continuation Rate of High School Graduates in NSHE Institutions, 2015

County	Graduation Rate (2015)	Diploma Type		College Going Rate by Type of Diploma	
		Advanced	Standard	Advanced	Standard
Carson City	74.3%	33.0%	67.0%	63.0%	42.0%
Churchill	67.2%	50.0%	50.0%	59.0%	27.0%
Clark	72.1%	27.0%	73.0%	63.0%	38.0%
Douglas	90.6%	37.0%	63.0%	59.0%	44.0%
Elko	80.0%	34.0%	66.0%	55.0%	37.0%
Esmeralda					
Eureka	100.0%	53.0%		30.0%	22.0%
Humboldt	83.0%	38.0%	62.0%	65.0%	37.0%
Lander	75.3%		100.0%		50.0%
Lincoln	72.6%	50.0%	50.0%	4.0%	21.0%
Lyon	74.7%	35.0%	65.0%	61.0%	33.0%
Mineral	88.9%		63.0%	44.0%	27.0%
Nye	69.2%	36.0%	64.0%	54.0%	18.0%
Pershing	83.3%	58.0%	42.0%	55.0%	6.0%
Storey	80.0%		63.0%	56.0%	27.0%
Washoe	75.0%	49.0%	51.0%	70.0%	39.0%
White Pine	81.3%	22.0%	78.0%	47.0%	29.0%
State	70.8%			64.0%	38.0%

Remediation and Post-Secondary Outcomes

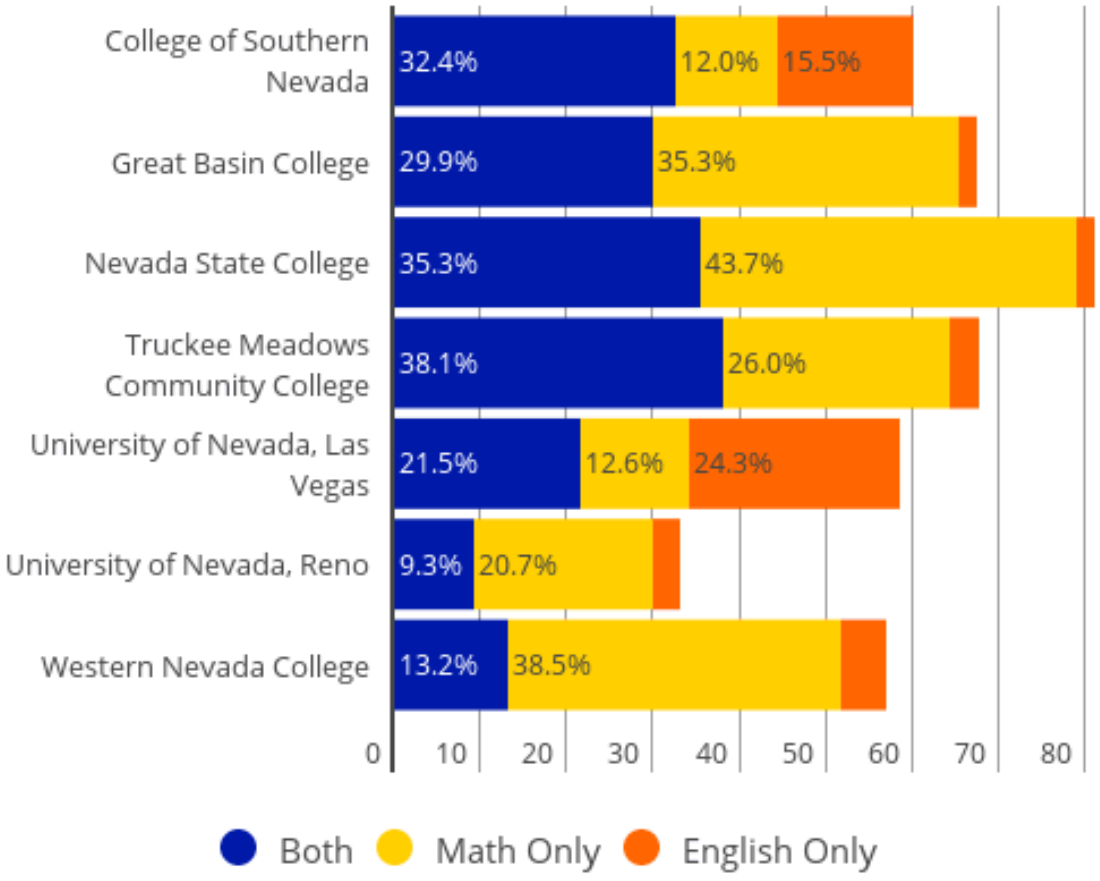
Nevada's high school graduates that go on to attend one of the state's public colleges or universities are frequently underprepared for college-level work. According to the Nevada System of Higher Education (NSHE) Remedial Placement and Enrollment Report for 2014-2015, nearly half (49 percent) of students at four-year colleges and 61.3 percent of students at two-year colleges in Nevada place into remedial classes in English, math or both.[72] Nevada's remediation rate (61.3 percent) for students entering two-year colleges is significantly higher than the national average, which was 35.0 percent (as of 2011-2012).[73] Research indicates "that the on-time graduation rates for college students who begin in remedial education is somewhere around 10 percent."[74]

The state's three four-year schools have student populations comprised almost entirely of in-state students: 99 percent of students at Nevada State College are in-state residents; 83 percent of students at the University of Nevada, Las Vegas (UNLV) are in-state residents; and 70.2 percent of students at University of Nevada, Reno (UNR) are in-state residents.[75] Roughly 80 percent of students at Nevada State College, 58.4 percent of students at UNLV, and 33.1 percent of students at UNR placed below college level in English, math, or both.[76]

The remedial placement rates at Nevada's two-year community colleges are similar: 59.9 percent at College of Southern Nevada, 67.5 percent at Great Basin College, 67.6 percent at Truckee Meadows Community College, and 57.0 percent at Western Nevada College.[77] Figure 10 illustrates the rate at

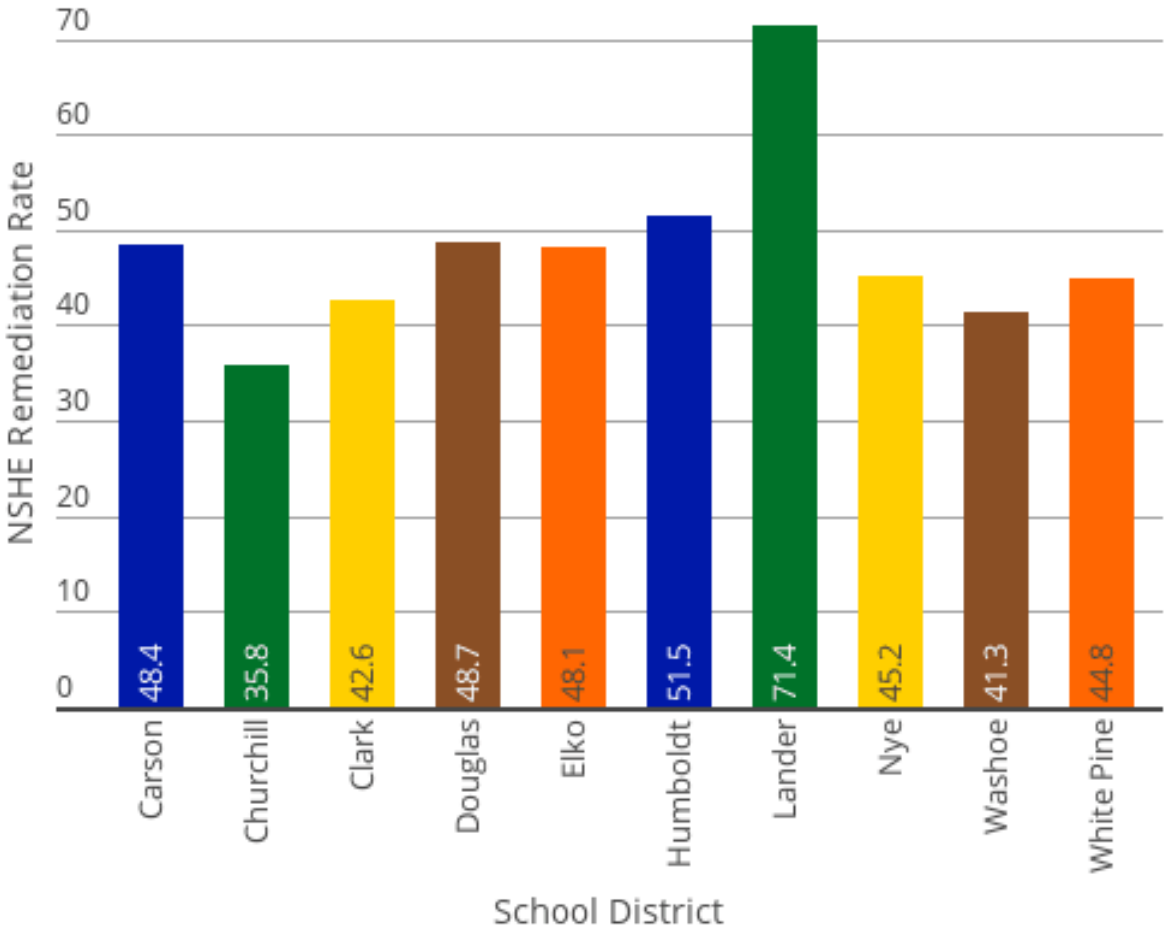
which recent high school graduates are placed in remedial English, math, or both at NSHE institutions. Many students across NSHE schools need remediation in both subject areas, and those that only need one subject, typically need help in math.[78]

Figure 10: Remedial Placement Rates for Recent High School Graduates at NSHE Schools, 2015[79]



Several school districts in Nevada have also reported the remediation rate of their graduates who have enrolled in an NSHE institution. The remediation rate varies by district, with a median of 45.2 percent of students from the class of 2015 requiring remediation in the fall of 2015 (see Figure 11). At the low end, only 35.8 percent of Humboldt County School District graduates required remediation, and at the high end, 71.4 percent of Lander County School District graduates required remediation.[80]

Figure 11: Remediation Rates at NSHE Institutions by K-12 School District, 2015[81]



As Table 8 indicates, the need for remediation varies significantly across district and by diploma type. In general, students who graduate with an advanced diploma are less likely to require remediation at NSHE institutions.

Table 8: Remediation Rates by Type of Diploma, by School District (2014-2015)[82]

County	Placed in Remedial English & Math		Placed in Remedial English		Placed in Remedial Math	
2014-2015	Advanced	Standard	Advanced	Standard	Advanced	Standard
Carson City	1.0%	17.0%	13.0%	4.0%	8.0%	39.0%
Churchill	10.0%	36.0%	10.0%	4.0%	16.0%	25.0%
Clark	10.0%	36.0%	17.0%	19.0%	8.0%	14.0%
Douglas	10.0%	24.0%	7.0%	3.0%	12.0%	40.0%
Elko	10.0%	33.0%	7.0%	4.0%	22.0%	36.0%
Esmeralda						
Eureka	0.0%	50.0%	0.0%	50.0%	0.0%	50.0%
Humboldt	8.0%	37.0%	12.0%	4.0%	29.0%	30.0%
Lander		25.0%		6.0%		42.0%
Lincoln	0.0%	20.0%	0.0%	0.0%	100.0%	20.0%
Lyon	4.0%	25.0%	8.0%	3.0%	17.0%	48.0%
Mineral	50.0%	75.0%	0.0%	0.0%	0.0%	0.0%
Nye	12.0%	37.0%	10.0%	10.0%	18.0%	20.0%
Pershing	8.0%	100.0%	0.0%	0.0%	33.0%	0.0%
Storey	0.0%	0.0%	40.0%	0.0%	0.0%	25.0%
Washoe	8.0%	28.0%	10.0%	4.0%	16.0%	37.0%
White Pine	0.0%	25.0%	0.0%	10.0%	22.0%	25.0%
State	9.0%	34.0%	14.0%	15.0%	11.0%	19.0%

Existing Pathways in Nevada

Career and Technical Education (CTE)

The Nevada Department of Education (NDE) currently offers 76 CTE programs across the state, which are present in all but two school districts. NDE has six program areas of study (Agricultural and Natural Resources, Business and Marketing Education, Education, Hospitality and Human Services, Health Science and Public Safety, Information and Media Technologies, and Skilled and Technical Sciences).[83]

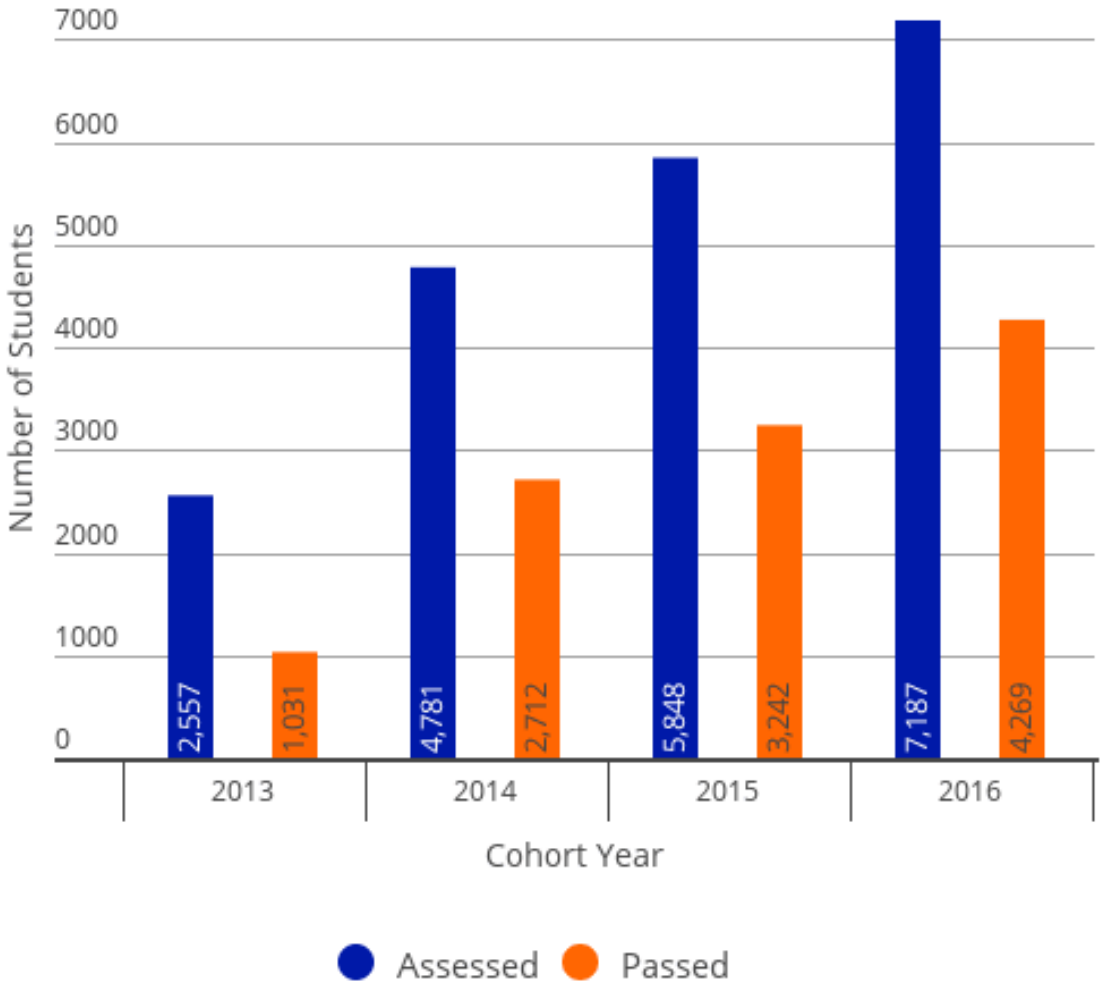
Secondary students may enroll in CTE courses at any time during their secondary school career. However, to earn a CTE Certificate of Skill Attainment (and earn college credit), students must complete all required coursework in the CTE program of study. Upon successful completion of a CTE program, NDE offers the following: (a) Certificate of Skill Attainment and the (b) CTE Endorsement on a high school diploma. CTE College Credit is free and is awarded to students who: (1) complete the CTE course sequence with a grade-point average of 3.0 or higher; (2) pass the state end-of-program technical assessment for the program; and (3) pass the Workplace Readiness Assessment for employability skills.

In 2015-2016, Nevada had 11,243 CTE concentrators in high school. Nevada high school students who are currently enrolled in a CTE program are also required to take two additional End Of course Exams (EOCs): Workplace Readiness Skills Assessment, which measures a student's proficiency in Nevada's state standards for Employability Skills for Career Readiness, and the end-of-program technical assessments, which determine a student's skill attainment in their program sequence.[84, f]

On the end-of-program technical assessments, the pass rate was only 55.4 percent in 2015, 56.7 percent in 2014, and 40.3 percent in 2013. Figure 12 reveals the number of students who passed the end-of-program technical assessments compared with the number of students who took these exams.[85] The percent of CTE certificate earners in Nevada is significantly lower than other states, including Florida.

[f] In recent years, the Nevada Legislature mandated new end-of-course (EOC) exams across the core curriculum to measure students' understanding of the content areas. Students graduating in the 2017 and 2018 cohorts are not required to pass these exams to obtain a diploma, but students in the 2019 cohort and beyond will be required to pass the exams to graduate. The courses tested are as follows: Math 1 (Algebra I), Math 2 (Geometry), Integrated Mathematics 1, Integrated Mathematics 2, and English Language Arts. Of the four mathematics exams, districts are given the option of testing students in either Math 1 and 2, referred to as the traditional pathway, or Integrated Mathematics 1 and 2, referred to as the integrated pathway. The choice of which exam to administer is up to the districts and is based on what type of pathway the mathematics curriculum in that district follows. The 2020 cohort and beyond will also be required to pass a Science exam and an ELA Combined reading and writing exam.

