

*MASTER PLAN  
FOR  
HIGHER EDUCATION  
ROADMAP FOR REACHING  
PENNSYLVANIA'S POSTSECONDARY  
ATTAINMENT GOAL  
2022-2032*

*Commonwealth of Pennsylvania  
State Board of Education  
September 2022*

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*Acknowledgements*

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*The State Board of Education also wishes to acknowledge and recognize the Office of Postsecondary and Higher Education staff at the Pennsylvania Department of Education, who, under the leadership of Dr. Tanya I. Garcia, secured the support of the Lumina Foundation and dedicated their expertise, time, and budgetary resources for this update to the Master Plan for Higher Education.*

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## PREFACE

*Pedro A. Rivera II, Chair, Council of Higher Education*

### To serve the needs of the Commonwealth.

The founders of the Constitution of Pennsylvania provided the original impetus for universal access to education almost two and a half centuries ago. This right has fostered the development of our communities, workforce, and economy.

Pennsylvania consistently ranks in the top three states in the country for number of postsecondary institutions. Our students are afforded a rich landscape, featuring over 350 postsecondary options, comprising two- and four-year public institutions, independent colleges and universities, and privately licensed schools. For generations, education has served, and continues to serve.

While the mission has remained steadfast, the demographics of our students have changed rapidly. Today's students are far different from what they were a few short years ago:

- Generational shifts are present as 37% of students are adult learners ages 25 and older and 34% are the first in their family to go to college
- Today's learners are shouldering heightened financial responsibility as 31% are low-income students living at or below the federal poverty level, 49% are financially independent, and 64% are working
- Nontraditional pathways are on the rise: 40% of learners attend part-time, 24% are parenting students, and only 7% of all post-9/11 veterans have used their GI Bill benefits to go to college.

Enduring complex socioeconomic and personal constraints, potential students must navigate several factors to enroll, progress, and complete a postsecondary credential.

Keenly aware of the evolving landscape, the State Board of Education Council of Higher Education (Council) convened in 2016 to institute clear, measurable goals for postsecondary institutions, informed by recommendations from the Lumina Foundation and the Georgetown University Center on Education and the Workforce. Through guidance and discussion with PDE and higher education leaders and partners, the Council established a statewide goal in 2018: **60 percent of the population ages 25-64 will hold a postsecondary degree or industry recognized credential by 2025, with a particular focus on closing attainment gaps for historically underrepresented populations.**

After swift approval, this metric began to unearth an updated Master Plan for Higher Education (Plan), a document that remained untouched for almost two decades prior.

*This Master Plan for Higher Education: Roadmap for Reaching Pennsylvania's Postsecondary Attainment Goal, 2022-2032*, has five strategic priorities:

- 1) Increase Credential Completion to Meet the Commonwealth's Need for Talent
- 2) Erase Equity Gaps in Postsecondary Access, Progression, and Completion by Race, Ethnicity, Income, Age, Gender, and Geography
- 3) Increase College Affordability for All Pennsylvanians
- 4) Innovate and Redesign Postsecondary Institutions for Today's Learners
- 5) Increase Transparency on the Value of Postsecondary Credentials to Individuals, Communities, and the Commonwealth

**This Plan will provide insight into who we serve and how to serve them better.**

The need to adapt and evolve educational modalities is necessary to prevent the disparities that surface in early childhood, continue in primary and high school, and follow individuals into the postsecondary and workforce sectors. The creation of local, regional, and state economic profiles (Appendix B) will help us learn more about Pennsylvanians and the communities in which they live, work, and learn. To reach our postsecondary attainment goal, we need to find ways to welcome today's learners to our campuses, both in-person and online.

Each strategic priority also has carefully outlined metrics (Appendix C) which will gauge the progress of these initiatives. Transparent, predictable, and digestible metrics will be the norm. Special care will be given to ensure metrics alignment in lieu of sector by sector comparisons.

Statutorily, this Plan is for the guidance of the Governor, the General Assembly, and all institutions of higher education funded wholly or in part by state appropriations.

Ultimately, this Plan is for the 13 million Pennsylvanians who call our Commonwealth home.

## EXECUTIVE SUMMARY

### INTRODUCTION: REACHING PENNSYLVANIA'S POSTSECONDARY ATTAINMENT GOAL

Pennsylvania ranks 30th in the nation when it comes to postsecondary attainment. At current rates, the commonwealth is not on track to reach the postsecondary attainment goal that the State Board of Education Council of Higher Education approved in 2018:

*60 percent of the population ages 25-64 will hold a postsecondary degree or industry recognized credential by 2025, with a particular focus on closing attainment gaps for historically underrepresented populations.*

This 2022 update to Pennsylvania's Master Plan for Higher Education presents an opportunity to build a roadmap to reach the statewide postsecondary attainment goal.

### *Status of Reaching Pennsylvania's Postsecondary Attainment Goal*

As of 2019, Pennsylvania's postsecondary attainment rate is 50.7 percent. However, postsecondary attainment of 25-64 year-old Pennsylvanians by race and ethnicity is uneven: it is 65 percent for Asians, 47 percent for Whites, 37 percent for Native Americans, 30 percent for Blacks/African-Americans, and 24 percent for those who are Hispanics/Latinx (Figure 3).

The commonwealth needs to do a better job of creating the conditions for increasing postsecondary attainment for all Pennsylvanians. If Pennsylvania continues its current trajectory, it will not have achieved equitable postsecondary attainment by 2025.

### STRATEGIC PRIORITY 1: INCREASE CREDENTIAL COMPLETION TO MEET THE COMMONWEALTH'S NEED FOR TALENT

For Pennsylvania to power its economy, it needs individuals with different educational levels. But as has been the case nationally, more individuals will need a postsecondary credential to land jobs in our modern knowledge and service economy.

Labor economists have consistently shown that for those who did not finish high school or are working with a high school diploma as their highest level of education, each recent recession has shrunk the number of jobs available to these individuals. Pennsylvania cannot ignore these national economic trends.

The commonwealth needs to support individuals to acquire the right balance of credentials for local, regional, and state economies to thrive. The postsecondary sector has and continues to play a critical role in achieving this balance, but it will not be possible for it to fulfill its mission of being drivers of social and economic mobility without the appropriate funding and policy supports it needs to support today's learners.

### *Status of Strategic Priority 1*

Pennsylvania cannot increase postsecondary attainment without increasing credential completion.

- In 2019-20, the public and private two-year and four-year sectors awarded 96 percent of all postsecondary credentials (Figure 4)
- In 2019-20, about 70 percent of postsecondary credentials awarded in Pennsylvania were at the undergraduate level (Figure 5)
- If Pennsylvania continues on its current trajectory, its postsecondary attainment rate will be 53 percent by 2025 instead of 60 percent (Figure 6)

To reach 60 percent by 2025, Pennsylvania would have to increase its attainment rate almost 7 percentage points. The challenge for the postsecondary sector and for state policymakers is to figure out the right mix of credentials that Pennsylvanians need to meet local, regional, and state workforce needs. And to do so without increasing equity gaps.

### STRATEGIC PRIORITY 2: ERASE EQUITY GAPS IN POSTSECONDARY ACCESS, PROGRESSION, AND COMPLETION BY RACE, ETHNICITY, INCOME, AGE, GENDER, AND GEOGRAPHY

To erase equity gaps in college access, progression, completion, and attainment, Pennsylvania must increase college affordability and increase transparency on the value of postsecondary credentials. To accomplish this, however, postsecondary leaders are increasingly focusing on erasing the belonging gap.

Various equity gaps that exist in Pennsylvania ultimately question whether all residents have experienced the sense of belonging that every individual needs to be successful. In the postsecondary space this would mean that regardless of age, income, gender, geography (rural, suburban, and urban), race, or ethnicity, every Pennsylvanian would feel welcomed on campus and have the opportunity to earn a postsecondary credential.

For the commonwealth to have the most prepared workforce in the nation, we can and must do more than close equity gaps: we must erase them.

### *Status of Strategic Priority 2*

More Pennsylvanians need the opportunity and supports to enroll in postsecondary education, and more of these learners need equitable opportunities to complete certificates and degrees.

- In 2019-20, almost 70 percent of high school seniors were White, while students of color made up just over 30 percent of high school seniors (Figure 7)
- Among Pennsylvania's Class of 2020, about 55 percent of public high school graduates enrolled in a postsecondary institution the following fall after graduation, with 80 percent of this population enrolling in a Pennsylvania institution (pages 11-12)

- In 2019, Asian Pennsylvanians ages 18-24 were most likely to enroll in postsecondary education; just under half of White graduates enrolled as did half of Native American graduates; both Hispanic/Latinx and Black/African-American graduates were least likely to enroll (Figure 9)
- In 2019, adult learners ages 25 and older made up about 22 percent of students across all Pennsylvania postsecondary institutions, and by 2020, this proportion dropped to 15.3 percent (page 13)
- Depending on the postsecondary sector in Pennsylvania, between 40 and 60 percent of those enrolled come from low-income families (Figure 10)
- In just over half of Pennsylvania's 67 counties (52 percent), residents in 20 counties have no two-year or four-year postsecondary institutions and those in 15 counties have one two-year or one four-year postsecondary institution (Figure 12)
- Depending on the postsecondary sector, between 23 and 42 percent of first-time, full-time students and between 34 and 60 percent of first-time, part-time students do not return the fall semester one year after enrolling (Figure 13)
- Regardless of the year they began their postsecondary studies, in 2019-20, 70 percent of completers were White learners, while 10 percent were Black/African-American, 7 percent were Hispanic/Latinx, and 6 percent were Asian learners (Figure 15)
- Learners ages 18 to 24 complete their certificate, associate's, or bachelor's degree programs at the highest rate, regardless of when they enrolled (Figure 16), and they were more likely to earn bachelor's degrees, while those ages 25 and older were the least likely to earn bachelor's degrees (Figure 17)
- By 2025, demographic changes are expected to shrink the size of Pennsylvania's public high school graduates, but within this decline, the proportion of White public high school graduates will decline, while the proportion of public high school graduates who are Hispanic/Latinx, Black/African-American, Asian, and multi-racial will increase (page 12)

The realities outlined above reveal the far-ranging nature of Pennsylvania's equity gaps. Given that demographic changes are expected to shrink the size of the commonwealth's public K-12 population while, simultaneously, that population is becoming increasingly diverse, it will be important to identify the additional resources that postsecondary institutions need to erase these equity gaps so that the sector can develop or enhance the way in which it enrolls and supports all postsecondary learners to earn postsecondary credentials in a timely manner.

### STRATEGIC PRIORITY 3: INCREASE COLLEGE AFFORDABILITY FOR ALL PENNSYLVANIANS

For decades, state and federal funding of postsecondary institutions and the students they serve has not kept pace with tuition increases, which makes college unaffordable in many states, including Pennsylvania. Simultaneously, in the last thirty years, the average family income of low- and middle-income families barely grew compared to those of the richest families, putting college out of reach for many Pennsylvanians.

To increase college affordability for all Pennsylvanians, it will be necessary to better align state and federal postsecondary funding to increase credential completion as well as improve institutional, state, and federal policies.

### *Status of Strategic Priority 3*

Several factors make college unaffordable for Pennsylvanians, which hampers their ability to earn postsecondary credentials.

- The average incomes of families where at least one member had a bachelor's degree or higher were over three times higher than the incomes of families where the highest educational level was less than a high school diploma (Figure 19)
- To attend postsecondary institutions full-time, today's learners would have to work more than 20 hours per week and contribute between 20 and 50 percent of their family income (Table 1)
- Depending on the postsecondary sector attended, the higher the student's family income, the higher the net price,<sup>1</sup> but the difference is not proportional: Students in families earning \$30,000 would pay between 23 and 66 percent of their family income to cover the net price depending on the type of institution attended (Figure 20)
- Pennsylvania's graduates of four-year public and independent, nonprofit institutions have the third highest student loan debt in the nation (page 26)
- A lot of variation exists among postsecondary institutions' ability to implement dual enrollment, credit by examination, and credit for prior experience policies that would make college more affordable for postsecondary learners (Figures 21-23)

Pennsylvania policymakers, postsecondary leaders, and other community leaders need to be more attuned to the college affordability issues and circumstances facing today's learners.

### STRATEGIC PRIORITY 4: INNOVATE AND REDESIGN POSTSECONDARY INSTITUTIONS FOR TODAY'S LEARNERS

Today's postsecondary learners have many identities and there is no consensus on a unified term that captures their unique characteristics. In addition, today's learners have a lot of financial responsibility to support themselves and their families.

Pennsylvania's postsecondary institutions are in the process of innovating and redesigning themselves to serve today's learners, and they are doing so in a changing environment.

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<sup>1</sup> Net price is an estimate of the actual cost a student and their family need to pay in a year to cover education expenses to attend a college or career school. It is the institution's cost of attendance minus any grants and scholarships for which the student may be eligible.

Recognizing the realities of today’s learners provide an opportunity for Pennsylvania’s postsecondary institutions to reverse enrollment declines by designing policies and practices that remedy and counter the challenges these students face, fueling innovation and new expertise that will serve “traditional” students as well.

#### *Status of Strategic Priority 4*

Innovation and redesign of structures, programs, and processes in postsecondary education is emerging.

Evidence or data is often qualitative in nature at first, it is often not equitably and consistently collected, and the issue requiring innovation may not yet be easily understood in all its natural complexity.

Pennsylvania’s postsecondary institutions have produced a range of innovative programs that are worth noting and can serve as exemplars for peers across the commonwealth and the country:

- Dual enrollment programs and stackable credentials can support high school students and adults on their postsecondary pathways (page 31)
- Shifting administrative tasks from students to the institution can help more students access financial aid (page 31)
- Structured opportunities can engage students during the summer before college (pages 31-32)
- Student support services that anticipate learners’ needs can also identify students in need (page 32)
- Labor market information can drive strategy and programming to prepare students for good careers and for the emerging jobs of the future (pages 32-33)
- A four-year pathway to graduation can save students time and money (page 33)

#### STRATEGIC PRIORITY 5: INCREASE TRANSPARENCY ON THE VALUE OF POSTSECONDARY CREDENTIALS TO INDIVIDUALS, COMMUNITIES, AND THE COMMONWEALTH

For today’s learners, the path from college to career has become a labyrinth. They have many more decisions to make when it comes to selecting colleges, choosing majors, knowing how majors connect to occupations, and what their chances are for getting a good job once they earn a postsecondary credential.

The nation’s postsecondary and workforce ecosystem is not only confusing to learners, but also to employers and policymakers. In poll after poll, postsecondary learners consistently agree that it is important to have access to postsecondary and employment outcomes in a publicly accessible format.

Postsecondary credentials impart skills beyond academic content that are transferable to employment. In the past 50 years, the demand for workers with several cognitive competencies has increased dramatically (Figure 25), while the demand for workers with physical competencies has largely decreased (Figure 26).

While technological advances and the rise of automation can be directly attributable to this trend, it also reveals the need to have more educated individuals to power our nation’s modern knowledge and service economy.

Learning new skills that are valued across occupations and sectors is key to lifelong economic success and all individuals should have access to these opportunities. Ultimately, policymakers and other leaders outside of the postsecondary sector need to better understand and accept that most learners are initially exposed and begin to develop these in-demand competencies within postsecondary programs of study by acquiring postsecondary learning outcomes.

Up until recently, it has been challenging for the postsecondary sector to communicate the value of its credentials from both an academic and economic perspective. Although there has been progress, various audiences still need more and better integrated information.

#### *Status of Strategic Priority 5*

Pennsylvania is exploring new approaches to increase transparency on the value of credentials, but not all the necessary information is easily available or publicly accessible.

- The median lifetime earnings of Pennsylvanians with bachelor’s degrees as their highest educational level are over one-and-a-half times higher than for those with a high school diploma or its equivalent (Figure 27)
- Of Pennsylvania’s 15,383 unique educational and workforce credentials, 90 percent are awarded by postsecondary institutions (page 39)
- Pennsylvania is exploring new approaches to increase transparency on the value of credentials ranging from Community Education Centers to state governing boards to individual institutions (pages 39-40)

To attract learners purposefully and strategically to postsecondary education and produce the most prepared and talented workforce in the country, Pennsylvania’s postsecondary sector can and must do more to communicate the value of the credentials it has to offer.

### *RECOMMENDATIONS*

To fulfill the promise of reaching Pennsylvania’s postsecondary attainment goal of 60 percent by 2025, postsecondary leaders must work closely with executive and legislative leaders, boards, and other relevant policymaking bodies.

Several recommendations emerge to fulfill this promise for the commonwealth.

### STRATEGIC PRIORITY 1: INCREASE CREDENTIAL COMPLETION TO MEET THE COMMONWEALTH'S NEED FOR TALENT

- 1) Identify policies and programs at the local, regional, and state levels that increase credential completion to meet the commonwealth's need for talent
- 2) Revise and develop policies and programs that have proven effective for increasing credential completion to meet the commonwealth's need for talent
- 3) Incentivize and scale the creation of more public-private partnerships between postsecondary institutions, community education councils, and employers so that programs of study both impart the content knowledge that Pennsylvanians need and promote alignment with local, regional, and state workforce needs

### STRATEGIC PRIORITY 2: ERASE EQUITY GAPS IN POSTSECONDARY ACCESS, PROGRESSION, AND COMPLETION BY RACE, ETHNICITY, INCOME, AGE, GENDER, AND GEOGRAPHY

- 4) Identify policies and programs at the local, regional, and state levels that erase equity gaps in postsecondary access, progression, and completion by race, ethnicity, income, age, gender, and geography, such as learning communities and block scheduling tailored to working learners, among others
- 5) Revise and develop policies and programs that have proven effective for erasing equity gaps in postsecondary access, progression, and completion by race, ethnicity, income, age, gender, and geography that:
  - o Increase the number of public and private high school graduates enrolling in postsecondary education, particularly those from marginalized communities
  - o Reenroll *Comebackers* who attempted, but did not earn, a postsecondary credential
  - o Increase the number of adult learners who are working with a high school diploma (or its equivalent) or without a high school diploma enrolling in postsecondary institutions for the first time
- 6) Explore the design of policies and programs that enable more part-time learners to attend full-time and provide flexible options for working learners who cannot attend full-time and implement them at the institutional and state levels as appropriate

### STRATEGIC PRIORITY 3: INCREASE COLLEGE AFFORDABILITY FOR ALL PENNSYLVANIANS

- 7) Identify policies and programs at the local, regional, and state levels that increase college affordability for all Pennsylvanians
- 8) Revise and develop policies and programs that have proven effective for increasing college affordability for all Pennsylvanians
- 9) Provide input to the Public Higher Education Funding Commission related to higher education funding, affordability, effectiveness, administration, and operations
- 10) Develop a better understanding of how Pennsylvanians' family incomes support or hinder postsecondary enrollment, progression, and completion

- 11) Develop new state financial aid programs catered to adults ages 25 and older or revise existing programs to be more inclusive of this population
- 12) Develop a statewide program for K-12 school counselors and college advisors to provide college and career information to future and current postsecondary learners that enhances financial literacy, includes availability of state and federal aid options and public benefits, and helps learners make informed choices
- 13) Expand participation in Pennsylvania’s transfer and articulation system

#### STRATEGIC PRIORITY 4: INNOVATE AND REDESIGN POSTSECONDARY INSTITUTIONS FOR TODAY’S LEARNERS

- 14) Identify policies and programs at the local, regional, and state levels that postsecondary institutions are using to innovate and redesign for today’s learners, such as co-requisite supports as a new model for developmental education delivery, designing stackable credentials to clearly delineate career pathways, changing the provision of wraparound student supports, and other strategies included in Strategic Priority 4
- 15) Revise and develop policies and programs that have proven effective for postsecondary institutions to innovate and redesign for today’s learners

#### STRATEGIC PRIORITY 5: INCREASE TRANSPARENCY ON THE VALUE OF POSTSECONDARY CREDENTIALS TO INDIVIDUALS, COMMUNITIES, AND THE COMMONWEALTH

- 16) Identify policies and programs at the local, regional, and state levels to increase transparency on the value of postsecondary credentials to individuals, communities, and the commonwealth, such as tools that connect majors to industry wages as well as building credential maps that lead to specific careers
- 17) Revise and develop policies and programs that have proven effective to increase transparency on the value of postsecondary credentials to individuals, communities, and the commonwealth
- 18) Expand state and system participation in the U.S. Census Bureau Postsecondary Employment Outcomes initiative to provide learners, college leaders, and policymakers with earnings data by postsecondary program of study/major
- 19) Expand participation in the national Credential Registry initiative to provide learners, college leaders, and policymakers with the learning outcomes and competencies that learners gain when they earn their postsecondary credential

#### REACHING PENNSYLVANIA’S POSTSECONDARY ATTAINMENT GOAL

- 20) Use the evidence base generated from the recommendations for each of the five strategic priorities to inform future investments in postsecondary operational budgets and state financial aid programs
- 21) Secure the necessary support and funding from the federal government, foundations, and business and industry that complement and enhance Pennsylvania’s efforts to increase postsecondary attainment

## OVERALL

- 22) Adopt the State Board of Education's recommended amendments to Section XXVI-B of the Public School Code of 1949 (24 PS 26-2603(B)) pertaining to the Master Plan for Higher Education (see Appendix D for proposed language)
- 23) Engage current and future postsecondary learners such as middle school students, high school students, adult learners, veterans, and other populations that have had little to no access to postsecondary education opportunities, such as individuals with disabilities and those with basic needs insecurities
- 24) Enable the Pennsylvania Department of Education Office of Postsecondary and Higher Education to reconvene and expand the membership of the Metrics Workgroup to finalize the Progress Metrics for the Master Plan for Higher Education Dashboard no later than December 2022 (see the note below)

### *A NOTE ON THE PROGRESS METRICS FOR THE MASTER PLAN FOR HIGHER EDUCATION DASHBOARD*

Annually, the State Board of Education Council of Higher Education requires the Office of Postsecondary and Higher Education (OPHE) to report on the status of postsecondary attainment in the commonwealth. In the past, these metrics have included the postsecondary attainment rate along with postsecondary enrollment data and trends.

