2017-2018

SEPTEMBER 11, 2017

Yavapai COLLEGE

ENVIRONMENTAL SCAN

2017-2018

PRESENTED BY: INSTITUTIONAL EFFECTIVENESS AND RESEARCH

TABLE OF CONTENTS

EXECUTIVE SUMMARY

Community and economic health are not static endeavors. As Jim Hundrieser of the Association of Governing Boards remarked "If all you do is think about survival, you'll ultimately perish. You have to think about prosperity." As we experience near historic low unemployment rates, it is easy to be lulled into a false sense of security that good jobs are not necessarily linked to postsecondary education. Recent polls show that more than half of Americans do not believe a college education is necessary for a well-paying job. **Perception, in this case, belies the economic evidence.** Today, there are 5.5 million unfilled jobs in the U.S. due to skills gaps, not a lack of workers. The post-recession economy has added 11.6 million new jobs of which 72% went to workers with a bachelor's degree or higher, and 27% went to people with at least some college. In addition, continued technological innovation will force many people to find new career paths requiring new skills. **The future will demand increased postsecondary training and degree production to stay competitive in the workplace. The link between higher education and the economy is clear.**

Today's community colleges face more challenges than ever before. The watch list of competitors includes computer coding bootcamps, online work skills providers, Arizona's four-year institutions and online programs. Competition, especially from online providers is one of the headwinds for Yavapai College. Online programs offered by Rio Salado Community College and Arizona State University provide direct competition with YC programs and offer between 3 and 8 start dates per semester compared to Yavapai's one start. Flexibility, low cost, and successful outcomes are the cornerstones of thriving online programs. YC offers online coursework and programs; however, online success rates on average have lagged face-to-face outcomes. **An online learning plan and expediting Quality Matters for all online courses should be considered**.

When it comes to increasing enrollment, population is a critical factor. The Yavapai County population continues to grow albeit slowly at less than one percent a year. The majority of growth is occurring in the population aged 55 and older, not a traditional college market. YC should continue exploring opportunities to engage this older market as lifelong learners. Blurring the line between credit and non-credit registration and student services will make it simpler for students of all ages to register and engage with YC. **Yavapai College has the opportunity to become the leader in serving this growing older demographic through integrated credit/non-credit offerings and expanded community education**. Not surprisingly, as the county ages, high school enrollments have shrunk, and the number of graduates is projected to decline slightly over the next five years**.** As YC looks for opportunities to grow enrollment the estimated 45% of recent high school graduates who go directly into the workforce are a logical starting point along with the significant number of county residents with only some college. **A key barrier to recruiting these students is the lack of middle to high-wage jobs available for graduates.** Actively recruiting students from outside the county is another growth strategy for consideration. **Out-of-county students can allow programs to reach sustainability where the local population alone is not sufficient.**

Yavapai College's academic programs align well with the current workforce demand. Unfortunately, beyond government and healthcare, the county's largest industries are service-based sectors with relatively low earnings. A lack of industry diversity is a negative for the county and Yavapai College. Without an infusion of middle and high wage jobs to the area, it will remain difficult to convince students to enter a program when there are no local employment opportunities. **Yavapai's Regional Economic Development Center (REDC) can be a leader in providing industry and labor research while coordinating regional efforts to bring clean, good paying jobs to the county.**

Cybersecurity remains a top concern for colleges and universities. Since 2005, U.S. higher education institutions have incurred more than 539 data breaches involving 13 million student records. **These costly breaches and resulting compliance mandates will require that the college dedicate more resources (human and financial) toward data security.**

Student success and completion remain YC's top priorities. The Pathways Project and increased touches by Student Development and faculty are already showing promise with record student retention last year and positive enrollment growth for the first time in six years despite ultra-low unemployment. However, underprepared students represent a challenge to this momentum. Six in 10 recent high school graduates require developmental coursework. Another challenge is the fact that many community college students are facing basic needs insecurity. A recent study of community college students showed that more than half the students surveyed expressed difficulty in paying their rent and utilities or have to move frequently due to financial hardship. YC's recent Community College Survey of Student Engagement (CCSSE) echoes national results with 62% of students finding themselves living paycheck-to-paycheck. Yavapai College's "I Am YC Club" is a positive and creative approach to ensuring that YC students have their basic needs met and can focus on their studies. **Affordability and availability of need-based scholarships should remain a focus of the institution.**

INTRODUCTION AND HIGHLIGHTED FINDINGS

INTRODUCTION

An environmental scan is a vital component of informed strategic planning and decision making. The environmental scan pulls information from national, state, county, and local community levels to examine trends in the areas of competition, demographics, economics, labor force, education, and technology. The report is organized as follows:

Section I: Social and Political—this section presents current social and political trends affecting colleges and universities today.

Section II: Competition—this section addresses and summarizes Yavapai College's higher education and community education competitors.

Section III: Demographics—this section presents key demographics at the national and state level, and provides a detailed look at Yavapai County.

Section IV: Economics—this section presents economic trends impacting U.S. colleges and universities.

Section V: Labor Force—this section addresses labor force trends in Yavapai County and alignment of Yavapai College programs with workforce demands.

Section VI: Education—this section addresses education trends impacting colleges and universities. In addition to national and state trends, specific information for Yavapai County is included.

Section VII: Technology—this section addresses technology trends that higher education institutions must balance to ensure the security of information while meeting the evolving changes demanded by students.

The following two pages present the key trends identified during this environmental scanning process.

HIGHLIGHTED FINDINGS

SOCIAL AND POLITICAL

- **Skepticism of the value of college**. A recent New America survey found that more than half (51%) of people believe that a college degree is not necessary for a well-paying job. Similarly, a new Pew study also found disparate partisan divisions regarding people's value of higher education on American society. 42% of Republican or Republican-leaning Independents and 72% of Democratic or Democratic-leaning Independents saying colleges and universities have a positive effect on the country.

- **Colleges should prepare for political and free speech protests**. Continuing heightened tensions surrounding race and sexual orientation have colleges and universities facing issues ranging from free speech to inclusivity. Recent student and public activism on college campuses has put colleges in the media spotlight as institutions work to balance free speech against the health, safety, and wellness of the campus community.

COMPETITION

- **Online competition continues to expand**. Beginning fall 2017, Arizona State University launched ASU Digital Prep that offers high schools and students dual enrollment courses. ASU digital prep offers part-time and full-time programs, hosts student events and programs on its physical campuses, and promises streamlined, VIP admissions among other touted benefits.

- **Arizona public universities, a marketing juggernaut in recruiting high school seniors statewide**. State universities are using generous scholarship awards, athletic teams, and recreational facilities to entice students. Academic scholarships are available to students with a core high school GPA as low as 3.00, and many students receive a full tuition scholarship with a core GPA above 3.50.

- **Private, non-traditional skill credentialing encroaches on continuing job skills training**. LinkedIn's Lynda.com offers more than 50 low cost "learning paths" that help people learn or updates skills in areas like management, marketing, web development, software programming, graphic design, CAD, and 3D animation. Successful completers receive certificates of completion.

DEMOGRAPHICS

- **Gray matters.** In the next five years, county residents age 55 and older are forecasted to increase by more than 10,000 people. In contrast, the population 35 to 54 is projected to decline by almost 3,000.

- **High dependency ratio**. Yavapai County's dependency ratio of 82% is an indicator of an increased burden on government and the economically active population.

ECONOMIC

- **Unemployment rate continues to drop.** For the sixth consecutive year, Yavapai County's unemployment rate has declined. The current unemployment rate is 4.2%. Community college enrollment is negatively affected by low unemployment rates.

- **Housing prices drive Yavapai County's high cost of living**. Yavapai County's overall cost of living is higher than the national and Arizona average.

- **More education still pays**. Over a career, a high school diploma is worth $1.3 million; a bachelor's degree is worth $2.3 million; a Ph.D. earns $3.3 million and a professional degree $3.7 million.

LABOR FORCE

- **Yavapai College academic programs align well with industry job growth.** Cross-referencing industry sector growth with occupational growth for the next five years indicates high demand for academic programs in healthcare, culinary, hospitality, management, business and public administration, and informational technologies.

EDUCATION

- **Yavapai County high school graduates decline slightly**. Declining birth rates and the aging shift in net migration indicate the number of high school graduates will likely decline slightly over the next five years.

- **Community college students facing basic needs insecurity**. A national study of community college students conducted by the Association of Community College Trustees (ACCT) and the University of Wisconsin HOPE Lab found that 2 in 3 students responded that they were food insecure. Additionally, more than half the students surveyed expressed difficulty in paying their rent and utilities, or have to move frequently due to financial difficulties.

- **Year-Round Pell Grants reinstated**. Beginning in 2017, Congress has reinstated year-round Pell awards to eligible students. Year-round access to funding will give financially challenged students flexibility in planning and paying for their studies. The reinstatement also allows students who are more prone to stop out between the spring and fall semesters to continue their education in the summer term and finish their programs faster.

TECHNOLOGY

- **Cyberattacks and IT compliance are a top priority**. The threat of cyberattacks leading to data breaches and ransom demands is intensifying for colleges and universities. In response to increasing breaches, institutional, state and federal governments compliance mandates are growing and requiring college IT staffs to spend more resources (human and financial) toward data security.

- **Digital versus paper**. Digital textbooks have been hailed as one solution to the high cost of textbooks. 2015 marked the first year a major publisher, McGraw-Hill Education, sold more digital products than print. However, a fall 2015 study of college faculty found that print materials are still the overwhelmingly choice of instructors. Similarly, recent research indicated that if the cost was the same for print and digital texts, almost 9 in 10 students said they prefer traditional paper books.

SOCIAL AND POLITICAL

This section addresses current social and political trends affecting community colleges today. Higher education institutions have traditionally been on the front lines of helping society integrate social change. Similarly, colleges are increasingly dealing with volatile political issues ranging from guns on campus to sexual assault, while facing increased pressures to demonstrate accountability and decreased support from state government and often local taxpayers. Below is a summarization of some key social and political challenges colleges are facing.

SOCIAL AND POLITICAL TRENDS

Skepticism of the Value of College. A recent New America survey found that more than half (51%) of people believe that a college degree is not necessary for a well-paying job.[1] Similarly, a new Pew poll shows that 55% of Americans say that colleges and universities have a positive impact on the nation.[2] The Pew study also found disparate partisan divisions regarding people's value of higher education on American society.

Colleges and Universities have a Positive Effect on the Country?