Figure 12: CTE End of Program Technical Assessment Results, 2013-2016[86]



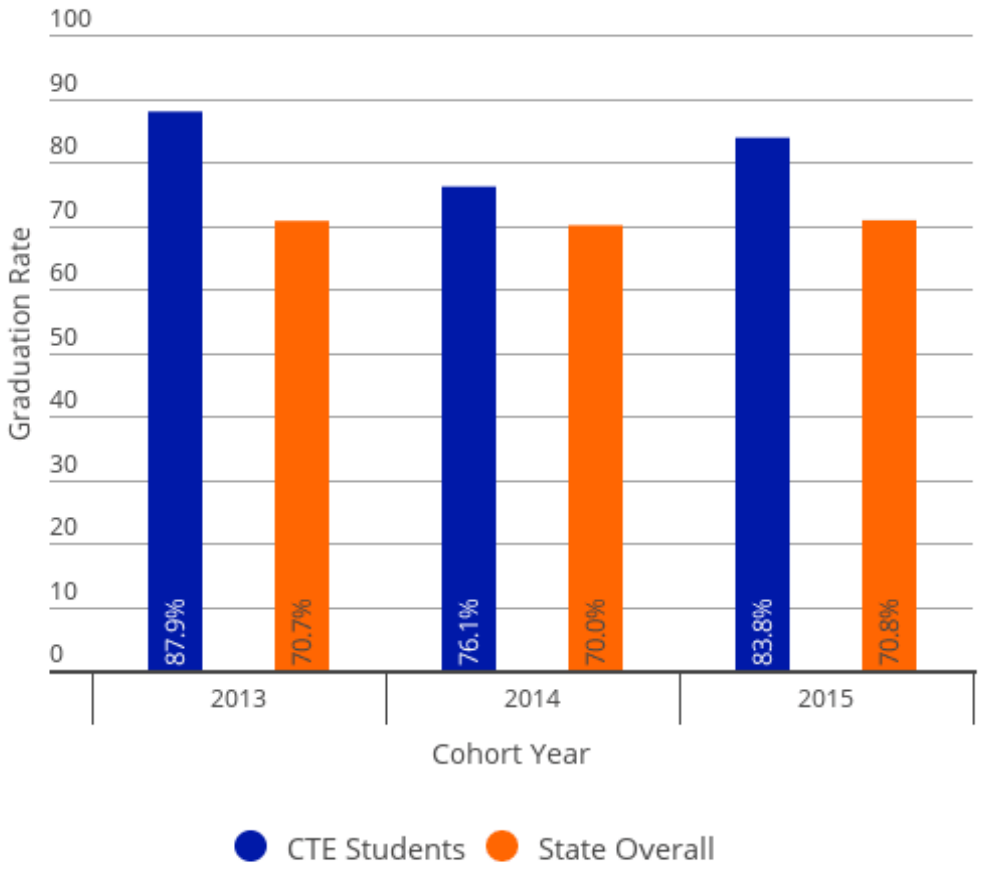
Furthermore, few students in CTE programs go on to earn certificates (and college credit) in their chosen fields. For the 2016 cohort, only 3,234 of 7,187 eligible students, or 45.0 percent, were awarded an industry certificate that would enable them to seek skilled employment positions in their chosen field.[87] Research indicates that "this low completion rate was largely due to the inability of students to maintain a "B" average."[88] Table 9 lists the number of CTE certifications awarded in 2016 for the 15 different career clusters offered in the state. In 11 of the 15 clusters, less than half of students earned a CTE certificate by graduation. Five clusters had fewer than 40 percent of students earning a certificate.

Table 9: Nevada CTE Certificate Earners by Career Cluster, 2016 Cohort[89]

Career Cluster	Program Completers	Certificate Earners	Percent
Agriculture, Food, and Natural Resources	421	176	41.8%
Business, Management, and Administration	221	85	38.5%
Finance	17	2	11.8%
Marketing, Sales, and Service	386	132	34.2%
Early Childhood Education	166	105	63.3%
Hospitality and Tourism	728	316	43.4%
Human Services	125	88	70.4%
Health Science and Public Safety	953	470	49.3%
Law, Public Safety, Corrections, and Security	323	211	65.3%
Arts, A/V Technology and Communications	1331	577	43.4%
Information Technology	619	331	53.5%
Architecture and Construction	658	296	45.0%
Manufacturing	301	95	31.6%
Science, Technology, Engineering, and Mathematics (STEM)	419	208	49.6%
Transportation, Distribution, and Logistics	519	142	27.4%
Total	7,187	3,234	

What makes these findings particularly troublesome is the fact that CTE students have a higher graduation rate than the statewide averages (see Figure 13). Year over year students who have participated in CTE programs during high school have graduated at a much higher rate than other high school students in Nevada. For the 2013 cohort, CTE students had a 16.9 percent higher graduation rate than the state graduation rate. In 2014, the difference was 6.1 percent, and in 2015, 13.0 percent.[90] For the 2015 cohort, CTE students had a 13 percent higher graduation rate.

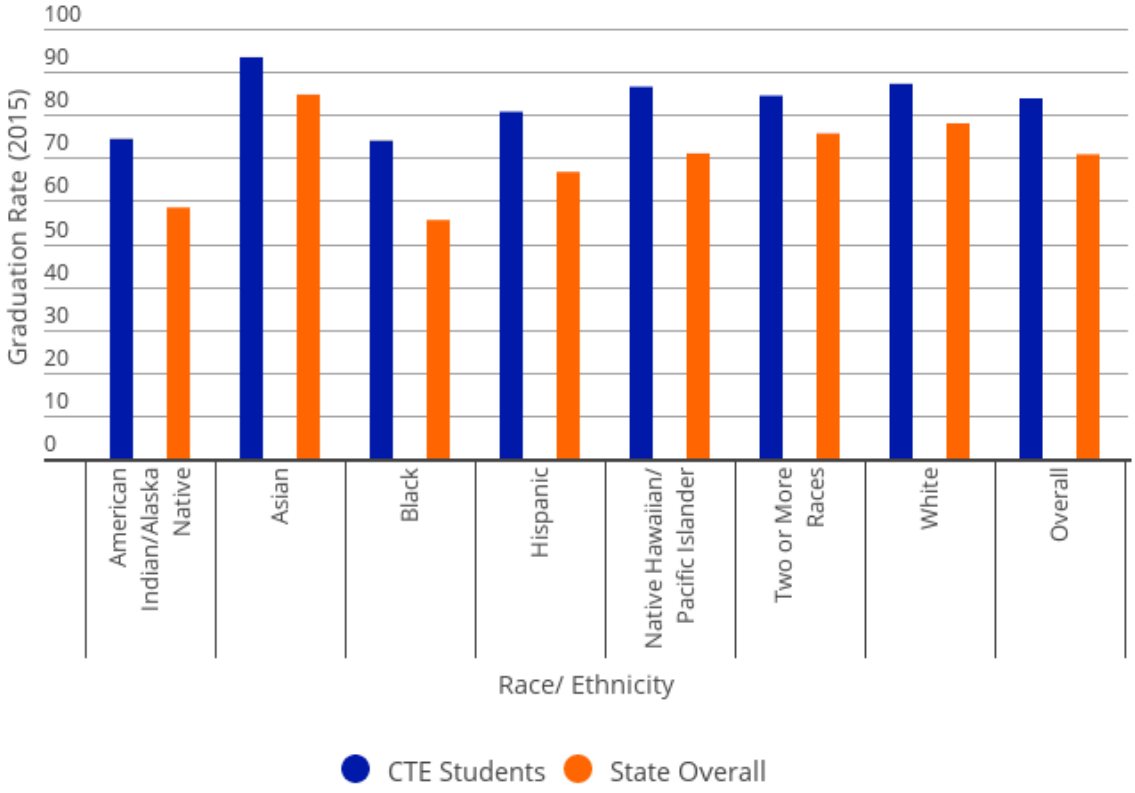
Figure 13: High School Graduation Rates for CTE Students in Nevada, 2013-2015[91]



In addition, when broken down by race, the graduation rate for CTE program concentrators exceeds the statewide graduation rates by race (see Figure 14).[92] For every race/ ethnicity, the graduation rate for CTE concentrators exceeded not only the statewide graduation rate for that particular race and/or ethnic group, but the rates were all also above the statewide average graduation rate of 70.8 percent for 2015.

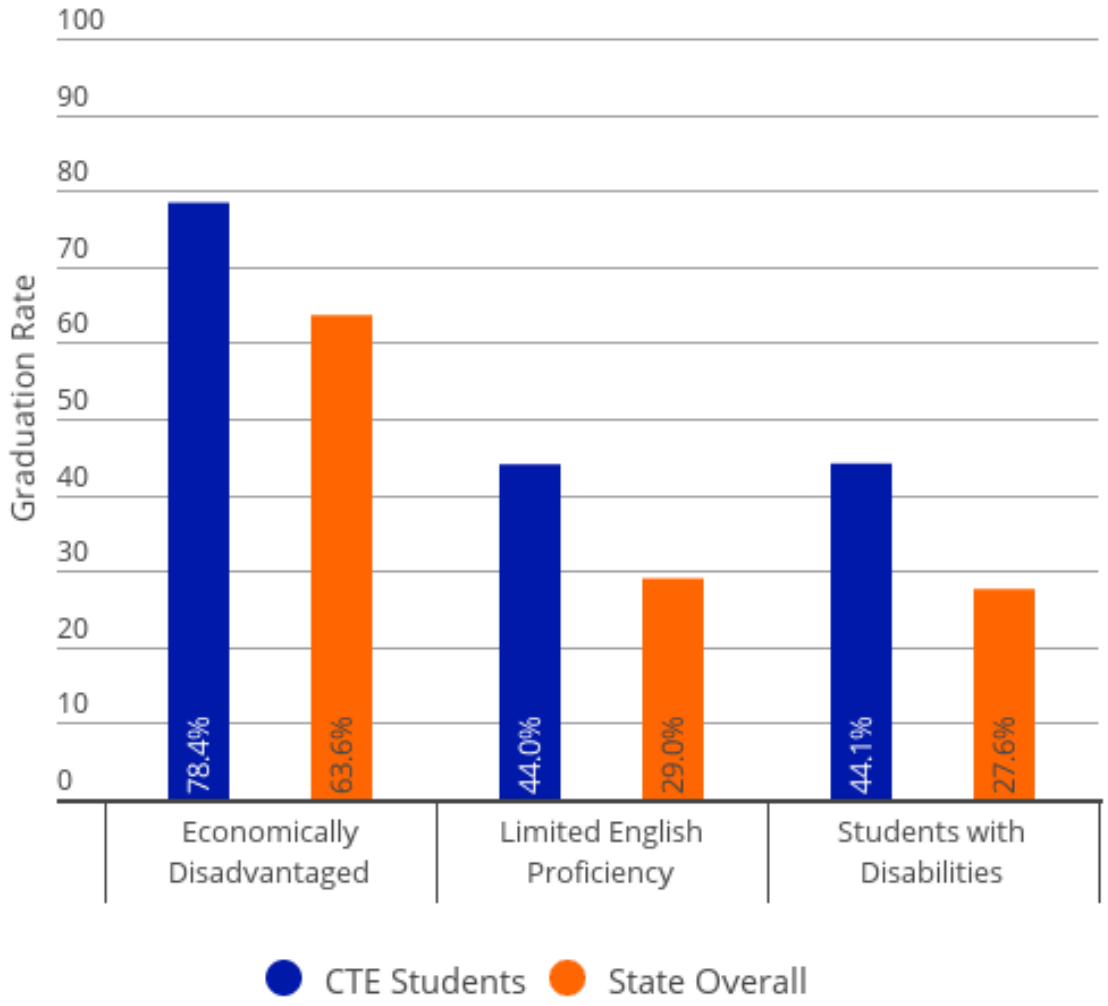
Native American CTE students have a 74.4 percent graduation rate, compared to the 58.4 percent statewide graduation rate. African American CTE students have a 74.4 percent graduation rate, nearly 20 percent higher than the 55.5 percent graduation rate statewide. Latino students have a graduation rate of 80.7 percent, 14 percent higher than statewide.

Figure 14: High School Graduation Rate for CTE Students by Race/Ethnicity, 2015[93]



Furthermore, for other at-risk populations in CTE programs—economically disadvantaged students, students with limited English proficiency, and students with disabilities—all also graduate from high school at rates above the statewide rates for the same demographics (see Figure 15).[94]

Figure 15: High School Graduation Rates for CTE Students in Certain At-Risk Populations, 2015[95]



As Figure 15 indicates, these subgroups of high school students enrolled in CTE programs graduate at significantly higher rates than the overall averages for these populations. Economically disadvantaged students in CTE graduate 14.8 percentage points higher than their peers who are not enrolled in CTE, and above the statewide graduation rate of 70.8 percent for all students. Students with limited English proficiency graduate 15 percentage points higher than non-CTE limited English proficiency students, and students with disabilities graduate 16.5 percentage points higher than students with disabilities who are not enrolled in CTE. [96]

Additionally, research demonstrates "positive outcomes for students who take CTE courses. Involvement in these programs results in students being twice as likely to obtain full-time jobs after high school than students not involved. CTE program involvement also results in higher pay […]."[97]

Select Schools and Signature Academies

Nevada has less than one dozen Career and Technical Academies (CTAs), most of which rank among the highest-performing high schools in the state (and even the nation). Stand-alone CTAs are more expensive than comprehensive high schools. As such, Washoe County School District and Clark County School District have taken CTA/CTE programming and curriculum into comprehensive high schools. These are referred to as Signature Academies in Washoe County School District and Select Schools in Clark County School District. Less than 20 percent of Nevada's high school students have access to a CTA, Signature Academy, or Select School.[98]

Dual Credit

School districts and institutions within the Nevada System of Higher Education offer dual credit courses to students. These are college-level courses provided at a reduced cost on the student's high school campus and taught by a licensed high school instructor. As reported by NDE in March 2017, students in 2015-2016 earned more than 8,000 credit hours and saved over $700,000 by enrolling in dual credit courses. Dual credit opportunities are not distributed across the state, however. Many high school students in rural school districts (and the urban core) do not have access to dual credit courses. In North Las Vegas, for example, only one high school offers a single dual credit course.[99]

One of the barriers to expanding dual credit programs is the lack of authorized teachers who can teach college-level courses in high schools. Some districts are exploring creative partnerships to address this challenge. For example, Clark County School District (CCSD) and College of Southern Nevada (CSN) have launched a partnership in which CSN is providing instructors to teach CTE courses in robotics and advanced manufacturing at a CCSD Career and Technical Academy. In September 2016, the Elko County School District, Great Basin Community College, and Communities in Schools received a U.S. Department of Agriculture grant to expand dual credit courses and advanced placement courses in the rural areas of Nevada.

Jump Start

The Jump Start Concurrent Enrollment Program, another partnership between school districts and community colleges within NSHE (e.g. College of Southern Nevada, Truckee Meadows Community College, and Western Nevada College) allows high school students to enroll in college-level courses at a reduced fee to jump start their college careers. Classes are held at select high school campuses and are taught by high school teachers who have been authorized by NSHE institutions. Currently, the Jumpstart program is limited to a handful of schools in Clark County School District and Washoe County School District.

Additional Programs

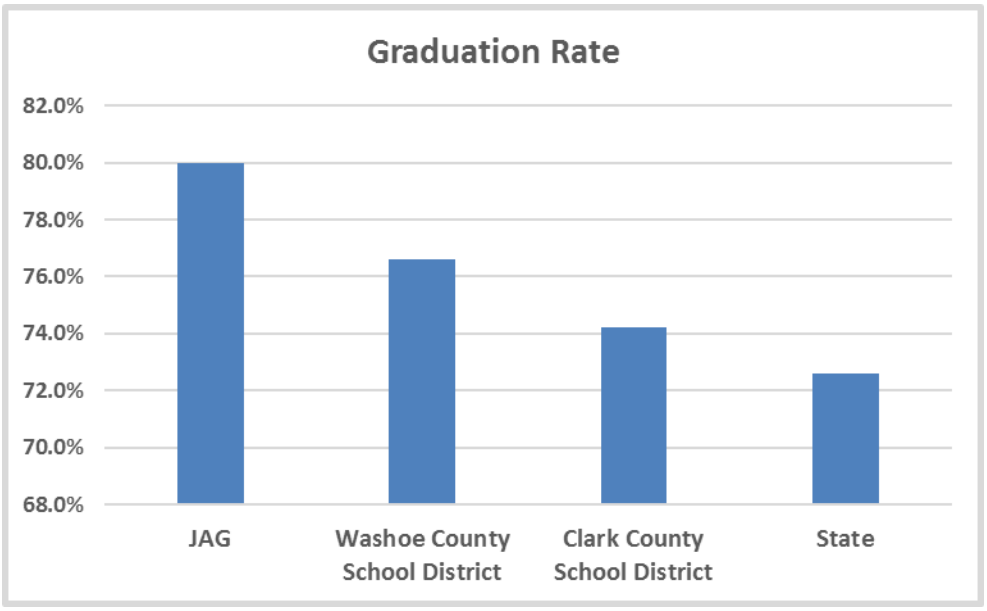
Several programs exist to address the Silver State's troubling graduation and high school dropout rates. In the next few pages, we review three programs that are operating around the state: Jobs for America's Graduates Nevada, GEAR UP, and Communities in Schools. This list, however, is not exhaustive and there are other programs that exist to support high school students and strengthen college and career pathways.