To support the 2022 update to the Master Plan for Higher Education (Plan), in April 2022, OPHE asked postsecondary leaders to nominate individuals from institutional research and other relevant offices to become members of the Master Plan Metrics Workgroup (Workgroup; see Appendix C). The purpose of the Workgroup was to identify and recommend progress metrics for the Council of Higher Education's (Council) consideration so that it could gauge progress on the strategic priorities it approved in January 2021. Together with existing metrics, these additional metrics would fully capture the range of information the Council needs to assess postsecondary attainment in the commonwealth.

The progress metrics will be featured in the Master Plan for Higher Education Dashboard (Dashboard) that will be updated each year in time for OPHE to annually report to the Council. Five recommendations emerged from the Workgroup meetings:

- That the metrics be aggregated by sector;
- That metrics be reflective of the differences between the two-year and four-year sectors;
- That quantitative metrics come from publicly available data to avoid placing a data collection burden on postsecondary institutions;
- That qualitative metrics be added to capture innovations, potentially through an annual survey; and
- That the COVID-19 impacts be considered when determining baseline years.

Workgroup members hailed from the public and private two-year and four-year and private licensed school sectors, and OPHE sought their data expertise to ensure that the proposed metrics broadly captured their respective sectors. Nonetheless, Workgroup members did not capture the full range of postsecondary institution types and members recommended broader input from the postsecondary community. This broader input took the form of a Postsecondary Engagement Survey that was open from June through July 2022. However, not enough postsecondary leaders participated due to the timing of the survey. Prior to the 2022 update to the Plan, OPHE had not engaged the postsecondary community in the determination of metrics it presented annually to the Council. Hence, OPHE recommends that the Board enable it to reconvene and expand membership of the Metrics Workgroup to finalize the progress metrics by December 2022.

# INTRODUCTION: REACHING PENNSYLVANIA'S POSTSECONDARY ATTAINMENT GOAL

## OVERVIEW

Pennsylvania ranks 30th in the nation when it comes to postsecondary attainment.<sup>i</sup> At current rates, the commonwealth is not on track to reach the postsecondary attainment goal that the State Board of Education Council of Higher Education approved in 2018:

*60 percent of the population ages 25-64 will hold a postsecondary degree or industry recognized credential by 2025, with a particular focus on closing attainment gaps for historically underrepresented populations.<sup>ii</sup>*

In an effort to reach this goal, in January 2021, the Council of Higher Education approved five strategic priorities that would frame the 2022 update to Pennsylvania's Master Plan for Higher Education:

- Increase Credential Completion to Meet the Commonwealth's Need for Talent
- Erase Equity Gaps in Postsecondary Access, Progression, and Completion by Race, Ethnicity, Income, Age, Gender, and Geography
- Increase College Affordability for All Pennsylvanians
- Innovate and Redesign Postsecondary Institutions for Today's Learners
- Increase Transparency on the Value of Postsecondary Credentials to Individuals, Communities, and the Commonwealth

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### What is Attainment?

Attainment refers to the educational levels of state residents.

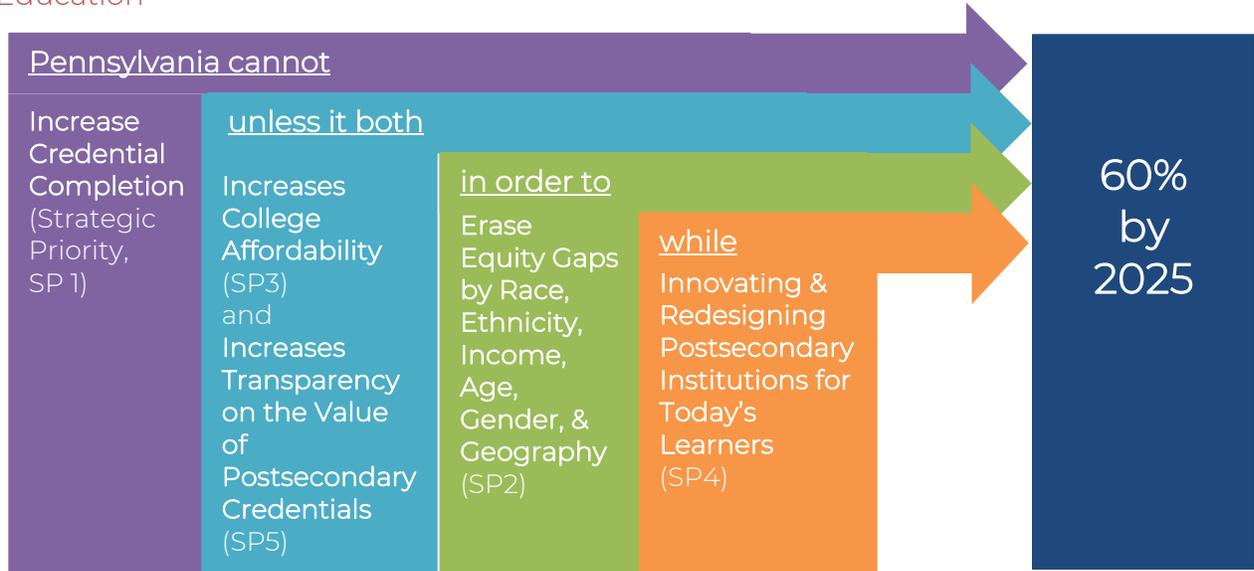
Postsecondary attainment is made up of (a) PA residents who enroll in postsecondary education, earn a credential in PA, and stay here, (b) PA residents who enroll in college and earn postsecondary credentials outside of PA and return, (c) learners from other states who earn postsecondary credentials in PA and remain in the state, and (d) in-migration of individuals who earn postsecondary credentials outside of PA.

Out-migration of individuals with postsecondary credentials reduces PA's postsecondary attainment rate.

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These five strategic priorities are envisioned as the scaffolding necessary to reach Pennsylvania's postsecondary attainment goal (Figure 1). Many of them reflect perennial issues in postsecondary education. The diverse array of postsecondary institutions across the commonwealth have been addressing them for years. However, Pennsylvania needs updated solutions for addressing these challenges in the 21st century.

Figure 1. How the five strategic priorities frame Pennsylvania's Master Plan for Higher Education



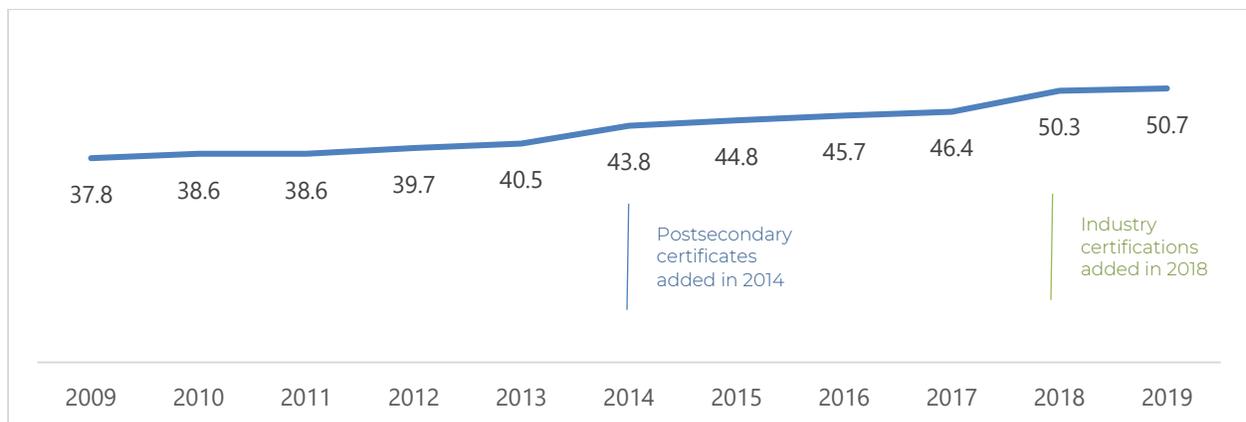
Source: Pennsylvania State Board of Education. January 13, 2021. *Proposed Content for Pennsylvania Master Plan for Higher Education*.

This 2022 update to Pennsylvania's Master Plan for Higher Education presents an opportunity to build a roadmap to reach the statewide postsecondary attainment goal.

### STATUS OF REACHING PENNSYLVANIA'S POSTSECONDARY ATTAINMENT GOAL

Pennsylvania's postsecondary attainment rate has been steadily increasing since 2009, but not enough to reach the 60 percent statewide postsecondary attainment goal by 2025. The year 2009 marked the first time that the Lumina Foundation began monitoring each state's postsecondary attainment rates.<sup>iii</sup> Pennsylvania's rate has increased almost 13 percent in a ten-year period (Figure 2).

Figure 2. Pennsylvania's postsecondary attainment rate is 50.7 percent (2019).



Source: Lumina Foundation. 2021. *A Stronger Nation: Learning Beyond High School Builds American Talent*.

However, these increases mask the disparities in postsecondary attainment by race and ethnicity (Figure 3).

Figure 3. Postsecondary attainment of Pennsylvanians by race and ethnicity is uneven (2019).

65%	47%	37%	30%	24%
ASIAN	WHITE	NATIVE AMERICAN	BLACK/AFRICAN-AMERICAN	HISPANIC/LATINX

Source: Lumina Foundation. 2021. *A Stronger Nation: Learning Beyond High School Builds American Talent*.

*Monitoring the size of the “some college” population is also important to consider when analyzing Pennsylvania’s postsecondary attainment rates*

The “some college” category has always been difficult to define clearly because for decades, federal surveys haven’t specifically captured those with postsecondary certificates. As a result, individuals in the “some college” category include those who temporarily or permanently stopped out without earning a credential as well as those with postsecondary certificates.<sup>iv</sup>

As of 2019, almost 1.1 million Pennsylvanians ages 25-64 have attempted, but did not earn, a postsecondary credential. Among this group, conservative estimates suggest that just over 32,044 Pennsylvanians are certificate-holders.<sup>v</sup> For those remaining in this group without a credential, known as *Comebackers*, several states are exploring how to reengage with these adult learners.<sup>vi</sup> No state will be able to reach its postsecondary attainment goal without increased attention to adult learners, both *Comebackers* and those who entered the workforce with a high school diploma or less.

The commonwealth needs to do a better job of creating the conditions for increasing postsecondary attainment for all Pennsylvanians. In addition to benefitting local and state economies, individuals with postsecondary credentials are more likely to become economically self-sufficient and increase intergenerational wealth creation. If Pennsylvania continues its current trajectory, it will not have achieved equitable postsecondary attainment by 2025.

**The commonwealth needs to do a better job of creating the conditions for increasing postsecondary attainment for all Pennsylvanians.**

Metrics to Gauge Progress on Reaching  
Pennsylvania's Postsecondary Attainment Goal

Postsecondary attainment rate

Postsecondary attainment rate by race and  
ethnicity

Proportion of Pennsylvanians with some college

## STRATEGIC PRIORITY 1: INCREASE CREDENTIAL COMPLETION TO MEET THE COMMONWEALTH’S NEED FOR TALENT

### OVERVIEW

For Pennsylvania to power its economy, it needs individuals with different educational levels. But as has been the case nationally, more individuals will need a postsecondary credential<sup>2</sup> to land jobs in our modern knowledge and service economy.

The latest projections indicate that by 2027, 70 percent of all jobs nationwide will require some education beyond high school, broken down as follows:

- 15 percent of jobs going to those with a master’s degree or above;
- 25 percent to those with a bachelor’s degree; and
- 13 percent to those with an associate’s degree;
- 17 percent to those with some college.<sup>vii</sup>

Labor economists have consistently shown that for those who did not finish high school or are working with a high school diploma as their highest level of education, each recent recession has shrunk the number of jobs available to these individuals.<sup>viii</sup> These trends are holding steady in early pandemic-related job loss figures: about 23 million Americans lost their jobs between January and May 2020. Almost half of all job losses occurred for workers with a high school diploma or less (46 percent) and almost a quarter of all job losses (24 percent) were made up of workers with some college and no credential.<sup>ix</sup> These two points represent a staggering 70 percent of all job losses. By contrast, workers with postsecondary credentials were not as affected by job losses. Only 11 percent of associate’s degree-holders and 19 percent of workers with a bachelor’s degree or higher lost their jobs.

Pennsylvania cannot ignore these national economic trends. To remain economically competitive with our neighboring states and the rest of the country, the commonwealth needs to increase credential completion in a manner that builds the talent required to meet our local, regional, and state workforce needs, which will, in turn, attract new businesses and industries.<sup>x</sup>

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<sup>2</sup> A postsecondary credential includes postsecondary certificates, associate’s degrees, bachelor’s degrees, and above. The vast majority of workers with industry certifications have earned a postsecondary credential (Ewert & Kosinski. 2014. *Measuring Alternative Educational Credentials: 2012*. <https://www.census.gov/library/publications/2014/demo/p70-138.html>.)

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### What's the Difference Between Completion and Attainment?

Attainment refers to the educational levels of state residents.

Completion refers to individuals enrolled in postsecondary institutions who earn a postsecondary credential.

Completion contributes to and increases attainment.

To increase attainment, more individuals need to enroll in postsecondary institutions and earn credentials. This includes working-age Pennsylvanians who are working with a high school diploma or less as well as *Comebackers* who attempted to earn a postsecondary credential but were unable to do so. While workers with these educational levels are needed for jobs across the commonwealth, we must create opportunities that enable them to pursue and earn postsecondary credentials so they may advance in their careers.

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The commonwealth needs to support individuals to acquire the right balance of credentials for local, regional, and state economies to thrive. The postsecondary sector has and continues to play a critical role in achieving this balance, but it will not be possible for it to fulfill its mission of being drivers of social and economic mobility without the appropriate funding and policy supports it needs to support today's learners.

## STATUS OF STRATEGIC PRIORITY 1

Pennsylvania cannot increase postsecondary attainment without increasing credential completion. Our postsecondary sector has increased the commonwealth's economic vitality through the awarding of postsecondary credentials.

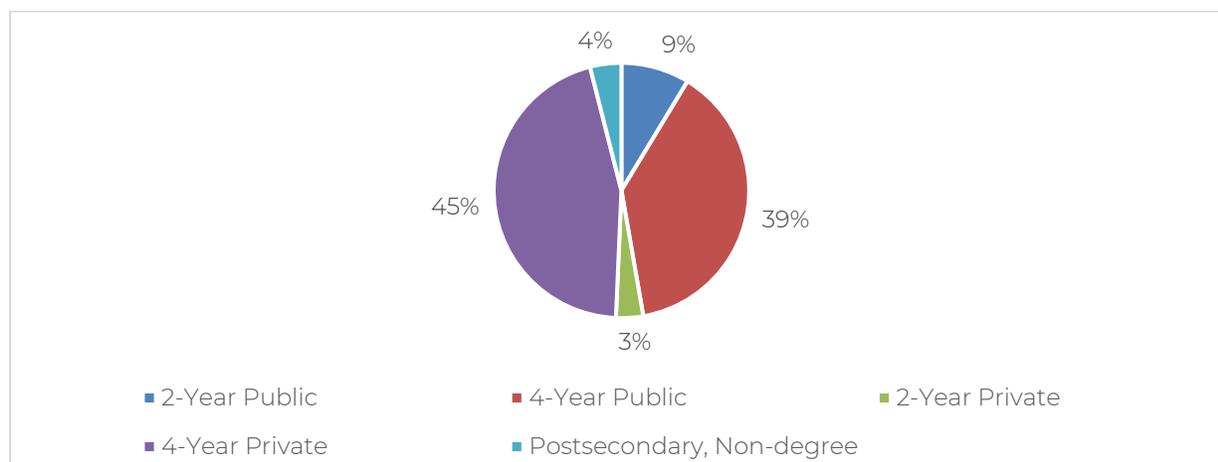
*In 2019-20, both the public and independent, nonprofit sectors awarded the same proportion of postsecondary credentials*

In the most recent year of data available, Pennsylvania institutions awarded<sup>3</sup> a total of 182,882 postsecondary credentials, including postsecondary certificates (undergraduate, post-baccalaureate, and post-master's), associate's degrees, bachelor's degrees, master's degrees, and doctoral degrees (Figure 4).

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<sup>3</sup> The data in Strategic Priority 1 focuses on the credentials awarded (completions), while Strategic Priority 2 will focus on the learners who earned these credentials (completers). As a result, completions are very likely to include completers who earned more than one credential.

Figure 4. Pennsylvania’s public and private two-year and four-year sectors awarded 96 percent of all postsecondary credentials (2019-20).



Source: National Center for Education Statistics. *Completions Survey (2019-20)*. Integrated Postsecondary Education Data System. Accessed June 2022.