Percent of Republicans and Republican-Leaning Independents

42%
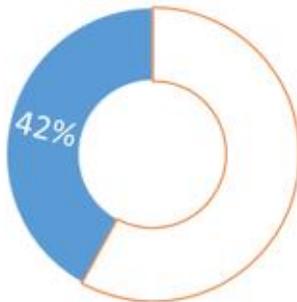
Percent of Democrats and Democrat-Leaning Independents

72%
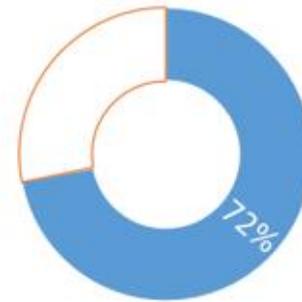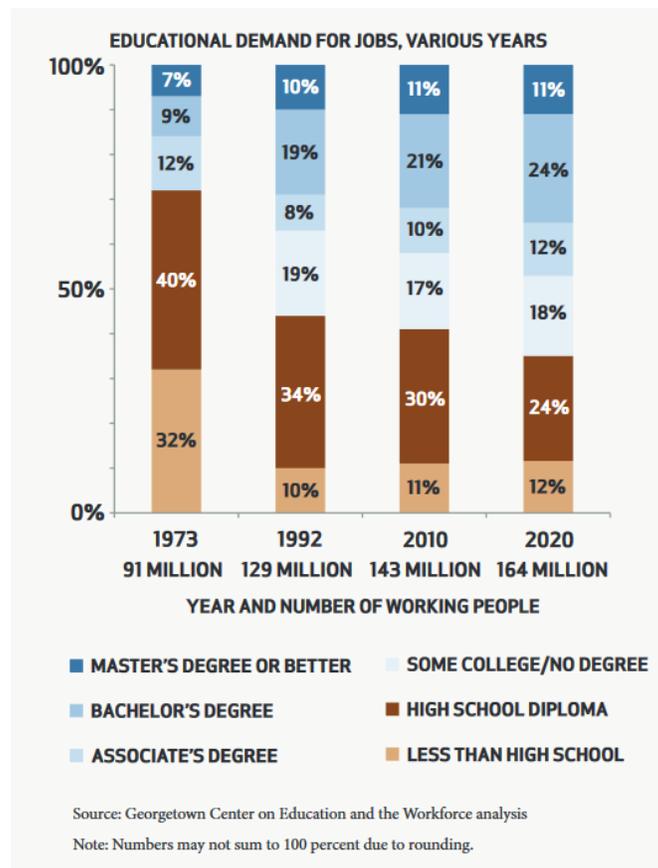
Source: Pew Research Center, 2017

Concerning perceived value, the New America survey reported that community colleges when measured on cost, contribution to the workforce, and student centeredness outperform public and private four-year institutions.

American Sentiments Towards Different Higher Education Sectors

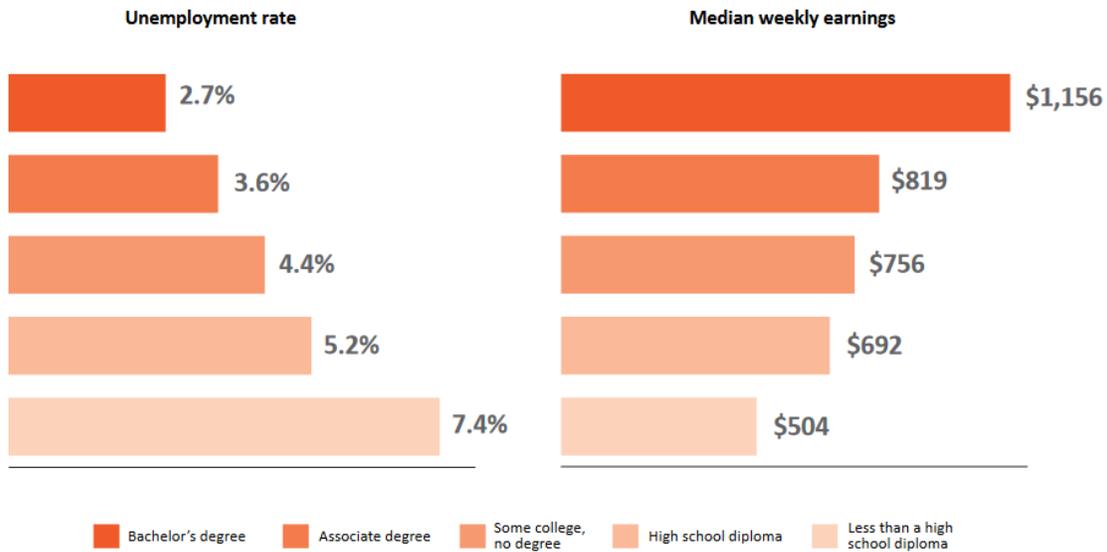|	Are Worth the Cost	Contribute to a Strong Workforce	Always Put Their Students First
Community College	82%	83%	62%
Public, Four-Year	61%	79%	52%
Private, Nonprofit	43%	70%	53%
Private, For-Profit	40%	59%	39%

Source: New America Annual Survey of Higher Education, 2017

Despite decreased perceptions of the value of higher education and its role in preparing people for well-paying jobs the evidence is to the contrary. For instance, 11.6 million jobs have been created in the post-recession economy, 11.5 million or 99% went to people with at least some college education.[3] Of the 11.6 million jobs created, 8.4 million (72%) have gone to workers with a bachelor's degree or higher. Jobs for those without at least some college are declining rapidly.

EDUCATIONAL DEMAND FOR JOBS, VARIOUS YEARS

Source: Georgetown Center on Education and the Workforce analysis

Note: Numbers may not sum to 100 percent due to rounding.

Unemployment rates and median wages are further evidence that higher education is an important ingredient of fulfilling the American dream.

Unemployment rates and earnings by educational attainment, 2016

Unemployment rate		Median weekly earnings
2.7%		$1,156
3.6%		$819
4.4%		$756
5.2%		$692
7.4%		$504

■ Bachelor's degree ■ Associate degree ■ Some college, no degree ■ High school diploma ■ Less than a high school diploma

Source: *Bureau of Labor Statistics, Current Population Survey "Career Outlook: More Education: Lower Unemployment, Higher Earnings," April 2017.*

Editor's note: *Data are for individuals age 25 and older. Earnings are for full-time wage and salary workers.*

AACC AMERICAN ASSOCIATION OF COMMUNITY COLLEGES

College Debt. Despite some 40 million Americans having college loans totaling more than $1.3 trillion, experts say most college debt is manageable and worth the investment. The majority (70%) of borrowers owe less than $25,000, and only 8% owe more than $75,000. The key to student loans being a sound investment lie in the people completing their degree. For those who do not finish their degree it may be difficult to pay back their loans, even if the amount is relatively low.[4]

Generation Z. Born roughly between 1990 and 2010, Generation Z students are arriving on college campuses. A recent study finds that the majority of Gen Z students prefer learning by doing. The researchers found that these students value the use of technology, hands-on learning, and individual attention. Colleges need to understand and anticipate how this generation raised on technology in an increasingly diverse and globalized society will impact curriculum and course delivery.[5]

State Disinvestment. Arizona's investment in Yavapai College has been on a downward trend and now represents less than 2% of the operating budget. The prospect of state funding for community colleges returning to pre-recession levels remains unlikely. For a third consecutive year, Arizona's largest community college districts, Pima and Maricopa continue to be defunded by the state with little prospect of this trend reversing.

Colleges Should Prepare for Political and Free Speech Protests. Continuing heightened tensions surrounding race and sexual orientation have colleges and universities facing issues ranging from free speech to inclusivity. Recent student and public activism on college campuses has put colleges in the media spotlight as institutions work to balance free speech against the health, safety, and wellness of the campus community. Public colleges should consider how well existing policies, practices, and facilities meet the needs of an ever-changing campus milieu.

Sample Headlines from the first half of 2017

INSIDE HIGHER ED

(https://www.insidehighered.com)

In escalating debate on race at Evergreen State, students demand firing of professor

August 16, 2017 by Fernanda Zamudio-Suaréz

U. of Florida Denies White Supremacist Richard Spencer's Request for Event Space

University Leaders Should Plan for Another Year of Campus-Speech Protests. Here's How.

By Neil Gluckman | JULY 30, 2017 ✔ PREMIUM

Elijah Nouvelage, Getty Images

Police officers carry a man from the scene of a violent protest that broke out at the U. of California at Berkeley in February after the university canceled a speech by Milo Yiannopoulos.

COMPETITION

Driven by technological change, globalization, shifting demographics, divestment of state funding, and changing public and political attitudes, competition in higher education has never been greater. Today, there are more than 1,100 two-year institutions and 4,000 colleges and universities in the United States. These postsecondary institutions range from microcredentials and badges to trade/technical schools to community colleges to elite research-based universities. Competition elements related to employment and labor market forces are discussed in detail in later sections of this report. This section focuses on completion within the higher education market.

ONLINE EDUCATION

Online Education. Colleges and universities continue to invest in and expand their online programs. Arizona public universities have expanded their online presence, and their marketing efforts often reach Yavapai County residents through direct mail, radio, television, and social media channels. Many online programs offer multiple program/course start dates. While online programs do not have geographic boundaries, YC's chief competitors are online programs where the offering institution also maintains a physical presence in Arizona.

Rio Salado, a Maricopa Community College, offers 57 online programs and more than 500 online classes. Rio's 2016-17 tuition rate is $86 per credit hour for out-of-district students. Many of the Rio Salado online programs are in direct competition with YC programs. Most of Rio Salado's courses offer between 6 and 8 start dates per semester.
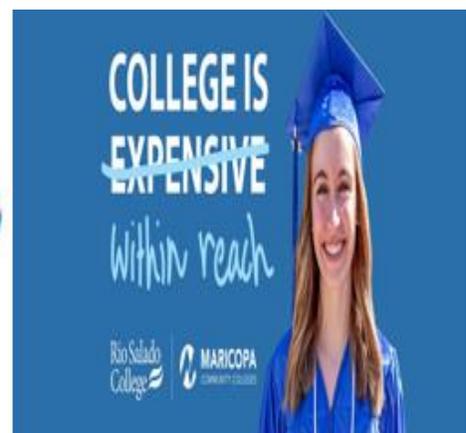
Arizona State University (ASU) offers more than 140 online programs. ASU offers exclusive tuition rates ($490 to $633 per credit hour) for students enrolled in fully online programs with no additional program fees. The University of Arizona and Northern Arizona University also offer online programs and coursework.

Beginning fall 2017, ASU has launched an online charter high school and is using this platform to expand its reach to high schools and directly to students by offering ASU dual enrollment courses. ASU digital prep offers part-time and full-time programs, hosts student events and programs on its physical campuses, and promises streamlined, VIP admissions among other touted benefits.

STATE UNIVERSITIES

Arizona public universities indomitably market to undergraduates through mixed media including television, radio, direct mail, billboards, internet, and social media.

ASU, U of A, and NAU all offer athletics, state of the art recreation facilities, and generous scholarship awards covering up to 100 percent of tuition for high school students with a 3.50 core high school GPA. Academic scholarships are also available for high schools students with core GPAs as low as 3.00.

Traditional Age Student Marketing Advantages

PRIVATE FOR-PROFIT INSTITUTIONS

Private for-profit institutions in and outside of Arizona are aggressively marketing for undergraduate residential students. Similar to state universities, the private institutions leverage athletics, and extracurricular facilities to recruit bachelor's degree-seeking students. Competitors are not limited to universities.

Grand Canyon University (GCU) is YC's primary for-profit competitor for recent high school graduates. GCU regularly engages local area high schools and provides campus tours including attendance at an athletic event for high school students.

YC's career and technical education programs are not immune from for-profit competition. The Sonoran Desert Institute (SDI), an online gunsmithing school, headquartered in Scottsdale, AZ has an enrollment of 1,427 students. Accredited by the Distance Education Accrediting Commission, SDI offers certificate, advanced certificate and associate of science programs. In January 2016, SDI became certified to offer students federal Title IV financial aid.

Universal Technical Institute (UTI), with campuses in Arizona and throughout the western United States, heavily markets through television ads for programs offered by YC: Automotive, Collision Repair, Diesel, Motorcycle, Computer Numerical Control, and Welding. Accredited as Title IV eligible by the Accrediting Commission of Career Schools and Colleges, UTI offers federal student aid. Tuition is significantly higher for UTI classes compared to YC; however, they start new courses every three weeks. In 2016, UTI's Avondale campus had 1,896 full-time students of which 72% were out-of-state, and 69% of attendees are age 24 or younger.