Jobs for America's Graduates (JAG) Nevada

Jobs for America's Graduates (JAG) is a national nonprofit that launched in Nevada in 2012. The purpose of the program is to help reduce the dropout crisis by providing support toward graduating high school and comprehensive job training and placement to at-risk youth.[100] Since its inception, JAG Nevada has grown from supporting students at eight schools in Clark, Lyon and Washoe counties to 37 schools in 10 counties in 2016.[101] The program will be offered at 50 schools in 12 counties in 2017. Students each receive an average of 85.5 hours of contact with the JAG program in a given school year.[102]

Participants in the JAG program have seen improved outcomes compared to their peers. JAG Nevada graduates in 2016 had an 80.0 percent graduation rate, which is above the graduation rates for the state and six K-12 school districts, including Clark and Washoe counties, the two largest districts in the state.[103] Figure 16 compares the graduation rates of JAG students, Clark and Washoe counties, and the state overall.

Figure 16: Graduation Rate for JAG Nevada Students (2016)[104]



What makes the JAG Nevada graduation rate particularly remarkable is that the program specifically targets at-risk students who face several significant barriers to their academic success, including:

- Below average GPA (2.06 on a 4.0 scale)
- High rate of absences from school (an average of 10.6 days)
- Low class rank (43.3 percent of students are in the bottom 50 percent of the class)
- Living in a single-parent household (53.6 percent of program participants)
- Needing to pass at least one or more proficiency exam (60.9 percent of participants). [105]

JAG Nevada has also reported remarkable success in placing students after they graduation from high school. For the 2016 cohort, 82.0 percent were either working fulltime, or enrolled in school fulltime, or in the military.[106]

The State General Fund allocated $1.7 million in Fiscal Year 2016 and $2.8 million in Fiscal Year 2017 to continue to expand the program across the State. [107] For 2017 Legislative Session, Governor Brian Sandoval hopes to expand the program to include more one- and two-star schools (in the Nevada School Performance Framework). [108]

GEAR UP

In 2012, the State of Nevada was awarded a $21 million grant from the U.S. Department of Education to expand the GEAR UP (Gaining Early Awareness and Readiness for Undergraduate Programs) program across the state over the next seven years.[109] The goal of GEAR UP, which has been in Nevada since 2005, is to increase the number of low-income students who enroll in postsecondary education and to provide them with the necessary tools to persist and graduate. The program also provides students and their families with information about financing options for college. [110]

More than 5,500 students in 32 schools in 10 counties across the state have participated in the program, which begins in a student's 7th grade year and runs through senior year of high school.[111] More than 79 percent of recent college-ready participants in the program have enrolled in postsecondary education.[112] At the end of their sophomore year of high school, the 2012 GEAR UP cohort performed better than other low-income students on the reading and math Nevada High School Proficiency Exams, the required exit exams given to high school students at that time. [113]

Another critical component of the program is the exposure and education it provides low-income students and their families on navigating the college process.[114] In 2006, one year after the program began, 58 percent of students in GEAR UP and their parents had been advised about financial aid and 61 percent had been advised about college entrance requirements and college preparation requirements. By 2010, 70 percent had been advised about the different types of financial aid available and 76 had been advised about college admissions.[115]

Communities in Schools

Communities in Schools is a national nonprofit that operates in Nevada, and provides services in northeastern Nevada (Elko), northwestern Nevada (Reno), and southern Nevada (Las Vegas). Communities in Schools brings together all sectors of the community – from businesses and other

nonprofits to government agencies and faith-based organizations – to provide the resources that help students to graduate on time, prepared for college, career and life.

Among the services CIS offers is the CIS Academy, in partnership with the Clark and Elko County School Districts. The CIS Academy is an in-school, dropout prevention program that assists at-risk youth at targeted schools with successfully starting and completing high school. CIS Academy teachers use tutoring and credit redemption programs to help students catch up academically. Career exploration and service-learning experiences help students develop real-life skills and plan for the future.

CIS Academy students enrolled in the fully scaled program in 2012-13 made the following gains:

- 93 percent of students decreased the number of out-of-school suspension days
- 90 percent of students decreased the number of days they spent in in-school suspension
- 85 percent of 12th grade students graduated
- 68 percent of students increased their grade point average, and
- 65 percent of students maintained or increased the number of credits earned.

CIS conducts a needs assessment to identify and help develop a plan for each student. CIS then works with partners to provide integrated student supports to students (and their families). CSI then monitors and evaluates student outcomes.

Programs and Interventions to Strengthen Pathways

States around the country has grappling with how to improve secondary pathways and improve college and career readiness among students in high school (and even middle school). Nevada's low standing among other states on a variety of college and career readiness metrics and secondary and post-secondary outcomes suggests that Nevada's political leaders and education officials should direct attention and resources to strengthen college and career readiness and secondary school pathways.

Lessons from Other States

Several states that share either similar demographics and/or student outcomes to Nevada have implemented innovative pathways and programs aimed at increasing graduation rates, and strengthening college and career readiness and secondary pathways. Table 10 provides a summary of the states that this report discusses. Table 11 compares educational outcomes in Nevada to the other states whose programs we discuss in the following pages.

Table 10: Innovative Programs to Increase High School Graduation Rates

State	Program Name	Description
Florida	CTE Dual Enrollment	Florida offers students the opportunity to enroll in college courses either as an acceleration option or as a way to earn credit toward a degree or industry certification.
Colorado	ICAP and P-TECH	Colorado law requires a parent signature on a student's academic plan before ninth grade. The state also created Pathways to Early College High Schools, six-year programs in which students graduate with a STEM associate's degree.
Louisiana	Tech and University Pathways	Students in 11th and 12th grades are able to choose whether to concentrate on an academic or a career diploma. Career students are able to graduate with a credential in a specialty career.
Mississippi	High School Graduation Pathways	Mississippi offers four pathways to graduation, including a pathway for Career students and one for academically gifted students.
North Carolina	Two Courses of Study Leading to One Diploma	Students on either track must earn a total of 22 credits, but students on the occupational track focus at least 10 of these credits on CTE electives and occupational preparation.
Texas	Foundation High School Program	A single academic track which can be customized with one or more of five Endorsements: STEM, Business and Industry, Public Services, Arts & Humanities, or Multidisciplinary Studies .

Table 11: Comparison of Educational Outcomes

	Graduation Rate (2015)	Dropout Rate (2013)	College Going Rate (2010)	ACT Score
California	82.0%	6.8%	61.7%	
Colorado	77.3%	6.9%	61.2%	20.6
Florida	77.9%	7.6%	63.1%	
Indiana	87.1%	8.4%	65.8%	
Louisiana	77.5%	11.6%	64.7%	19.5
Mississippi	75.4%	9.6%	78.8%	18.4
North Carolina	85.6%	8.0%	64.1%	19.1
Nevada	71.3%	10.9%	51.8%	17.7
South Carolina	80.3%	8.8%	68.3%	18.5
Texas	89.0%	8.2%	56.2%	

Florida

Florida's dual enrollment program served 65,104 high school students across the state in 2016, reflecting a 62.5 percent increase since 2012 and up from 33,000 students in 2007-2008. For students enrolled in a public high school, all tuition and fees for these classes are free of charge.[116] A student can use dual enrollment to engage in a more rigorous curriculum or as an opportunity earn credit toward a degree or industry certification.[117]

A report published by the Florida Department of Education found that students who enroll in dual enrollment courses perform better than their peers who did not pursue this option when they enter college. In college-level algebra, 91.5 percent of dual enrollment graduates earned a grade of a C or better. This rate is nearly 20 percent better than for high school graduates who took college-level algebra without having previously enrolled in a dual enrollment program. Likewise, 94.9 percent of dual enrollment graduates earned a C or better in freshman composition, a rate more than 10 percent higher than the 83.3 percent of non-dual enrollment graduates in the same course.[118]

Alternatively, Florida State Statutes contain provisions that allow high school students to use dual enrollment to pursue Career and Technical Education (CTE) industry certifications.[119] The purpose of the program is to increase the number of postsecondary degrees and certificates in the state.[120] Two-thirds of the fastest-growing careers in Florida are considered "middle-skilled jobs" meaning that they only require a certificate or associate's degree, and the Florida Department of Education says that CTE dual enrollment is a way for students to jumpstart a career in one of these fields.[121,g]

The CTE component of Florida's dual enrollment program has had a significant impact on the educational outcomes for male and low-income students. These populations were found to be more likely to obtain an industry certification or enroll in postsecondary education if they participated in the

[g] Similarly, by 2020, roughly 60 percent of jobs in Nevada will be middle-skilled jobs, meaning that they will require some sort of post-secondary degree or certificate, but less than a four-year degree.

dual enrollment program.[122] A study conducted by the National Research Center for Career and Technical Education at the University of Minnesota found that CTE dual enrollment students had a 98.99 percent graduation rate in 2006, more than 10 percent higher than the overall graduation rate of 88.43 percent for the Florida sample in the study.[123,h]

To expand more opportunities for postsecondary degrees and certificates, the Florida State Board of Education has developed several articulation agreements with higher education institutions across the state that have a minimum guarantee of articulated credits for students who earned a CTE industry certification during high school. These include pathways toward more advanced industry certifications, an associate's degree, or a bachelor's degree.[124,i]

To assess whether a student has mastered the skills necessary to succeed in a CTE career, the Florida Department of Education requires students to take the Career and Professional Education (CAPE) Industry Assessments. For the 2014-2015 school year, 69.7 percent of all CTE students passed these requisite exams and earned industry certifications in their chosen fields.[125] This is especially significant given the size of Florida's CTE program. Of the 89,750 students enrolled in the CTE program who attempted the CAPE exam in 2014-2015, 62,534 students (or 70 percent) passed and received a certification.[126, j]

The Florida Department of Education has implemented a series of regulations aimed at supporting the continued growth and success of their CTE programs. First, school districts receive additional performance funding in the Florida Education Finance Program (FEEP) for students receiving industry certifications during the previous school year. The weight is broken down as follows:

- for CAPE Acceleration Industry Certifications that articulate for 30 or more college credit hours pursuant to CAPE Acceleration Industry Certifications,
- 0.5 for CAPE Acceleration Industry Certifications that articulate for 15 to 29 college credit hours,
- 0.3 for student completion of the courses and the embedded certifications identified on the CAPE Industry Certification Funding List,
- 0.2 for each student who is issued a CAPE industry certification that has a statewide articulation agreement for college credit approved by the State Board of Education, and
- 0.1 for CAPE industry certifications that do not articulate for college credit.[127]

[h] In Nevada, CTE students have a graduation rate that is 10-14 percentage points higher than the state graduation rate. In 2015-2016, the state graduation rate was 73.5 percent, while the graduation rate for CTE students was 85.4 percent.

[i] Similarly, Nevada has articulation agreements although there are still gaps in some programs and often, students may not receive credit for CTE courses taken in high school.

[j] This pass rate includes both students who participated in CTE dual enrollment programs and students who participated in CTE programs at their school site. Here we note that in 2014-2015, only 43 percent of students who completed CTE programs were awarded CTE certificates (and college credit).

Additionally, Florida's CTE teachers are eligible to receive bonuses based on the CAPE pass rates of their students. [128, k]

Finally, Florida high school students who are interested in taking more challenging classes, the dual enrollment program is just one of several options. [129] Students can choose from taking dual enrollment, Advanced Placement, or International Baccalaureate (IB) classes. The state offers an IB diploma as one of its four pathways to a standard diploma for students who complete the required curriculum and pass the corresponding exams.[130]

Colorado

In recent years, Colorado has been at the forefront in implementing innovative programs to help better prepare students not only to graduate from high school but also to succeed in college and careers. The State's two most notable programs are the Individual Career and Academic Plan (ICAP), which requires student, parents or guardians, teachers, and school counselors and administrators to prepare a child for college and career, and Pathways in Technology Early College High Schools (P-TECH), which created a series of public-private partnerships aimed at preparing thousands of Colorado students for high-skill jobs in new and developing industries.[131]

The State Board of Education in Colorado developed the Individual Career and Academic Plan (ICAP) with legislation in 2009.[132, l] The purpose of the measure was to "to ultimately decrease dropout rates and increase graduation rates by assisting students in developing and maintaining a personalized postsecondary career and educational plan that ensures readiness for postsecondary and workforce success."[133] More specifically, using the ICAP with students in Colorado's K-12 public schools is meant to ultimately increase postsecondary attainment for students across all races. By 2025, the Colorado Departments of Education and Higher Education hope that the ICAP will increase the number of young people between 25 and 35 who hold high-quality postsecondary education credentials to 66 percent, a 22 percent increase from the rate in 2012.[134]

The collaborative effort to develop a student's ICAP helps ensure that the plan prepares students to: (1) explore postsecondary career and educational opportunities, (2) align coursework and curriculum, (3) apply to postsecondary institutions, (4) secure financial aid, and (5) enter the workforce.[135]

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[k] For students whose CAPE certification is weighted at 0.2, 0.3, 0.5, or 1.0 in FEEP, the teacher receives $50 per student, and for students whose CAPE certification is weighted at 0.1 in FEEP, the teacher receives $25 per student.

[l] Nevada law requires that all ninth-grade students create a four-year academic plan (Nevada Revised Statute 388.205). Per statute, "the board of trustees of each school district shall adopt a policy for each public school in the school district in which ninth grade pupils are enrolled to develop a 4-year academic plan for each of those pupils. The academic plan must set forth the specific educational goals that the pupil intends to achieve before graduation from high school. The plan may include, without limitation, the designation of a career pathway and enrollment in dual credit courses, career and technical education courses, advanced placement courses and honors courses." However, while conducting a needs assessment/gap analysis of college and career pathways in Nevada, the Guinn Center found extremely limited awareness and use of the academic plan.

Educators in Colorado have found the ICAP model to be particularly effective because the ICAP process begins as early as seventh and eighth grade.[136], [m] When eighth graders in Colorado are preparing to enter high school, part of their required registration paperwork includes a copy of the student's ICAP, which must be signed by the student and his or her parent(s) or guardian(s).[137]

Evidence from various public school districts in Colorado has shown that the ICAP is an effective measure to help guide students in preparing for college and career. The Adams School District, which serves an area directly north of Denver, reported a 12 percent increase in the district graduation rate since schools in the district because using ICAP. Officials in Adams School District attribute this rise in the graduation rate from 61.7 percent in 2010 to 73.9 percent to the meaningful career conversations, increased accountability, and data-driven decision making that are part of the ICAP process. [138]

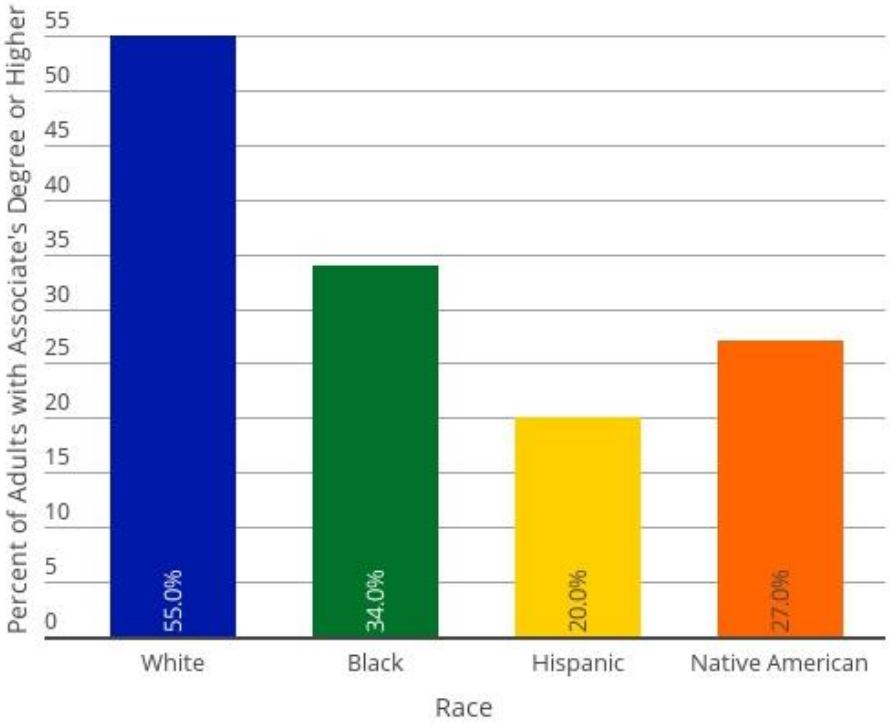
Additionally, as part of Colorado's overall master plan to increase the number of residents who have earned high-quality postsecondary credentials, the Department of Education created P-TECH in 2015. The program pairs a high school with a local community college or a local high-growth industry. Students in P-TECH schools begin in ninth grade and graduate after six years in fourteenth grade having obtained both a high school diploma and an associate's degree in a STEM field.[139]

Although all students are welcome to participate, P-TECH programs place special focus on students in at-risk populations, such as minorities and those from low-income areas. Census data from Colorado shows that minority adults and those from less affluent areas are considerably less likely to earn an associate's degree or higher compared to their white and wealthier counterparts. Thirty-five percent more white adults than Latino adults in Colorado have earned an associate's degree or higher.[140] Figure 18 shows the rates of attainment of an associate's degree by race in Colorado. Several schools have already received approval to create P-TECH programs, and more are expected to begin operating in 2017-18.[141]

Unlike Nevada, Colorado does not have an end-of program assessment that CTE students are required to take. Rather, students are encouraged to go through the process to receive the industry certification. As the Colorado Department of Education explained in its *Industry Certificate Guidebook*, "While there are many ways to demonstrate technical achievement, industry certifications offer a vetted method of signaling that students have acquired a defined set of skills and knowledge. CTE programs offer a unique opportunity for the implementation of industry certifications into the curriculum. Programs often have an appropriate sequence of courses that seamlessly lead to an industry certification."[142] Instead of taking an end-of-program assessment, students follow the required to steps to obtain an industry certification, whether that requires "an assessment, examination, or license that is administered and recognized by an industry third-party or governing board." For any other assessments administered throughout a CTE program, school districts in Colorado are encouraged to work with local businesses and state agencies to ensure the assessments align with industry practices and standards. [143]

[m] Colorado also passed legislation that authorized the Colorado State Board of Education to adopt rules to define the requirements and processes for districts to accomplish the ICAP. The state board of education embedded ICAP into Colorado's graduation guidelines. The state board of education also established a work group to address and monitor implementation, and conducted a survey to gauge the status of ICAP in districts across the state. See: https://www.cde.state.co.us/postsecondary/icap-background

Figure 17: Attainment of Associate's Degree or Higher in Colorado by Race, 2015[144]



California

Two initiatives in California aim to increase the workforce for "high-skill, high-wage jobs in emerging and growing industry sectors in the local or regional economy."[145] The first, the California Career Pathways Trust (CCPT) is a $250 million-budget program that awards one-time competitive state grants to school districts, county superintendents, charter schools, and community colleges for the purpose of establishing or expanding career pathway programs in grades nine through fourteen. Since 2014, 79 entities around the state have received funding to develop programs aimed at preparing students for work in new and developing industries.[146] These entities are responsible for fully implementing a local career pathway, including partnering with local businesses and industries and providing instruction and CTE training to students.[147]

The second initiative, the California Partnership Academies (CPA) creates small CTE-focused academies for tenth through twelfth graders at an existing public high school.[148,n] These academies place special emphasis on career preparedness and have partnerships with local businesses and postsecondary institutions.[149]

[n] These are similar to the Signature Academies and Select Schools that exist in Washoe County School District and Clark County School District, respectively.