About 48 percent of the credentials awarded went to learners attending two-year and four-year public colleges and universities.<sup>4</sup> The same proportion (48 percent) of credentials awarded applies to learners attending independent, nonprofit institutions.<sup>5</sup> The remaining 4 percent of postsecondary credentials awarded went to learners attending postsecondary, non-degree-granting institutions.<sup>6</sup>

*When analyzing the postsecondary sector’s contribution to postsecondary attainment, it is important to examine postsecondary credentials awarded at the undergraduate level*

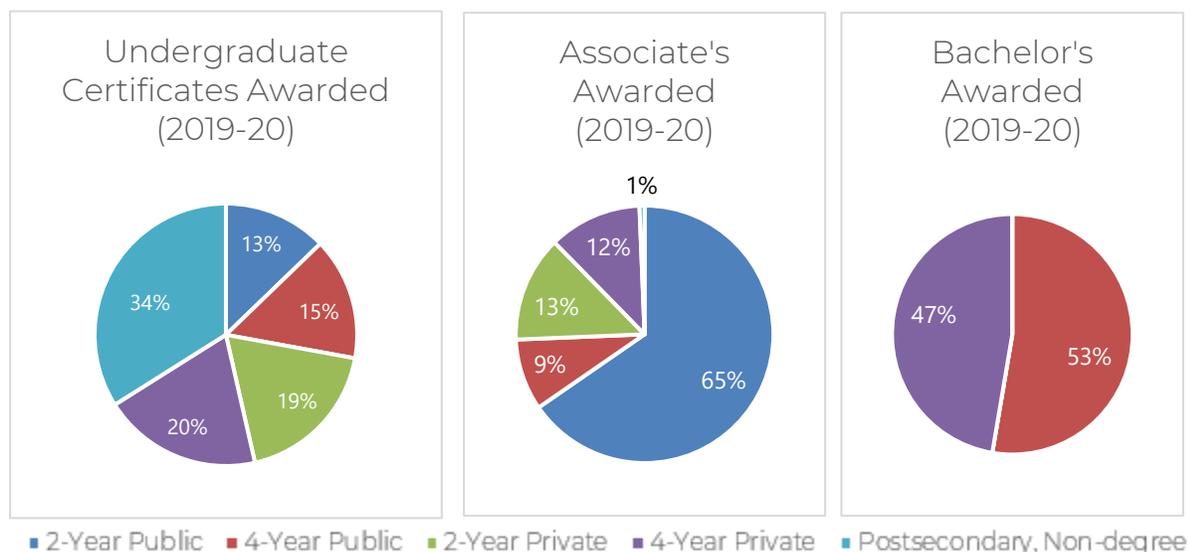
When states engage in efforts to increase postsecondary attainment, the focus is on the initial postsecondary credential awarded to learners. In 2019-20, about 71 percent (or 129,170) of all the postsecondary credentials awarded went to learners who completed postsecondary certificates, associate’s degrees, and/or bachelor’s degrees (Figure 5) and 29 percent of credentials awarded went to learners who completed post-bachelor’s and post-master’s certificates, master’s degrees, and doctoral degrees.

<sup>4</sup> The public sector institutions include the Thaddeus Stevens College of Technology, community colleges, universities in Pennsylvania’s State System of Higher Education, and the State-Related Commonwealth universities. Data featured in this section are for Title IV institutions that report data to the Integrated Postsecondary Education Data System (IPEDS), which excludes institutions such as Erie County Community College (which is in the process of becoming accredited and therefore will be Title IV eligible) and some Private Licensed Schools (PLS), whose students are not eligible for federal student aid (see Footnote 5).

<sup>5</sup> In graphics, independent, nonprofit institutions appear in 2-year and 4-year private categories and include those that award specialized associate’s degrees.

<sup>6</sup> In Pennsylvania, postsecondary, non-degree-granting institutions include career technology centers (CTCs) and private licensed schools (PLS). Some PLS are nonprofit and most are for-profit; however, only those that report data to IPEDS are represented in the figures and data included in this analysis.

Figure 5. More than 7 out of 10 postsecondary credentials awarded in Pennsylvania are at the undergraduate level (2019-20).



Source: National Center for Education Statistics. *Completions Survey (2019-20)*. Integrated Postsecondary Education Data System. Accessed June 2022.

It is not surprising that the two-year sector awarded most of the postsecondary certificates (66 percent) and associate's degrees (79 percent), while the four-year sector awarded 100 percent of the bachelor's degrees. What is surprising is that the four-year sector awarded more than a third of the undergraduate certificates (35 percent). This last point suggests that both public and private institutions in the four-year sector are in a position to both create stackable credentials and strengthen articulation agreements with the two-year sector. Stackable credentials are an innovation that several states and institutions are pursuing to better prepare postsecondary learners for careers.<sup>xi</sup>

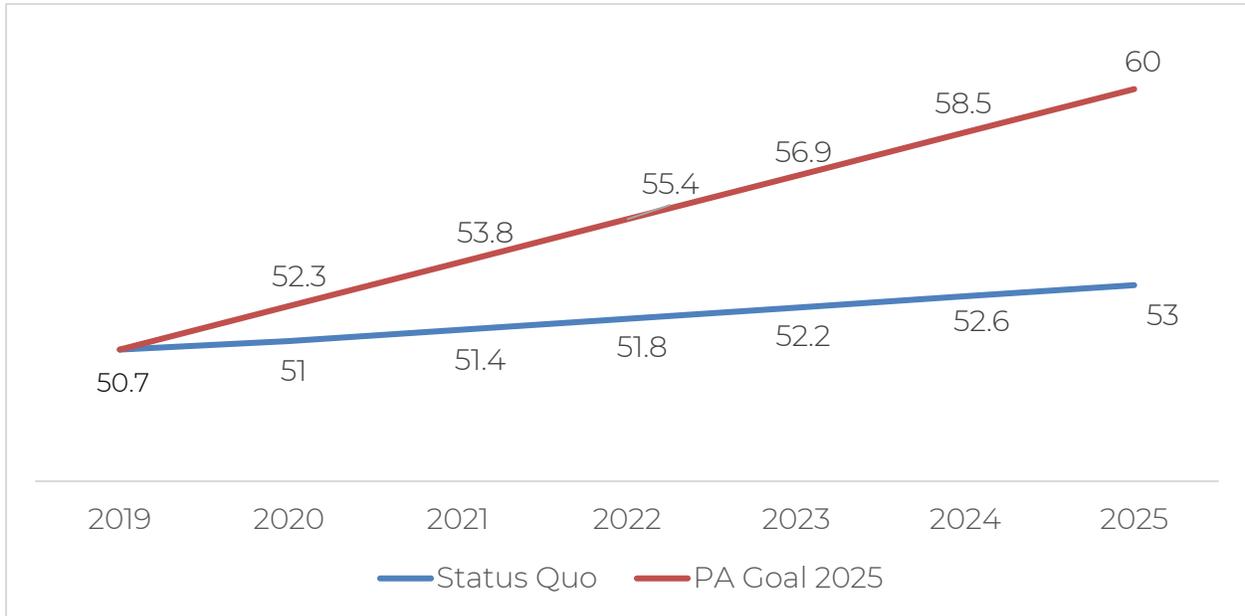
*Pennsylvania's current rate of credential completion is not enough to reach our postsecondary attainment goal*

Figure 2 in the *Introduction* shows that Pennsylvania's postsecondary attainment rate of 50.7 percent has increased almost 13 percent since 2009 when it was first documented. Considering the addition of postsecondary certificates in 2014 and industry certifications in 2018, conservative estimates suggest that at a minimum, Pennsylvania is likely to increase postsecondary attainment at about 0.4 percentage points per year, which means that our postsecondary attainment rate would be 53.1 percent by 2025, falling short of the 60 percent goal. However, these annual increases do not reflect any COVID-related disruptions, which caused postsecondary enrollments to decline by about 1 million postsecondary credentials nationally.<sup>xii</sup>

To reach 60 percent by 2025, Pennsylvania would have to significantly increase credential completion (**Figure 6**). Therefore, the challenge for the postsecondary sector is to figure out the right mix of credentials that Pennsylvanians need to meet local, regional, and state workforce needs. Achieving this balance of credentials based on

workforce needs is important because it prevents states from resorting to credential counting that might be appealing but ultimately misguided.

Figure 6. Pennsylvania's postsecondary attainment rate will be 53 percent by 2025 if it continues its current trajectory.



Source: Projections based on data and analysis from Lumina Foundation. 2021. *A Stronger Nation: Learning Beyond High School Builds American Talent*.

To increase credential completion, more high school graduates need to enroll, more postsecondary learners need to complete their certificates and degrees, and more individuals who have not previously enrolled in postsecondary institutions must do so. That is the focus of the next section: *Strategic Priority 2: Erase Equity Gaps in Postsecondary Access, Progression, and Completion by Race, Ethnicity, Income, Age, Gender, and Geography*.

Metrics to Gauge Progress on Reaching  
Pennsylvania's Postsecondary Attainment Goal

Postsecondary credentials awarded at the  
undergraduate level

## STRATEGIC PRIORITY 2: ERASE EQUITY GAPS IN POSTSECONDARY ACCESS, PROGRESSION, AND COMPLETION BY RACE, ETHNICITY, INCOME, AGE, GENDER, AND GEOGRAPHY

### OVERVIEW

To erase equity gaps in college access, progression, completion, and attainment, Pennsylvania must increase college affordability and increase transparency on the value of postsecondary credentials. To accomplish this, however, postsecondary leaders are increasingly focusing on erasing the belonging gap.

Various equity gaps that exist in Pennsylvania ultimately question whether all residents have experienced the sense of belonging that every individual needs to be successful. Belonging is defined as experiencing appreciation, validation, acceptance, and fair treatment within an environment and it is one of the core levels in Maslow's hierarchy along with physiological and safety needs.<sup>xiii</sup>

**Belonging is defined as experiencing appreciation, validation, acceptance, and fair treatment within an environment.**

In the postsecondary space this would mean that regardless of age, income, gender, geography (rural, suburban, and urban), race, or ethnicity, every Pennsylvanian would feel welcomed on the campus of their choice and have the opportunity to earn a postsecondary credential.

Pennsylvania's postsecondary attainment goal<sup>xiv</sup> specifically calls for closing attainment gaps for historically underrepresented populations. Building a sense of belonging is critical to erasing equity gaps. It will be difficult to increase credential completion and, in turn, postsecondary attainment, unless Pennsylvania addresses the factors that contribute to these gaps. **Only equitable credential completion will lead to equitable postsecondary attainment.**

Across the commonwealth, institutions of higher education have been providing learners access and supports to and through postsecondary education, closing equity gaps along the way for various demographic groups. But not all Pennsylvanians have the opportunity to benefit. For the commonwealth to have the most prepared workforce in the nation, we can and must do more than close equity gaps: we must erase them.

## STATUS OF STRATEGIC PRIORITY 2

To increase credential completion (and postsecondary attainment), more Pennsylvanians need the opportunity and supports to enroll in postsecondary education, and more of these learners need equitable opportunities to complete certificates and degrees.

Major equity gaps appear when examining the postsecondary access, progression, and completion trends of Pennsylvania’s postsecondary learners.

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### Pennsylvania’s Postsecondary Attainment Goal

60 percent of the population ages 25-64 will hold a postsecondary degree or industry recognized credential by 2025, with a particular focus on closing attainment gaps for historically underrepresented populations.

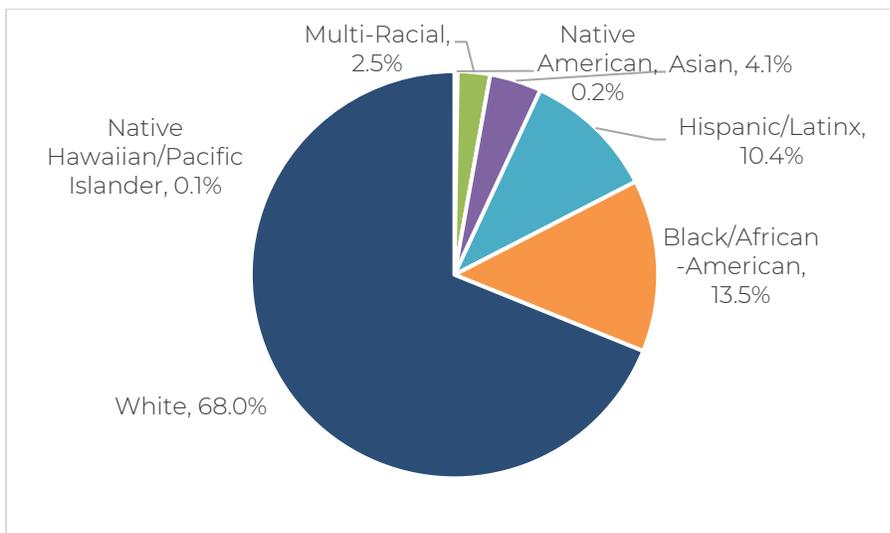
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### POSTSECONDARY ACCESS

*In the 2019-20 school year, the majority of Pennsylvania high school seniors were male and White*

There were 129,774 high school seniors enrolled in Pennsylvania’s public schools at the beginning of the 2019-20 school year. A little over half were male (51 percent) while 49 percent were female. Almost 70 percent of these seniors were White while students of color made up just over 30 percent of high school seniors (Figure 7).

Figure 7. Students of color made up just over 30 percent of all public high school seniors in Pennsylvania in 2019-20.



Source: Pennsylvania Department of Education. *October 1 Enrollment Statewide by Grade*. Pennsylvania Information Management System.

*Just over half of the high school graduating class of 2020 enrolled in postsecondary institutions*

Among Pennsylvania’s Class of 2020, about 55 percent public high school graduates enrolled in a postsecondary institution the following fall after graduation.<sup>xv</sup>

Specifically:

- About 45 percent **did not enroll** in a postsecondary institution and 55 percent **enrolled**;<sup>7</sup>
- Of the 55 percent that did enroll, 80 percent attended a four-year institution and 20 percent attended a two-year institution;
- Of those who enrolled, 69 percent attended a public postsecondary institution and 31 percent attended a private institution; and
- Most of those who did enroll (80 percent) stayed in Pennsylvania, while 20 percent enrolled out-of-state.

By 2025, demographic changes are expected to shrink the size of Pennsylvania's public K-12 population, which will affect the number of public high school graduates.<sup>xvi</sup> Within this decline, the proportion of White public high school graduates will decline, while the proportion of public high school graduates who are Hispanic/Latinx, Black/African-American, Asian, and multi-racial will increase.

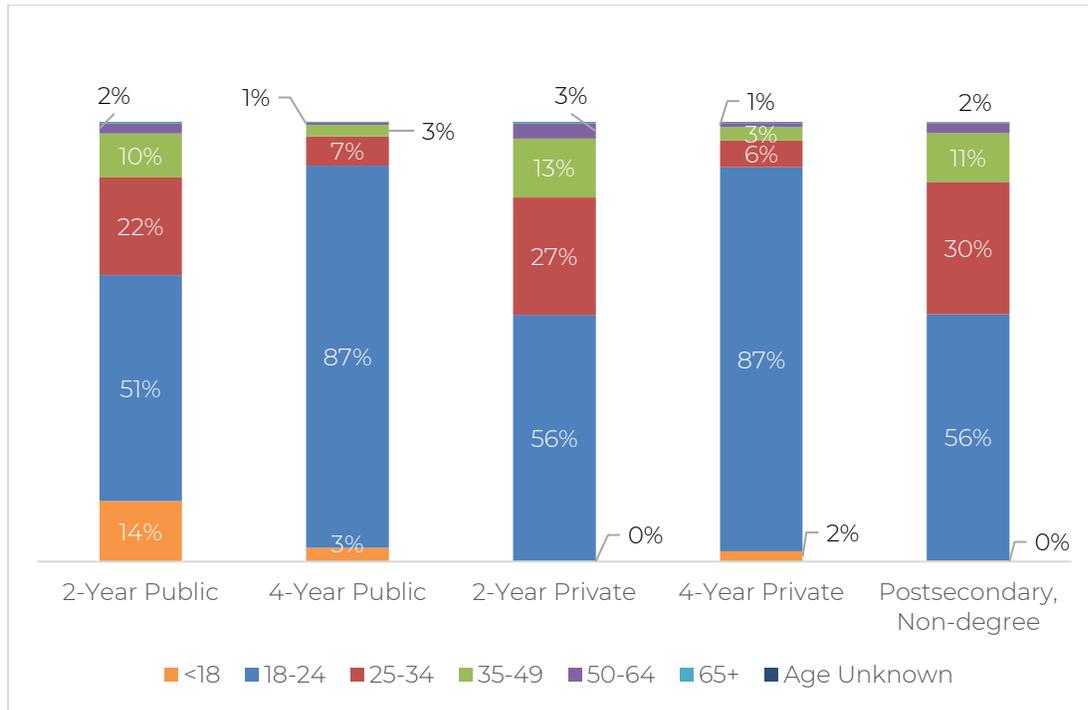
*Regardless of the postsecondary sector, 18-24 year-olds disproportionately make up the student body at Pennsylvania institutions*

Given the projected decline of the public high school graduating population, it is worrisome that 18-24 year-olds<sup>xvii</sup> disproportionately make up the student body in Pennsylvania's postsecondary institutions (Figure 8). Expanding postsecondary enrollment of adult learners ages 25 and older will help address enrollment challenges that arise from the declining public high school population.

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<sup>7</sup> Several reasons exist for why public high school graduates do not enroll in postsecondary education. Some graduate from career and technical education centers (CTCs) with industry certifications tied to the 13 career clusters. According to PDE's Bureau of Career and Technical Education, 45 percent of CTC graduates earned an industry certification in 2020-21. Some graduates may enter the military to earn the GI Bill® benefits that make college more affordable.

Figure 8. In Fall 2020, 18-24 year-olds made up almost 90 percent of 4-year institutions' enrollment and between 50 and 60 percent of those enrolled in 2-year institutions in Pennsylvania.



Source: National Center for Education Statistics. *Fall Enrollment Survey (2019-20)*. Integrated Postsecondary Education Data System. Accessed June 2022.

*Postsecondary enrollment of Pennsylvanians ages 18-24 years old is uneven by race and ethnicity*

Not all Pennsylvanian high school graduates enroll in postsecondary education at the same rate (Figure 9). In 2019, just under half of White graduates enrolled while half of Native American graduates enrolled. Asian graduates were most likely to enroll and both Hispanic/Latinx and Black/African-American graduates were least likely to enroll.

Figure 9. Hispanic/Latinx and Black/African-American Pennsylvanians ages 18-24 are the least likely to enroll in postsecondary education.



Source: Lumina Foundation. 2021. *A Stronger Nation: Learning Beyond High School Builds American Talent*.

*Pennsylvanian adults' low enrollment in postsecondary education hampers our ability to increase credential completion and reach our postsecondary attainment goal*

It will not be possible for Pennsylvania to increase postsecondary attainment if it only focuses on the declining high school graduate population. Adult learners ages 25 and older have very low postsecondary enrollment rates. In 2019, these learners made up about 22 percent of students across all Pennsylvania postsecondary institutions, and by 2020, this proportion dropped to 15.3 percent.<sup>xviii</sup> In addition, 1,068,137 Pennsylvanians ages 25 to 64 attempted to earn a postsecondary credential but either stopped out or entirely discontinued their postsecondary journeys.<sup>xix</sup> Pennsylvania's postsecondary institutions must engage new adult learners and reengage *Comebackers* in order to address the decline of recent high school graduate enrollment.

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**Pennsylvania's One Million Comebackers**

About **1,068,137** Pennsylvanians ages 25 to 64 attempted to earn a postsecondary credential but either stopped out or entirely discontinued their postsecondary journeys (2019).