The YC Lineman Program also faces competition from the Northwest Lineman College that has campuses located in California, Florida, Idaho, and Texas.

ALTERNATIVE POSTSECONDARY CREDENTIALS

Computer coding "boot camp" programs continue to expand and push the boundaries of what postsecondary credentials may look like in the future. One of the fastest growing microcredential areas is computer science. The number of coding "boot camp" programs have exploded over the past five years. Depending on the software language, program completion can be done in as little as 12 weeks. While these programs are not eligible for federal financial aid, companies like Skills Fund are providing loan services specific to coding schools. Schools like Galvanize and the Software Guild report exceptionally high placement in high wage occupations for boot camp graduates. Most boot camp programs are private providers; however, the Software Guild has partnerships with traditional universities like Wichita State University, Kent State University, University of Georgia, Oregon State University, Baker University, and the University of West Florida.

Private, non-traditional skill credentialing is encroaching on the community college's domain as the leader in providing ongoing job skills training. Lynda.com, recently purchased by LinkedIn, offers more than 50 "learning paths" that help people learn or updates skills in areas like management, marketing, web development, software programming, graphic design, CAD, and 3D animation.[5] Successful completers receive certificates of completion. Membership to Lynda.com includes access to all program offerings at an affordable monthly fee of $25 or an annual price of $250. How these microcredentials will be received by employers and industry remains unclear.
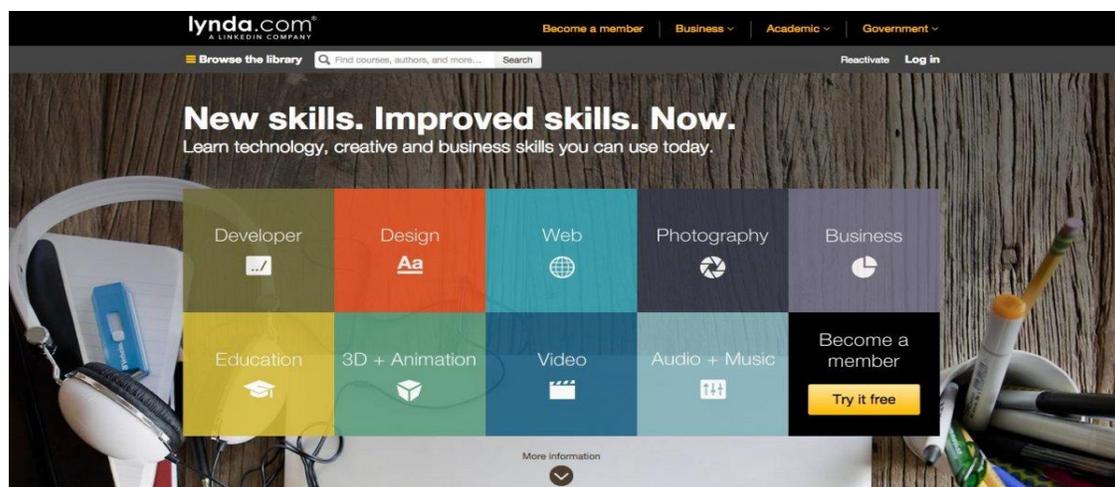
DEMOGRAPHICS

This section addresses national and state level demographic trends, but primarily focuses on Yavapai County. Yavapai County's population is spread out over 8,000 square miles, geographically divided by the Mingus Mountain range. The Prescott area in the west county and Verde Valley in the eastern portion of the county are the two primary population centers. Analyzing these areas is complex due to a lack of data collected at the sub-county level. To obtain as clear a picture as possible, this analysis used zip code level data and were divided into three regions: West County (Prescott area), East County (Verde Valley), and Balance of County.

Yavapai County Population by Location
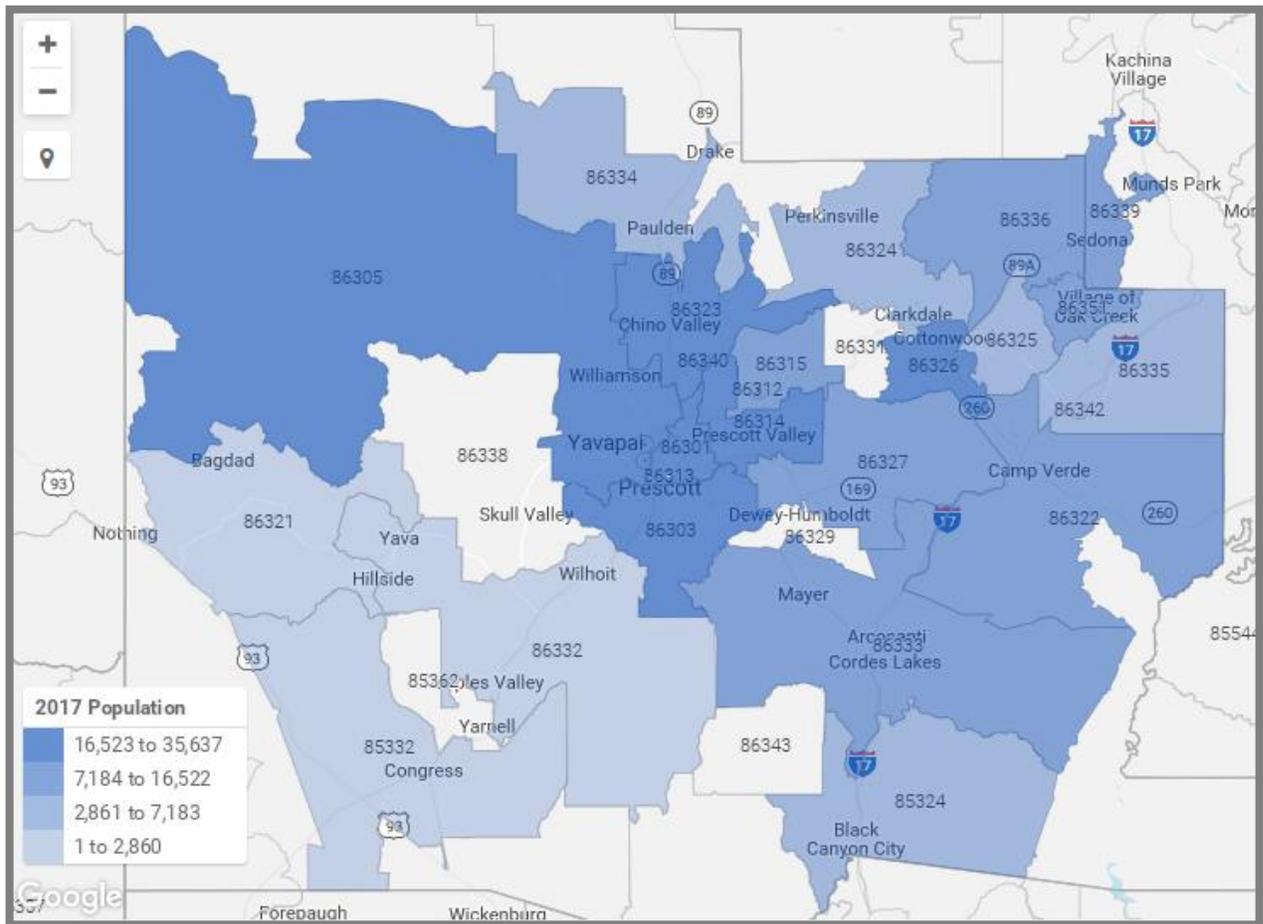
Source: Economic Modeling Specialists, Intl., 2017

POPULATION

Yavapai County's 2017 population is 227,713. Over the next five years, the county population is forecasted to grow by 3.4%, slightly below the Arizona and U.S. projections of 4.0% respectively.

National, Arizona, and Yavapai County Population and Projections

	2010	2017	2022	Net Growth Forecast (2017-2022)	% Growth Forecast (2016-2022)
United States	308,745,538	324,209,135	337,341,750	13,132,615	4.0
Arizona	6,392,017	6,969,733	7,254,467	284,734	4.0
Yavapai County	211,033	227,713	235,443	7,730	3.4

Source: EASI Analytics Inc., 2017

Examining sub-county areas, almost two-thirds of Yavapai County residents live in the west county, while about a third reside in the east county. Five-year growth forecasts for all sub-county areas are slightly over 3%.

Yavapai County Sub Area Population and Projections

	2010	2017	2022	Net Growth Forecast (2016-2022)	% Growth Forecast (2016-2022)
Yavapai County	211,033	227,713	235,443	7,730	3.39%
West	133,038	143,527	148,397	4,870	3.39%
East	68,338	73,724	76,267	2,543	3.45%
Balance	9,657	10,462	10,779	317	3.03%

Source: EASI Analytics Inc., 2017

Population Distribution by Sub County Area
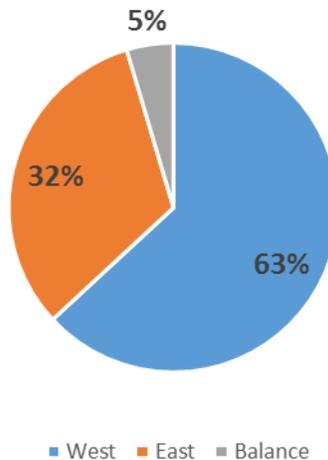
Source: Easy Analytics Inc., 2017

AGE GROUPS

Yavapai County's share of the population age 65 and older is near twice that of the Arizona as a whole. The over 65 populations are consistent over the three sub-county areas. Nearly half of the county's population is workforce age (25-64). The west sub-county area has the largest proportion of traditional-age college students (18-24).

2017 Age Group Distribution
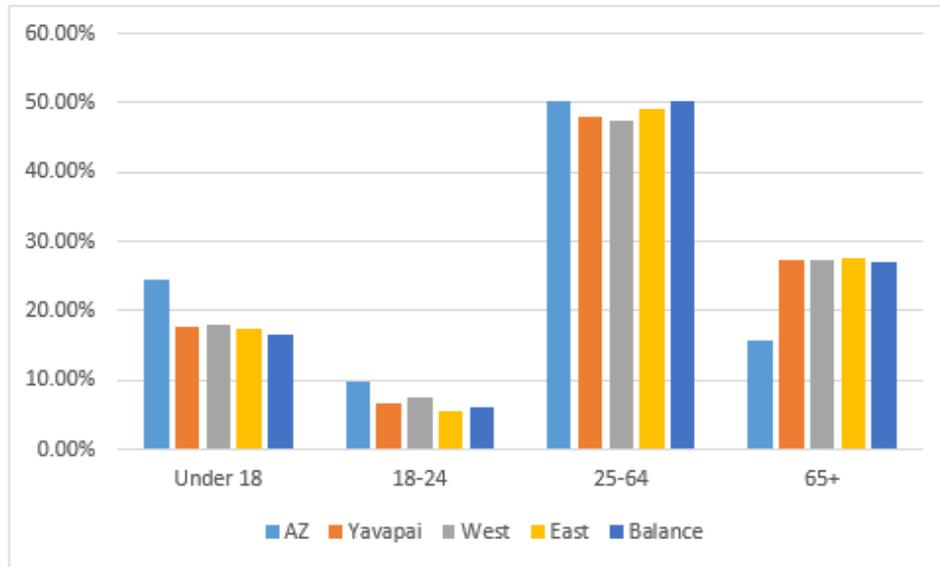
Source: EASI Analytics, Inc., 2017

Another indication of Yavapai County's significantly older population can be seen in the comparisons of median age. Over the last year Yavapai County has remained even, while both the U.S and Arizona have seen the median age increase 2% and 5% respectively.