These small learning communities housed within a larger high school have a proven track rate of success. Like in Colorado, the academies are geared specifically toward at-risk populations. Nearly all 278 schools that have academies rank below average on California's Academic Performance Index. Eighty-four percent of students in academies are students of color, a rate significantly higher than in the general tenth through twelfth grade high school population in the state. However, academy students have higher overall attendance rates, exit exam pass rates, and graduation rates than their peers. The 2010 academy cohort had a 95 percent graduation rate, 10 percent higher than the state average.[150]

In a comprehensive study of CPA schools, researchers remarked, "Now in their 27th year of operation, California Partnership Academies have proved a durable model, although CPAs remain rather sparsely distributed throughout the state, occurring in just 22 percent of high schools. The average annual state funding of about $547 per student is quadrupled by local matching contributions. CPAs support a broad range of career themes. Ethnic data suggest good diversity, and gender balance in the large majority of academies is also good. Academy students slightly outperform statewide averages on CAHSEE [California High School Exit Examination] pass rates, substantially outperform them in meeting course requirements [….], and report much higher graduation rates for seniors, especially among students of color."[151]

Louisiana

To raise graduation rates and decrease the high school dropout rates, the Louisiana Department of Education has designed two distinct pathways to a diploma for students: the University Pathway and the Tech Career Pathway.[152] In the first two years of high school, all students in Louisiana take core academic coursework, irrespective of the pathway they plan on choosing. Table 12 shows the diploma foundational requirements for ninth and tenth graders in Louisiana.[153]

Table 12: Foundational Requirements for All 9th and 10th Graders in Louisiana Public Schools[154]

Subject	Number of Credits	Example Courses
English	2.0	English I, English II
Math	2.0	Algebra I, Geometry
Physical Education	1.5	Physical Education
Health	0.5	Health
Science	2	Biology I, Chemistry
Social Studies	2	Civics, U.S. History
Total	10	

During these first two years, students will also take introductory courses in career readiness and computer applications. The career readiness course offers information to students on both career and college readiness, including career fairs, workplace visits, role play, campus visits, in-class speakers, mentors, college fairs, and financial literacy.[155]

In addition, the freshman and sophomore years are when students, families, teachers, and counselors begin having in-depth conversations about which pathway is best suited to the students' interests and goals. Assessment data, growth data, state academic standards, and the student's readiness and interests drive these conversations among the key stakeholders.[156] The Department of Education has also developed a comprehensive Individual Graduation Plan that guides the planning of a student's coursework throughout high school.[157]

University Pathway

During the last two years of high school, a student then selects the University Pathway or the Career Tech Pathway. The University Pathway seeks to offer a full college preparatory program for students looking to attend a four-year college or university. This pathway is also meant to help students become successful candidates for the Taylor Opportunity Program for Students (TOPS), a scholarship fund for students who attend a public college or university in Louisiana.[158] To earn a University Diploma, students are required to take 24 total credits over the four years of high school.[159] Table 13 shows the number of required courses per subject area.

Table 13: Louisiana University Diploma Course Requirements[160]

Subject	Number of Credits
English	4
Math	4
Science	4
Social Studies	4
Foreign Language	2*
Art	1
Health & PE	2
Electives	3
Total	24

*Both units must be in the same foreign language.

Within each subject area, there are also more specific requirements for courses to ensure a student is truly college ready. Most notably, students must take one unit of Algebra II or Mathematics II, and two units from other advanced math courses including Geometry, Statistics, Pre-Calculus, and Calculus.[161] In addition to taking these credits, students pursuing a University Diploma are strongly encouraged to take Advanced Placement (AP) and International Baccalaureate (IB) classes, enroll in dual enrollment programs, and/or take the College Level Examination Program (CLEP) exams to earn college credit by showing mastery on a college-level exam.[162]

Finally, students on the University Pathway may seek an academic endorsement on their diploma. A student meeting all of the following requirements is eligible for this endorsement: (1) credit in all four core subject areas for four years (English, math, science, and social studies), (2) a 2.5 minimum GPA, (3) a score of good or excellent on end-of-course exams in English II, English III, Algebra I, Geometry, Biology, and U.S. History, (4) a 23 minimum ACT score, and (5) one of the following: an IB course, an AP course, a senior project, or three college hours in a non-remedial subject area.[163]

Career Tech Pathway

Conversely, students who choose to pursue a Career Tech Diploma must meet other requirements in order to graduate. This pathway enables students to graduate with industry credentials that have prepared them for careers in high-wage industry sectors.[164] Students on the Career Pathway must take 23 credits. The breakdown of these credits by subject area is shown in Table 14.

Table 14: Louisiana Career Tech Diploma Course Requirements[165]

Subject	Number of Credits
English	4
Math	4
Science	2
Social Studies	2
Health & PE	2
Jump Start	9
Total	23

After completing the foundational coursework in ninth and tenth grade, high school students on the Career Pathway in Louisiana spend most of their time concentrating on Jump Start, which is the series of courses designed to help students attain an industry certification by graduation.[166] (As mentioned earlier, three of Nevada's community colleges have launched Jump Start programs.) Credential tracks are offered in a variety of careers and industries, including but not limited to: Automobile Service, Carpentry, Certified Mechanical Drafter, Construction Crafts, Cyber Engineering, Electrician,

Healthcare/Health Sciences, Hospitality/Tourism/Culinary/Retail, HVAC Tech, Industrial Maintenance Mechanic, Information Technology, Manufacturing Specialist, Mobile Crane Operator, Oil and Gas Safety Systems/Process Industry, Pipefitter, Plumber, and Welder.[167] The list of available certifications is updated three times per year to accommodate growth in new sectors and new course offerings for students.[168]

Because students on the Career Pathway are still required to complete courses in English and math during their last two years of high school, there are courses in these subject areas that are geared more specifically toward preparing the students for careers. Students can earn English credits by taking Business Writing or Technical Writing. In math, students can take Financial Literacy, Business Math, or Math Essentials.[169]

Additionally, students who earn a Career Tech Diploma are also eligible to receive the Taylor Opportunity Program for Students (TOPS) award to pursue skill or occupational training through the Louisiana Community and Technical College System, Louisiana-approved Proprietary and Cosmetology Schools, or Louisiana Public Colleges and Universities that do not offer a baccalaureate degree. To receive this scholarship, a student must graduate from high school having met the following requirements: (1) 2.5 minimum GPA, (2) 17 minimum ACT score, (3) completion of a certain number of Jump Start credits, and (4) U.S. citizenship or permanent residency.[170]

Interventions for Students with Disabilities and Struggling Students

Students with disabilities and students who are struggling academically are given support and attention in Louisiana through a variety of interventions and programs aimed at keeping these at-risk populations in school and preparing them for college and careers.

Specifically, the Louisiana Department of Education has created an Alternative Jump Start Pathway for students with disabilities to be able to earn a Career Tech Diploma. To be eligible for this pathway, a student must meet one or both of the following criteria: (1) Entering high school having not achieved at least a combination of basic/approaching basic in English and math in two of the three most recent years (6th, 7th, and 8th grades), and/or (2) Does not achieve a score of Fair, Good, or Excellent after two attempts of the same end of course (EOC) test.[171, o]

After meeting these criteria, the student's Individualized Education Program (IEP) team determines appropriate goals, credentials, and performance criteria for classroom and end-of-course assessments the student must meet to achieve the diploma requirements.[172] Students with disabilities who are looking to obtain a University Diploma may also be given alternative requirements to obtain the University Diploma.[173]

[o] Students with IEPs who took an alternative assessment in middle school (the Louisiana Alternative Assessment) are also eligible to pursue an alternative pathway to a Jump Start (Career Tech Diploma). See Louisiana Department of Education. "Graduation Requirements: Jump Start Alternative Act 833 Pathway." State of Louisiana. 2016. http://www.louisianabelieves.com/courses/graduation-requirements.

Struggling students in Louisiana are typically identified prior to entering high school based on their middle school exam scores.[p] Students that have been designated as non-proficient in English and math are eligible for a transitional ninth grade year, in which a student is placed on a high school campus but provided with services and supports to help the student prepare for secondary-level education courses.[174, q]

Mississippi

Mississippi, a state with academic performance levels similar to Nevada's, has implemented four unique pathways to graduation that offer students and school districts more choice in how a student can earn a diploma. Like Colorado, students in Mississippi use the Individual Career and Academic Plan (ICAP) as a planning tool to map out which of these four pathways best suits their individual goals. [175]

1. **Career Option**: The first pathway, the Career Option, enables students to simultaneously earn their high school diploma and a national industry certification by graduation.[176] The pathway, which has been available as a choice for students since 2011, requires students to take 21 credits, including a four-credit sequence in the student's chosen CTE program of study. Table 15 illustrates these requirements.[177]

Table 15: Mississippi Career Pathway Course Requirements[178]

Subject	Number of Credits	Required Courses
English	4	English I, English II
Math	3	Algebra I
Science	3	Biology I
Social Studies	3	1 U.S. history, 0.5 U.S. Government, 0.5 Mississippi Studies
Health & PE	0.5	0.5 Comprehensive Health OR Physical Education
Integrated Technology	1	Technology Foundations, ICT, 9th STEM, or Computer Applications and Keyboarding
CTE Electives	4	From a student's program of study
Electives	2.5	
Total	21	

[p] While most students who are placed in a transitional ninth grade year already have an IEP, not all students necessarily do. But usually a student in the transitional year is tested for special education eligibility, if he or she has not already received an IEP. See Louisiana Department of Education. "Louisiana's High School Student Planning Guidebook: A Path to Prosperity for Every Student." State of Louisiana. 2016. http://www.louisianabelieves.com/docs/default-source/course-choice/high-school-planning-guidebook-(web).pdf?sfvrsn=26.

[q] The Louisiana Department of Education explains that the rationale for the transitional ninth grade year is because students that are placed on a high school campus are less likely to drop-out. See Louisiana Department of Education. "Louisiana's High School Student Planning Guidebook: A Path to Prosperity for Every Student."

Mississippi currently offers more than 100 courses in several high-demand CTE concentrations: agriculture and related technology, business and computer technology, construction, family and consumer sciences, health science technology, marketing, technology education, and trade, technical, and engineering-related technologies.[179] Students are required to participate in work-based learning, which includes internships, community service, and community based work programs.[180]

In addition to completing the necessary coursework, students are required to take performance-based assessments to demonstrate their competencies with industry standards, regulations and protocols.[181] These exams, which are given at the end of the first and second years of the two-year programs, are called the Mississippi Career Planning Assessment System, Edition 2 (MCPAS2). For the 2014 cohort, 58.5 percent of students passed their program-specific exam.[182]

Students on the career pathway had a graduation rate of 85.0 percent in 2014, 7.4 percent higher than the statewide rate of 77.6 percent. Of these students, 90.5 percent placed into advanced education, employment, or the military after graduation.[183]

2. **Traditional Pathway Option:** For high school students looking to enroll in college or university after graduation, the Mississippi Department of Education offers the traditional pathway to graduation that includes four years of the core academic courses (English, math, science and social studies). Combined with electives and other course requirements, students on this pathway are required to complete 24 total credits.[184]

3. **Early Exit Exam Option:** The most advanced students in Mississippi are eligible for the Early Exit Exam Option for a diploma. This option requires that students only take 17.5 required courses and pass all required end-of-course exams, which include English II, Algebra I, Biology I, and U.S. History from 1877.[185]

4. **District Option: T**o give local school districts control over graduation requirements, the Mississippi Department of Education allows districts to offer their own pathways, known as the District Option. This option is offered in lieu of any other pathway. The Mississippi Department of Education stipulates that this diploma has a 21-credit minimum requirement that includes the following: 4 credits of English, 4 credits of math, 3 credits of science, 3 credits of social studies, 0.5 credits of health, 1 credit of business and technology, 1 credit of art, and 4.5 credits of electives. All students on the district pathway are also still required to pass the four end-of-course exams required by Mississippi.[186]

   Provided a school district using this pathway has the requisite courses, a student may choose to use four of their elective credits to follow a CTE sequence. The student would also be required to take the MCPAS2 and receive an industry certification, provided she passes the related MCPAS2 exam. [187]

North Carolina

The North Carolina Department of Public Instruction (DPI) revised its requirements for high school graduation in 2012 to better reflect the skills and knowledge needed for success at community colleges, colleges and universities, and in business and industry.[188] The DPI established the "Two Courses of Study Leading to One Diploma." This program offers the Future-Ready Core pathway for students planning to enroll in college after graduation and the Future-Ready Occupational pathway for students interested in a CTE program. [189] Tables 16 and 17 describe the different requirements for the pathways:

Table 16: Course Requirements for North Carolina's Future Ready Core Pathway[190]

Subject	Number of Credits	Required Courses
English	4	English I, II, III, and IV or a designated combination of four courses
Math	4	Math I, II, and III. Fourth math course to be aligned with the student's post high school plans.
Science	3	A physical science course, Biology, Earth/Environmental Science
Social Studies	4	Civics and Economics, American History (two courses) and World History
Health & PE	1	Health/ Physical Education
CTE Electives	0	
Electives	6	Four credit sequence of CTE, JROTC, Arts, or a subject area is strongly encouraged.
Total	22	Plus any local requirements

Table 17: Course Requirements for North Carolina's Future Ready Occupational Pathway[191]

Subject	Number of Credits	Required Courses
English	4	English I, II, III, and IV
Math	3	Introduction to Mathematics, Math I, Financial Management
Science	2	Applied Science, Biology
Social Studies	2	American History (two courses)
Health & PE	1	Health/ Physical Education
CTE Electives	4	Program sequence
Electives	6	Occupational Preparation I, II, III, and IV
Total	22	

On either pathway, students are required to complete 22 credits total. North Carolina also requires that students must take three end-of-course exams in biology, English, and math.[192] Students are also required to take the ACT exam (with writing).[193]

Since implementing the two pathways, North Carolina has reported a substantial increase in the number of students obtaining a CTE industry certification. For the 2016 cohort, nearly 89,000 students earned 140,097 industry certifications, a 500 percent increase from the 24,782 credentials earned in 2011 before the pathways were introduced. According to the Department of Public Instruction, these different credentials included: those that measured workplace readiness skills (e.g., the Career Readiness Credential from ACT WorkKeys), general job skills applicable to several different careers (e.g., Microsoft Office Specialist certifications in Word, Excel, PowerPoint and Access), and specific job-related proficiency (e.g., Nurse Aide).[194]

Like Colorado, North Carolina does not require students to take an end-of-program assessment. Instead, the DPI says it wants to prepare students to be successful on the industry certification exams.[195]

Texas

The Texas Legislature mandated that high schools use the Foundations High School Program as the default graduation program beginning with the 2014-2015 school year.[196] This program offers students the options to obtain one or more specific endorsements in a field of their choosing. The endorsement areas are: Science, Technology, Engineering, and Mathematics (STEM), Business and Industry, Public Services, Arts and Humanities, and Multidisciplinary Studies. Students earn these endorsements by participating in a "coherent" series of four credits in each field.[197] Table 18 lists the course options for the five endorsement areas.

Table 18: Texas Foundations High School Program Endorsement Requirements[198]

Endorsement	A coherent sequence of series of course selected from one of the following:
STEM	Relevant CTE courses, computer science, math, science, any combination of these two
Business & Industry	Relevant CTE courses, technology applications, any combination of these
Public Services	Relevant CTE courses, JROTC
Arts & Humanities	Social Studies, Foreign Language (two levels), American Sign Language, Fine Arts
Multidisciplinary Studies	Four advanced courses that prepare a student for postsecondary education without remediation, four credits in each of the four core subjects (must take English IV, chemistry and/ or physics, four credits in AP, IB or dual credit in English, math science, social studies, economics, foreign languages, or fine arts.)

Because of the flexibility of the program, students can earn multiple endorsements. The Foundations Program is intended to allow students to build a deliberate structured foundation in their areas of interest. This foundation signifies to the public colleges and universities in Texas that a student achieved proficiency in that endorsement, for which the state established criteria.[199]

RECOMMENDATIONS

This section of the policy report discusses possible recommendations that the State's decision makers, policy leaders, and agency officials may take under advisement in an effort to increase the graduation rate, and strengthen college and career pathways and post-secondary outcomes. The recommendations are divided into five critical areas that may benefit from new policies or revisions and expansions of existing legislation. The areas the recommendations address are as follows: (1) expand pathways to a diploma, (2) strengthen CTE programming, (3) expand pathways for students with disabilities, (4) strengthen guidance/advising systems, and (5) support dropout prevention programs.