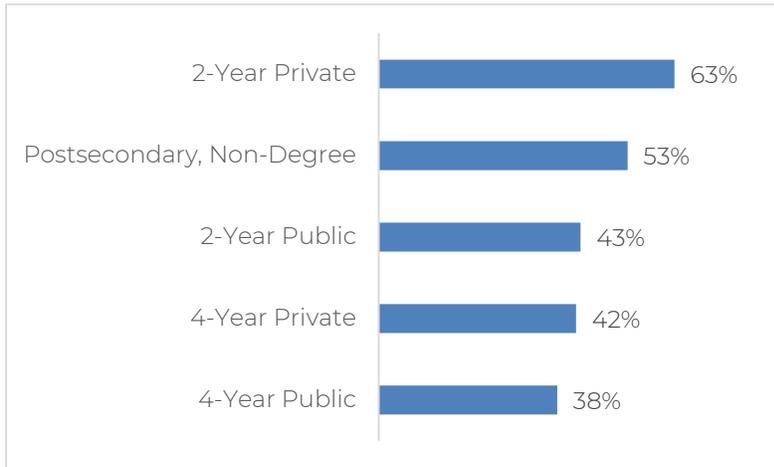
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*Equity gaps also appear when examining postsecondary enrollment of learners from low-income families in Pennsylvania*

Given the lack of information on actual family incomes in federal postsecondary data collections, federal Pell Grant eligibility is frequently used as a proxy for identifying students from low-income families. It is very likely that many more students are eligible to receive the federal Pell grant than receive it, but the actual figure remains unknown if current and prospective learners do not fill out the Free Application for Federal Student Aid (FAFSA®).

Still, it is useful to gauge postsecondary enrollment by sector of students who receive Pell grants to finance their postsecondary education. In 2019-20, Pennsylvania's two-year independent, nonprofit institutions enrolled the highest proportion of Pell grant recipients (Figure 10).

Figure 10. Depending on the postsecondary sector in Pennsylvania, between 40 and 60 percent of those enrolled come from low-income families.

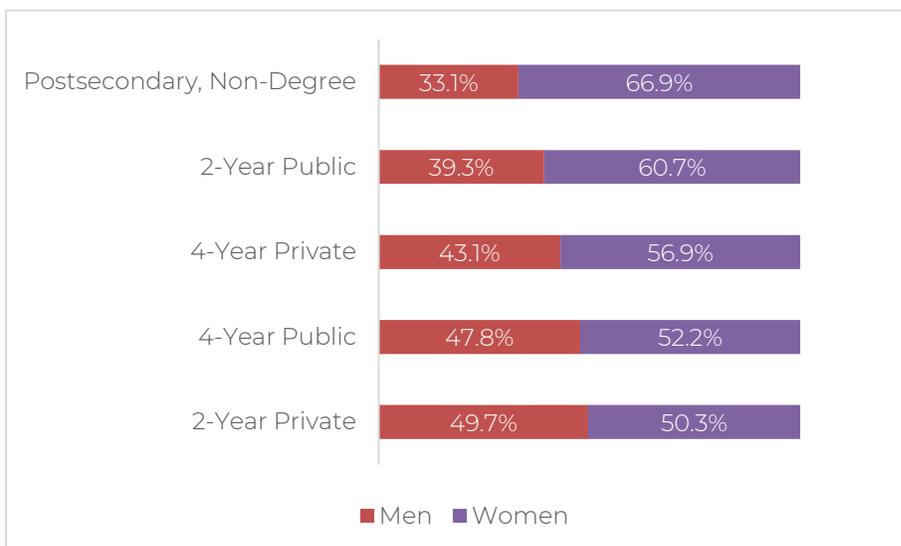


Source: National Center for Education Statistics. *Student Financial Aid Survey (2019-20)*. Integrated Postsecondary Education Data System. Accessed June 2022.

*Equity gaps in postsecondary enrollment also appear by gender*

As is the case nationally, postsecondary enrollment of women outpaces that of men in Pennsylvania, making up at least half of all enrollments depending on the postsecondary sector (Figure 11). Erasing this equity gap means that more men need to enroll in postsecondary institutions. However, the high enrollment of women in non-degree institutions should also invite investigation into longer-term equitable economic outcomes.

Figure 11. In Pennsylvania, women make up between 50 and 70 percent of enrollments depending on the postsecondary sector.



Source: National Center for Education Statistics. *12-Month Enrollment Survey (2019-20)*. Integrated Postsecondary Education Data System. Accessed June 2022.

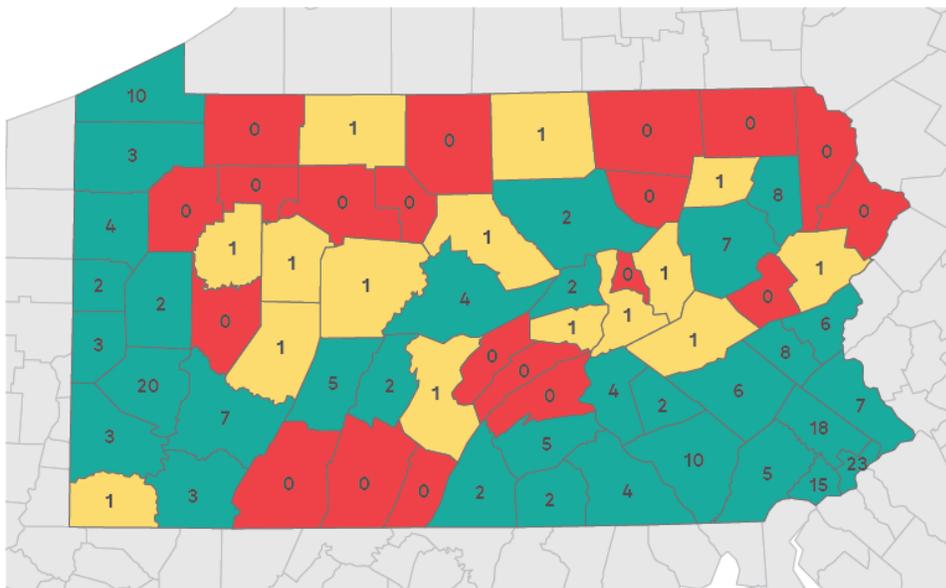
*Regardless of whether Pennsylvania residents live near a postsecondary institution, more rural, suburban, and urban residents need opportunities to access and enroll as postsecondary learners*

Pennsylvanians in the urban centers in the southeast and southwest have the most access to postsecondary institutions in the commonwealth. Out of Pennsylvania’s 67 counties:

- 20 counties, or almost 30 percent, have **no** two-year or four-year postsecondary institutions;
- 15 counties, or 22 percent, have **one** two-year or four-year postsecondary institution; and
- 32 counties, or almost 48 percent, have **at least two and up to 23** two-year and/or four-year postsecondary institutions (Figure 12).

In the 35 counties with no or few postsecondary institutions, it is unclear the extent to which residents are paying out-of-district or out-of-county tuition to attend a two-year institution, whether they attend online or commute long distances to their nearest postsecondary institution, and whether their local Community Education Council<sup>xx</sup> has the full range of access to and funding needed for their residents to access and enroll in postsecondary education opportunities without having to leave their community. For residents that make the commitment to move to pursue their postsecondary educations, campuses that are able to create a sense of belonging for these residents is crucial to their postsecondary success.

Figure 12. Almost half of all Pennsylvania counties have at least two postsecondary institutions, while close to a third do not.



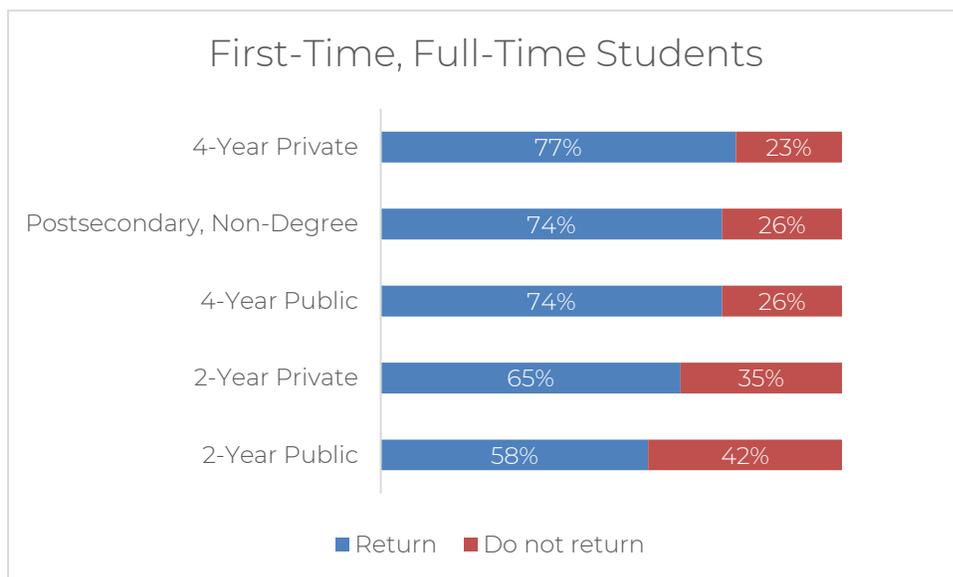
Source: Miller & Hutchins. 2022. *Postsecondary Access in Pennsylvania: Factors Associated with Students’ Access and Travel Distance to 4-Year Universities*. Pennsylvania Department of Education.

## POSTSECONDARY PROGRESSION

It is important to look at student progression to find out what happens to learners during their postsecondary journeys and identify barriers that may hinder them from earning postsecondary credentials. Unfortunately, federal surveys do not collect enough data on student progression that is representative of the range of postsecondary institutions. For example, most of the IPEDS surveys focus on first-time, full-time students, which are a shrinking proportion of today's learners<sup>xxi</sup> nationwide.

In Pennsylvania, postsecondary learners who attended four-year independent, nonprofit institutions as first-time, full-time students in Fall 2019 were most likely to return to those institutions in Fall 2020 (Figure 13). It is important to keep in mind that today's learners have many reasons for not returning to the same institutions. Some may switch to other institutions as transfer students while others may stop out of their postsecondary education temporarily or entirely due to their personal or professional circumstances. In addition, the availability of wraparound student supports that have become increasingly important to helping students remain enrolled differ greatly by postsecondary sector, with the public, two-year sector being the least well-resourced.<sup>xxii</sup> The following figures should be understood in that context.

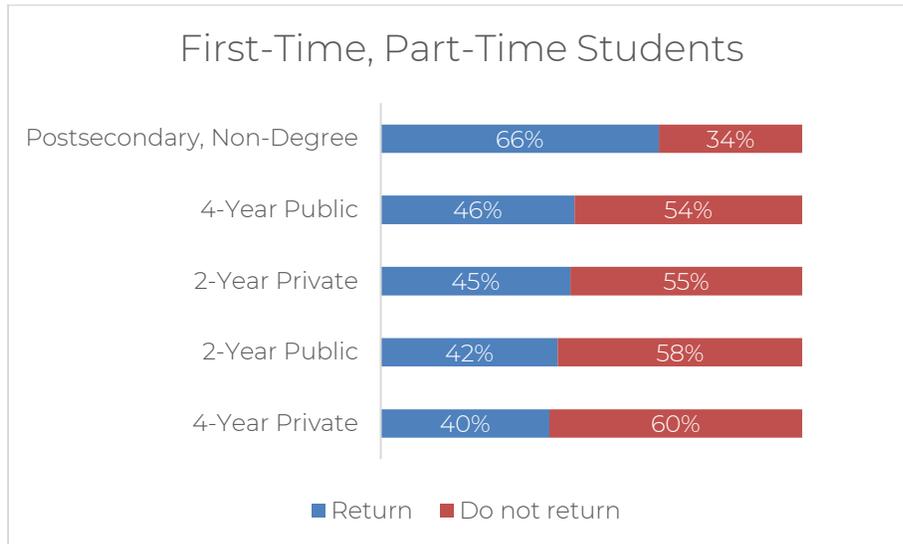
Figure 13. Depending on the postsecondary sector in Pennsylvania, between 23 and 42 percent of first-time, full-time students do not return the fall semester one year after enrolling.



Source: National Center for Education Statistics. *Fall Enrollment Survey (2019-20)*. Integrated Postsecondary Education Data System. Accessed June 2022.

The patterns are much starker for first-time learners who attend part-time (Figure 14).

Figure 14. Depending on the postsecondary sector in Pennsylvania, between 34 and 60 percent of first-time, part-time students do not return the fall semester one year after enrolling.



Source: National Center for Education Statistics. *Fall Enrollment Survey (2019-20)*. Integrated Postsecondary Education Data System. Accessed June 2022.

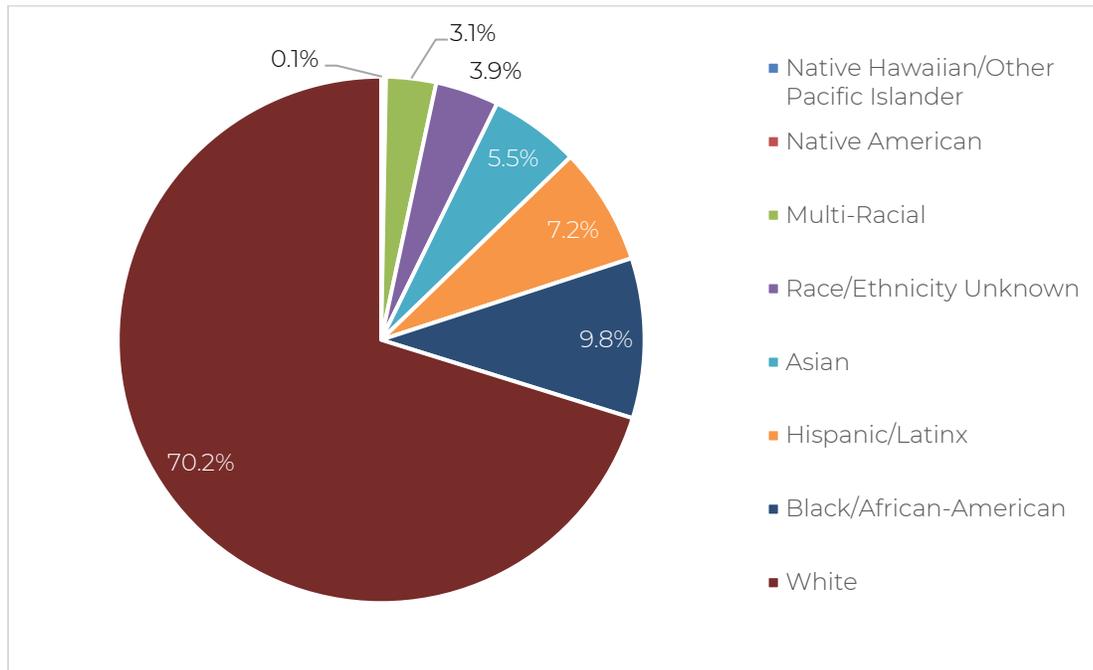
Several solutions exist to erase equity gaps for part-time learners: enable more of them to attend full-time,<sup>xxiii</sup> design more flexible programs for working learners who cannot attend full-time,<sup>xxiv</sup> and create more grant aid that caters to them.<sup>xxv</sup>

#### POSTSECONDARY COMPLETION

Not all learners who enroll and progress in their postsecondary journeys in Pennsylvania emerge with a credential. Completers differ by race, ethnicity, age, and gender.

*Race/ethnicity.* Regardless of the year they began their postsecondary studies, in 2019-20, seven out of ten of completers were White (70 percent), followed by Black/African-American (10 percent), Hispanic/Latinx (7 percent), and Asian (6 percent) completers (Figure 15).

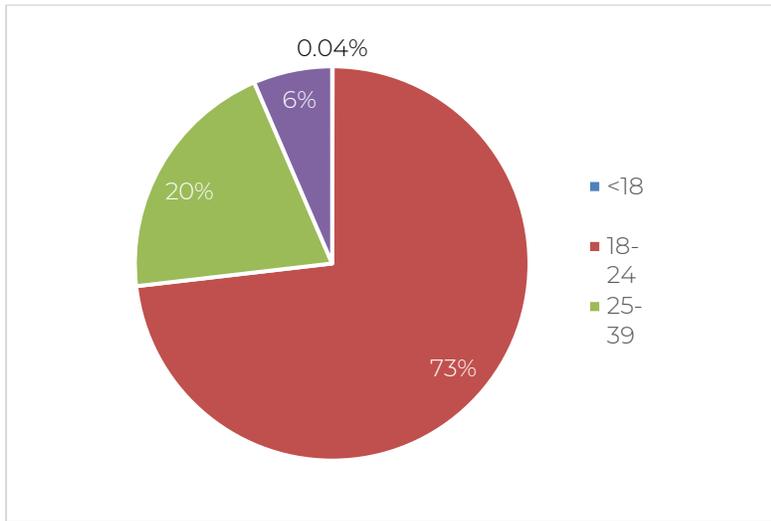
Figure 15. Pennsylvania's White postsecondary learners make up the largest group of completers of certificates, associate's, and bachelor's degrees regardless of when they enrolled.



Source: National Center for Education Statistics. *Completions Survey (2019-20)*. Integrated Postsecondary Education Data System. Accessed June 2022.

Age. Similarly, regardless of when they enrolled, 18-24 year-olds were the majority of completers, and those over 40 were the group with the fewest completers of a postsecondary credential in 2019-2020 (Figure 16).

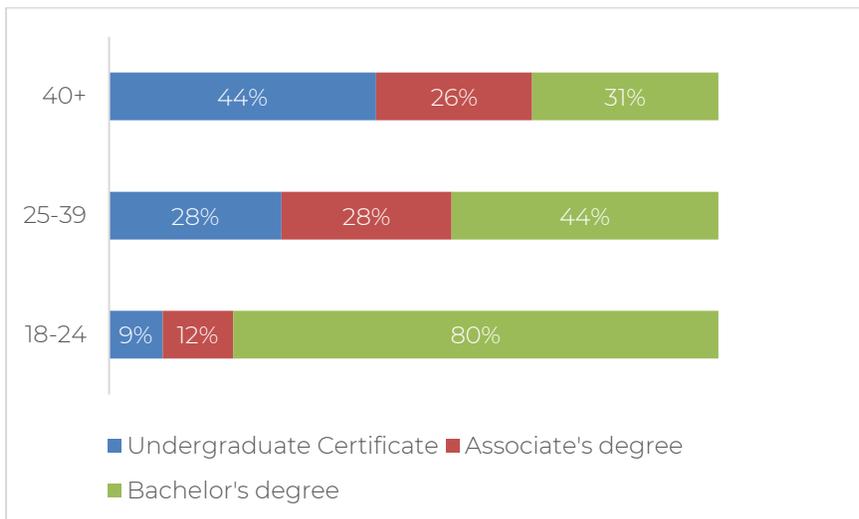
Figure 16. Pennsylvania learners ages 18 to 24 make up almost three out of four completers who earn certificate, associate's, or bachelor's degrees, regardless of when they enrolled.



Source: National Center for Education Statistics. *Completions Survey (2019-20)*. Integrated Postsecondary Education Data System. Accessed June 2022.

*Age and type of postsecondary credential earned.* In 2019-20, the majority of 18-24 year-olds completed bachelor's degrees (80 percent), followed by associate's degrees (12 percent), and undergraduate certificates (9 percent) (Figure 17). Adult learners ages 25 and older were less likely to earn bachelor's degrees than 18-24 year-olds. Learners ages 25-39 completed undergraduate certificates and associate's degrees at equal proportions (28 percent each), while those ages 40 and older were most likely to complete undergraduate certificates (44 percent).