2017 Median Age

Source: EASI Analytics, Inc., 2017

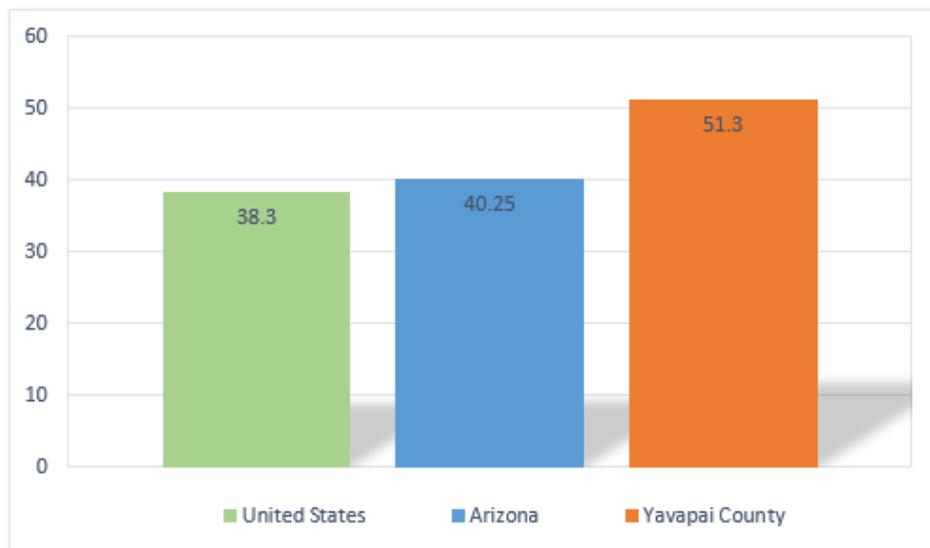A closer inspection of age groups shows that the largest increases will occur in all ages over 55, and will add 10,193 new residents. In contrast, the 45-54 age group will shrink by 2,102 along with declines in 35 to 44 (-696) and 12 to 17 (-423). These age trends represent a potentially significant shift for Yavapai College and its curriculum and program offerings.

Yavapai County Population Projections by Age Group

Yavapai County Population Projections by Age Group				
			Net Growth Forecast	% Growth Forecast
	2017	2022	(2017-2022)	(2017-2022)
Population, Median Age	51.3	53.5		4.3
Population Aged 0 to 5 Years	12,512	12,231	-281	-2.2
Population Aged 6 to 11 Years	13,609	13,590	-19	-0.1
Population Aged 12 to17 Years	14,130	13,707	-423	-3
Population Aged 18 to 24 Years	15,363	15,401	38	0.2
Population Aged 25 to 34 Years	20,366	21,386	1,020	5
Population Aged 35 to 44 Years	20,089	19,393	-696	-3.5
Population Aged 45 to 54 Years	28,030	25,928	-2,102	-7.5
Population Aged 55 to 64 Years	41,117	43,424	2,307	5.6
Population Aged 65 to 74 Years	38,734	45,979	7,245	18.7
Population Aged 75 to 84 Years	16,940	17,029	89	0.5
Population Aged 85 Years and Older	6,823	7,375	552	8.1

Source: EASI Analytics, Inc., 2017

DEPENDENCY RATIO

Yavapai County's dependency ratio of 82.2% is significantly higher than the state as a whole (66.9%). A high dependency ratio indicates there may be an increased burden on the economically active portion of the population and government to provide increased social services (education, pensions, and health care) to the economically inactive population that contributes minimally to the tax base.

$$\text{Dependency Ratio} = \frac{(\text{Number of people age 0 to 17 and those age 65 and older})}{\text{Number of people age 18-64}} \times 100$$

Work Force vs. Dependents
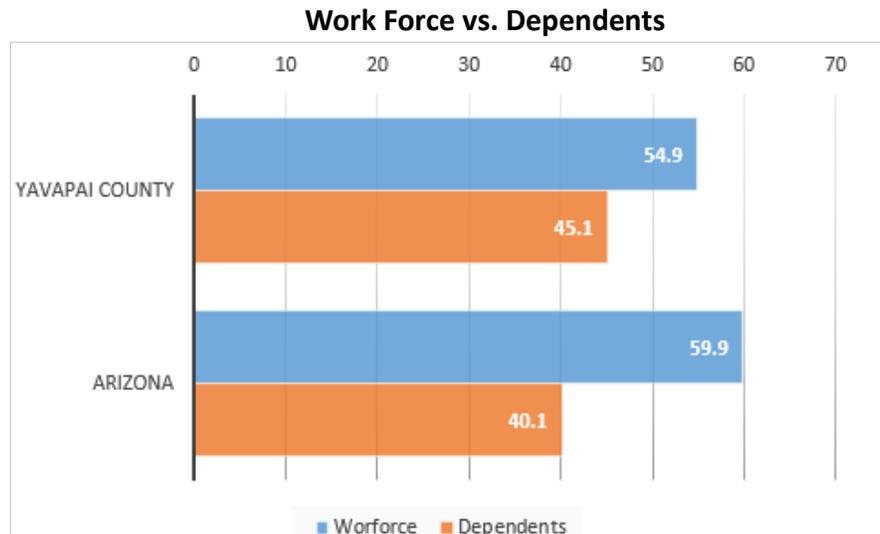
Source: EASI Analytics, Inc., 2017

RACE AND ETHNICITY

The overwhelming majority (80%) of Yavapai County residents are White with a median age of 56. Hispanics make up the next largest group at 15% with a median age (28.2) that is 50% younger then the majority race.

Yavapai County Race and Ethnicity

	2017	% to Total 2017	2022	Net Growth Forecast (2017-2022)	% Growth Forecast (2017-2022)
POPULATION BY RACE					
White Population, Alone	200,282	88.0%	205,882	5,600	2.8
Black Population, Alone	1,664	0.7%	1,832	168	10.1
Asian Population, Alone	2,631	1.2%	2,907	276	10.5
American Indian and Alaska Native Alone	4,198	1.8%	4,466	268	6.4
Other Race Alone	12,573	5.5%	13,556	983	7.8
Two or More Races	6,365	2.8%	6,800	435	6.8
POPULATION BY ETHNICITY					
Hispanic Population	33,000	14.5%	34,889	1,889	5.7
White Non-Hispanic Population	181,105	79.5%	185,141	4,036	2.2

Source: EASI Analytics, Inc., 2017

Yavapai College Median Age by Race and Ethnicity

	2017	2022
MEDIAN AGE BY RACE		
White Median Age	54.2	56.1
Black Median Age	37.6	42.3
Asian Median Age	45.3	46.4
American Indian and Alaska Native Med	35.9	38
Other Race Median Age	27.1	27.6
Two or More Races Median Age	25.3	25.6
MEDIAN AGE BY ETHNICITY		
Hispanic Median Age	28.2	29.7
White Non Hispanic Median Age	56	57.7

Source: EASI Analytics, Inc., 2017

EDUCATIONAL ATTAINMENT

Yavapai County's over-age-25 bachelor's degree or higher attainment rate of 25% is below the Arizona (27%) and U.S. (29%) levels.

2017 Educational Attainment Population 25 and Older
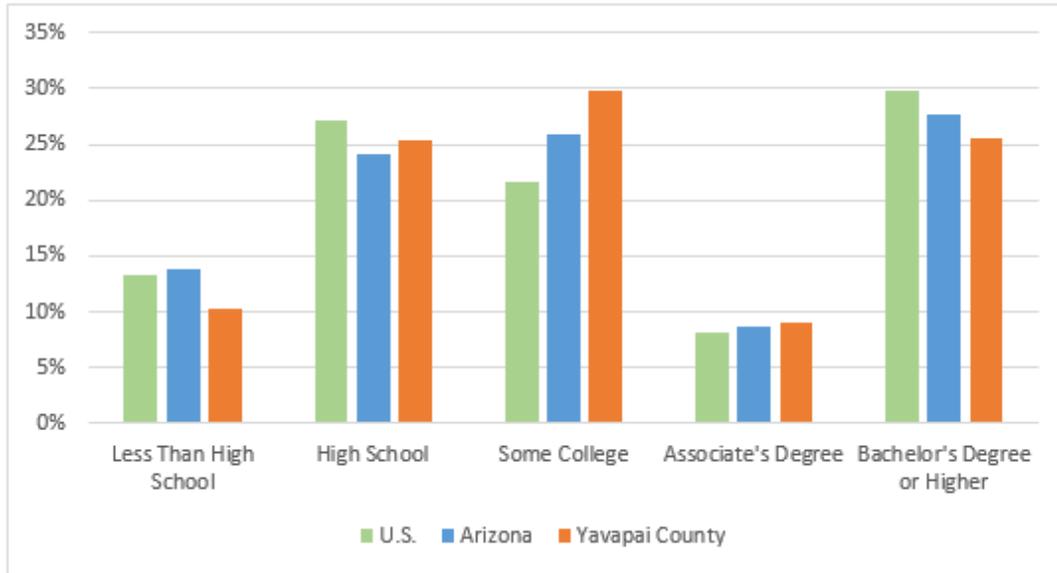
Source: EASI Analytics, Inc., 2017

Given Yavapai County's significantly older population, it is important to examine educational attainment for the workforce population (25-64).[2] Yavapai County's bachelor's degree attainment rate is about 1.6 times lower than the U.S. level and 1.4 times lower than the Arizona level.[6]

Bachelor's Degree of Higher Population 25-64
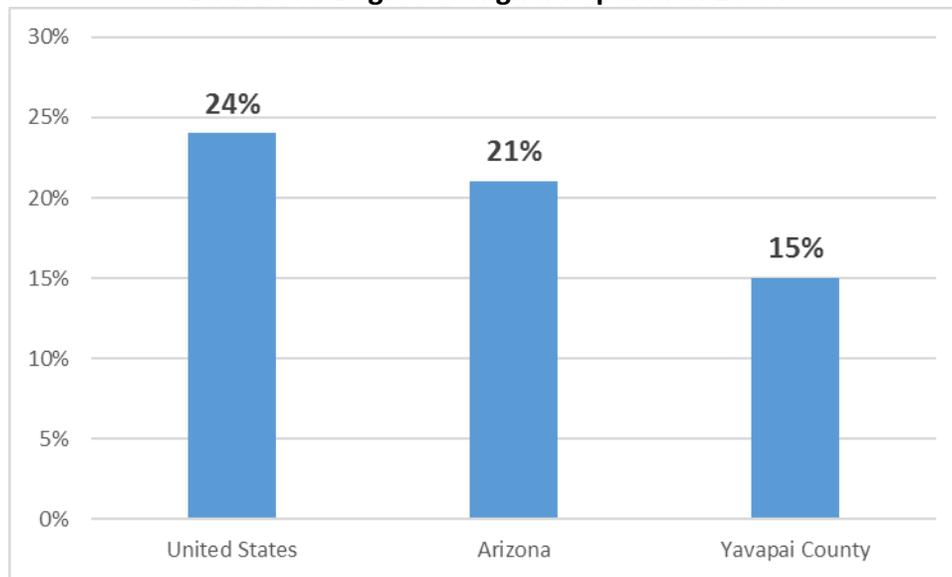
Source: Morrison Institute, The Role of Postsecondary Education in the Future of the Verde Valley Region., 2016

POVERTY

The Yavapai County poverty rate is slightly lower than the state. A look at sub-county areas finds the west county has the highest poverty populations, with both east and west exceeding the national level of poverty.
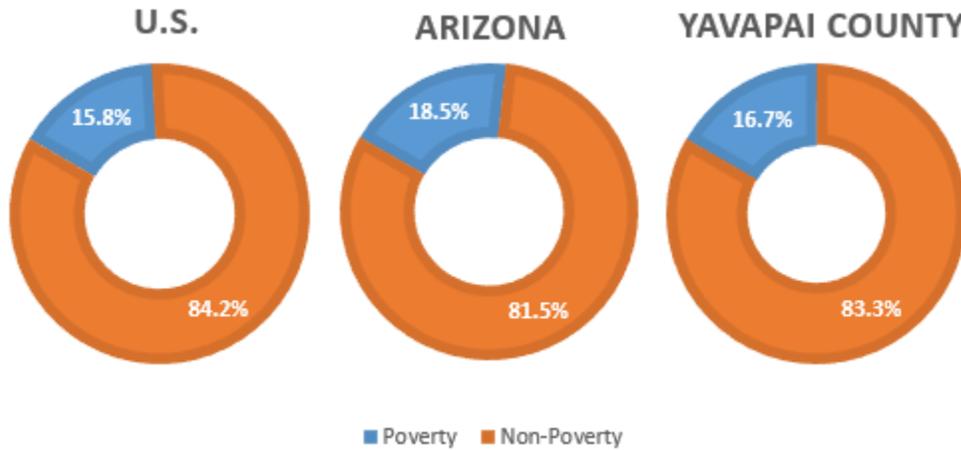
Source: EASI Analytics, Inc., 2017

Poverty Population

Source: EASI Analytics, Inc., 2017

ECONOMIC

This section presents economic trends impacting colleges and universities. In addition to national and state trends, specific information for Yavapai County is included.