Expand Pathways to a Diploma

1. Develop two pathways to a diploma: Academic/University and Career/Technical

Nevada currently offers only one 22.5 credit pathway that leads to a standard diploma. Many of the new industries coming to Nevada are looking for highly skilled workers trained in technical fields. The Association for Career and Technical Education reports that many of the fastest-growing industries in the U.S. are in CTE fields.[200]

Several other states have already adopted two pathways that lead to a high school diploma, with one pathway aimed at students planning to enroll in a four-year college or university after graduation, and the second aimed at students looking to enter a technical field. The North Carolina Department of Public Instruction summarized the reasoning for the creation of its two pathways as this, "Over the past few years, the State Board of Education has changed graduation requirements to better reflect the skills and knowledge needed for success at community colleges, colleges and universities, and in business and industry."[201]

Therefore, in keeping with projected job growth in new industries in the State and with the trends showing early success in other states, Nevada should consider creating two pathways that lead to a single high school diploma: one for college-bound students (Academic/University Pathway) and one for CTE-bound students (Career/Technical Pathway). The diploma would to need include an endorsement that signifies which of the two pathways the student completed, but students on either pathway would receive the same diploma.

Ideally, all ninth and tenth grade students would complete a series of core course requirements in English, math, physical education/health, science, and social students. These required courses would ensure that all students receive a solid academic foundation. Students would still be required to complete and pass end-of-course exams in English I, English II, Math I, Math II, and Science.[202, r] Electives

[r] Depending on the Nevada school district, students may be required to take the Integrated Math I and Integrated Math II assessments instead of Math I and II. See Appendix A and B.

during these first two years of high school would allow students to the opportunity career opportunities in CTE, and take electives in the arts and foreign languages.

As in Louisiana, students would not be permitted to declare which of the two pathways they are looking to pursue until eleventh grade, at which time the students can commit to the academic pathway or technical pathway. Regardless of choice, students would be required to take an additional two years of English, math, science, and social studies (as is the case in Louisiana and Mississippi).[203] Some of the selections in these subject areas can be specifically tailored toward CTE students, such as Business Writing or Technical Writing. In math, students can take Financial Literacy, Business Math, or Math Essentials.[204] Nevada's policy makers may want to consider requiring students in ninth and tenth grade to take one credit of CTE as a means of exploring their interests.

The purpose of requiring four years of the core academic subjects is to provide a safety net should a student on one pathway decide to pursue the other. This way, a Career/Technical Pathway student would be better prepared for postsecondary academic success if he has had exposure to more advanced concepts in these subjects during the later high school years. To further expand this safety net, all students in Nevada would still be required to take the ACT.

Under these new pathways in Nevada, credit requirements for each of the two pathways would include the following (see Table 19):

Table 19: Proposed Credit Requirements for High School Graduation Pathways in Nevada

Subject	Academic/ University Pathway	Career/ Technical Pathway
English	4.0	4.0
Math	4.0	4.0
Science	4.0	4.0
Social Studies	4.0	4.0
Health	0.5	0.5
Physical Education	1.0	1.0
Electives	5.0	2.0
Career Readiness/ CTE	1.0	4.0
Computer Skills	0.5	0.5
TOTAL	24.0	24.0

Currently, Nevada students seeking an advanced diploma are required to take 24 credits, which shows that the increased 1.5 credit load for all students is not unmanageable and does not require a dramatic overhaul of the current number of hours a student is required to take in order to graduate. Furthermore, 18 states in the United States currently require students to take 24-26 credits to receive a high school diploma.[205] Many of the states with heavier credit requirements have higher overall graduation rates and college matriculation rates and lower college remediation rates. This more demanding schedule would better prepare students for the rigors of college or the demands of a job.

Compared with the current graduation requirements of 22.5 credits (for a standard diploma), students in Nevada would take an additional credit in both social studies and science. Currently, six states require all students to take four credits of science, and eight states require all students to take four credits of social studies.

On the Career/Technical Pathway, students would follow a four-sequence CTE program leading to an industry certification. The two non-CTE electives could either be in occupational-preparation courses or another area of interest for the student, such as the arts, foreign languages, or a core subject area. For courses in the core subject areas taken during the later high school years, school districts should consider offering courses geared specifically toward the students on the Career/ Technical Pathway.[206]

To ensure students can achieve success both leading up to and once on their given pathway, students, parents, guidance counselors, and other stakeholders will need to be vigilant in helping students plan their courses throughout high school.

Strengthen CTE Programming

1. Expand CTE Dual Enrollment Policies across the State

Because CTE dual enrollment programs have shown success in increasing graduation rates and postsecondary enrollment rates, Nevada should consider formalizing a policy that enables students to take CTE enrollment courses at local NSHE institutions. Moreover, CTE courses should be free of charge to students and their families.[207] This policy would likely increase the number of CTE opportunities for students, the number of students who enroll in a CTE program, and the number of students who leave high school better prepared for college and careers.

For these programs, Nevada will also need to establish clear articulation agreements between CTE programs in high schools and the NSHE institutions. These agreements should provide a minimum guarantee of credit for CTE courses taken in dual enrollment courses or equivalent high school courses for a student once upon matriculation to college. While the Nevada Department of Education and the Nevada System of Higher Education have taken great strides to streamline articulation agreements, gaps remain.

Furthermore, state and local education agencies and NSHE institutions will need to continue exploring incentives to increase the number of CTE instructors in both high schools and on community college campuses. Quite frequently, the expansion of CTE courses is limited by the lack of qualified personnel.[5]

2. Expand CTE programs in high-growth, high wage sectors

Funding for CTE programs in Nevada comes from state funds and from Carl D. Perkins funds from the U.S. Department of Education. In 2015, the Governor's Office of Economic Development and Nevada Department of Education (NDE) completed a crosswalk between Career and Technical Education (CTE) programs and the high-demand occupation data. In 2015-2016, NDE used GOED's analysis of high-demand occupations to help prioritize the applications submitted by school districts in Nevada to launch *new* CTE programs (using Perkins funds). Some school districts, including the State's two biggest urban districts, Clark County School District and Washoe County School District, are using GOED's analysis to evaluate applications for new and expanded CTE programs in their districts.

State and local education agencies should use real time occupation data to prioritize funding for *existing* CTE programs in high-growth, high-wage sectors. In its recent needs assessment of career and college pathways in Nevada, the Guinn Center found that students around the Silver State do not have equal access to CTE programs in strategic sectors. For example, in North Las Vegas, only one high school offers a CTE program in health sciences, one of four strategic sectors identified by GOED (see Table 20). (The remaining three strategic sectors include: advanced manufacturing, education, and information technology.) And in North Las Vegas' Canyon Springs High School and Mojave High School, enrollment in CTE programs that align with the four strategic sectors accounted for less than 10 percent of total student enrollment.

[5] Washoe County School District contracted with Regional Emergency Medical Services Authority (REMSA) to provide a licensed professional to teach a CTE health course. WCSD had to work with NDE to revise policy to allow both a principal and administrator to be a 'teacher of record.'

Table 20: CTE programs offered in North Las Vegas, Clark County School District

School & Enrollment	CTE program	Major Courses	Enrollment
Canyon Springs	Agriculture, Food, & Natural Resources	Horticulture Science, Landscaping	393
2,887	Arts, A/V Technology & Communications	Photography, Video Production	378
	Education & Training	Early Childhood Education	233
	Hospitality & Tourism	Culinary Arts	196
	Information Technology		10
	Law, Public Safety, Corrections & Security		34
	Marketing, Sales & Service	Marketing	204
Cheyenne	Architecture and Construction	Drafting	107
2,212	Arts, A/V Technology & Communications	Graphic Design, Photography, Video Production	394
	Business, Management & Administration	Business Software Applications	184
	Education & Training	Early Childhood Education	168
	Hospitality & Tourism	Culinary Arts	224
	Information Technology	Computer Science, Web Design	228
	Law, Public Safety, Corrections & Security	Forensic Science	151
	Marketing, Sales & Service	Principles of Business and Marketing	185
Legacy	Architecture and Construction	Furniture & Cabinetmaking	218
2,846	Arts, A/V Technology & Communications	Fashion Design, Photography, Video Production	734
	Business, Management & Administration	Business Software Applications	244
	Finance	Accounting & Finance	50
	Hospitality & Tourism	Culinary Arts	261
	Information Technology	Animation, Digital Game Development	290
	Law, Public Safety, Corrections & Security	Forensic Science	87
	Marketing, Sales & Service	Principles of Business and Marketing	121
	Transportation, Distribution, & Logistics	Automotive Technology	267
Mojave	Agriculture, Food, & Natural Resources	Agriculture Science	82
2,328	Arts, A/V Technology & Communications	Video Production	143
	Health Science	Health Science	199
	Hospitality & Tourism	Culinary Arts	179
	Law, Public Safety, Corrections & Security	Forensic Science	44
	Marketing, Sales & Service	Principles of Business and Marketing	211
	Science, Technology, Engineering & Mathem	Principles of Engineering	38

3. Expand CTE academies within comprehensive high schools

School districts that have undertaken initiatives to house CTE programs within comprehensive high schools (e.g., Select Schools in CCSD and Signature Academies in WCSD) should continue to explore ways to expand Select Schools and Signature Academies. Rural districts should also explore the feasibility of piloting these types of schools. As part of these Select Schools/Signature Academies, districts should develop partnerships with local businesses and industries to provide work experiences and internship opportunities to students. The purpose of these academies is to give students real-world experiences in their chosen CTE fields so that they are better prepared to enter the workforce.

Nevada could also consider developing six-year academies, such as in Colorado. This program pairs a high school with a local community college or a local high-growth industry. Students in these academies begin in ninth grade and graduate after six years in fourteenth grade, having obtained both a high school diploma and an associate's degree in a STEM field.[208] The schools selected for participation in this

program often have high populations of students with higher risks of not graduating, such as students of color and student from low-income communities. The strategic partnership between these schools and the local college or industry is designed to bolster graduation rates for these populations.

4. Revise or eliminate end-of-program assessments

Like many other states in the U.S., Nevada has a higher graduation rate for students who participate in CTE programs. However, unlike many other states, Nevada has a low rate for the number of students who earn an industry certification at the end of the CTTE program. Only 45.0 percent of CTE program completers earn an industry certification by graduation in Nevada, 24.7 percent lower than the 69.0 percent of students in Florida and 13.5 percent lower than the 58.5 percent of students in Mississippi. The low rate in Nevada suggests that the competencies taught in these programs are not aligned to the assessments.

Moreover, 55.4 percent of CTE students in Nevada are passing their requisite end-of-programs assessments. This means that 10.4 percent of students who pass these assessments do not earn the corresponding certifications, which suggests that the assessments are not necessarily aligned with industry standards, regulations and protocols or that students are not being given adequate support and guidance in obtaining these certificates. Unlike Nevada, Colorado does not require end-of-program assessment for CTE certifications. Instead, students follow the required to steps to obtain an industry certification, whether that requires "an assessment, examination, or license that is administered and recognized by an industry third-party or governing board."[209]

In Nevada, taking the end-of program obtaining the industry certification in Nevada is a two-step process that requires a student to take the end-of-program assessment and the industry certification. In addition, students must maintain a 3.0 grade point average in all CTE courses. Research indicates that the low completion rate was due in part to this GPA requirement.

The State should consider streamlining the process to eliminate the difference between students who pass the end-of-program assessment and students who obtain an industry certification. Education officials may want to consider allowing students to demonstrate proficiency on one of three ways: 1) industry certification, 2) end-of-program assessment, or 3) 3.0 grade point average in all CTE courses. In short, Nevada should make appropriate adjustments to the end-of-program assessments to ensure (1) that the curriculum and assessments are aligned to industry standards, and (2) that students are given sufficient guidance toward obtaining an industry certification.

5. Offer performance pay for teachers and school districts

To ensure that CTE programs throughout the state continue to receive necessary support accountability and continues to grow—Nevada, like Florida already has—should consider offering performance pay to teachers and school districts based on CTE end-of-program assessment data and industry certification

rates. First, for school districts, the previous year's certification rates and the rigor of the program would be considered in assigning the weights. Programs that lead to more college credit would give more weight than programs than those that lead to less college credit or no college credit at all.

Secondly, Nevada should consider awarding bonuses to CTE teachers based on the pass rates of students whom they directly taught on the CTE end-of-program assessments. Programs that lead to more college credit would be given higher bonuses than those that lead to no college credit.

Expand Pathways for Students with Disabilities

1. Limit issuance of the adjusted diploma[t]

Nevada should consider limiting the issuance of the adjusted diploma for students with disabilities, as this current pathway does not lead to many post-secondary or employment opportunities.[u] Louisiana, which does not offer an adjusted diploma, has two main methods of helping students with disabilities obtain a diploma: (1) the transitional ninth grade year and (2) the Alternative Pathway to a Diploma. [210]

The Alternative Pathway does not lead to a separate diploma. Instead, the student's IEP team sets alternative goals, credentials, and performance criteria for classroom and end-of-course assessments the student must meet in order to meet the diploma requirements. This pathway can be applied toward either an Academic/University Diploma or a Career/Technical Diploma.

As discussed above, the transitional ninth grade year helps prepare struggling students for the academic rigor of high school. By adopting these two strategies, Nevada could likely transform the dismal graduation and career and educational attainment rates for students with disabilities.

2. Increase CTE opportunities

Nevada should encourage students with disabilities to participate in CTE programs. CTE participation among students with IEPs is lower than their representation in the general population: 11.8 percent of K-12 public school students have an IEP, but only 8.4 percent of CTE students have an IEP. Nationally, 10 percent of students in CTE programs have an IEP, a 1.6 percent higher participation rate than in the Silver State.[211]

In Lyon County, the special education teacher has helped students with disabilities work towards obtaining industry certifications in their areas of interest. As part of this program, students with disabilities were paired with an instructional aide who attended all CTE classes with the student and

[t] This recommendation is similar to Assembly Bill 64 which revises the requirements for a student with disabilities to receive a standard high school diploma. See: Committee on Education for the 79th Session of the Nevada Legislature on behalf of the Department of Education. "Assembly Bill 64/ BDR 34-251." State of Nevada. November 17. 2016. https://www.leg.state.nv.us/Session/79th2017/Bills/AB/AB64.pdf.

[u] For more information, see Guinn Center. 2017. Pathways to Nowhere: Post-Secondary Transitions for Students with Disabilities.

provided intensive tutoring support to the student. Two students who went through the Certified Nursing Assistant CTE program at Dayton High School successfully passed their Nevada State Board of Nursing Certifying Exam for Nursing Assistants.[212]

To increase these opportunities for students with disabilities who are eligible for special education services, the State should (1) allow students with disabilities to take alternative performance assessments in CTE programs as needed according to the students' IEPs, (2) ensure that the articulation agreements between school districts and NSHE institutions are honored for students with disabilities who take alternative CTE assessments, (3) increase the number of special education instructional aides in CTE programs to work individually with students with disabilities, and (4) offer professional development to CTE teachers on how to adapt their programs to students with disabilities.

Strengthen Guidance/Advising Systems

1. Enforce use of the Academic Plan

Nevada statute (Nevada Revised Statute 388.205) requires that an academic plan be developed for ninth grade pupils.[v] Research undertaken by the Guinn Center found that implementation and enforcement of

[v] The statute reads as follows: NRS 388.205 Development of academic plan required for ninth grade pupils.

1. The board of trustees of each school district shall adopt a policy for each public school in the school district in which ninth grade pupils are enrolled to develop a 4-year academic plan for each of those pupils. The academic plan must set forth the specific educational goals that the pupil intends to achieve before graduation from high school. The plan may include, without limitation, the designation of a career pathway and enrollment in dual credit courses, career and technical education courses, advanced placement courses and honors courses.

2. The policy may ensure that each pupil enrolled in ninth grade and the pupil's parent or legal guardian are provided with, to the extent practicable, the following information:

(a) The advanced placement courses, honors courses, international baccalaureate courses, dual credit courses, career and technical education courses, including, without limitation, career and technical skills-building programs, and any other educational programs, pathways or courses available to the pupil which will assist the pupil in the advancement of his/her education; (b) The requirements for graduation from high school with a diploma and the types of diplomas available; (c) The requirements for admission to NSHE and the eligibility requirements for a Governor Guinn Millennium Scholarship; and (d) The charter schools within the school district.

3. The policy required by subsection 1 must require each pupil enrolled in ninth grade and the pupil's parent or legal guardian to: (a) Be notified of opportunities to work in consultation with a school counselor to develop and review an academic plan for the pupil; (b) Sign the academic plan; and (c) Review the academic plan at least once each school year in consultation with a school counselor and revise the plan if necessary.

4. If a pupil enrolls in a high school after ninth grade, an academic plan must be developed for that pupil with appropriate modifications for the grade level of the pupil.

5. An academic plan for a pupil must be used as a guide for the pupil and the parent or legal guardian of the pupil to plan, monitor and manage the pupil's educational and occupational development and make determinations of the appropriate courses of study for the pupil. If a pupil does not satisfy all the goals set forth in the academic plan, the pupil is eligible to graduate and receive a high school diploma if the pupil otherwise satisfies the requirements for a diploma.

this legislative requirement is absent. Interviews confirmed that high school teachers and parents of high school students have little, if any, awareness about the Academic Plan or the legal requirement that every student have an Academic Plan, which should be reviewed annually in grades 9-12. State and local education agencies are not requiring enforcement of the academic plan.

Many other states, like Colorado and Vermont, require an equivalent Academic Plan as early as seventh grade.[213] Research indicates that Colorado and Vermont are implementing their respective versions of the Academic Plan. To ensure accountability, the Colorado Legislature authorized the Department of Education to adopt regulations to oversee the implementation. Additionally, the Department of Education established a working group to monitor implementation of the Academic Plan and share best practices.