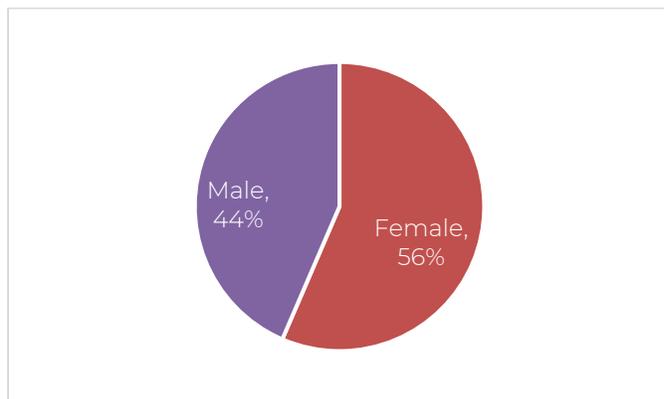
Figure 17. Pennsylvania learners ages 18-24 were more likely to earn bachelor's degrees than associate's degrees or undergraduate certificates while the opposite was true for those ages 25 and older.



Source: National Center for Education Statistics. *Completions Survey (2019-20)*. Integrated Postsecondary Education Data System. Accessed June 2022.

*Gender.* In Pennsylvania, more females than males complete their postsecondary education (Figure 18). Women also lead men in postsecondary enrollments.

Figure 18. More female learners in Pennsylvania complete their certificate, associate's, or bachelor's degree programs compared to male learners, regardless of when they enrolled.



Source: National Center for Education Statistics. *Completions Survey (2019-20)*. Integrated Postsecondary Education Data System. Accessed June 2022.

Policymakers and employers may not be aware of three challenges that Pennsylvania postsecondary leaders have known about for years:

- The commonwealth has a declining high school population with greater racial, ethnic, income, and geographic diversity;
- It is difficult for postsecondary institutions to quickly pivot from enrolling a high school population that is in decline to serving new postsecondary learners who may require more flexible schedules and different types of aid;
- Today's learners need additional supports than prior generations given the competing demands on their schedules, such as work and family responsibilities.

The realities outlined above reveal the far-ranging nature of Pennsylvania's equity gaps. Given that demographic changes are expected to shrink the size of the commonwealth's public K-12 population, it will be important to identify the additional resources that postsecondary institutions need to erase these equity gaps so that the sector can develop or enhance the way in which it enrolls and supports all postsecondary learners—including those who are unserved and underserved—so they may earn postsecondary credentials in a timely manner.

Metrics to Gauge Progress on Strategic Priority  
2

*Access metrics*

High school graduation rate

FAFSA completion rate

Pell recipient rate

Postsecondary enrollment rate

*Progression metrics*

Retention rate

Transfer rate

*Completion metrics*

Completers

Completers by Classification of Instructional  
Program (CIP)

## STRATEGIC PRIORITY 3: INCREASE COLLEGE AFFORDABILITY FOR ALL PENNSYLVANIANS

### OVERVIEW

It will be difficult for Pennsylvania to increase credential completion and erase equity gaps unless college is more affordable. For decades, state and federal funding of postsecondary institutions and the students they serve has not kept pace with tuition increases, which makes college unaffordable in many states, including Pennsylvania. Simultaneously, in the last thirty years, the average family income of the low- and middle-income families barely grew compared to those of the richest families, putting college out of reach for many Pennsylvanians.

At least four interconnected factors need to be considered when assessing postsecondary affordability:

- Direct federal<sup>xxvi</sup> and state<sup>xxvii</sup> investments to postsecondary institutions;
- Federal, state, and institutional aid to students;
- The interplay of federal, state, and institutional policies; and
- Family income.

In the last thirty years, the average family income of the poorest families barely grew compared to those of the richest families.<sup>xxviii</sup> Between 1990 and 2020, average family incomes increased 12 percent for low-income families with an average income of \$21,260 (2020) and increased 57 percent for high-income families with an average income of \$286,390 (2020). Average family incomes also varied depending on educational level (Figure 19).

Figure 19. The average incomes of families where at least one member had a bachelor's degree or higher were over three times higher than the incomes of families where the highest educational level was less than a high school diploma.

\$40,020	\$60,580	\$73,290	\$82,740	\$130,140
no high school diploma	high school diploma	some college	associate degree	bachelor's degree & higher

Source: Ma & Pender. 2021. *Trends in College Pricing and Student Aid 2021*.

Given trends in state financing of postsecondary institutions,<sup>xxix</sup> along with increases in the cost of attendance (tuition, fees, housing, and other costs such as books, supplies, food, transportation, childcare, and internet),<sup>xxx</sup> the federal Pell grant does not go as far today as when it was first created 50 years ago.<sup>xxxi</sup> As a result, students and their families have had to shoulder a larger portion of postsecondary costs than prior generations. This helps to explain why so many learners have turned to student loans to finance their postsecondary education.<sup>xxxii</sup> The student debt load issue and its

adverse effects on various groups, such as Black/African-American borrowers, has been well-documented.<sup>xxxiii</sup>

To increase college affordability for all Pennsylvanians, it will be necessary to better align state and federal postsecondary funding to increase credential completion. But funding alone won't make college more affordable. At the policy level, postsecondary institutions, states, and the federal government must work together to:<sup>xxxiv</sup>

- Increase learners' financial literacy as early as middle school;
- Equip middle and high school counselors as well as college advisors with information and data that helps current and future students make decisions about where to apply, what to major in, how majors connect to careers, and how much they will need to finance their postsecondary journeys;
- Make sure current and future students are aware of all grant aid that they do not need to repay before they decide to apply for student loans;
- Support postsecondary institutions to better serve today's learners, including recent high school graduates, adults, parenting students, working learners, and those with basic needs insecurities;
- Align institutional, state, and federal policies that reduce time and cost to earning postsecondary credentials, including dual enrollment and seamless transfer and articulation policies;
- Package financial aid dollars with means-tested public benefits for low-income learners; and
- Simplify both state and federal financial aid processes, recognizing that many states and institutions model their aid disbursement based on federal practices.

### *STATUS OF STRATEGIC PRIORITY 3*

Several factors make college unaffordable for Pennsylvanians, which hampers their ability to earn postsecondary credentials.

#### *It is not possible for today's students to work more to be able to pay for college in Pennsylvania*

Depending on the type of postsecondary institution attended, today's learners would have to work between 29 and 67 hours per week at the federal minimum wage to go to college full-time (Table 1). Between 2008 and 2013 the proportion of family income needed to pay for college increased, and that trend has likely continued.<sup>8</sup> Using the federal minimum wage allows comparisons to other states. Local, regional, and statewide data can be used to examine differences in wages that are particular to specific occupations and industries.<sup>xxxv</sup>

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<sup>8</sup> Although the report that features this analysis is from 2016, it is the only one of its kind that represents all postsecondary sectors. The year 2013 was the most recent year available for family income when this analysis was published. The methodology can be replicated to update these data for Pennsylvania, but time limitations did not permit this analysis.

Table 1. To attend postsecondary institutions full-time, Pennsylvania learners would have to work more than 20 hours per week and contribute between 20 and 50 percent of their family income.

Postsecondary Sector	Enrollment Share (2013)	Percent of Family Income (2008)	Percent of Family Income (2013)	Average Work Hours/Week (Federal minimum wage)
2-Year Public	23%	18%	19%	29
4-year Public, Nondoctoral	22%	29%	37%	46
4-year Public, Research	17%	36%	47%	59
4-year Private, Nondoctoral	29%	43%	47%	58
4-year Private, Research	8%	50%	51%	67

Source: Institute for Research on Higher Education. 2016. *College Affordability Diagnosis: Pennsylvania*. University of Pennsylvania.

*Regardless of postsecondary institution attended, college is unaffordable for many Pennsylvanians to finance on their own*

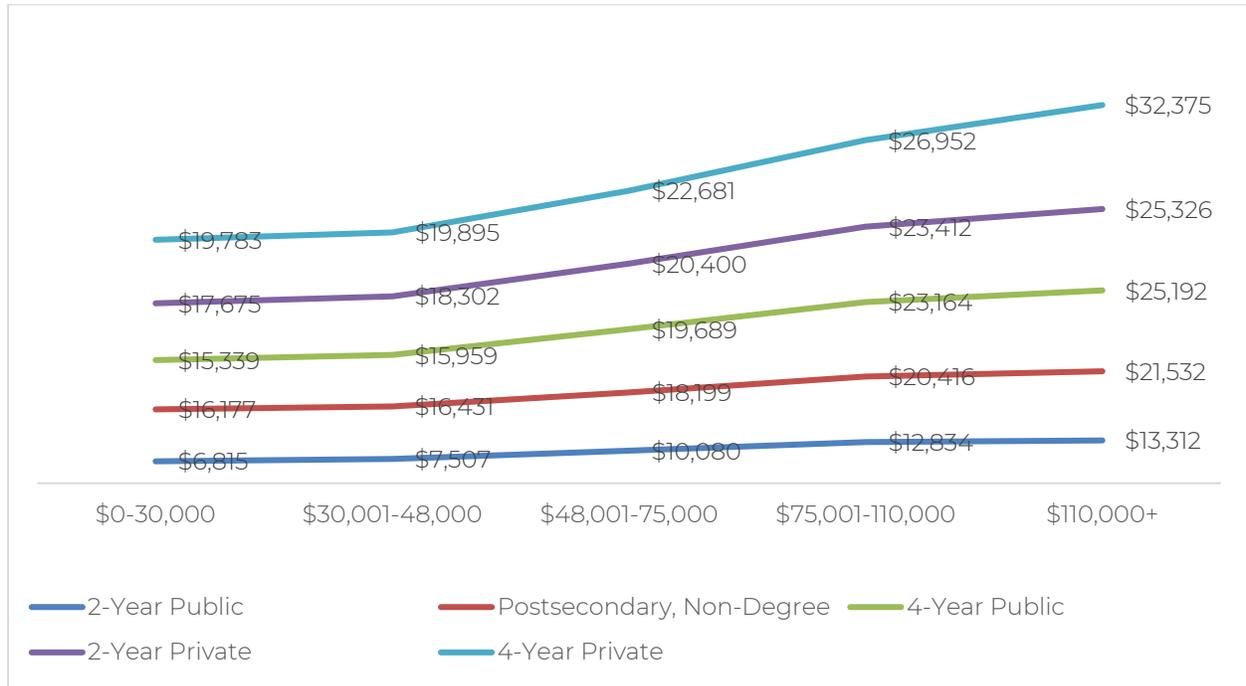
For first-time, full-time students at the lowest end of the income distribution, the average net price can represent up to 66 percent of family incomes for those who earn \$30,000 (Figure 20). By contrast, students from families earning at least \$110,000 would pay between 12 to 29 percent of their family income to cover the net price.

For postsecondary learners enrolled in the 2022-2023 academic year, federal and state grants can contribute up to \$6,895 and \$5,750 respectively as long as students qualify. However, these grant amounts would not cover as much of the cost of attendance needed to finance students' postsecondary programs of study today.

#### What is Net Price?

Net price is an estimate of the actual cost a student and their family need to pay in a year to cover education expenses to attend a college or career school. It is the institution's cost of attendance minus any grants and scholarships for which the student may be eligible.

Figure 20. Depending on the postsecondary sector attended in Pennsylvania, the higher the student’s family income, the higher the net price, but the difference is not proportional. Students in families earning \$30,000 would pay between 23 and 66 percent of their family income to cover the net price.



Source: National Center for Education Statistics. *Student Financial Aid Survey (2019-20)*. Integrated Postsecondary Education Data System. Accessed June 2022.

*Pennsylvania’s graduates of four-year public and independent, nonprofit institutions have the third highest student loan debt in the nation*

About 64 percent of Pennsylvania’s postsecondary graduates end up with an average student loan debt load of \$39,375.<sup>xxxvi</sup>

Roughly 53 percent of 4-year public postsecondary graduates leave with student loan debt and about 47 percent for those who graduate from 4-year independent, nonprofit institutions.

**Pennsylvania’s Student Loan Debt**

Pennsylvania is third nationally when it comes to student loan debt, just behind New Hampshire and Delaware (2019-20). Students in the commonwealth borrow an average of \$39,375 to finance their postsecondary journeys at four-year institutions.

*Implementing dual enrollment, credit by examination, and credit for prior experience policies make college more affordable for postsecondary learners*

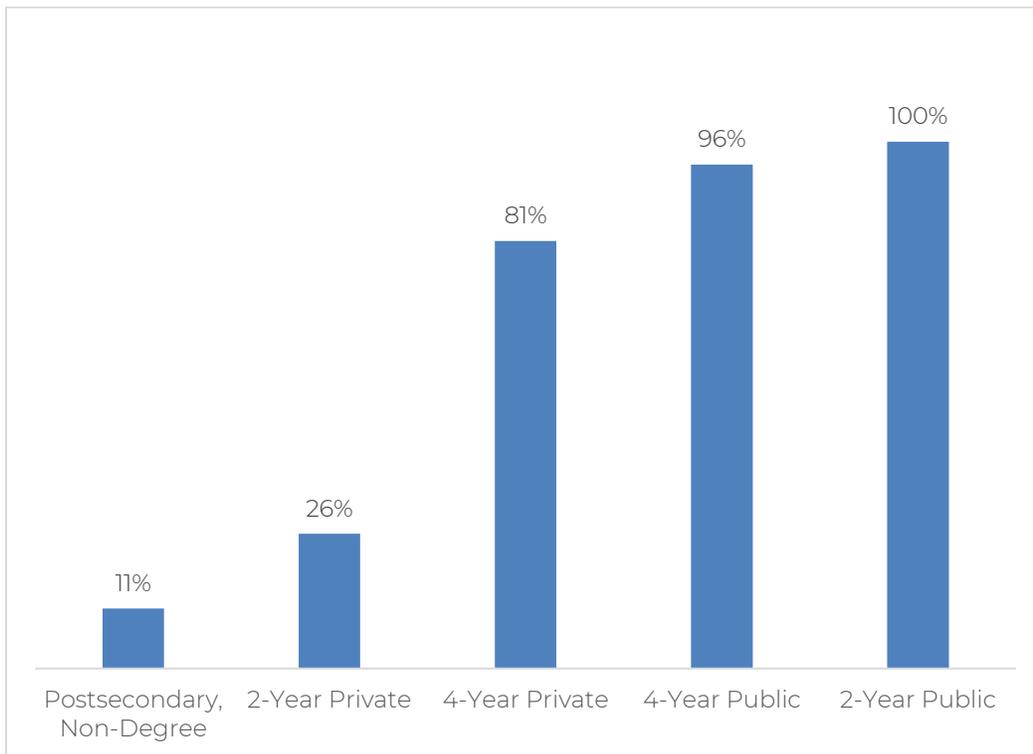
State law requires public postsecondary institutions to participate in the commonwealth’s transfer and articulation system, including community colleges and universities in Pennsylvania’s State System of Higher Education.<sup>xxxvii</sup> Participation of state-related and independent, nonprofit institutions is optional.

Among participating institutions, credits that learners earn from dual enrollment, Advanced Placement (AP), International Baccalaureate (IB), or credit by examination

(College-Level Examination Program, Dantes Subject Standardized Tests) are eligible for transfer.<sup>xxxviii</sup>

*Dual enrollment.*<sup>xxxix</sup> In 2019-20, all accredited institutions<sup>xl</sup> in the two-year public sector offer dual enrollment opportunities to high school students, followed by four-year public (96 percent), four-year independent, nonprofit (81 percent), two-year independent nonprofit (26 percent), and postsecondary, non-degree (11 percent) institutions (Figure 21).

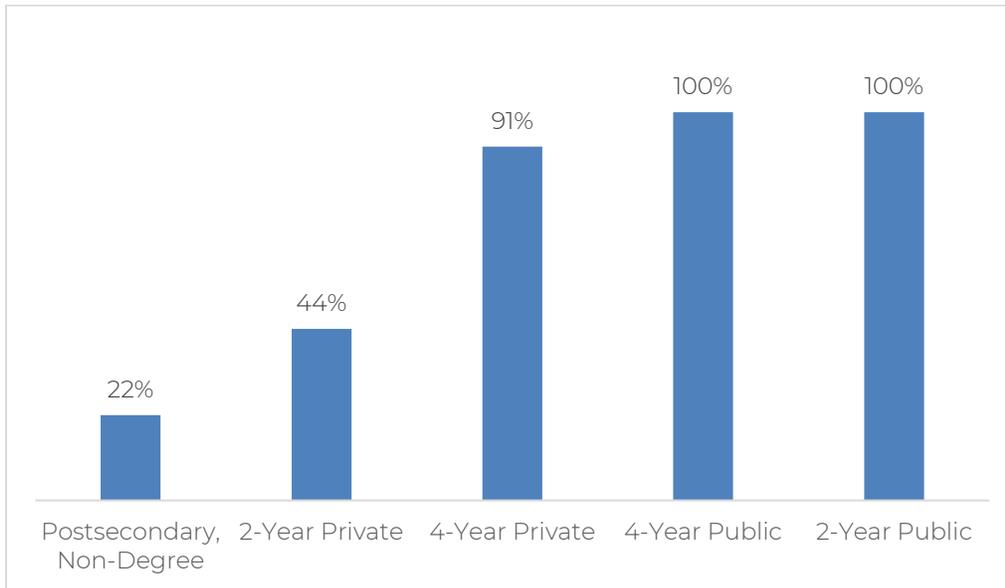
Figure 21. All Pennsylvania postsecondary institutions in the two-year public sector offer dual enrollment opportunities to high school students.



Source: National Center for Education Statistics. *Institutional Characteristics Survey (2019-20)*. Integrated Postsecondary Education Data System. Accessed June 2022.

*Advanced Placement.* In 2019-20, all accredited institutions<sup>xli</sup> in the two-year and four-year public sector in Pennsylvania accept eligible Advanced Placement credit, followed by four-year independent, nonprofit (91 percent), two-year independent nonprofit (44 percent), and postsecondary, non-degree (22 percent) institutions (Figure 22).

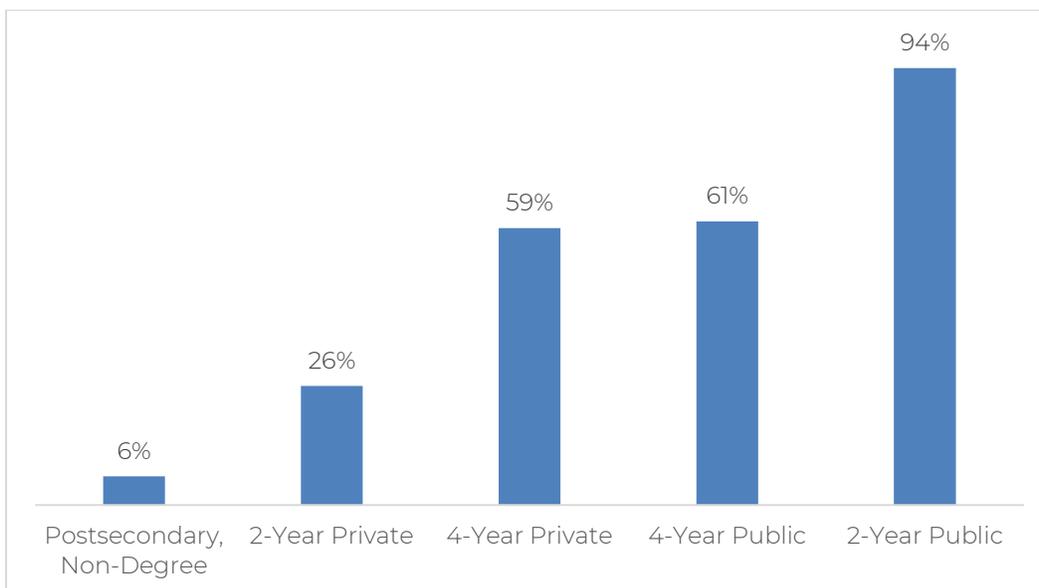
Figure 22. All Pennsylvania postsecondary institutions in the two-year and four-year public sector accept eligible Advanced Placement credit.