ECONOMIC TRENDS

Unemployment. Numerous factors affect community college enrollment. Community college enrollment typically runs counter-cyclical to employment rates. Hence, when unemployment rates drop, this has a negative effect on community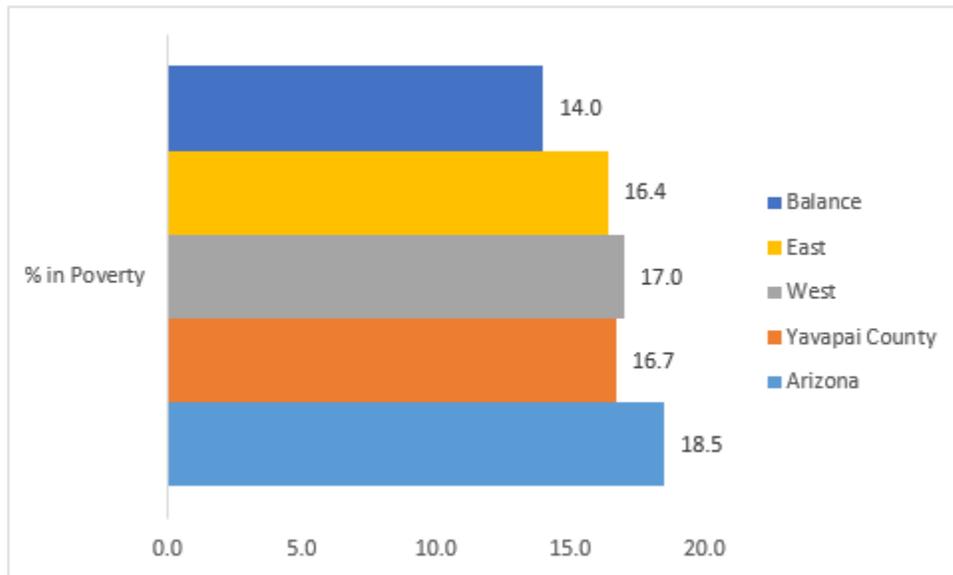 college enrollments as students re-enter the workforce. Yavapai County's unemployment rate of 4.2 is below the Arizona and United States rate and approaching pre-recession levels.

Unemployment Trends

	2011	2012	2013	2014	2015	2016	2017
Yavapai County	9.4	8.4	7.6	5.9	5.2	4.9	4.2
Arizona	9.7	8.5	7.6	6.8	6.1	5.5	5.0
United States	9.0	8.2	7.5	6.2	5.5	4.7	4.4
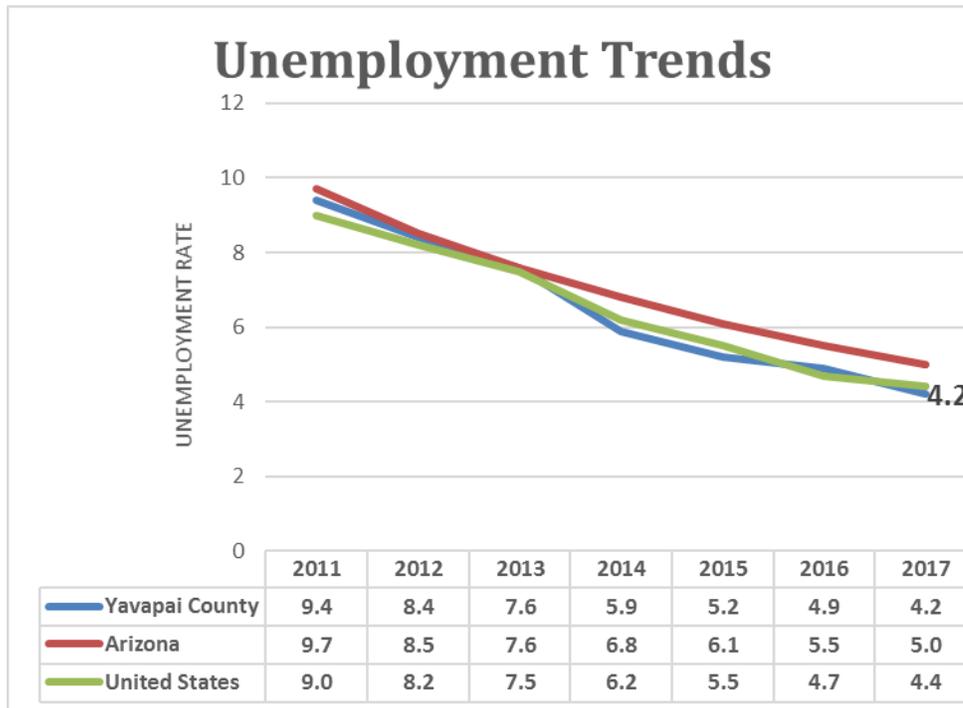
Source: Federal Reserve Bank of St. Louis

High Cost of Living. Yavapai County's overall cost of living is higher than the national and Arizona average. The primary driving factor is housing costs.

Cost of Living West Yavapai County

Cost of Living	Prescott	Prescott Valley	Chino Valley	United States
Grocery	99.7	99.7	99.7	100
Health	98	98	98	100
Housing	162	117	130	100
Utilities	90	90	90	100
Transportation	93	93	93	100
Miscellaneous	96	96	96	100
Overall	117	103	107	100

Source: Sperling's, 2016

Cost of Living East Yavapai County

Cost of Living	Cottonwood	Camp Verde	Sedona	United States
Grocery	99.7	99.7	99.7	100
Health	98	98	98	100
Housing	100	105	227	100
Utilities	90	90	90	100
Transportation	93	93	93	100
Miscellaneous	96	96	96	100
Overall	97	99	138	100

Source: Sperling's, 2016

Cost of Living Regional Competitors

Cost of Living	Phoenix	Flagstaff	United States
Grocery	98.6	110	100
Health	95	103	100
Housing	103	171	100
Utilities	98	92	100
Transportation	101	106	100
Miscellaneous	96	97	100
Overall	99	124	100

Source: Sperling's, 2016

Aging Workforce. Every month, more than a quarter-million Americans turn 65.[7] As baby boomers exit the workforce, their replacements are not better educated, as witnessed by recent data showing Americans age 55 to 59 hold more advanced postsecondary degrees than their 30 to 34 counterparts did.

By 2020, 65% of jobs will require some postsecondary training.[8] These projections suggest a need and demand for the educational services provided by Yavapai College.

42 million jobs will require training beyond high school but less than a bachelor's degree[8]. Yavapai College is in a position to supply workers with required training, but the key will be to relocate more of these jobs to Yavapai County. Efforts in business attraction through the Greater Prescott Regional Economic Partnership, Prescott Valley Economic Development Foundation, and Verde Valley Regional Economic Organization are aimed at the relocation of middle- to high-wage positions in manufacturing and aerospace to Yavapai County.

More education still pays. Over a career, a high school diploma is worth $1.3 million; a bachelor's degree is worth $2.3 million; a Ph.D. earns $3.3 million and a professional degree $3.7 million.[9]

Median Lifetime Earnings by Highest Educational Attainment, 2009 Dollars
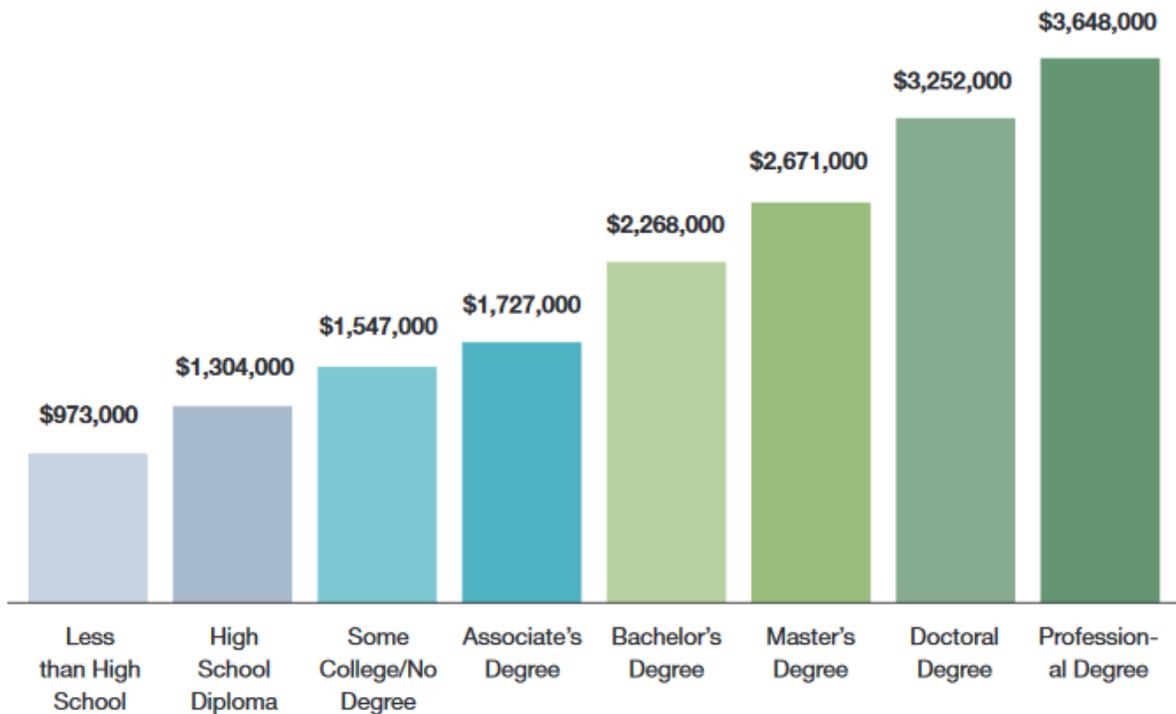
Source: Georgetown University Center on Education and the Workforce, 2014.

LABOR FORCE

This section addresses labor force trends in Yavapai County and alignment of Yavapai College programs with workforce demands.