The Nevada Department of Education should establish regulations and requirements around the use of the Academic Plan for all students. State education officials should explore ways to incorporate use of the academic plan into the Nevada School Performance Framework or the Nevada Educator Performance Framework. State educational officials could also explore ways to link completion of Academic Plans to the disbursement of state fund, such as Perkins Funds.

Additionally, over the past two years, senior officers at the Governor's Office of Economic Development (GOED) have led the development of formal career pathways in specific sectors. These career pathway frameworks indicate required coursework, qualifications, and certificates needed for different types of positions within a sector, as well as on- and off-ramps. GOED implemented the LEAP framework for advanced manufacturing and life sciences.[214] Similar sorts of career pathways have been developed previously by Workforce Connections in southern Nevada, and are also being considered by JAG Nevada and CSN. The Office of Workforce Innovations is also developing additional frameworks (e.g., education). These sorts of tools can help guidance counselors advise students on college and career pathways.

2. Begin use of Academic Plan in middle school

As noted above, several states require development of an academic plan as early as seventh grade. Nevada lawmakers should require school districts to develop the Academic Plan for each student beginning in middle school. Some districts in Colorado have reported that following implementation of the Individual Career Academic Plan (ICAP), high school graduation rates increased.

3. Provide professional development for counselors

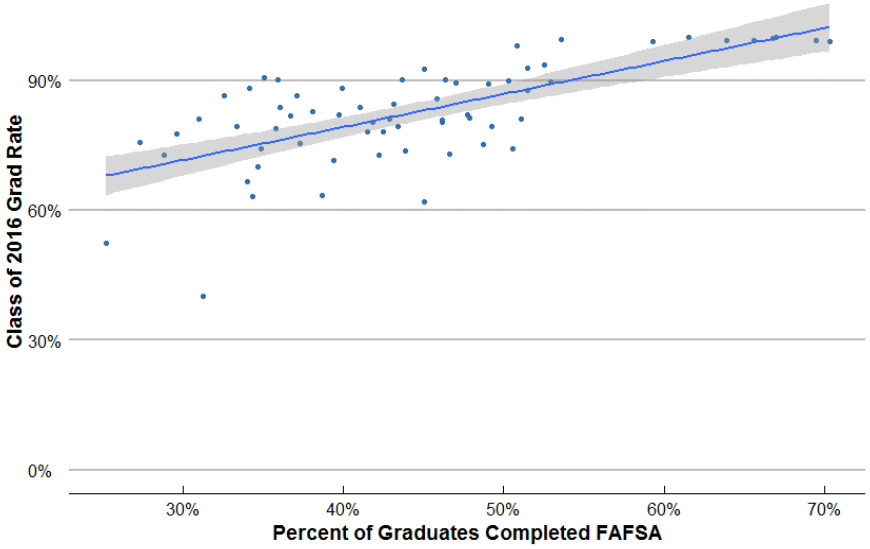
Many guidance counselors may not understand the types of careers in high-growth industries or the skills required for jobs in different sectors. And historically, school districts have had limited resources with which to fund programs or professional development opportunities to expose guidance counselors to learn first-hand about workforce development needs (and opportunities). In response to this challenge and the need to strengthen awareness about different post-secondary opportunities, the

Washoe County School District has started a small pilot program to expand professional development opportunities for guidance counselors. For example, working closely with the regional development authority, the Washoe County School District CTE director has started an "Ambassador program" which physically takes CTE teachers, administrators and counselors, and core academic teachers, out to local businesses to learn first-hand about workforce development needs in the region.

4. Promote completion of Free Application for Federal Student Aid (FAFSA)

Recent research of completed FAFSA applications conducted by Data Insight Partners, a Nevada-based data analytics and research firm, found a strong correlation between the completion rate of FAFSA applications and high school graduation rates. Data Insight Partners noted that as of March 17, 2017, 11,237 FAFSA applications from Nevada students had been completed, reflecting a 33 percent increase over the same period last year (as of March 17, 2016, 8,450 applications had been completed). Previous research found that FAFSA application assistance (provided through H&R Block) "increased college enrollment rates the following school year. Enrollment rates increased 30 percent among high school seniors and 20 percent for young adults already out of high school, with particularly large results for those with annual incomes less than $22,000. The program also increased the percentage who received a federal student grant."[215] Building on this research, Data Insight partners found that "for Nevada high schools with at least 100 graduates, the correlation between graduation rates and the rate of graduates completing the FAFSA was 0.691" (see Figure 18).[216, w] As part of stronger guidance and advising efforts, district officials, education leaders, and nonprofit organizations (e.g., JAG Nevada and Communities in Schools) should expand efforts to help students complete the FAFSA.

Figure 18. Nevada High Schools Class of 2016 Graduation and FAFSA Completion Rates



[w] See https://www.fafsatracker.com/ at Data Insight Partners, https://www.datainsightpartners.com/

Support Dropout Prevention

1. Support existing dropout prevention programs in the State

As discussed previously, Nevada has several programs that target at-risk populations and help prepare them for college and career: JAG Nevada, GEAR UP, and Communities in Schools, as well as others. Each of these programs has demonstrated success in supporting the students they serve. However, many of these programs are very small in comparison the number of eligible students across the State. For example, GEAR UP only serves 5,500 students in 32 schools in 10 counties. Political leaders have stated their goal of having JAG Nevada in every high school in the Silver State.[x] Policymakers and education leaders should explore implementing a combination of evidence-based support services, such as JAG Nevada, Communities in Schools, and GEAR UP, to improve graduation rates and increase college and career readiness.

2. Create a transitional year for struggling students (including students with disabilities)

Using information from students' middle school assessments, school districts would identify non-proficient eighth graders and place them in a transitional ninth grade year on a high school campus, in the same way that Louisiana does. These students do not begin earning high school credit during the transitional year. Rather, the time is used to help them develop the academic foundations needed to be successful with the secondary-level academic coursework in the following for years. This method is used in lieu of having a student repeat eighth grade and remain on the middle school campus, which studies have found increases the likelihood that the student will drop out.[217]

Transitional students would not be counted in the graduation rate for the cohort that enters high school the same year they do. Rather, these students are counted in the graduation rate for the cohort that enters the following year, which is the same year these students would enroll in mainstream classes on the high school campus.

3. Offer more specialized course clusters for students to explore areas of interest in depth

Using the model from Texas, Nevada should consider creating clusters of related courses in specialized content areas that will enable a student to explore more deeply an area of interest. Students who successfully complete these clusters would be eligible for a special endorsement on their diplomas that would signify to colleges and universities that the students are proficient and highly motivated to succeed in the area. More importantly, the National Dropout Prevention Center reports that students are more likely to attend school when they are taking courses related to their interests.[218]

[x] Governor Sandoval's budget includes an appropriation of $7.17 million for JAG Nevada for 2017-2019 biennium. See: http://budget.nv.gov/uploadedFiles/budgetnvgov/content/StateBudget/2018-2019/FY2017-2019_GovExecBudgetBook-Online.pdf

Conclusion

As is evident in the New Nevada ESSA (Every Student Succeeds Act) Plan, education officials continue to maintain a laser focus on student achievement and educational outcomes data. Throughout the 79th Legislative Session, stakeholders from K-12 education system, higher education, and workforce development have continued to stress the importance of educating a workforce that is college and career ready.

However, as we undertake additional efforts to improve the college and career readiness of our students, we caution state and local education officials and other stakeholders to avoid adopting a system of perverse incentives and practices (e.g., grading policies, credit retrieval efforts, etc.) that are designed with a short- term view and which could, ultimately, undermine the integrity of our college and career pathways.[y] Around the country, there are concerns that higher graduation rates reflect adjustments in calculations. This concern is borne out when higher graduation rates are accompanied with lower college-going rates and higher remediation rates. In short, stakeholders must maintain the integrity of college and career pathways in Nevada. They should also set a bold vision that sets high expectations for stakeholders in the entire educational ecosystem. For example, Idaho passed a resolution that set a goal that 60 percent of residents (age 25-34) should have a post-secondary degree or certificate by 2020.[219]

[y] Some educators and students have expressed concern with the overuse of the APEX credit recovery system, which is not perceived to have comparable standards of rigor. http://thegrizzlygrowler.com/2016/12/16/students-need-to-use-not-abuse-credit-retrieval-programs/

About the Kenny C. Guinn Center for Policy Priorities

The Kenny C. Guinn Center for Policy Priorities is a 501(c)(3) nonprofit, bipartisan, independent research center focused on providing fact-based, relevant, and well-reasoned analysis of critical policy issues facing Nevada and the Intermountain West. The Guinn Center engages policy-makers, experts, and the public with innovative, data-driven research and analysis to advance policy solutions, inform the public debate, and expand public engagement.

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Appendix A: Algebra II Requirement

At the November 2016 meeting of the High School Graduation Committee for Nevada Department of Education, members discussed the appropriateness of requiring Algebra II for all students in Nevada. Should Nevada choose to implement two pathways leading to one high school diploma, the State should not require all students to take Algebra II in order to obtain a diploma. Under the plan recommended in this policy report, students would still take the same required end-of-course exams, none of which require Algebra II level skills.

For academic/ university pathway students who are seeking acceptance into more selective colleges and universities, Algebra II may be a necessary course in order for an applicant to be competitive. The decision of whether to take Algebra II while in college should be left up to these students, their parents, guidance counselors, and the other stakeholders who help the student form his or her ICAP.

Appendix B: Foreign Language Requirement

Similarly to Algebra II, foreign language should not be a requirement for all students in Nevada, but rather enrollment in these subjects should be made based on a student's individual goals after graduation. Again, guidance counselors should advise academic/university pathway students to apply some of his or her elective credits toward a course sequence in a foreign language.

Appendix C: Required Courses for High School Graduation by State, 2016-2017

Course													
	Total Credits	English/ Lang. Arts	Math	Social Studies	Science	Phys. Ed.	Health	Electives	Career Prep	CTE	Foreign Language	Arts	Other
Alabama	24	4	4	4	4	1	0.5	2.5	1	3	3	3	
Alaska		4	3	4	3	1	0.5	7					
Arizona	22	4	4	3	3			7		1		1	
Arkansas	22	4	4	3	3	0.5	0.5	3	3				0.5 oral communication
California	13	3	2	3	2	2				1	1	1	
Colorado	23	4	3	3.5	3	1	0.5	7.5					0.5 financial literacy
Connecticut	25	4	4	4	3	1	0.5	7.5					1 capstone
Delaware	24	4	4	3	3	1	0.5	3.5	3				
D.C.	24	4	4	4	4	1	0.5	3.5			2	1	
	23	4	3	3	3.5	1	0.5	4.5		1		1	
Florida	24	4	4	3	3	1		8				1	
	18												
	IB												
	AICE												
Georgia	23	4	4	3	4	1		4			3	3	
Hawaii	24	4	3	4	3	1	0.5	6	0.5	2	2	2	
Idaho	23	4	3	2.5	3		0.5	8.5					0.5 speech, 1 humanities
Illinois	14	4	3	2	3			1					2 writing
Indiana	0 (called Core 40	4	2	2	2	2	1	9					
Iowa	Local												
Kansas	21	4	3	3	2	1		6				1	
Kentucky	22	4	3	3	3	0.5	0.5	7				1	
Louisiana	23	4	4	4	4	1.5	0.5	3			2	1	
	23	4	4	2	2	1.5	0.5	9					
Maryland	22	4	4	3	3		0.5	2			2	1	
	22							2.5					2 Technology
	22							0.5		4			
Massachusetts	22	4	4	3	3			5			2	1	
Michigan	18	4	4	3	3						2	1	
Minnesota	21.5	4	3	3.5	3			7					
Mississippi	21 Career	4	3	3	3	0.5		2.5		4			1 Technology
	24 Trad.	4	4	4	4	0.5	0.5	5				1	1 Biz/Tech
	21 District	4	4	3	3	0.5		4.5				1	1 Biz/Tech
	17.5 Early	2	2	2.5	2	1		5				1	1 Biz/Tech
Missouri	24	4	3	3	3	1	0.5	7	1			1	.5 Personal Finance
Montana	20	4	2	2	2	1		7		1		1	
Nebraska	Local												
Nevada	22.5	4	4	3	3	2	0.5	4.5		1		1	0.5 computer
	24 Advanced	4	4	3	3	2	0.5			1	2	1	.5 computer

Appendix C: Required Courses for High School Graduation by State, 2016-2017, continued

Course													
	Total Credits	English/ Lang. Arts	Math	Social Studies	Science	Phys. Ed.	Health	Electives	Career Prep	CTE	Foreign Language	Arts	Other
New Hampshire	19.75	4	2	2.5	2	1	0.25	7					.5 computer
New Jersey	19	4	3	3	3	3			5			1	
New Mexico	24	4	4	3.5	3	1	0.5	7	1				
New York	23	4	3	4	4	2	0.5	3.5			1	1	
North Carolina	22 College	4	4	4	3	1		6					
	22 career	4	3	2	2	1			6	4			
North Dakota	22	4	3	3	3	1		5			3		
Ohio	20	4	4	3	3	0.5	0.5	5				2	
Oklahoma	23	4	3	3	3			8				1	1 Technology
Oregon	24	4	3	3	3	1	1	6		3	3	3	
Pennsylvania	21	4	3	3	3	1		5				2	
Rhode Island	20	4	4		3								
South Carolina	24	4	4	3	3	1		7		1	1		
South Dakota		4	3	3	3	0.5	0.5			1		1	1 Personal finance or
Tennessee	22	4	4	3	3	1	0.5	3			2	1	
Texas	26	4	4	4	4	1		5.5			2	1	.5 speech
	22	Varies											
Utah	24	4	3	3	3	2		5.5		1		1.5	0.5 financial literacy, 0.5
Vermont	Local												
Virginia	22 Standard	4	3	3	3	2		6		1		1	1 personal finance
	26 Advanced	4	4	4	4	2		3		1	3	1	1 personal finance
Washington	24	4	3	3	3	2		4		1	2	2	
West Virginia	18	4	4	4	4	1	1	2	4			1	
Wisconsin	14.5	4	3	3	3	1	0.5						
Wyoming	Local												

Appendix D: High School End-of-Course Exams Required by State

Types of Exams Required by State				
	Exit Exam	End of Course Exams	EOC Exams Required for Graduation	SAT or ACT
Alabama	X	X	0	ACT w/ writing
Alaska	X			ACT w/ writing or SAT or ACT Work Keys
Arizona	X			
Arkansas	X	4	Algebra I, English II	District determined, no writing
California	X	16	0	
Colorado				ACT no writing
Connecticut		5	English 10, Algebra I, Geometry, Biology, American History	SAT
Delaware		5	0	SAT
D.C.				Optional SAT
Florida	X	10	0	
Georgia	X			ACT w/ writing
Hawaii		1	0	
Idaho	X			SAT, ACT or Compass
Illinois				
Indiana	X	3	English 10, Algebra I, Biology	District determined, with writing
Iowa				
Kansas				
Kentucky		4	0	ACT no writing
Louisiana	X	6	English II or III, Algebra I or Geometry, Biology or American History	ACT no writing
Maine				Optional SAT
Maryland	X	4	English, Algebra, Biology, Government	
Massachusetts	X	4	Must pass one	
Michigan				
Minnesota	X			ACT w/ writing
Mississippi	X	4	English II, Algebra I, Biology I, U.S. History from 1877	ACT no writing
Missouri		8	0	ACT w/ writing
Montana				ACT w/ writing
Nebraska				
Nevada		X	Must take four: English I, English II, Math I, Math II, Integrated Math I, Integrated Math II, Science	ACT w/ writing
New Hampshire				
New Jersey	X	1	0	
New Mexico	X			
New York	X	13	Five, one from: English, Math, Science, U.S. History, Global History	
North Carolina		3	0	ACT w/ writing
North Dakota				ACT, no writing or Work Keys

Appendix D: High School End-of-Course Exams Required by State, continued

Types of Exams Required by State				
	Exit Exam	End of Course Exams	EOC Exams Required for Graduation	SAT or ACT
Ohio	X	7	For each of the seven end-of-course state tests, a student earns one to five graduation points. Students have the potential to earn a total of 35 points. To meet this graduation option, a student must earn a minimum number of 18 points from the seven tests.	
Oklahoma	X	7	English II, Algebra I, and two of the five: English III, Algebra II, Geometry, Biology I, U.S. History	
Oregon	X			
Pennsylvania				
Rhode Island	X			
South Carolina	X	4	0	ACT w/ writing
South Dakota				
Tennessee		9	0	ACT no writing
Texas		12	Students must take all 12 EOCs, earn a to-be- determined cumulative score on each of the four content areas, and pass the English III and Algebra II EOCs. An exception to the EOC requirement is made for a student who elects into "Minimum" high school curriculum, in which case a student is exempted from EOCs in courses not required by the Minimum curriculum.	
Utah		11	0	ACT no writing
Vermont				
Virginia	X	12	2 English, 1 math, 1 science, 1 history and social sciences, 1 student-selected	
Washington	X	3	0	
West Virginia				
Wisconsin				ACT w/ writing
Wyoming				ACT w/ writing