Source: National Center for Education Statistics. *Institutional Characteristics Survey (2019-20)*. Integrated Postsecondary Education Data System. Accessed June 2022.

*Credit for life experience.* In 2019-20, almost all Pennsylvania institutions in the two-year public sector offer credit for life experience (94 percent), followed by four-year public (61 percent), four-year independent, nonprofit (59 percent), two-year independent nonprofit (26 percent), and postsecondary, non-degree (6 percent) institutions (Figure 23).

Figure 23. Almost all Pennsylvania postsecondary institutions in the two-year public sector offer credit for life experience.



Source: National Center for Education Statistics. *Institutional Characteristics Survey (2019-20)*. Integrated Postsecondary Education Data System. Accessed June 2022.

As a state, Pennsylvania needs to be attuned to the college affordability issues and circumstances facing today’s learners. By examining where we are as a state, collectively as educational sectors, and individually as institutions, the commonwealth can ensure that postsecondary education is affordable for all Pennsylvania learners.

Metrics to Gauge Progress on  
Strategic Priority 3

Tuition as a percentage of maximum Pell award

Net tuition by parental income level

Median net price

Loan default rate

Percentage of institutions offering dual enrollment, prior learning assessment, credit for Advanced Placement, International Baccalaureate, Dantes

## STRATEGIC PRIORITY 4: INNOVATE AND REDESIGN POSTSECONDARY INSTITUTIONS FOR TODAY'S LEARNERS

### OVERVIEW

Today's postsecondary learners have many identities and there is no consensus on a unified term<sup>xliii</sup> that captures their unique characteristics. No matter the term used, there is agreement that "the systems and structures [currently in place] were built for a very different type of student."<sup>xliii</sup>

Today's learners have a lot of financial responsibility. Across the nation, 64 percent are working; 49 percent are financially independent; 40 percent are enrolled part-time; 37 percent are 25 and older; 34 percent are the first generation in their family enrolling in college; 31 percent are low-income students living at or below the federal poverty level; and 24 percent are parenting students.<sup>xliiv</sup> Today's students are also more likely to have been impacted by the effects of systemic racism and income inequality.<sup>xliv</sup> In addition, they often need to take breaks in their pursuit of postsecondary education to attend to other priorities in their lives. Clear off- and on-ramps can help them stay on track over periods when they are not enrolled.

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#### Who Are Today's Learners?

No matter their age, today's postsecondary learners are more likely to have adult responsibilities, such as being financially independent from their parents, working, and parenting while enrolled in postsecondary education.

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Since Spring 2020, the postsecondary sector has experienced an enrollment decline of almost one million learners nationally.<sup>xlvi</sup> One silver lining of the COVID-19 pandemic is that nationwide, many colleges and universities moved quickly to adapt to new modes of teaching and learning, operations, and service delivery. These adaptations must now stand the test of time.

Pennsylvania's postsecondary institutions are in the process of innovating and redesigning themselves to serve today's learners, and they are doing so in a changing environment. They are updating their own answers to several questions such as: *Who is being served? Which populations are being left out and why? What are the systemic and structural barriers that most significantly impact current and future learners?*

Recognizing the realities of today's learners provide an opportunity for Pennsylvania's postsecondary institutions to reverse enrollment declines by designing policies and practices that remedy and counter the challenges these students face, fueling innovation and new expertise that will serve "traditional" students as well. Collectively, we must continue to recognize and remove barriers so that more of the commonwealth's students, in all their identities, have an equitable opportunity to

access and succeed in postsecondary education. Our challenge is to formalize these new policies and practices so that today's learners feel like they belong on our campuses.

#### *STATUS OF STRATEGIC PRIORITY 4*

Innovation and redesign of structures, programs, and processes in postsecondary education is emerging. Evidence or data is often qualitative in nature at first, it is often not equitably and consistently collected, and the issue requiring innovation may not yet be easily understood in all its natural complexity. For example, new insights are emerging on automated or Artificial Intelligence (AI)-driven financial aid systems that are modeled on recent high school graduates and not on the broader needs of today's learners.<sup>xlvii</sup> In addition, exclusionary college recruitment and admissions practices also favor recent high school graduates, as do course structures or schedules that make it very difficult for a working learner to earn sufficient income to support themselves and their families.

Pennsylvania's postsecondary institutions have produced a range of innovative programs that are worth noting and can serve as exemplars for peers across the commonwealth and the country.

#### *Dual enrollment programs and stackable credentials can support high school students and adults on their postsecondary pathways*

At **Delaware County Community College**, students can participate in a skilled trades dual enrollment program aligned with regional high-priority occupations. High school students can earn a 27-30 credit certificate for free or at a reduced rate, and then complete their Associate's degree in Applied Science in one more year.

A partnership between **Montgomery County Community College** and **District 1199c Training and Upgrading Fund** awards students 21 credits toward an associate's degree upon completion of specialized training at District 1199c<sup>xlviii</sup> is an example of stacking an industry certification with a two-year degree program.<sup>xlix</sup>

#### *Shifting administrative tasks from students to the institution can help more students access financial aid*

At **Lafayette College**, students who attend a high school at which 75% or more of students qualify for free or reduced lunch are automatically considered for financial aid, and no longer need to complete the College Scholarship Profile (CSS) as a financial aid requirement.

#### *Structured opportunities can engage students during the summer before college*

The Summer Bridge program at **Thaddeus Stevens Technical College** is designed for students who did not completely meet the school's admission criteria and provides supports to students in credit-bearing courses instead of developmental education

courses. Students are thus able to move more quickly into program courses, saving time and money.

*Rethinking gateway Algebra courses increases student success*

Algebra is often used as a gating requirement for postsecondary education, but evidence shows that while all students need quantitative thinking skills, Algebra should not be used as a one-size-fits-all approach. Math Pathways<sup>i</sup> differentiates between math and science majors that require competency in Calculus and therefore Algebra, and those that do not. The latter build on statistical or quantitative reasoning competencies instead of Algebra. Furthermore, students are more successful when math is presented in contexts that are relevant to their lives and interests.<sup>ii</sup> This innovative approach informed **Cabrini University's** Justice Matters program, which integrates social justice projects into its first-year Math Pathways program, connecting math skills with students' everyday lives and experiences, and allowing financial literacy courses to serve as math requirements.<sup>iii</sup>

*Student support services that anticipate learners' needs can also identify students in need*

Intrusive advising that helps identify and respond to students' needs early and the use of student success coaches trained in learning and life-skills and assigned to individual students are becoming prevalent at many institutions.<sup>iii</sup>

**Gwynedd Mercy University** recently developed a Professional Advisor position for Nursing students that adopts intrusive advising approaches.

**Montgomery County Community College** has an online 24-hour tutoring service through Tutor.com.<sup>iv</sup> Students can share papers and assignments for feedback or speak with a tutor in real time. In addition, the MCCC Student Wellness Inclusion Model (SWIM), is a tiered system of wellness supports encompassing educational programming, healthy spaces, mentoring, self-help resources, and physical wellness resources. A 24/7 online, free service delivers equitable access to medical and mental health support.

Success coaching, under different names, is also available at **Cheyney University** and **West Chester University**.<sup>iv</sup>

*Labor market information can drive strategy and programming to prepare students for good careers and for the emerging jobs of the future*

**Chestnut Hill College** designed courses in areas of high employer interest, primarily for working learners. Courses include Data Analytics, Business Ethics, Trauma, Survey of Autism, Violence in our Communities, and Civic Engagement.

**Franklin and Marshall College** instituted certificates<sup>vi</sup> that allow students to pursue interests for which no current major or minor exists, to serve as a formal career accelerator for future work or further study.

**Northampton Community College** offers a for-credit program in Craft Distillery, and a Millwrights program for skilled tradespersons in factories, power plants, and construction sites. A 3-credit, 12-month Entrepreneurial Mindset course, with no prerequisites, covers understanding and applying an entrepreneurial mindset, design thinking, problem solving, and innovative solutions.

*Some institutions are making pandemic-related innovations permanent*

While many institutions quickly pivoted to online learning during COVID-19, many are shifting back to in-person classes. However, hybrid and online courses are still attractive to working and adult learners. **East Stroudsburg University's** RN to BSN program is one example.

*A four-year pathway to graduation can save students time and money*

**Temple University's** Fly in 4 Graduation Partnership ensures students complete their degree in four years—or sooner—by offering students a clear four-year academic plan with an on-time graduation that reduces costs to degree.<sup>vii</sup>

Metrics to Gauge Progress on  
Strategic Priority 4

Percent of institutions using multiple measures  
for admission

Percent of institutions offering online education  
options

Percent of institutions offering stackable  
credentials

Student access innovations TBD

Student progression innovations TBD

Student completion innovations TBD

Public-private partnerships

## STRATEGIC PRIORITY 5: INCREASE TRANSPARENCY ON THE VALUE OF POSTSECONDARY CREDENTIALS TO INDIVIDUALS, COMMUNITIES, AND THE COMMONWEALTH

### OVERVIEW

Pennsylvania learners are never far from an educational opportunity to meet their education and workforce needs. We have a rich higher education landscape, featuring over 350 institutions comprised of 2- and 4-year public institutions, independent, nonprofit colleges and universities, and private licensed schools. **Our commonwealth is lucky to have such a diversity of options, but not all Pennsylvanians have the opportunity to benefit.**

Those who are lucky enough to earn one or more postsecondary credentials know that the benefits are much more than a job. They can buy a home, enjoy better health, and experience other noneconomic benefits.<sup>lviii</sup> But these benefits are out of reach for too many Pennsylvanians, and that will prevent them from entering the middle class.

For today's learners, the path from college to career has become a labyrinth. They have many more decisions to make when it comes to selecting colleges, choosing majors, knowing how majors connect to occupations, and what their chances are for getting a good job once they earn a postsecondary credential. The number of decisions is a feature of our modern knowledge and service economy that increasingly favors individuals with education beyond high school.

### *Our complex economy is confusing to individuals, learners, employers, and policymakers*

The nation's postsecondary and workforce ecosystem is not only confusing to learners, but also to employers and policymakers. Nationally, there are approximately one million unique credentials spanning high school diplomas to postsecondary certificates and degrees to industry certifications to occupational licenses.<sup>lix</sup> Knowledge of the scope of the credential landscape is new and evolving; about 28 states and regions are building credential registries to bring transparency to state residents, employers, and policymakers.<sup>lx</sup>

The growth in the credential landscape is not the only factor that makes our economy complex. The number of occupations in America has tripled, the number of programs of study (also known as majors) has grown five times, the number of colleges and universities has doubled, and the number of students enrolled in postsecondary education has increased ten times (Figure 24).<sup>lxi</sup>

Figure 24. Our modern economy requires today's learners to make a lot of decisions.

<i>from</i>	270 (1950)	410 (1985)	1,850 (1950)	2.4M (1949)
<i>to</i>	840 (2010)	2,260 (2010)	4,720 (2014)	20.2M (2014)
	occupations	programs of study/majors	colleges & universities	students

Source: Carnevale, Garcia, & Gulish. 2017. *Career Pathways: Five Ways to Connect College and Careers*. Georgetown University Center on Education and the Workforce.

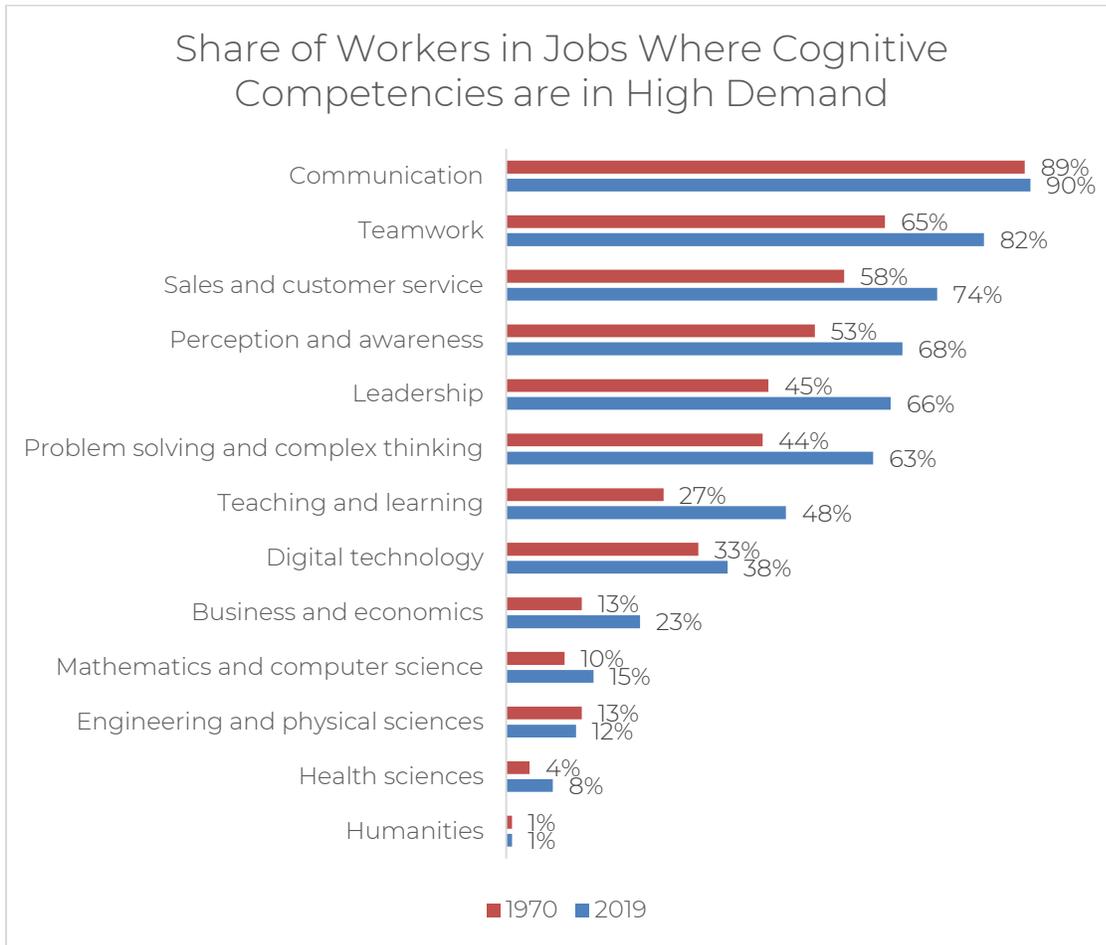
In poll after poll, postsecondary learners consistently agree that it is important to have access to postsecondary and employment outcomes in a publicly accessible format.<sup>lxii</sup> In addition, more than 6 in 10 teens ages 14-18 want to learn more about the variety of postsecondary options available to them.<sup>lxiii</sup>

### *Postsecondary credentials impart skills beyond academic content that are transferable to employment*

For decades, employers have relied on postsecondary credentials—particularly bachelor's degrees—as proxies for the competencies they seek from prospective employees during the hiring process. The explosion of postsecondary credential types makes this practice increasingly difficult today. To make matters more complicated, employers are also seeking other competencies and this demand for workers' cognitive competencies is changing.<sup>lxiv</sup>

For example, more employers seek workers with demonstrable cognitive competencies in communication, leadership, teaching and learning, problem-solving, teamwork, customer service, perception and attentiveness as well as an understanding of business practices, mathematics and computer science, and digital fluency (Figure 25).<sup>lxv</sup> In the last fifty years, communication, engineering and physical sciences, and humanities, have always been cognitive competencies in high demand.

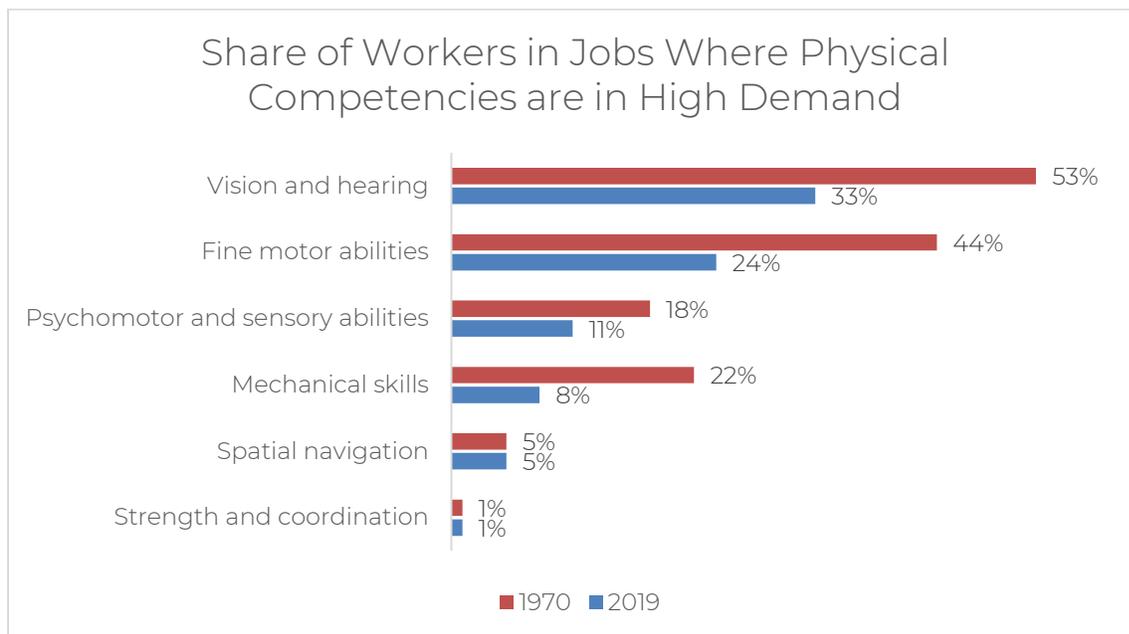
Figure 25. The demand for workers with several cognitive competencies has increased dramatically within the past 50 years.



Source: Carnevale, Fasules, & Campbell. 2020. *Workplace Basics: The Competencies Employers Want*. Georgetown University Center on Education and the Workforce.

By contrast, the demand for workers with physical competencies has largely decreased (Figure 26). While technological advances and the rise of automation can be directly attributable to this trend, it also reveals the need to have more educated individuals to power our nation’s modern knowledge and service economy.<sup>lxvi</sup>

Figure 26. The demand for workers with physical competencies has significantly decreased over the past 50 years.



Source: Carnevale, Fasules, & Campbell. 2020. *Workplace Basics: The Competencies Employers Want*. Georgetown University Center on Education and the Workforce.

Much has been written on the importance and value of workers with skills for today's jobs.<sup>lxvii</sup> While skills acquisition is essential for lifelong learning and career advancement, more attention needs to be paid to whether the individuals who need to gain these skills have already earned a postsecondary credential of value (one that leads to further education and employment). Anecdotally, it is known that individuals from marginalized groups have been discouraged or not encouraged at all to earn a postsecondary credential.<sup>lxviii</sup> Or that they are encouraged to pursue short-term credentials that may prevent them from both entering the middle class and increasing intergenerational wealth within their family.<sup>lxix</sup> Engaging in efforts to increase the gaining of skills and credentials needs to avoid exacerbating persistent equity gaps that currently exist within our postsecondary and workforce sectors. Learning new skills that are valued across occupations and sectors is key to lifelong economic success and all individuals should have access to these opportunities.