INDUSTRY AND WORKFORCE GAP ANALYSIS

Yavapai County has the greatest amount of laborers in government, healthcare, retail, and food and accommodation. Of these top five sectors, three provide some of the highest wages for county employment. Government currently employ more than 11,595 people with average earnings per worker of $58,199, healthcare and social assistance has 10,404 jobs with earnings of $51,149, and manufacturing employs 3,772 people with average earnings around $54,827. Retail and food and accommodation industry sectors employ approximately 18,852 workers in the county with average earnings at $32,226 and $22,412 respectively. Since the recession, Yavapai County labor statistics show a 21% growth in community and social service occupations, most of which require some college, and 18% growth in healthcare related occupations in the recovery period.

Largest Industry Sectors in Yavapai County 2017
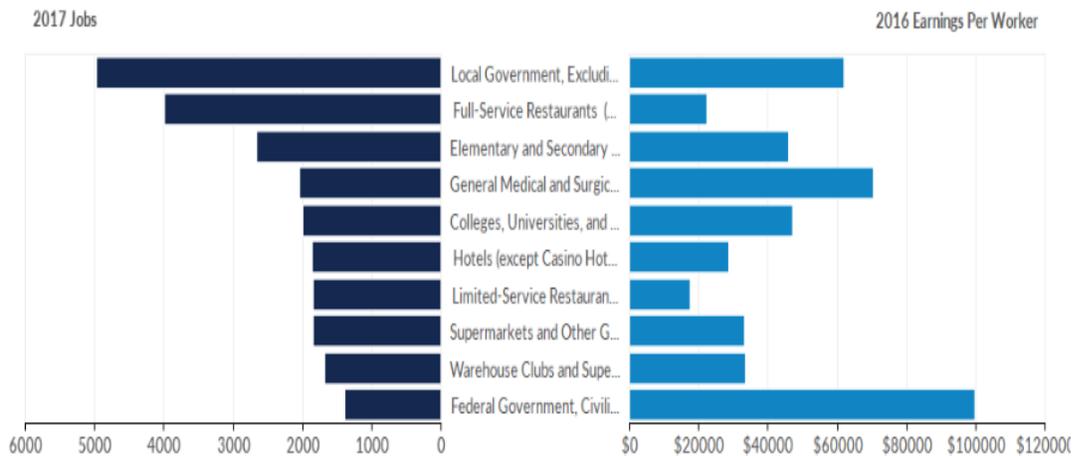
Source: Economic Modeling Specialists, Intl., 2017

Highest Paying Industries in Yavapai County 2017
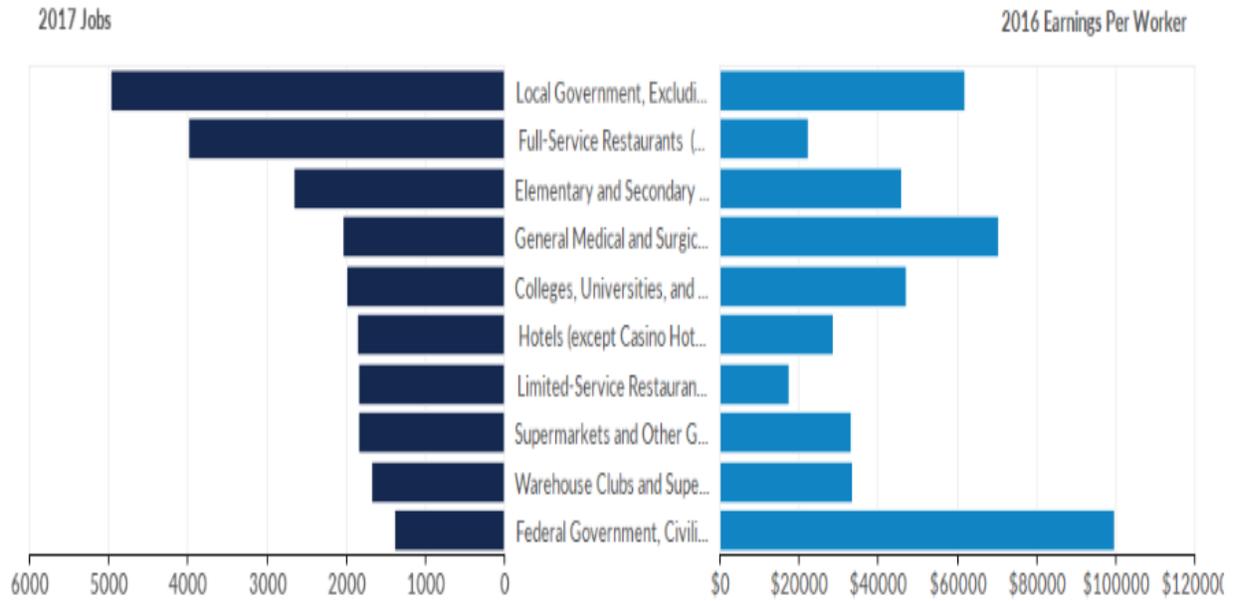
Source: Economic Modeling Specialists, Intl., 2017.

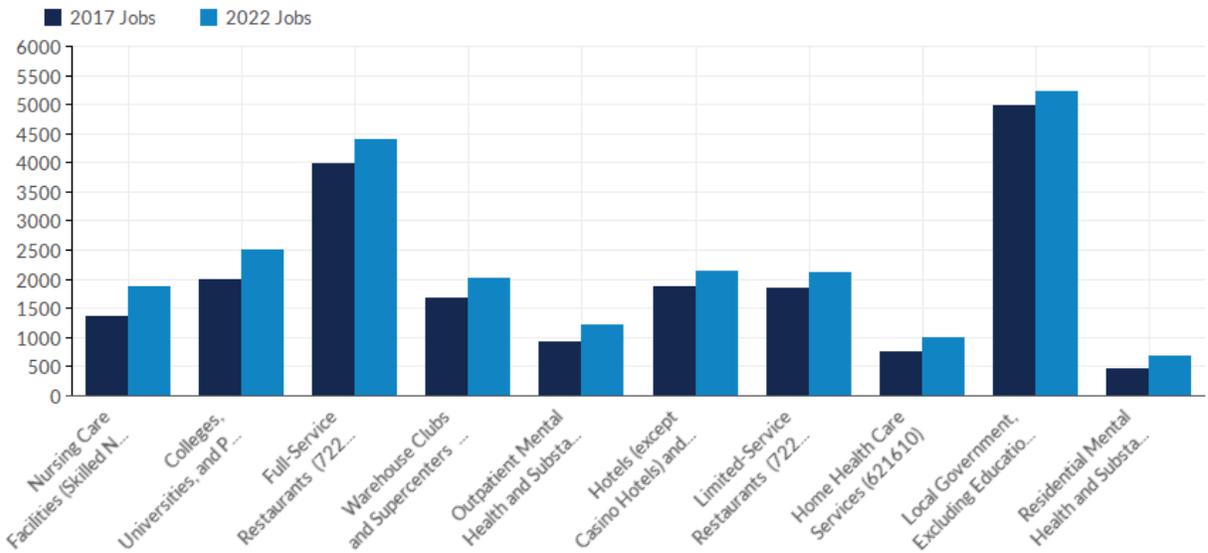## Fastest Growing Industries Forecast for Yavapai County 2017 to 2022

Source: Economic Modeling Specialists, Intl., 2017.

Cross-referencing industry sector growth with occupational growth verifies high demand for academic programs in healthcare, management, business and public administration.

Top 30 Occupations in Yavapai County

Occupation	2017 Jobs	2022 Jobs	Change in Jobs (2017-2022)	% Change	2016 Median Hourly Earnings
Retail Salespersons	2,641	2,926	285	11%	$11.34
Cashiers	2,168	2,361	193	9%	$9.30
Waiters and Waitresses	2,031	2,209	178	9%	$9.03
Combined Food Preparation and Serving Workers, Including Fast Food	1,732	2,012	280	16%	$9.54
Office Clerks, General	1,580	1,718	138	9%	$13.55
Secretaries and Administrative Assistants, Except Legal, Medical, and Executive	1,483	1,611	128	9%	$14.67
Registered Nurses	1,475	1,712	237	16%	$34.65
Personal Care Aides	1,402	1,570	168	12%	$10.01
Janitors and Cleaners, Except Maids and Housekeeping Cleaners	1,176	1,281	104	9%	$11.49
Maids and Housekeeping Cleaners	1,176	1,311	136	12%	$10.53
General and Operations Managers	1,174	1,272	98	8%	$32.46
Stock Clerks and Order Fillers	1,161	1,285	123	11%	$10.89
First-Line Supervisors of Retail Sales Workers	1,111	1,190	79	7%	$16.48
Cooks, Restaurant	1,045	1,188	143	14%	$11.11
Landscaping and Grounds keeping Workers	977	1,062	86	9%	$11.67
Heavy and Tractor-Trailer Truck Drivers	919	985	66	7%	$17.09
Laborers and Freight, Stock, and Material Movers, Hand	851	928	78	9%	$12.62
Maintenance and Repair Workers, General	838	931	93	11%	$15.55

Occupation	2017 Jobs	2022 Jobs	Change in Jobs (2017-2022)	% Change	2016 Median Hourly Earnings
Customer Service Representatives	830	924	93	11%	$13.08
First-Line Supervisors of Office and Administrative Support Workers	797	876	79	10%	$21.61
Construction Laborers	728	723	-5	-1%	$13.25
Teacher Assistants	726	754	28	4%	$11.35
Bookkeeping, Accounting, and Auditing Clerks	705	733	28	4%	$17.54
Postsecondary Teachers	687	824	138	20%	$32.61
First-Line Supervisors of Food Preparation and Serving Workers	652	731	80	12%	$13.68
Carpenters	621	590	-31	-5%	$15.68
Medical Secretaries	616	688	72	12%	$15.54
Automotive Service Technicians and Mechanics	614	647	33	5%	$16.46
Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products	613	685	72	12%	$21.98
Police and Sheriff's Patrol Officers	603	642	39	6%	$29.59