REFERENCES

[1] Nevada Department of Education presentation at Nevada State Board of Education meeting, March 16, 2017.
[2] Kim Nehls, Holly Schneider, Oscar Espinoza-Parra, Elena Nourrie. Higher Education Funding. March 2017. Fast Facts: Policy Issues in Nevada Education. UNLV College of Education: Las Vegas. http://education.unlv.edu/policy/documents/volume-2/Higher-Education-Funding.pdf
[3] John Valery White. State of Higher Education in Nevada. September 8, 2016. Presented at Nevada System of Higher Education Board of Regents meeting.
[4] American Community Survey. https://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?src=CF
[5] American Community Survey. 2015.
[6] National Center for Education Statistics: Institute of Education Sciences. "Trends in High School Dropout and Completion Rates in the United States: 2013."
[7] National Center for Education Statistics: Institute of Education Sciences. "Trends in High School Dropout and Completion Rates in the United States: 2013."; Anya Kamenetz and Cory Turner. The High School Graduation Rate Reaches a Record High- Again. NPR Education. October 17, 2016. http://www.npr.org/sections/ed/2016/10/17/498246451/the-high-school-graduation-reaches-a-record-high-again; Neal Morton. CCSD grad rate inches up. *Las Vegas Review-Journal*. October 15, 2015. http://www.reviewjournal.com/education/ccsd-grad-rate-inches
[8] National Center for Education Statistics: Institute of Education Sciences. "Public High School 4-Year Adjusted Cohort Graduation Rate (ACGR)."
[9] Nevada System of Higher Education. Office of Academic & Student Affairs. Remedial and Developmental Report Summer and Fall 2012. https://www.nevada.edu/ir/Documents/Remedial_Enrollment/NSHE_Remedial_Reports/Remedial_Report_Fall_2012.pdf
[10] Nevada System of Higher Education. Nevada P-20 to Workforce Research Data System (NPWR). https://mynpwr.nv.gov/reportingpage.aspx?reportId=12
[11] National Center for Education Statistics: Institute of Education Sciences. "Public High School 4-Year Adjusted Cohort Graduation Rate (ACGR)."
[12] Florida Department of Education. "Career and Professional Education Act: Enrollment and Performance Report, 14-15." State of Florida. December 2015. http://www.fldoe.org/core/fileparse.php/9904/urlt/1415capepr.pdf.
[13] Nevada Department of Education. "2015-2016 CTE Certificate Earners by Career Cluster (CTE Assessment Results). State of Nevada. 2016. http://www.doe.nv.gov/uploadedFiles/ndedoenvgov/content/CTE/Assessments/Certificate-Earners-by-Career-Cluster.pdf
[14] The Annie E. Casey Foundation. "Nevada 2016 Kids Count Profile." *Kids Count Data Book.* 2016. The Annie E. Casey Foundation. http://kidscount.unlv.edu/2016KC_profiles_NV.pdf
[15] Education Week Research Center. "Called to Account: New Directions in School Accountability – Nevada State Highlights 2016." *Education Week.* January 26, 2016. http://www.edweek.org/media/ew/qc/2016/shr/16shr.nv.h35.pdf
[16] Nevada Department of Employment, Training and Rehabilitation. Nevada's Unemployment Rate Falls Below 5 Percent in February. March 22, 2017. http://nevadaworkforce.com/Portals/139/Labor%20Market%20Overview/Current_Release.pdf
[17] Data Interaction for Nevada Report Card. "Cohort Graduation Rates (Reported for Prior School Year)." Nevada Department of Education. 2016. http://nevadareportcard.com/di/main/cohort.
[18] Data Interaction for Nevada Report Card. "Cohort Graduation Rates (Reported for Prior School Year)." Nevada Department of Education. 2016. http://nevadareportcard.com/di/main/cohort.
[19] Nevada Department of Education. 2016.

[20] Nevada Department of Education. "NDE Releases Cohort Graduation Rate for Class 2013." State of Nevada. January 27, 2014. http://www.doe.nv.gov/News__Media/Press_Releases/2014/NDE_Releases_CoHort_Graduation_Rate_for_Class_2013/.
[21] Nevada Department of Education. "NDE Releases Cohort Graduation Rate for Class 2013." State of Nevada. January 27, 2014.
[22] The Annie E. Casey Foundation. "Nevada 2016 Kids Count Profile."
[23] The Annie E. Casey Foundation. "Nevada 2016 Kids Count Profile."
[24] Data Interaction for Nevada Report Card. "Cohort Graduation Rates (Reported for Prior School Year) 2011-2015.)"
[25] Data Interaction for Nevada Report Card. "Cohort Graduation Rates (Reported for Prior School Year) 2011-2015.) Nevada Department of Education. 2016. http://nevadareportcard.com/di/main/cohort.
[26] Nevada Department of Education. 2016.
[27] National Center for Education Statistics: Institute of Education Sciences. "Public High School 4-Year Adjusted Cohort Graduation Rate (ACGR)."
[28] National Center for Education Statistics: Institute of Education Sciences. "Public High School 4-Year Adjusted Cohort Graduation Rate (ACGR)."
[29] National Center for Education Statistics: Institute of Education Sciences. "Public High School 4-Year Adjusted Cohort Graduation Rate (ACGR)."
[30] National Center for Education Statistics: Institute of Education Sciences. "Public High School 4-Year Adjusted Cohort Graduation Rate (ACGR)."
[31] National Center for Education Statistics: Institute of Education Sciences. "Public High School 4-Year Adjusted Cohort Graduation Rate (ACGR)."
[32] National Center for Education Statistics: Institute of Education Sciences. "Public High School 4-Year Adjusted Cohort Graduation Rate (ACGR)."
[33] National Center for Education Statistics: Institute of Education Sciences. "Public High School 4-Year Adjusted Cohort Graduation Rate (ACGR)."
[34] National Center for Education Statistics: Institute of Education Sciences. "Public High School 4-Year Adjusted Cohort Graduation Rate (ACGR)."
[35] National Center for Education Statistics: Institute of Education Sciences. "Public High School 4-Year Adjusted Cohort Graduation Rate (ACGR)."
[36] 77th Session of the Nevada Legislature. "Assembly Bill 288." State of Nevada. 2013. https://www.leg.state.nv.us/Session/77th2013/Bills/AB/AB288_EN.pdf.
[37] The IEP team includes the student with disabilities, parents, regular and special education teachers, a district representative, and any other individual with special knowledge or expertise about the student, the disability, and the student's rights (e.g., Child Advocate).
[38] National Center for Education Statistics: Institute of Education Sciences. "Trends in High School Dropout and Completion Rates in the United States: 2013."
[39] National Center for Education Statistics: Institute of Education Sciences. "Trends in High School Dropout and Completion Rates in the United States: 2013."; Anya Kamenetz and Cory Turner. The High School Graduation Rate Reaches A Record High- Again. NPR Education. October 17, 2016. http://www.npr.org/sections/ed/2016/10/17/498246451/the-high-school-graduation-reaches-a-record-high-again; Neal Morton. CCSD grad rate inches up. *Las Vegas Review-Journal*. October 15, 2015. http://www.reviewjournal.com/education/ccsd-grad-rate-inches
[40] U.S. Department of Education. 2015.
[41] National Center for Education Statistics: Institute of Education Sciences. "Trends in High School Dropout and Completion Rates in the United States: 2013."
[42] National Center for Education Statistics. 2014.
[43] National Center for Education Statistics. 2014.

[44] National Center for Education Statistics: Institute of Education Sciences. "Trends in High School Dropout and Completion Rates in the United States: 2013."
[45] National Center for Education Statistics. 2015.
[46] National Center for Education Statistics: Institute of Education Sciences.
[47] National Center for Education Statistics: Institute of Education Sciences.
[48] National Center for Education Statistics. 2015.
[49] National Center for Education Statistics: Institute of Education Sciences.
[50] Guinn Center. January 2017. Pathways to Nowhere: Post-Secondary Transitions for Students with Disabilities. https://guinncenter.org/wp-content/uploads/2014/01/Guinn_Pathways_Jan-2017.pdf
[51] National Center for Education Statistics. 2015.
[52] Guinn Center. January 2017. Pathways to Nowhere: Post-Secondary Transitions for Students with Disabilities. https://guinncenter.org/wp-content/uploads/2014/01/Guinn_Pathways_Jan-2017.pdf
[53] Kevin Mahnken. March 27, 2017. More HS Students Are Graduating, but These Key Indicators Prove Those Diplomas Are Worth Less Than Ever. The 74 Million. https://www.the74million.org/article/more-hs-students-are-graduating-but-these-key-indicators-prove-those-diplomas-are-worth-less-than-ever.
[54] The Grizzly Growler. December 16, 2016. Students need to use, not abuse, credit retrieval programs. http://thegrizzlygrowler.com/2016/12/16/students-need-to-use-not-abuse-credit-retrieval-programs/
[55] National Center for Education Statistics: Institute of Education Sciences.
[56] National Center for Education Statistics. 2014.
[57] National Center for Education Statistics: Institute of Education Sciences.
[58] National Center for Education Statistics: Institute of Education Sciences.
[59] National Center for Education Statistics. 2014.
[60] National ACT. "The Condition of College and Career Readiness 2016." ACT, Inc. 2016. http://www.act.org/content/dam/act/unsecured/documents/CCCR_National_2016.pdf.
[61] National ACT. "The Condition of College and Career Readiness 2016." ACT, Inc. 2016.
[62] National ACT. "The Condition of College and Career Readiness 2016." ACT, Inc. 2016.
[63] National ACT. "The Condition of College and Career Readiness 2016." ACT, Inc. 2016.
[64] National ACT. "The Condition of College and Career Readiness 2016." ACT, Inc. 2016.
[65] National ACT. "The Condition of College and Career Readiness 2016." ACT, Inc. 2016.
[66] National ACT. "The Condition of College and Career Readiness 2016." ACT, Inc. 2016.
[67] Kim Nehls, Holly Schneider, Oscar Espinoza-Parra, Elena Nourrie. Higher Education Funding. March 2017. Fast Facts: Policy Issues in Nevada Education. UNLV College of Education: Las Vegas.
[68] John Valery White. State of Higher Education in Nevada. September 8, 2016. Presented at Nevada System of Higher Education Board of Regents meeting.
[69] The National Center for Higher Education Management Systems Information Center. "College Participation Rates: College Going Rates of High School Graduates—Directly from High School." The National Center for Higher Education Management Systems. 2016. http://www.higheredinfo.org/dbrowser/index.php?submeasure=63&year=2010&level=nation&mode=data&state=0.
[70] John Valery White. State of Higher Education in Nevada. September 8, 2016. Presented at Nevada System of Higher Education Board of Regents meeting.
[71] The National Center for Higher Education Management Systems Information Center (2016).
[72] Nevada System of Higher Education Office of Academic and Student Affairs. "2014-2015 Remedial Placement and Enrollment Report." Nevada System of Higher Education. December 3, 2015. http://system.nevada.edu/tasks/sites/Nshe/assets/File/BoardOfRegents/Agendas/2015/dec-mtgs/arsa-refs/ARSA-5a.pdf.
[73] Kevin Mahnken. March 27, 2017. More HS Students Are Graduating, but These Key Indicators Prove Those Diplomas Are Worth Less Than Ever. The 74 Million. https://www.the74million.org/article/more-hs-students-are-graduating-but-these-key-indicators-prove-those-diplomas-are-worth-less-than-ever.

[74] Kevin Mahnken. March 27, 2017. More HS Students Are Graduating, but These Key Indicators Prove Those Diplomas Are Worth Less Than Ever. The 74 Million. https://www.the74million.org/article/more-hs-students-are-graduating-but-these-key-indicators-prove-those-diplomas-are-worth-less-than-ever.
[75] Nevada System of Higher Education. "Demographics, Proximity and Data." University of Nevada, Reno. Fall 2016. http://www.unr.edu/union/vendor-opportunities/demographic-population-proximity-data.
[76] Nevada System of Higher Education Office of Academic and Student Affairs. "2014-2015 Remedial Placement and Enrollment Report." Nevada System of Higher Education. December 3, 2015. http://system.nevada.edu/tasks/sites/Nshe/assets/File/BoardOfRegents/Agendas/2015/dec-mtgs/arsa-refs/ARSA-5a.pdf.
[77] Nevada System of Higher Education Office of Academic and Student Affairs. "2014-2015 Remedial Placement and Enrollment Report."
[78] IBID.
[79] Nevada System of Higher Education. 2015.
[80] Nevada Department of Education. "2015-2016 State Accountability Report." State of Nevada. 2016. http://nevadareportcard.com/PDF/2016/00.E.pdf.
[81] Nevada Department of Education. 2015.
[82] Nevada System of Higher Education. Nevada P-20 to Workforce Research Data System (NPWR).
[83] Nevada Department of Education. "Career and Technical Education." State of Nevada. 2016 http://www.doe.nv.gov/CTE/.
[84] Nevada Department of Education. "Career and Technical Education Assessments." State of Nevada. 2016. http://www.doe.nv.gov/cte/. Nevada Legislature. "Nevada Revised Statute Chapter 389, Section 805." State of Nevada. 2013. https://www.leg.state.nv.us/nrs/NRS-389.html#NRS389Sec805. Nevada Department of Education. "High School End of Course (EOC) Exams." State of Nevada. 2015. http://www.doe.nv.gov/layouts/Page_Style_1.aspx?id=105853.
[85] Office of Career Readiness, Adult Learning, and Education Options of the Nevada Department of Education. "2014-2015 CTE Secondary & Postsecondary Education in Nevada." State of Nevada. http://www.doe.nv.gov/CTE/Accountability/.
[86] Nevada Department of Education. "2015-2016 CTE Certificate Earners by Career Cluster (CTE Assessment Results). State of Nevada. 2016.
[87] Nevada Department of Education. "2015-2016 CTE Certificate Earners by Career Cluster (CTE Assessment Results). State of Nevada. 2016. http://www.doe.nv.gov/uploadedFiles/ndedoenvgov/content/CTE/Assessments/Certificate-Earners-by-Career-Cluster.pdf.
[88] Guinn Center. 2016. Needs Assessment/Gap Analysis of Nevada's College and Career Pathways. In support of New Skills for Youth grant, submitted by the Nevada Department of Education.
[89] Nevada Department of Education.2016.
[90] Office of Career Readiness, Adult Learning and Education Options. "2014-2015 CTE Secondary & Postsecondary Education in Nevada."
[91] Nevada Department of Education. 2016.
[92] Nevada Department of Education. "Career and Technical Education Accountability Report."
[93] Nevada Department of Education. 2016.
[94] Nevada Department of Education. "Career and Technical Education Accountability Report." State of Nevada. 2015. http://www.doe.nv.gov/CTE/Accountability/.
Data Interaction for Nevada Report Card. "Cohort Graduation Rates (Reported for Prior School Year) 2011-2015.) Nevada Department of Education. 2016. http://nevadareportcard.com/di/main/cohort.
[95] Nevada Department of Education. 2016.
[96] Nevada Department of Education. "Career and Technical Education Accountability Report;" National Center for Education Statistics: Institute of Education Sciences. "Public High School 4-Year Adjusted Cohort Graduation Rate

(ACGR), by race/ethnicity and selected demographics for the United States, the 50 states and the District of Columbia: School year 2013-2014."

[97] Erika McFadden David B. Daugherty, Sang Eun Lee, Kim W. Fisher, Anthony Hack. July 2015 The Graduation Cliff: Improving the Post-School Outcomes of Students with Disabilities. Morrison Institute for Public Policy: Phoenix, Arizona. https://morrisoninstitute.asu.edu/sites/default/files/content/products/Graduation%20Cliff%20-%20FULL%20REPORT.pdf

[98] Guinn Center. 2016. Needs Assessment/Gap Analysis of Nevada's College and Career Pathways. In support of New Skills for Youth grant, submitted by the Nevada Department of Education

[99] Guinn Center. 2016. Needs Assessment/Gap Analysis of Nevada's College and Career Pathways. In support of New Skills for Youth grant, submitted by the Nevada Department of Education; Guinn Center. 2017. Pathways to Success: Youth Employment in North Las Vegas. Working Paper.

[100] Jobs for America's Graduates. "JAG Program Implemented in Nevada to Address High School Dropout Crisis." Jobs for America's Graduates. 2012. http://www.jag.org/node/234.

[101] Nevada Department of Education. "JAG Schools 2015-16." *Jobs For America's Graduates Expansion.* 2015. State of Nevada. http://www.doe.nv.gov/Legislative/JAG/.

Jobs for America's Graduates. "JAG Program Implemented in Nevada to Address High School Dropout Crisis." Jobs for America's Graduates. 2012. http://www.jag.org/node/234.

[102] Nevada Department of Education. "JAG Nevada Quick Outcomes & Facts." *Jobs For America's Graduates Expansion.* 2015. State of Nevada. http://www.doe.nv.gov/Legislative/JAG/.

[103] Nevada Department of Education. "JAG Nevada Quick Outcomes & Facts."

[104] Nevada Department of Education. "JAG Nevada Quick Outcomes & Facts."

[105] Nevada Department of Education. "JAG Nevada Quick Outcomes & Facts."

[106] Nevada Department of Education. "JAG Nevada Quick Outcomes & Facts."

[107] Nevada Department of Education. "JAG Nevada Quick Outcomes & Facts."

[108] Nevada Department of Education. "JAG Nevada Quick Outcomes & Facts."

[109] Experimental Program to Stimulate Competitive Research. "Gaining Early Awareness and Readiness for Undergraduate Programs." Nevada System of Higher Education. 2012. https://epscorspo.nevada.edu/nshe-programs/gear-up/.

[110] Nevada Department of Education. "Gear Up Overview." State of Nevada. 2016. http://www.doe.nv.gov/GEAR_UP/.

[111] Office of Community Engagement and Diversity Initiatives. "Nevada State College Gear Up." Nevada System of Higher Education. 2016. https://nsc.edu/community-engagement-diversity-initiatives/gear-up.aspx.

[112] Center for Academic Enrichment and Outreach at University of Nevada, Las Vegas. "Achievements: Gear Up." Nevada System of Higher Education. 2016. http://caeo.unlv.edu/about-us/highlights.

[113] Nevada Department of Education. "Gear Up Overview: Grant Information 2016-2010."

[114] Experimental Program to Stimulate Competitive Research. "Gaining Early Awareness and Readiness for Undergraduate Programs."