Ultimately, policymakers and other leaders outside of the postsecondary sector need to better understand and accept that most learners are initially exposed and begin to develop these in-demand competencies within postsecondary programs of study by acquiring postsecondary learning outcomes. It's important to recognize that postsecondary learning outcomes and workplace competencies are not mutually exclusive.

Ultimately, policymakers and other leaders outside of the postsecondary sector need to better understand that most learners are initially exposed and begin to develop these competencies within postsecondary programs of study by acquiring postsecondary learning outcomes.

*Breaking down siloes among the early childhood, K-12, postsecondary, and workforce sectors will be necessary to increase postsecondary attainment*

For K-12 learners, school counselors play a key role in shaping students' plans after high school. School counselors need better information, resources, and tools to help learners navigate the credentialing landscape. However, high student-to-school counselor ratios prevent them from adequately providing individualized advising to students on college and career pathways. Pennsylvania's student to school counselor ratios in each county fall short of the American School Counselor Association recommendation of 250 to 1. In some counties, average ratios are close to 500 to 1.<sup>lxx</sup>

*Because the postsecondary sector plays a critical role in increasing postsecondary attainment, it must better communicate the value of the credentials it offers*

Until recently, it has been challenging for the postsecondary sector to communicate the value of its credentials from both an academic and economic perspective. Several efforts are emerging to increase transparency on the value of these credentials and their connection to careers. Notably, *The College Scorecard*, the U.S. Census *Postsecondary Employment Outcomes* effort, *Third Way's Economic Mobility Index*, and the Georgetown University Center on Education and the Workforce's reports, analyses, and tools all point to the increasing importance of making this information publicly accessible and digestible for current and prospective learners.<sup>lxxi</sup>

Although there has been progress, various audiences still need more and better integrated information so that:

- Future learners understand why they should enroll in postsecondary institutions;
- Existing learners can make decisions about where to go, what to major in, how much it will cost, how long it will take, and how much they can earn after graduation;
- College administrators, faculty, and staff can strengthen programs and develop new ones responsive to evolving conditions; and
- Policymakers can make appropriate investments in postsecondary institutions to bolster their ability to foster and develop a talented workforce.<sup>lxxii</sup>

To attract learners purposefully and strategically to postsecondary education and produce the most prepared and talented workforce in the country, Pennsylvania's postsecondary sector can and must do more to communicate the value of the credentials it has to offer. It will otherwise not be possible for future or current learners to navigate between college and careers if the information they need is scattered in multiple locations.

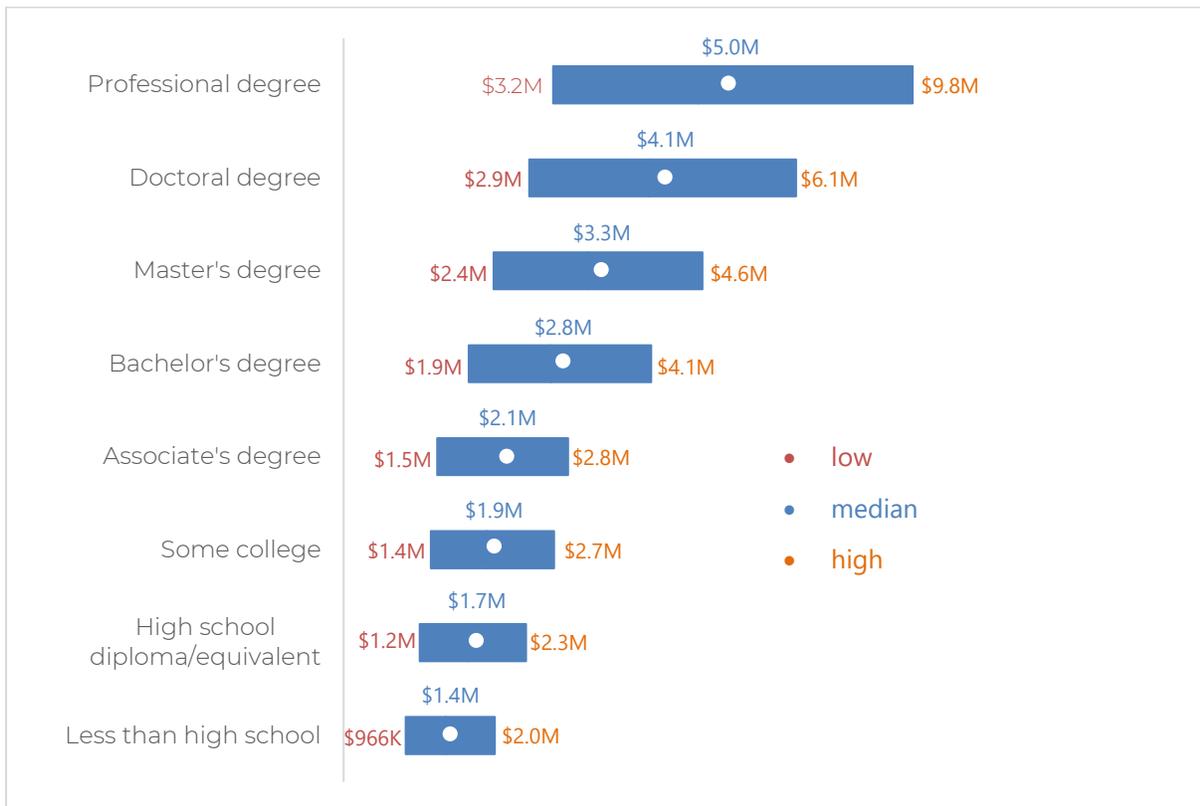
## STATUS OF STRATEGIC PRIORITY 5

*In Pennsylvania, the higher the educational level, the higher the lifetime earnings*

In general, individuals who hold a postsecondary credential tend to earn more over their lifetime than those who do not. Lifetime earnings are also sensitive to individuals' program of study or major, occupation, industry, length of time in the workforce, and whether individuals experience discrimination based on gender, race, ethnicity, age, geographic, or other demographic characteristics.<sup>lxiii</sup>

The median lifetime earnings of Pennsylvanians with bachelor's degrees as their highest educational level are over one-and-a-half times higher than for those with a high school diploma or its equivalent (Figure 27).

Figure 27. Pennsylvanians with some college or less as their highest level of educational attainment have lower lifetime earnings than those with an associate's degree or higher.



Source: Carnevale, Cheah, & Wenzinger. 2021. *The College Payoff: More Education Doesn't Always Mean More Earnings*. Georgetown University Center on Education and the Workforce.

For illustrative purposes, it is useful to interpret median lifetime earnings in terms of annual and hourly earnings. For example, if we assume<sup>9</sup> that Pennsylvanians ages 25 to 64 maintain the same educational level throughout their working lives, their annual salary would be:

- \$35,000 per year (\$17/hour) for workers with less than a high school diploma;
- \$42,500 per year (\$20/hour) for workers with a high school diploma;
- \$47,500 per year (\$23/hour) for workers with some college;
- \$52,500 per year (\$25/hour) for workers with associate’s degrees;
- \$70,000 per year (\$34/hour) for workers with bachelor’s degrees;
- \$82,500 per year (\$40/hour) for workers with master’s degrees;
- \$102,500 per year (\$49/hour) for workers with doctoral degrees; and
- \$125,000 per year (\$60/hour) for workers with professional degrees.

Of Pennsylvania’s 15,383 unique educational and workforce credentials, 90 percent are awarded by postsecondary institutions.<sup>lxxiv</sup> The prevalence of certificates and degrees in the commonwealth’s credential ecosystem is notable, however, their value must be derived from evidence on how well they prepare Pennsylvanians to apply the academic skills and competencies they gain to advance in their careers.

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### Pennsylvania’s Credential Landscape

Postsecondary certificates and degrees make up 90 percent of all credentials, followed by apprenticeships (5 percent), high school diplomas (4 percent), and occupational licenses (1 percent).

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*Pennsylvania and various other states are exploring new approaches to increase transparency on the value of credentials*

The **Community Education Center of Elk and Cameron Counties** provides opportunities for K-12 students to experience 37 different career development programs that connect to opportunities at more than 100 companies in their region, many of which require a postsecondary credential. Company tours, project-based learning with employers in classrooms, mock interviews, college cruises, and career showcases highlight careers in all clusters and various educational pathways that may not otherwise be transparent to rural students.

In partnership with the Pennsylvania Department of Labor and Industry, **Pennsylvania’s State System of Higher Education (PASSHE)** created a Workforce Outcomes tool that includes employment and earnings outcomes of the system’s graduates.<sup>lxxv</sup>

**Pennsylvania State University** offers post-graduation earnings data via its We Earn tool, based on its partnership with the U.S. Census Bureau Post-Secondary Employment Outcomes (PSEO) initiative.<sup>lxxvi</sup>

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<sup>9</sup> These assumptions are for illustrative purposes only. The annual salary is based on the median lifetime earnings for each educational level divided by the 40 years typically used to make these calculations. The hourly wage is based on 40 hours per week for 52 weeks, for a total of 2,080 hours of work for full-time workers who work for an entire year.

Other states and systems offer career outcome exploration tools centering learners:

- University of Texas System’s **Seek UT** is the first tool that was developed using U.S. Census PSEO data;<sup>lxxvii</sup>
- City University of New York’s **Career Maps** provide detailed information on eight careers;<sup>lxxviii</sup>
- **My Colorado Journey** helps users map out career goals and milestones;<sup>lxxix</sup> and
- Virginia’s **Education Wizard** connects education and workforce data for middle school and high school students, postsecondary learners, and veterans, among others.<sup>lxxx</sup>

**Montgomery County Community College** offers a Career Readiness Academy where students can learn about the competencies employers are seeking.<sup>lxxxi</sup>

A practicum requirement for all students at **Washington & Jefferson College** provides job-related experiences that demonstrate to students the skills used at work and how they are valued.<sup>lxxxii</sup>

### Metrics to Gauge Progress on Strategic Priority 5

Percent of institutions using labor market information to inform institutional policy and practice (by sector)

Percent of colleges offering customized education and training sponsored by employers

## APPENDIX A: THE POSTSECONDARY LANDSCAPE IN THE COMMONWEALTH

MAP OF POSTSECONDARY INSTITUTIONS AND COMMUNITY EDUCATION CENTERS IS FORTHCOMING AND WILL ONLY APPEAR ONLINE

### Degree-Granting Institutions of Higher Education in Pennsylvania (Branch Campuses Are Identified Where Applicable)

#### Community Colleges

Bucks County Community College –  
Main Campus - Newtown  
    Lower County Campus  
    Upper County Campus  
Butler County Community College  
Community College of Allegheny  
County – Main Campus – Allegheny  
    Boyce Campus  
    North Campus  
    South Campus  
Community College of Beaver County  
Community College of Philadelphia  
Delaware County Community College  
Erie County Community College  
Harrisburg Area Community College –  
Main Campus – Wildwood  
    Gettysburg Campus  
    Lancaster Campus  
    Lebanon Campus  
    York Campus

Lehigh Carbon Community College  
Luzerne County Community College  
Montgomery County Community  
College – Main Campus – Blue Bell  
    West Campus  
Northampton County Community  
College – Main - Bethlehem  
    Monroe Campus  
Pennsylvania Highlands Community  
College  
Reading Area Community College  
Westmoreland County Community  
College

#### College of Technology

Thaddeus Stevens College of Technology

#### Independent Colleges and Universities

Albright College  
Allegheny College  
Alvernia College  
American College of Financial Services  
Arcadia University  
Bryn Athyn College of the New Church  
Bryn Mawr College  
Bucknell University  
Byzantine Catholic Seminary  
Cabrini University  
Cairn University  
Carlow University  
Carnegie-Mellon University  
Cedar Crest College  
Central Penn College

Chatham University  
Chestnut Hill College  
Christ the Savior Seminary  
Clarks Summit University  
Curtis Institute of Music  
Delaware Valley University  
DeSales University  
Dickinson College  
Drexel University  
Duquesne University  
Eastern University  
Elizabethtown College  
Franklin and Marshall College  
Gannon University

Geisinger Commonwealth School of  
Medicine  
Geneva College  
Gettysburg College  
Gratz College  
Grove City College  
Gwynedd Mercy University  
Harcum College  
Harrisburg University of Science and  
Technology  
Haverford College  
Holy Family University  
Hussian College  
Immaculata University  
International Institute for Restorative  
Practices  
Johnson College  
Juniata College  
Keystone College  
King's College  
La Roche University  
La Salle University  
Lackawanna College  
Lafayette College  
Lake Erie College School of  
Osteopathic Medicine  
Lancaster Bible College  
Lancaster Theological Seminary  
Lebanon Valley College  
Lehigh University  
Lycoming College  
Manor College  
Marywood University  
Mercyhurst University  
Messiah University  
Misericordia University  
Missio Theological Seminary  
Moore College of Art & Design  
Moravian University  
Mt. Aloysius College  
Muhlenberg College  
Neumann University  
Peirce College  
Pennsylvania Academy of the Fine Arts  
Pennsylvania College of Art & Design  
Pennsylvania Institute of Technology  
Pennsylvania College of Health  
Sciences  
Pennsylvania Institute of Technology  
Philadelphia College of Osteopathic  
Medicine  
Pittsburgh Technical College  
Pittsburgh Theological Seminary  
Point Park University  
Reconstructionist Rabbinical College  
Reformed Episcopal Seminary  
Reformed Presbyterian Theological  
Seminary  
Robert Morris University  
Rosemont College  
Saint Charles Borromeo Seminary  
Saint Francis University  
Saint Joseph's University  
Saint Tikhon's Orthodox Theological  
Seminary  
Saint Vincent College  
Salus University  
Seton Hill University  
Susquehanna University  
Swarthmore College  
Talmudical Yeshiva of Philadelphia  
Thiel College  
Thomas Jefferson University  
Trinity School for Ministry  
United Lutheran Seminary  
University of Pennsylvania  
University of Scranton  
University of the Arts  
University of Valley Forge of the  
Assemblies of God  
Ursinus College  
Valley Forge Military College  
Villanova University  
Walnut Hill College  
Washington and Jefferson College  
Waynesburg University  
Westminster College  
Westminster Theological Seminary  
Widener University  
Wilkes University  
Wilson College  
Won Institute of Graduate Studies  
Yeshivath Beth Moshe  
York College of Pennsylvania

### **Pennsylvania's State System of Higher Education**

Commonwealth University of Pennsylvania	Millersville University of Pennsylvania
Bloomsburg University – Main Campus	Pennsylvania Western (PennWest) University
Lock Haven University Campus	California University – Main Campus
Mansfield University Campus	Clarion University Campus
Cheyney University of Pennsylvania	Edinboro University Campus
East Stroudsburg University of Pennsylvania	Shippensburg University of Pennsylvania
Indiana University of Pennsylvania	Slippery Rock University of Pennsylvania
Armstrong Campus	West Chester University of Pennsylvania
Pittsburgh East Campus	
Punxsutawney Campus	
Kutztown University of Pennsylvania	

### **Private Licensed Schools**

#### **Specialized Associate Degree-Granting Institutions**

All-State Career School	New Castle School of Trades
ASPIRA City College	Orleans Technical College
Berks Technical Institute	Penn Commercial Business & Technical College
Bidwell Training Center Inc.	Pennco Tech
Central Pennsylvania Institute of Science and Technology	PITC Institute
Commonwealth Technical Institute	Pittsburgh Career Institute
Douglas Education Center	Pittsburgh Institute for Mortuary Science
Erie Institute of Technology	Pittsburgh Institute of Aeronautics
Fortis Institute – Forty Fort	Rosedale Technical College
Fortis Institute – Scranton	South Hills School of Business & Technology – Altoona
Great Lakes Institute of Technology	South Hills School of Business & Technology – State College
JNA Institute of Culinary Arts	Triangle Tech – Bethlehem
Lancaster County Career and Technology Center	Triangle Tech – DuBois
Lansdale School of Business	Triangle Tech – Greensburg
Laurel Business Institute	Triangle Tech – Pittsburgh
Laurel Technical Institute – Meadville	Triangle Tech – Sunbury
Laurel Technical Institute – Sharon	United Career Institute at Mount Braddock
Lincoln Technical Institute – Allentown	Vet Tech Institute
Lincoln Technical Institute – Philadelphia	YTI Career Institute – Altoona
McCann School of Business & Technology – Allentown	YTI Career Institute – Lancaster
McCann School of Business & Technology – Lewisburg	YTI Career Institute - York

### **Regional College**

Rural Regional College of Northern Pennsylvania

**State-Related Universities**

Lincoln University

Temple University

    Ambler Campus

    Center City Campus

Harrisburg Campus

The Pennsylvania State University -

University Park – Main Campus

    Abington Campus

    Altoona Campus

    Beaver Campus

    Behrend College

    Berks Campus

    Brandywine Campus

    Dickinson School of Law

    Dubois Campus

    Fayette Campus

    Harrisburg Campus

    Hazleton Campus

Hershey Medical Center –

College of Medicine

Lehigh Valley Campus

Mont Alto Campus

New Kensington Campus

Schuylkill Campus

Scranton Campus

Shenango Campus

Wilkes-Barre Campus

York Campus

Penn College of Technology – Penn  
State Affiliate

University of Pittsburgh

    Bradford Campus

    Greensburg Campus

    Johnstown Campus

    Titusville Campus

**Community Education Councils**

Armstrong Center for Community Learning

Community Education Council of Elk & Cameron Counties

Corry Higher Education Council

Keystone Community Education Council

Lawrence County Learning Center

Potter County Education Council

Schuylkill Community Education Council

Warren/Forest Higher Education Council

Wayne Pike Workforce Alliance

## APPENDIX B: LOCAL, REGIONAL, AND STATE ECONOMIC PROFILES

SAMPLE ECONOMIC PROFILES COMPILED IN PARTNERSHIP WITH THE ALLEGHENY CONFERENCE (*FINAL PROFILES WILL ONLY APPEAR ONLINE*)

### SAMPLE: ERIE COUNTY

**Workforce Development Area**  
Northwest WDA

**County(ies)**  
Erie

**Postsecondary Institution(s)/Community Education Council(s)**

- Corry Higher Education Council
- Educational Correspondence Training School, LLC
- Erie Center for Arts and Technology, Inc.
- Erie Institute of Technology
- Fortis Institute-Erie
- Gannon University
- Great Lakes Institute of Technology
- HVA EduCenter
- Institute of Medical and Business Careers
- Just Four Paws Academy of Pet Styling
- Lake Erie College of Osteopathic Medicine
- Mercyhurst University
- Mercyhurst University-Northeast Campus
- Pennsylvania State University-Penn State Erie-Behrend College
- Pennsylvania West University at Edinboro

## ERIE COUNTY

**Total Population** 269,011

Race/Ethnicity	Number	Percent
Asian	5,721	2%
Black/African American	21,440	8%
Hispanic/Latinx	12,977	5%
Native American	786	0.29%
Native Hawaiian/Other Pacific Islander	203	0.07%
White	233,628	87%
Multiracial	7,233	3%

### Age

<19	64,889	24%
25+	187,398	70%

### Gender

Female	126,918	50%
Male	124,569	50%

### Educational Attainment

No high school diploma	15,956	6%
High school diploma/equivalent	70,762	26%
Some college	29,027	11%
Associate's degree	17,847	7%
Bachelor's degree	34,469	13%
Master's degree and above	19,337	7%

<b>Jobs</b>	114,696	43%
<b>Resident Workers</b>	117,276	44%

*Note:* Jobs represent the number of workers working. Resident workers are residents who live in that county or workforce development area but may work elsewhere.