ACADEMIC PROGRAM CORRELATION

Yavapai College has many current strengths and various opportunities for development of academic programming that corresponds with current industry demand. Correlating stackable credentials with occupational structures will contribute to increased enrollment by occupational cohort and create demand for upskilling through YC academic program options. Ensuring articulation between new and updated YC certificates and associates degrees to the state university system will increase enrollment by offering traditional and non-traditional students more options for mixing and matching their continuing education goals. Management, IT, and business professions appear throughout all top industry sectors. Academic programs in these fields can be leveraged with specialty industry-based stackable credentials and YC internship placement services to provide experiential learning in specific industries.
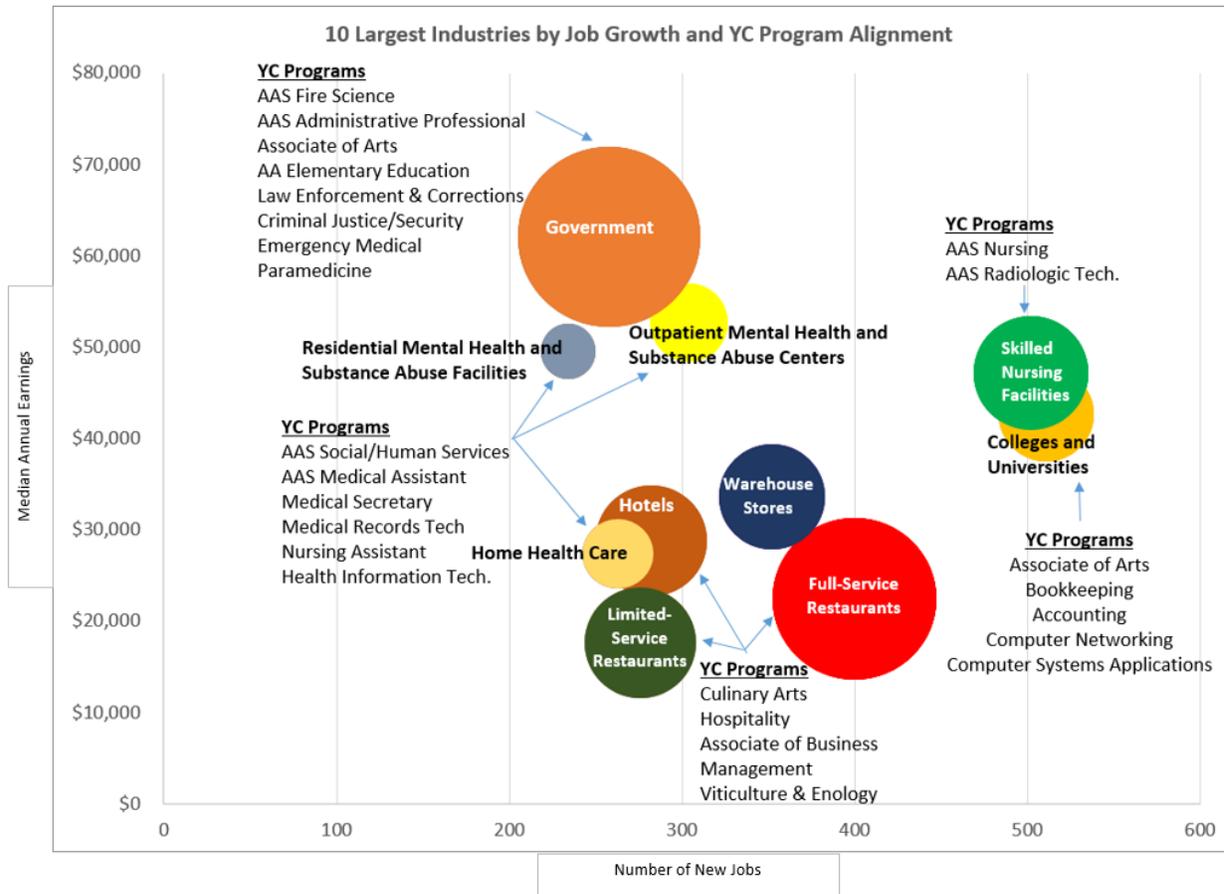
Source: Economic Modeling Specialists, Intl., 2017.

Industry Sector & Occupations	Strengths	Opportunities
<u>Healthcare and Social Assistance</u> <u>Occupations:</u> Healthcare Practitioners Technician Occupations Healthcare Support Occupations (Medical Assistant) Personal Care & Service (Caregiving) Management Occupations	Existing academic programming - Nursing AAS - Medial Assistant - Technician Certs (phlebotomy, radiology, pharmacy) - Certified Nursing Assistant - Caregiver Certificate - Health Information Systems	Correlate existing classes with specialty occupation-based stackable credentials. AAS → BSN
<u>Manufacturing</u> <u>Occupations</u>: Production/Assembly Occupations Installation, Maintenance, and Repair Technicians CNC Set-up/Operators CNC Programmer Steel Fabricator (Welding) Design Engineer (CAD systems) Management Occupations	Up-to-date equipment for machining, welding, and industrial machine mechanics Existing program that prepares students for 3rd party industry exams	Expand and correlate stackable credentials to occupations (e.g. CNC certificate → programmer → design engineer) New Manufacturing Operations Certificate

Industry Sector & Occupations	Strengths	Opportunities
Accommodation and Food Service Occupations: Front Desk Clerks Lodging Managers Building, Grounds Cleaning, and Maintenance Occupations Bookkeeping, Accounting, and Auditing Clerks Cooks, restaurant Food Preparation Workers Chefs and Head Cooks	Existing culinary cert. Hotel and restaurant management cert. in planning	Stackable credentials that move from front desk to management (perhaps using registered apprenticeship program)
Retail Trade Occupations: Sales and Related Occupations Management Occupations Entrepreneurship	Existing management tracks: ▪ AAS ▪ Organizational Management Cert. ▪ Retail Management Cert.	Articulation of management program to NAU Service Industry Management bachelors

Industry Sector & Occupations	Strengths	Opportunities
Wholesale Trade Occupations: Transportation and Material Moving Occupations Management Occupations	No current curriculum	Research industry needs
Government and Administrative and Support Occupations: Administrative Assistant Public Administrator (project coordination and management)	Existing professional administration program has curriculum that fits into a public administration or public management certificate	New Public Administration Associates Create Public Management Certificate
Management of Companies, Information, Finance and Insurance Occupations: Business Administration Financial Management Accounting (CPA) Computer Support Specialists Network Administrators Software Developers, Applications Software Developers, Software Information Security Analysts	Existing business associates Existing accounting programs: Accounting AAS Accounting Assistant Cert. Basic Tax Cert. Bookkeeping Cert. Advanced Bookkeeping Cert. Existing IT programs: ▪ Computer Networking Technology AAS ▪ Computer Systems and Applications AAS ▪ Computer Application Specialist Cert. ▪ Computer Networking Technician ▪ Cert.	Manufacturing Operations cert. New Finance cert. New Coding associates

Industry Sector & Occupations	Strengths	Opportunities
<u>Marketing, Design, and Communications</u> <u>Occupations:</u> Web Designer Arts and Media Occupations Marketing and Communications Coordinator Marketing Manager	Existing classes found built into other disciplines	New Marketing and Communications cert.
<u>Utilities</u> <u>Occupations:</u> Electrical Line-worker	Existing Electric Utility Technology Certificate	Expansion into other utility occupations

EDUCATION

This section addresses education trends impacting colleges and universities. In addition to national and state trends, specific information for Yavapai County is included.

K-12 EDUCATION TRENDS

Challenged K-12 System. Ranked by expenditures per students, Arizona was 39th in 1992 and had fallen to 49th in 2016.[10] Arizona's expenditure of $7,566 is just 56% of the national average $11,787. Since 2003, the National Center for Education Statistics (NCES) has compared each state's standard for proficient performance in reading and mathematics by placing the state standards onto a common scale defined by National Assessment of Educational Progress (NAEP) scores. Based on NAEP scores, Arizona ranks 39th out of 50 states in educational achievement.[11] NAEP scores for both grades 4 and 8 indicate that about 3 in 10 Arizona students are at or above proficient in reading and mathematics.

Grade 4--At or Above Proficient in Reading	Grade 8--At or Above Proficient in Reading
30%	31%
Grade 4--At or Above Proficient in Mathematics	**Grade 8--At or Above Proficient in Mathematics**
38%	35%
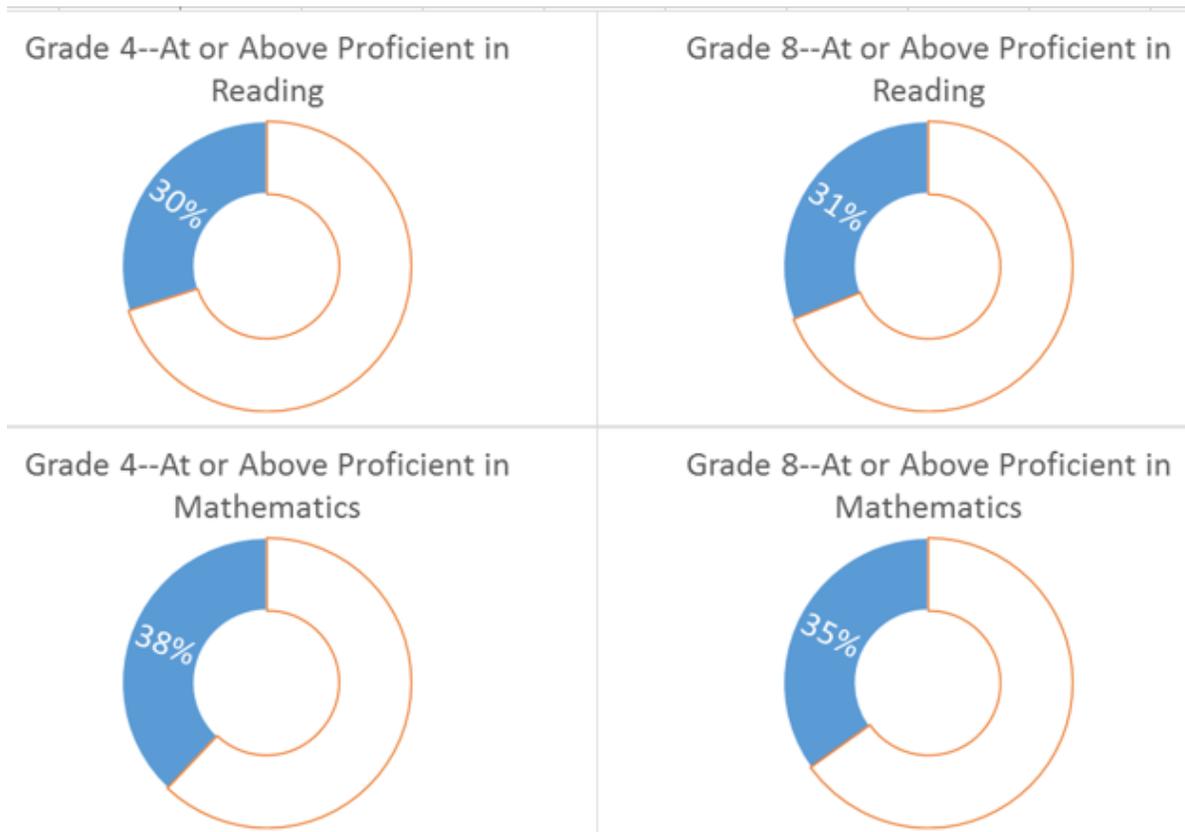
When adjusted for cost of living, Arizona elementary and high school teachers are some of the lowest paid in the nation, ranking 50th and 49th respectively.[12] Attracting and retaining quality teachers is a significant challenge for state k-12 schools.

Where Arizona K-12 Ranks	
Measure	National Rank
Expenditures per Student	49th
Median Elementary Teacher Pay	50th
Median Secondary Teacher Pay	49th
High School Graduates Rate	44th
College Readiness	37th
NAEP Scores	39th

Underprepared Students. *ACT* (2016) reports that just 26% of college-bound students met all four college-readiness benchmarks (English, mathematics, reading, and science).[13] As many as two-thirds of students entering community colleges today require some level of remediation (Cohen & Brawer, 2014)[14]. In 2015, 4 in 10 recent high school graduates enrolled in a developmental course. Overall, about 6 in 10 degree-seeking students at YC require some level of remediation in English and/or mathematics.

YAVAPAI COUNTY HIGH SCHOOL ENROLLMENT TRENDS

Yavapai County high school enrollments continue to decline. The net decline between 2011 and 2016 was 337 students. The decline represents a compound average annual enrollment drop of nearly 1 percent.