[115] Nevada Department of Education. "Gear Up Overview: Grant Information 2016-2010."

[116] Until 2013, postsecondary institutions bore the costs of dual credit courses. Legislation passed in 2013 passed the costs down to the school districts. http://www.edweek.org/ew/articles/2014/06/04/33dual.h33.html; Office of Articulation. "Florida's Dual Enrollment System." Florida Department of Education. 2016. http://nacep.org/conference2013/Presentations/PanelDiscussion-DualEnrollmentinFloridaInnovationandTrendsbyMatthewBouck.pdf.

[117] Florida Department of Education. "Dual Enrollment Frequently Asked Questions." Florida Department of Education. 2016. http://www.fldoe.org/core/fileparse.php/5421/urlt/DualEnrollmentFAQ.pdf.

[118] Smith, Dr. Eric J. (Comissioner); Holcombe, Willis N. (Chancellor). "A Review of the College Dual Enrollment Program." The Florida College System. February 2010. http://www.fldoe.org/core/fileparse.php/7480/urlt/0082774-zoom2010-01.pdf.

[119] Florida State Legislature. "Cape Industry Certification Funding List and CAPE Postsecondary Industry Certifications (Title XLVIII, Chapter 1008, Section 44)." State of Florida. 2016. http://www.leg.state.fl.us/Statutes/index.cfm?App_mode=Display_Statute&Search_String=&URL=1000-1099/1008/Sections/1008.44.html.
[120] Florida Department of Education. "Industry Certification." State of Florida. 2016. http://www.fldoe.org/academics/career-adult-edu/career-technical-edu-agreements/industry-certification.stml.
[121] Florida Department of Education. "Career and Technical Education: Learning that Works for Florida." State of Florida. 2016. http://www.fldoe.org/core/fileparse.php/5652/urlt/CTE_brochure_online.pdf.
[122] Zinth, Jennifer Dounay. "CTE Dual Enrollment: A Strategy for College Completion and Workforce Development." Education Commission of the States. March 2014. http://www.ecs.org/clearinghouse/01/11/50/11150.pdf.
[123] Karp, Melinda Mechur; Calcagno, Juan Carlos; Hughes, Katherine L.; Jeong, Dong Wook;. Bailey, Thomas R. (Community College Research Center, Teachers College, Columbia University). "The Postsecondary Achievement of Participants in Dual Enrollment: An Analysis of Student Outcomes in Two States. " National Research Center for Career and Technical Education at the University of Minnesota. October 2007. http://www.nrccte.org/sites/default/files/publication-files/dual_enrollment.pdf.
[124] Florida Department of Education. "Statewide Career and Technical Education Articulation Agreements." State of Florida. 2015-2016. http://www.fldoe.org/academics/career-adult-edu/career-technical-edu-agreements.
[125] Florida Department of Education. "Career and Professional Education Act: Enrollment and Performance Report, 14-15." State of Florida. December 2015. http://www.fldoe.org/core/fileparse.php/9904/urlt/1415capepr.pdf.
[126] Florida Department of Education. "Career and Professional Education Act: Enrollment and Performance Report, 14-15."
[127] Florida Legislature. "§13, Chapter 2014-184, Laws of Florida, s. 1011.62(1)(o)1.b." State of Florida. 2014-2015. http://laws.flrules.org/2014/184.
[128] Florida Legislature. "§13, Chapter 2014-184, Laws of Florida, s. 1011.62(1)(o)." State of Florida. 2014-2015. http://laws.flrules.org/2014/184.
[129] Office of Articulation. "Florida's Dual Enrollment System." Florida Department of Education. 2016. http://nacep.org/conference2013/Presentations/PanelDiscussion-DualEnrollmentinFloridaInnovationandTrendsbyMatthewBouck.pdf.
[130] Florida Department of Education. "Graduation Requirements: Legislation." Florida Department of Education. 2016. http://www.fldoe.org/academics/graduation-requirements/.
[131] Colorado Department of Education. "Pathways in Technology in Early College High Schools in Colorado." State of Colorado. 2015. https://www.cde.state.co.us/postsecondary/p-tech.
[132] Colorado Department of Education. "ICAP Background." State of Colorado. 2016. https://www.cde.state.co.us/postsecondary/icap-background.
[133] Colorado State Board of Education. "Rules Governing Standards for Individual Career and Academic Plans." State of Colorado. 2009. https://www.cde.state.co.us/postsecondary/icaprules.
[134] Colorado Department of Higher Education. "ICAP and the Colorado Master Plan." State of Colorado. 2012. https://www.cde.state.co.us/postsecondary/icap-resources.
[135] Colorado State Board of Education. "Rules Governing Standards for Individual Career and Academic Plans." State of Colorado. 2009. https://www.cde.state.co.us/postsecondary/icaprules.
[136] Colorado Department of Education. "ICAP Promising Practices and Tools from the Field." State of Colorado. 2016. https://www.cde.state.co.us/postsecondary/icap_promising_practices.
[137] Colorado Department of Education. "Artifacts and Lesson Plans (ICAP Promising Practices and Tools for the Field.
[138] State of Colorado and Hobsons. "Adams 12 Five Star Schools: Success Story." State of Colorado. 2015. https://www.cde.state.co.us/sites/default/files/icappromisingpractices/hobsons_success_story_adams_12_five_star_schools_PRINT.pdf.
[139] Colorado Department of Education. "Pathways in Technology in Early College High Schools in Colorado." State of Colorado. 2015. https://www.cde.state.co.us/postsecondary/p-tech.

[140] IBID.
[141] IBID.
[142] Industry Certificate Work Group of the Colorado Department of Education. "Industry Certificate Guidebook." Colorado Department of Education. January 2015. https://www.cde.state.co.us/postsecondary/ic-role-of-cte.
[143] Colorado Department of Education. "Graduation Guidelines Fact Sheet: Industry Certification." State of Colorado. 2016. https://www.cde.state.co.us/postsecondary/grad-industrycertificationfactsheet.
[144] Colorado Department of Education (2015).
[145] California Department of Education. "Curriculum and Instruction: Career and Technical Education." Sate of California. 2016. http://www.cde.ca.gov/ci/ct/pt/.
[146] California Department of Education. "California Career Pathways Trust." Sate of California. 2016. http://www.cde.ca.gov/ci/ct/pt/.
[147] Career and Transitions Division of the California Department of Education. "California Career Pathways Trust." State of California. 2014. www.cde.ca.gov/fg/fo/r17/documents/**ccpt**14app.doc.
[148] California Legislature. "California Education Code: 54690-54697." State of California. 2016. http://www.leginfo.ca.gov/cgi-bin/displaycode?section=edc&group=54001-55000&file=54690-54697
[149] California Legislature. "California Education Code: 54690-54697." State of California. 2016. http://www.leginfo.ca.gov/cgi-bin/displaycode?section=edc&group=54001-55000&file=54690-54697
[150] California Department of Education. "Profile of the California Partnership Academies." State of California. 2011. http://www.cde.ca.gov/ci/gs/hs/cpareport09.asp.
[151] Dayton, Charles; Hester, Candace Hamilton; Stern, David (University of California, Berkeley). "Profile of the 2009-10 California Partnership Academies." Career Academy Support Network, University of California, Berkeley. October 2011. http://www.cde.ca.gov/ci/gs/hs/documents/cpaexecreport2010.pdf.
[152] Louisiana Department of Education. "Graduation Pathways." State of Louisiana. 2016. http://www.louisianabelieves.com/courses.
[153] Louisiana Department of Education. " Louisiana's High School Student Planning Guidebook: A Path to Prosperity for Every Student." State of Louisiana. 2016. http://www.louisianabelieves.com/docs/default-source/course-choice/high-school-planning-guidebook-(web).pdf?sfvrsn=26.
[154] Louisiana Department of Education (2016
[155] IBID.
[156] IBID.
[157] Louisiana Department of Education. "Individual Graduation Plan." State of Louisiana. 2016. http://www.louisianabelieves.com/docs/default-source/counselor-toolbox-resources/individual-graduation-plan---blank.pdf?sfvrsn=20.
[158] Taylor Opportunity Program for Students. "About TOPS." State of Louisiana. 2016. http://www.osfa.state.la.us/schgrt6.htm.
[159] Louisiana Department of Education. "TOP University (College Diploma) Course Requirements For Incoming Freshman Beginning Fall 2014." State of Louisiana. 2014. http://www.louisianabelieves.com/docs/default-source/jumpstart/course-substitutions.pdf?sfvrsn=10.
[160] Louisiana Department of Education. 2016.
[161] Louisiana Department of Education. "Tops Opportunity Program for Students: Opportunity, Performance, and Honors Awards." State of Louisiana. September 2016. http://www.osfa.la.gov/MainSitePDFs/TOPS_OPH_brochure_8-14.pdf.
[162] Louisiana Department of Education. "Graduation Pathways."
[163] Louisiana Department of Education. "Diploma Endorsements." State of Louisiana. 2016. http://www.louisianabelieves.com/courses/diploma-endorsements.
[164] Louisiana Department of Education. "All Things Jump Start." State of Louisiana. 2016. http://www.louisianabelieves.com/courses/all-things-jump-start.
[165] Louisiana Department of Education.

[166] Louisiana Department of Education. "Jump Start Industry Credential Fact Sheets." State of Louisiana 2016. http://www.louisianabelieves.com/resources/library/jump-start-fact-sheets.
[167] Louisiana Department of Education. "Jump Start Technical Course Grid." State of Louisiana. 2016. https://www.louisianabelieves.com/docs/default-source/course-choice/2014-2015-jump-start-technical-course-grid.pdf.
[168] Louisiana Department of Education. "Jump Start Graduation Pathways." State of Louisiana. 2016. http://www.louisianabelieves.com/resources/library/jump-start-graduation-pathways.
[169] Louisiana Department of Education. "Jump Start TOPS Tech (Career Diploma) Course Requirements 2014-2015 Entering Ninth Graders." State of Louisiana. 2014. http://www.louisianabelieves.com/docs/default-source/jumpstart/TOPS-Tech-Course-Requirements.pdf?sfvrsn=8.
[170] Taylor Opportunity Program for Students. "TOPS Tech Award." State of Louisiana. 2016. http://www.osfa.la.gov/TOPS_T.htm.
[171] Louisiana Department of Education. "Graduation Requirements: Jump Start Alternative Act 833 Pathway." State of Louisiana. 2016. http://www.louisianabelieves.com/courses/graduation-requirements.
[172] IBID.
[173] IBID.
[174] IBID.
[175] Mississippi Department of Education. "Mississippi High School Graduation Pathways." State of Mississippi. 2016. http://www.mde.k12.ms.us/docs/dropout-prevention-and-compulsory-school-attendance-library/mississippi-high-school-nbsp-graduation-pathway.pdf?sfvrsn=0.
[176] Mississippi Department of Education. "Career and Technical Education." State of Mississippi. 2016. http://www.mde.k12.ms.us/OCTE/PA.
[177] Mississippi Department of Education. "Mississippi High School Graduation Pathways."
[178] Mississippi Department of Education. 2016.
[179] Mississippi Department of Education. "Career and Technical Education." State of Mississippi. 2016. http://www.mde.k12.ms.us/OCTE/PA.
[180] Mississippi Department of Education and the Mississippi State University Research and Curriculum Unit. "CTE Advisory Handbook." State of Mississippi. July 2014. http://www.rcu.msstate.edu/Curriculum/CurriculumDownload.aspx#LiveTabsContent6381.
[181] Mississippi State University Research and Curriculum Unit. "Career Pathways." State of Mississippi. 2016. http://www.rcu.msstate.edu/Curriculum/CurriculumDownload.aspx#LiveTabsContent6381.
[182] Career and Technical Education of the Mississippi Department of Education. "SY 2013-14 District Summary Report." Mississippi Department of Education. January 30, 2015. http://www.mde.k12.ms.us/docs/cte/cte-district-summary-powerpoint.pdf?sfvrsn=0.
[183] IBID.
[184] Mississippi Department of Education. "Mississippi High School Graduation Pathways."
[185] Mississippi Department of Education. "Mississippi High School Graduation Pathways." ; National Center for Education Statistics: Institute of Education Sciences. "Public High School 4-Year Adjusted Cohort Graduation Rate (ACGR)."
[186] IBID.
[187] Mississippi Department of Education and the Mississippi State University Research and Curriculum Unit. "CTE Advisory Handbook." State of Mississippi. July 2014. http://www.rcu.msstate.edu/Curriculum/CurriculumDownload.aspx#LiveTabsContent6381.
[188] North Carolina Department of Public Instruction. "Course and Credit Requirements." State of North Carolina. 2012. http://www.dpi.state.nc.us/curriculum/graduation/.
[189] North Carolina Department of Public Instruction. "High School Graduation Requirements." State of North Carolina. 2012. http://www.ncpublicschools.org/docs/curriculum/home/graduationrequirements.pdf.
[190] North Carolina Department of Public Instruction. 2016.
[191] North Carolina Department of Public Instruction. 2016.

[192] North Carolina Department of Public Instruction. "North Carolina End-of-Course Tests." State of North Carolina. 2016. http://www.ncpublicschools.org/accountability/testing/eoc/.
[193] Heimbach, Alex. "Which States Require the ACT?" *Prep Scholar.* August 14, 2015. http://blog.prepscholar.com/which-states-require-the-act-full-list-and-advice.
[194] North Carolina Career and Technical Education of the North Carolina Department of Public Instruction. "2015-16 Credentialing Data." State of North Carolina. September 2016. http://www.ncpublicschools.org/docs/cte/certification-report.pdf.
[195] North Carolina Department of Public Instruction. "Certification and Credentials: Career and Technical Education Briefing Paper." State of North Carolina. June 2009. http://www.dpi.state.nc.us/docs/cte/briefing/certification.pdf.
[196] Texas Legislature. "House Bill 5, 83rd Texas Legislature, Regular Session, 2013." State of Texas. 2013. http://www.capitol.state.tx.us/tlodocs/83R/billtext/pdf/HB00005F.pdf.
[197] Texas Education Agency. "House Bill 5: Foundation High School Program." State of Texas. 2016. http://tea.texas.gov/Curriculum_and_Instructional_Programs/Graduation_Information/House_Bill_5__Foundation_High_School_Program/.
[198] Texas Education Agency. 2016.
[199] Craig, Sarah. "Texas High School Graduation Requirements, Explained." *Thesis Magazine.* May 12, 2015. http://www.thesismag.com/2015/05/12/texas-high-school-graduation-requirements-explained/.
[200] Association for Career and Technical Education. "CTE Prepares the Qualified Workforce." Association for Career and Technical Education. 2015. https://www.acteonline.org/general.aspx?id=5748#.WD4swneZMgo.
[201] North Carolina Department of Public Instruction. "Course and Credit Requirements."
[202] Nevada Department of Education. Nevada Department of Education. "High School End of Course (EOC) Exams." State of Nevada. 2015. http://www.doe.nv.gov/layouts/Page_Style_1.aspx?id=105853.
[203] Louisiana Department of Education. "Jump Start Industry Credential Fact Sheets."
[204] Louisiana Department of Education. "Jump Start TOPS Tech (Career Diploma) Course Requirements 2014-2015 Entering Ninth Graders.".
[205] National Center for Education Statistics: Institute of Education Sciences. "Public High School 4-Year Adjusted Cohort Graduation Rate (ACGR)."
[206] Louisiana Department of Education. "Jump Start TOPS Tech (Career Diploma) Course Requirements 2014-2015 Entering Ninth Graders."
[207] Office of Articulation of the Florida Department of Education. "Florida's Dual Enrollment System."
[208] Colorado Department of Education. "Pathways in Technology in Early College High Schools in Colorado."
[209] Colorado Department of Education. "Graduation Guidelines Fact Sheet: Industry Certification."
[210] Louisiana Department of Education. "Graduation Requirements: Jump Start Alternative Act 833 Pathway."
[211] Rehabilitation Services Administration of the U.S. Department of Education. "Rehabilitation Act As Amended by WIOA." Council of State Administrators of Vocational Rehabilitation." U.S. Department of Education. November 10, 2014. https://www2.ed.gov/policy/speced/leg/rehab-act-as-amended-by-wioa.pdf.
[212] Kenny Guinn Center for Policy Priorities and the Nevada Governor's Council on Developmental Disabilities. "Pathways to Nowhere: Post-Secondary Transitions for Students with Disabilities in Nevada." Guinn Center for Policy Priorities. December 2016.
[213] For Vermont, see: Number 77: An Act relating to encouraging flexible pathways to secondary school completion. http://www.leg.state.vt.us/docs/2014/Acts/Act077.PDF
[214] Governor's Office of Economic Development. Director's Report. December 2016. http://diversifynevada.com/images/meetings/November_2016_Directors_Report_2.pdf
[215] Data Insight Partners. FAFSA Tracker. Accessed on March 28, 2017. https://isites.harvard.edu/fs/docs/icb.topic1232998.files/Bettinger%20Long%20Oreopoulos%20-%20The%20FAFSA%20Projects%20-%20description%207-25-13.pdf; https://www.fafsatracker.com/resources
[216] Email correspondence with Data Insight Partners.
[217] Louisiana Department of Education. "Louisiana's High School Student Planning Guidebook: A Path to Prosperity for Every Student."

[218] National Dropout Prevention Center at Clemson University. "15 Effective Strategies for Dropout Prevention." Clemson University. 1986. http://dropoutprevention.org/wp-content/uploads/2015/03/NDPCN15EffectiveStrategies.pdf.

[219] Betsy Z. Russell. "Senators on panel endorse 'go-on' goal; lawmakers hear from Teachers of Year, Ybarra." The Spokesman-Review. February 1, 2016. http://www.spokesman.com/blogs/boise/2016/feb/01/senators-panel-endorse-go-goal-lawmakers-hear-teachers-year-ybarra/