Yavapai County High School Enrollment Trends

Year	9	10	11	12	Total
2012-13	2,147	2,032	1,988	1,969	8,136
2013-14	1,960	2,015	1,916	1,947	7,838
2014-15	1,999	1,929	1,912	1,975	7,815
2015-16	1,962	1,958	1,823	1,937	7,680
2016-17	1,976	1,942	1,786	1,787	7,491

Source: Arizona Department of Education—Arizona October 1 Enrollment Reports; 2015-16 enrollment forecasted by IER.
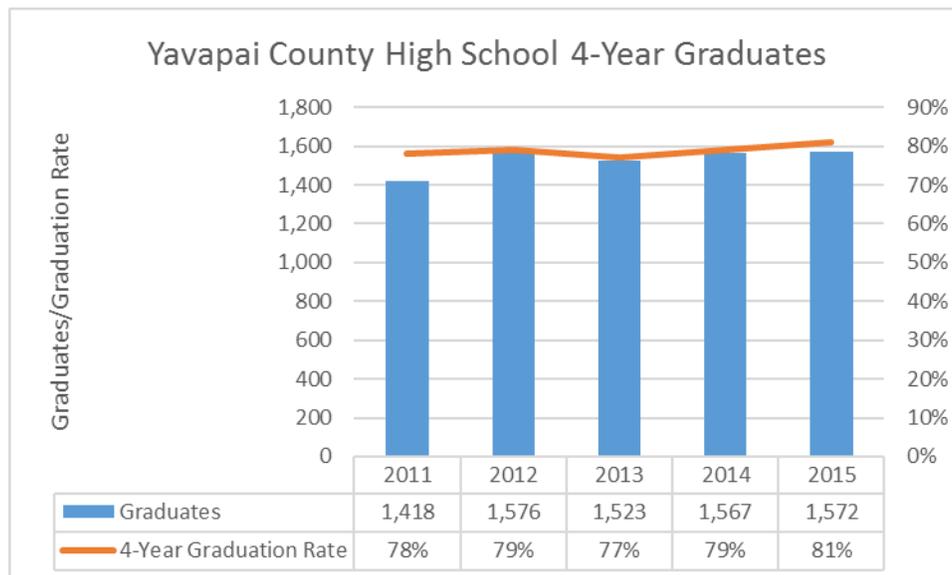
Selected Yavapai County High School Enrollment Trends

High School	2012-13	2013-14	2014-15	2015-16	2016-17	% Free Lunch 16-17
AZ Agribusiness & Equine Center (AAEC)	156	188	193	211	210	27%
BASIS Prescott	NA	NA	42	81	97	*
Bradshaw Mountain High School	1678	1547	1619	1673	1581	37%
Chino Valley High School	737	740	728	757	697	60%
Mayer High School	156	171	178	167	187	89%
Northpoint Expeditionary Learning Academy	138	166	170	169	180	32%
Prescott High School	1607	1585	1537	1487	1491	34%
Tri-City College Prep High School	199	217	216	221	224	*
Yavapai County High School	36	13	35	31	28	75%
Camp Verde High School	443	428	414	377	395	56%
Mingus Union High School	1177	1207	1151	1141	1135	48%
Mingus Union High School Online	19	13	12	12	*	*
Sedona Red Rock High School	490	470	471	435	367	7%
Ash Fork High School	70	77	77	73	74	89%
Bagdad Senior High School	117	125	124	113	99	59%
Seligman High School	51	54	54	55	44	57%

Source: Arizona Department of Education—Arizona October 1 Enrollment Reports; * indicates suppression of data due to small student counts.

HIGH SCHOOL GRADUATE TRENDS

Arizona high school enrollment and graduates to increase through 2024-25. The Western Interstate Commission for Higher Education (WICHE) projects that Arizona's high school graduates will increase by 6% from 67,909 in 2016-17 to 72,298 in 2024-25.[15] The growth in graduates is largely due to population of Hispanic students that make up the majority of K-12 students in the state.

Yavapai County High School 4-Year Graduates

	2011	2012	2013	2014	2015
Graduates	1,418	1,576	1,523	1,567	1,572
4-Year Graduation Rate	78%	79%	77%	79%	81%

Yavapai County high school graduates will decline slightly. Declining birth rates and the aging shift in net migration indicate the number of high school graduates will likely decline slightly over the next five years. The rising county high school graduation rate (81%) is encouraging and exceeds the Arizona graduation rate of 78%.

COLLEGE AND UNIVERSITY EDUCATION TRENDS

Year-Round Pell Grants Reinstated. Beginning in 2017, Congress has reinstated year-round Pell awards to eligible students.[16] Year-round access to funding will give financially challenged students flexibility in planning and paying for their studies. The reinstatement also allows students who are more prone to stop out between the spring and fall semesters to continue their education in the summer term and finish their programs faster.

Community College Students Facing Basic Needs Insecurity. A national study of community college students conducted by the Association of Community College Trustees (ACCT) and the University of Wisconsin HOPE Lab found that 2 in 3 students responded that they were food insecure. Additionally, more than half the students surveyed expressed difficulty in paying their rent and utilities, or have to move frequently due to financial difficulties.[17]

Yavapai College's recent Community College Survey of Student Engagement (CCSSE) echoes national results with 62% of YC student finding themselves living paycheck-to-paycheck. Even with 76% of YC students reporting that they are employed part-time or full-time, 70% report they would experience financial difficulty if unexpected need arose within the next month. Yavapai College's "I Am YC Club" is a positive and creative approach to ensuring that YC students have their basic needs met and can focus on their studies.

Community Education Enrollment Trends. Nationally, community colleges have continued a sixth straight year of declining enrollment. Arizona community college enrollment trends have mirrored the national experience. Counter to state and national trends, Yavapai College's enrollment decline was less than forecasted in 2016-17 and is up 2% in full-time, student equivalents (FTSE) at the conclusion of the first week of the semester.

Improving Retention Rates. Nationally, year-to-year retention rates for community colleges have stagnated. Yavapai College's first-time, full-time student retention rates have improved the past two years with a record fall-to-fall retention rate of 63% last year.

For Yavapai's most recent credential-seeking cohort, 93% persisted to the spring semester and 75% returned for classes the following fall term.

Low College Completion Rates. The federal graduation rate is based on 150% of the published time for the program which equates to a three-year community college completion. The three-year U.S. public community college graduation rate is 19.5% using the Department of Education's official graduation rate. Yavapai College's latest three-year graduation rate is 23%.

Using the credential-seeking cohort favored by the American Association of Community Colleges (AACC), YC's latest cohort had an 85% success rate that includes completion, transfer without completion, earning 30 or more credit hours, or still enrolled after six years. The portion of YC students completing a degree in this six-year period was 38%.

Financial Aid (SAP). The federal government has tightened Satisfactory Academic Progress (SAP) requirements. The maximum timeframe that a student may receive federal financial aid may be no more than 150% of the designated program length and includes all institutions attended. To be eligible for financial aid, one must successfully complete at least 67% of their term and cumulative attempted credit, which includes any courses taken at another institution.

TECHNOLOGY

This section addresses technology trends that higher education institutions must balance to ensure the security of information while meeting the ever-evolving changes demanded by students.

TECHNOLOGY TRENDS

Cyberattacks and IT Compliance. Recent headlines speak volumes—Cybersecurity remains a top concern for colleges and universities. According to HUB International, higher education is second only to healthcare for cyber breaches.[18] More than 539 data breaches involving 13 million known records have occurred at institutions of higher learning since 2005. In response to these breaches, federal and state governments compliance mandates are increasing and requiring college IT staffs to spend more resources (human and financial) toward data security.

Data breach hits 63,000 U. of Central Florida students, staff

Elizabeth Weise, USATODAY   Published 11:17 a.m. ET Feb. 4, 2016 | Updated 11:54 a.m. ET Feb. 4, 2016

Higher Education – A Goldmine of Personal Data for Hackers

March 7, 2017   6 min read   ♡ 0

Artificial Intelligence and Virtual Reality. Artificial intelligence (AI) and virtual reality (VR) are novelties today; however, researchers predict that these technologies will revolutionize learning in the next decade. AI and VR will distort the lines between the traditional classroom, online courses, and self-paced, competency-based learning. It is not too early for colleges to start conversations on how this new technology will influence pedagogy, curriculum planning, space planning, and instructional technology decisions.[5]

Digital versus Paper. Digital textbooks have been hailed as one solution to the high cost of textbooks. 2015 marks the first year a major publisher, McGraw-Hill Education, sold more digital products than print. However, a fall 2015 study of college faculty found that print materials are still the overwhelmingly choice of instructors. Similarly, recent research indicated that if the cost was the same for print and digital texts, almost 9 in 10 students said they prefer traditional paper books.[19]

Infrastructure. Broadband and technological infrastructure varies widely across Yavapai County due to geographic and population factors. Infrastructure gaps have lessened for public sites like schools and libraries; however, the gap largely remains for households in more rural areas.

Student Data Policy. Admissions and registration, learning management systems, financial aid, coursework progress, and early alert programs are just a sampling of the information collected about students. Martin Kurzweil says, "That most higher education institutions have taken a laissez-faire approach to the data policy issue or have formed policies that are focused primarily on privacy and technical security." Good data policies should define the purposes and limits of student data and recognize that there is a shared responsibility among faculty, administrators, students, and third-party vendors to use data dutifully to improve the student experience.[20]

REFERENCES

[1]*Varying Degrees: New America's Annual Survey on Higher Education*, New America, August 2017.

[2]*FSharp Partisan Divisions in Views of National Institutions,* Pew Research Center, July 10, 2017.

[3]*America's Divided Recovery: College Haves and Have-Nots*, Georgetown University Center on Education and the Workforce, 2016. https://cew.georgetown.edu/cew-reports/americas-divided-recovery/

[4]*Our Student Debt Anxiety Explained in One Video*, PBS News Hour, October 2016. http://www.pbs.org/newshour/bb/student-debt-anxiety-explained-one-video/

[5]*Trends for Higher Education*, Society for College and University Planning, Spring 2017.

[6]*The Role of Postsecondary Education in the Future of the Verde Valley Region*, Morrison Institute, August 2016.

[7]*What Baby Boomers' Retirement Means for the U.S. Economy*, FiveThirtyEight, May 7, 2014. https://fivethirtyeight.com/features/what-baby-boomers-retirement-means-for-the-u-s-economy/

[8]*Recovery: Job Growth and Education Requirements Through 2020*, Georgetown University Center on Education and the Workforce, June 2013.

[9]*Credentials and Competencies: Demonstrating the Economic Value of Postsecondary Education, Public Policy Review*, Georgetown University Center on Education and the Workforce, Spring 2016.

[10]Ranking of the States 2016 and Estimates of School Statistics 2017, National Education Association (NEA), May 2017.

[11]*National Assessment of Educational Progress (NAEP)*, National Center for Education Statistics, http://nces.ed.gov/nationsreportcard/

[12]*Teacher Pay*, Expect More Arizona, 2017. https://www.expectmorearizona.org/progress/?region=Arizona

[13]*The Condition of College and Career Readiness: 2016*, American College Testing (ACT), 2016.

[14]*The American Community College*, Cohen, Brawer, and Kisker, 2014.

[15]*Knocking at the College Door: Projections of High School Graduates,* Western Interstate Commission for Higher Education (WICHE), December 2016.

[16]*For Year-Round Pell, a Victory—and Gratitude*, Association of Community College Trustees, Trustee Quarterly, Summer 2017.

[17]*Basic Needs Insecurity: The Real Crisis Facing Community Colleges,* Association of Community College Trustees, Trustee Quarterly, Summer 2017.

[18]*Higher Education—A Goldmine of Personal Data for Hackers,* Hub International, March 7, 2017. https://www.hubinternational.com/blog/2017/03/higher-education-university-data-breach/

[19]*Trends for Higher Education*, Society for College and University Planning, Fall 2016.

[20]*Group Unveils a 'Model Policy' for Handling Student Data,* The Chronicle of Higher Education, September 6, 2016.