Employer Age (private sector firms only)	Number of Employees
0-1 Years	1,614
2-3 Years	2,632
4-5 Years	3,556
6-10 Years	5,604
11+ Years	87,967

## SAMPLE: NORTHWEST WORKFORCE DEVELOPMENT AREA

### Workforce Development Area

Northwest WDA

### County(ies)

Clarion County  
Crawford County  
Erie County  
Forest County  
Venango County  
Warren County

### Postsecondary Institution(s)/ Community Education Council(s)

- Keystone Community Education Council (Clarion)
- Clarion County Career Center (Clarion)
- Clarion University of Pennsylvania (Clarion)
- Keystone Community Education Council (Crawford)
- Crawford County Career and Technical Center Practical Nursing Program (Crawford)
- Allegheny College (Crawford)
- Precision Manufacturing Institute (Crawford)
- Laurel Technical Institute (Crawford)
- Laurel Technical Institute/Meadville (Crawford)
- University of Pittsburgh-Titusville (Crawford)
- Community Ed Council of Elk & Cameron Counties (Elk & Cameron)
- Corry Higher Education Council (Erie)
- Gannon University (Erie)
- Lake Erie College of Osteopathic Medicine (Erie)
- Mercyhurst University (Erie)
- Mercyhurst University-North East Campus (Erie)
- Educational Correspondence Training School, LLC (Erie)
- Erie Center for Arts and Technology, Inc. (Erie)
- HVA EduCenter (Erie)
- Just Four Paws Academy of Pet Styling (Erie)
- Erie Institute of Technology Inc (Erie)
- Fortis Institute-Erie (Erie)
- Great Lakes Institute of Technology (Erie)
- Institute of Medical and Business Careers (Erie)
- Pennsylvania West University at Edinboro (Erie)
- Pennsylvania State University-Penn State Erie-Behrend College (Erie)
- Warren/Forest Higher Education Council (Forest & Warren)
- Keystone Community Education Council (Venango)
- Venango County Area Vocational Technical School (Venango)
- Rural Regional College of Northern Pennsylvania (Warren)
- Saint Bonaventure University (Warren)

## NORTHWEST WORKFORCE DEVELOPMENT AREA

**Total Population** **7,894,387**

Race/Ethnicity	Number	Percent
Asian	346,592	4.39%
Black/African American	1,233,757	15.63%
Hispanic/Latinx	787,687	9.98%
Native American	40,425	0.51%
Native Hawaiian/Other Pacific Islander	8,051	0.10%
White	6,079,570	77.01%
Multiracial	185,992	2.36%
<b>Age</b>		
<19	1,873,488	24%
25+	5,533,193	70.9%
<b>Gender</b>		
Female	4,006,613	51%
Male	3,887,774	49%
<b>Educational Attainment</b>		
No high school diploma	563,664	10.35%
High school diploma/equivalent	1,930,903	35.45%
Some college	862,234	15.83%
Associate's degree	445,991	8.19%
Bachelor's degree	990,982	18.20%
Master's degree and above	652,579	11.98%
<b>Jobs</b>		
	3,313,195	
<b>Resident Workers</b>	3,583,498	

*Note: Jobs represent the number of workers working. Resident workers are residents who live in that county or workforce development area but may work elsewhere.*

Employer Age (private sector firms only)	Number of Employees
0-1 Years	69,373
2-3 Years	101,770
4-5 Years	102,203
6-10 Years	208,543
11+ Years	2,479,322

## NORTHWEST WORKFORCE DEVELOPMENT AREA

### Top Five Industries in WDA with Job Openings

2019	2020-21	2022 (January through May)
Health Care and Social Assistance (358)	Health Care and Social Assistance (398)	Health Care and Social Assistance (266)
Administrative and Support and Waste Management and Remediation Services (240)	Administrative and Support and Waste Management and Remediation Services (288)	Administrative and Support and Waste Management and Remediation Services (216)
Retail Trade (220)	Retail Trade (220)	Manufacturing (192)
Manufacturing (139)	Manufacturing (103)	Retail Trade (181)
Finance and Insurance (69)	Educational Services (77)	Educational Services (137)

### Top Five Occupations in WDA Job Openings

2019	2020-21	2022 (January through May)
Healthcare Practitioners and Technical Occupations (346)	Healthcare Practitioners and Technical Occupations (399)	Healthcare Practitioners and Technical Occupations (371)
Sales and Related Occupations (212)	Sales and Related Occupations (195)	Sales and Related Occupations (179)
Office and Administrative Support Occupations (139)	Transportation and Material Moving Occupations (166)	Management Occupations (160)
Management Occupations (124)	Office and Administrative Support Occupations (143)	Transportation and Material Moving Occupations (147)
Transportation and Material Moving Occupations (115)	Management Occupations (126)	Office and Administrative Support Occupations (140)

## APPENDIX C: DETAILED METRICS LISTING

FINAL METRICS LISTING WILL ONLY APPEAR ONLINE WITHIN A DASHBOARD

In April 2022, postsecondary leaders nominated individuals from institutional research and other relevant offices to become members of the Master Plan Metrics Workgroup. Members are data leaders across postsecondary sectors and we are grateful for their insights and contributions.

### Members

Dr. Kate Akers, Pennsylvania's State System of Higher Education  
Dr. Kristy Bishop, Westmoreland County Community College  
Guy Euliano, Institute of Medical and Business Careers  
Dr. Antonio Jackson, Thaddeus Stevens College of Technology  
Marlon Keller, Landsdale School of Business  
Dr. Lance Kennedy-Phillips, Pennsylvania State University  
Sara Leigh, Community College of Beaver County  
Bernard Marth, All-State Career School  
Dr. Brian McCloskey, Community College of Allegheny College  
Dr. Nick Neupauer, Butler County Community College  
Charlotte Osmolenski, Pennsylvania's State System of Higher Education  
Dr. Peter Skoner, St. Francis University  
Dr. Simon Tonev, Lafayette College

*Purpose.* The purpose of the Metrics Workgroup was to identify and recommend progress metrics for the Council's consideration to gauge progress on the strategic priorities. To be most useful, metrics should enable the Council to determine whether progress is being made on each strategic priority: Which metrics can answer questions about whether Pennsylvania is making progress on increasing credential completion, erasing equity gaps, increasing college affordability, innovating and redesigning, and increasing transparency on the value of postsecondary credentials. The metrics are designed to inform the development of a dashboard that will be updated annually.

*Meeting Frequency.* The Metrics Workgroup met six times during the month of May, twice as one group, and twice per each of the two subgroups representing the 2- and 4-year sectors, to discuss sector-specific metrics.

*Summary notes.* Members of both sectors agreed that quantitative metrics for the dashboard should come from publicly available data, preferably the Integrated Postsecondary Education Data System (IPEDS), the National Student Clearinghouse (NSC), the American Community Survey (ACS), and other public sources. The group noted, however, that much of the IPEDS data only reflect first-time, full-time students, a population that has been shrinking nationwide, limiting the ability to capture the full picture of today's postsecondary learners, particularly those attending institutions in the 2-year sector. Recommended metrics should be understood in this context.

Members of the 2-year sector considered the definition of success for community college students. In line with practices at some of the community colleges

represented, there was a suggestion to consider as success graduation, transfer, or completion of at least 45 credits. However, since community colleges do not collect this data consistently, this sector-level metric is currently unfeasible.

The 4-year group also noted some limitations of the IPEDS data and discussed the tension between calculating specific metrics from publicly available data to measure progress on the Master Plan, and reliance on widely used metrics to allow for comparability with other states.

Both groups recommended adding qualitative metrics to better capture innovations (especially those created during the pandemic), and shared emerging practices for increasing the transparency on the value of postsecondary credentials. Metrics Workgroup members recommended giving institutions the opportunity to write about their initiatives and their successes through an annual survey. All the metrics are included in the following section for the Council's consideration.

*Dashboard.* Please note that a dashboard will be created to measure progress on each of the Master Plan's strategic priorities. These metrics will be aggregated by sector (2-year, 4-year, public, private, with private license schools included in the 2-year sector) and will not reflect data by individual institution. In addition, where possible, each metric will be disaggregated by age, race/ethnicity, Pell status, transfer status, and other available student characteristics.

*COVID-19 impacts.* Finally, future policies and actions stemming from this Master Plan must take into account the multiple effects of the COVID-19 pandemic on postsecondary education during 2020-2021. To show the trend before the pandemic as well as the impact in 2020-2021, data from 2019-2020 might be most appropriate as the baseline year.

The effects of the pandemic on postsecondary education during 2020-2021 include but are not limited to: shut-downs of secondary and postsecondary institutions; mandated isolations for learners; the rapid shift to online learning; adverse health and mental health outcomes for learners of all ages as well as K-12 educators, postsecondary faculty, and staff; the loss of income to individuals and revenue to institutions; and disruptions to transportation and supply chains.

For ease of reference, the five strategic priorities are as follows:

- 1) Increase Credential Completion to Meet the Commonwealth's Need for Talent
- 2) Erase Equity Gaps in Postsecondary Access, Progression, and Completion by Race, Ethnicity, Income, Age, Gender, and Geography
- 3) Increase College Affordability for All Pennsylvanians
- 4) Innovate and Redesign Postsecondary Institutions for Today's Learners
- 5) Increase Transparency on the Value of Postsecondary Credentials to Individuals, Communities, and the Commonwealth

## Master Plan Progress Metrics for the Council's Consideration

### *Strategic Priority: 1. Increase Credential Completion to Meet the Commonwealth's Need for Talent*

#### **A) Postsecondary credentials awarded**

*Description:* Postsecondary certificates, associates, and bachelor's degrees awarded

*Data source:* IPEDS Completions Survey

*Sector(s):* 2-year and 4-year

### *Strategic Priority: 2. Erase Equity Gaps in Postsecondary Access, Progression, and Completion by Race, Ethnicity, Income, Age, Gender, and Geography*

#### **B) High school graduation rate**

*Description:* Percent of public school students who earn a high school diploma within 4 years of starting 9th grade

*Data source:* Pennsylvania Information Management System (PIMS)

*Sector:* TBD

#### **C) FAFSA completion rate by sector**

*Description:* FAFSA completion rates for new and returning students

*Data source:* US Department of Education or Pennsylvania Higher Education Assistance Agency

*Sector(s):* 2-year and 4-year

### *Metrics D through I use IPEDS as the Data Source*

#### **D) Pell recipient rate**

*Description:* Percent Pell undergraduate recipients by sector

*Data source:* IPEDS Student Financial Aid and Fall Enrollment Surveys

*Sector(s):* 2-year and 4-year

#### **E) Unduplicated enrollment by headcount**

*Description:* 12-month unduplicated headcount of enrolled students

*Data source:* IPEDS 12-Month Enrollment

*Sector(s):* 2-year and 4-year

#### **F) Retention rate**

*Description:* Fall to Fall retention rate for full-time and part-time students

*Data source:* IPEDS Fall Enrollment Survey

*Sector(s):* 2-year and 4-year

#### **G) Transfer rate**

*Description:* Proportion of students transferring to other institutions (first-time, non-first-time, full-time, or part-time)

*Data source:* IPEDS Outcome Measures Survey

*Sector(s):* 2-year and 4-year

#### **H) Completers**

*Description:* Full-time, first-time degree and certificate-seeking undergraduate students earning an award

*Data source:* IPEDS Completion Survey

*Sector(s):* 2-year and 4-year

**I) Completers by CIP codes**

*Description:* Completers by Classification of Instructional Program (CIP)

*Data source:* IPEDS Completions Survey

*Sector(s):* 2-year and 4-year

*Metrics J through M use Student Achievement Measure (SAM) as the Data Source*

**J) Enrollment rate**

*Description:* Unduplicated headcount of enrolled students

*Data source:* Student Achievement Measure

*Sector(s):* 4-year

**K) Retention rate**

*Description:* Fall to Fall retention rate

*Data source:* Student Achievement Measure

*Sector(s):* 4-year

**L) Transfer rate**

*Description:* Transfer rate of enrolled students

*Data source:* Student Achievement Measure

*Sector(s):* 4-year

**M) Completers**

*Description:* Bachelor's degree graduation rate of first-time, full-time students, within six years of starting college

*Data source:* Student Achievement Measure

*Sector(s):* 4-year

**N) Graduated, transferred, and/or still enrolled**

*Description:* Percent of students who have graduated, transferred, and/or are still enrolled with 30 or more successfully completed non-developmental hours

*Data source:* National Student Clearinghouse Student Tracker [In the event PDE is able to obtain access to this source]

*Sector(s):* 2-year and 4-year

**O) Postsecondary enrollment by age, race, and ethnicity**

*Description:* Proportion of state residents enrolled in postsecondary education by age, race, and ethnicity

*Data source:* IPUMS American Community Survey

*Sector(s):* Statewide

*Strategic Priority: 3. Increase College Affordability for All Pennsylvanians*

**P) Tuition as a percentage of maximum Pell award**

*Description:* Percentage of tuition that is covered by the maximum Pell award

*Data source:* IPEDS Institutional Characteristics Survey and Student Financial Aid Survey

*Sector(s):* 2-year and 4-year

**Q) Net tuition by parental income level (by sector)**

*Description:* IPEDS definition

*Data source:* IPEDS Student Financial Aid Survey

*Sector(s):* 4-year

**R) Median net price (by sector)**

*Description:* Net price calculation involves subtracting the average amount of federal, state/local government, or institutional grant and scholarship aid from the total cost of attendance. Total cost of attendance is the sum of published tuition and required fees (lower of in-district or in-state for public institutions), books and supplies, and the weighted average for room and board and other expenses. Cost of attendance data are collected in the IPEDS Institutional Characteristics survey, and financial aid data are collected in the IPEDS Student Financial Aid Survey.

*Data source:* IPEDS Institutional Characteristics and Student Financial Aid Surveys

*Sector(s):* 2-year and 4-year

**S) Loan Default Rate (by sector)**

*Description:* Percentage of students from a sector who enter repayment during a given year and default within three years

*Data source:* Federal Student Aid

*Sector(s):* 2-year and 4-year

**T) Percent of institutions offering dual/concurrent enrollment, prior learning assessment, credit for AP/IB/Dantes (by sector)**

*Description:* The percent of colleges that award credit to students for learning that occurred outside of the traditional postsecondary classroom

*Data source:* IPEDS Institutional Characteristics Survey

*Sector(s):* 2-year and 4-year

*Strategic Priority: 4. Innovate and Redesign Postsecondary Institutions for Today's Learners*

**U) Percent of institutions using multiple measures for admission (by sector)**

*Description:* The percent of colleges that are test-optional and/or include multiple measures as part of the admissions process (e.g., high school GPA and others)

*Data source:* PDE Annual SharePoint data collection system [would be added as a new tool]

*Sector(s):* 4-year

**V) Percent of institutions offering online education options (by sector)**

*Description:* IPEDS distance learning definition

*Data source:* IPEDS Institutional Characteristics and Fall Enrollment Surveys

*Sector(s):* 2-year and 4-year

**W) Percent of institutions offering stackable credentials**

*Description:* The percent of institutions that have developed their certificate and degree programs to include stackable credentials

*Data source:* PDE Annual SharePoint data collection system [would be added as a new tool]

*Sector(s):* 2-year and 4-year

*Metrics Y through AA would be informed by the strategies that institutions identify in Master Plan for Higher Education Postsecondary Engagement Survey*

**X) Student access innovations**

*Description:* Institutional innovations that increase student access for high school graduates and/or learners ages 25 and above (may include articulation agreements, guaranteed transfer, early college/dual enrollment programs)

*Data source:* PDE Annual SharePoint data collection system [would be added as a new tool]

Sector(s): 2-year and 4-year

**Y) Student progression innovations**

*Description:* Institutional innovations that increase student progression for high school graduates and/or learners ages 25 and above (retention/persistence)

*Data source:* PDE Annual SharePoint data collection system [would be added as a new tool]

Sector(s): 2-year and 4-year

**Z) Student completion innovations**

*Description:* Institutional innovations that increase student completion for high school graduates and/or learners ages 25 and above

*Data source:* PDE Annual SharePoint data collection system [would be added as a new tool]

Sector(s): 2-year and 4-year

**AA) Public-Private Partnerships**

*Description:* Number of partnerships between postsecondary institutions and industry, economic development, workforce development, and service organizations (e.g., food banks, United Way, etc.)

*Data source:* PDE Annual SharePoint data collection system [would be added as a new tool]

Sector(s): 2-year and 4-year

*Strategic Priority: 5. Increase Transparency on the Value of Postsecondary Credentials to Individuals, Communities, and the Commonwealth*

**BB) Percent of institutions using labor market information to inform institutional policy and practice (by sector)**

*Description:* Proportion of institutions using labor market information (e.g., Emsi, L&I, US Census Bureau of Labor Statistics, US Census Postsecondary Employment Outcomes, College Scorecard, Third Way Social Mobility Index) to inform decision-making, to feature in promotional materials for students, and/or to create college and career data tools

*Data source:* PDE Annual SharePoint data collection system [would be added as a new tool]

**CC) Percent of colleges offering customized education and training sponsored by employers**

*Description:* Proportion of institutions with employer partners sponsoring education and training

*Data source:* PDE Annual SharePoint data collection system [would be added as a new tool]

## APPENDIX D: PROPOSED LANGUAGE TO AMEND SECTION XXVI-B OF THE PUBLIC SCHOOL CODE PERTAINING TO THE MASTER PLAN FOR HIGHER EDUCATION

To appropriately reflect the current higher education landscape and the expertise and capacity that the Pennsylvania State Board of Education (Board) can contribute in higher education policy, the Board recommends that Section XXVI-B of the Public School Code of 1949 (24 PS 26-2603(B)) be amended as follows:

Every ten (10) years, the Board shall adopt a master plan for higher education which shall be for the guidance of the Governor, the General Assembly, and all institutions of higher education financed wholly or in part from State appropriations. The master plan shall:

- (1) Describe the current higher education landscape in the Commonwealth;
- (2) Identify unmet needs and gaps with regard to career fields, geographic, and financial access;
- (3) Identify emerging higher education issues and recommend strategies and options designed to address the issues;
- (4) Identify gaps and opportunities for collaboration with basic education, workforce, economic, and other related systems; and,
- (5) Outline a plan for action by the State Board to revise and update its higher education regulations.

## ENDNOTES

- <sup>i</sup> The District of Columbia, Puerto Rico, and 28 other states have postsecondary attainment rates that are higher than Pennsylvania's. Lumina Foundation. 2021. *A Stronger Nation: Learning Beyond High School Builds American Talent*. <https://luminafoundation.org/stronger-nation/report/2021/#/progress>.
- <sup>ii</sup> Pennsylvania State Board of Education. Postsecondary Attainment Goal. July 11, 2018. <https://www.stateboard.education.pa.gov/Documents/About%20the%20Board/Board%20Actions/2018/Attainment%20Goal%20Memo.pdf>.
- <sup>iii</sup> Lumina Foundation. 2021. *A Stronger Nation: Learning Beyond High School Builds American Talent*. <https://luminafoundation.org/stronger-nation/report/2021/#/progress>.
- <sup>iv</sup> Carnevale, Garcia, Ridley, & Quinn. 2020. *The Overlooked Value of Certificates: and Associate's Degrees: What Students Need to Know Before They Go to College*. <https://1gyhoq479ufd3yna29x7ubjn-wpengine.netdna-ssl.com/wp-content/uploads/CEW-SubBA.pdf>.
- <sup>v</sup> The Georgetown University Center on Education and the Workforce has provided technical assistance to states, recommending that states assume that between 2 and 3 percent of those in the "some college" category have earned postsecondary certificates of value, which means that individuals with these credentials are able to pursue further education and employment.
- <sup>vi</sup> The Graduate! Network coined the term Comebackers to describe adults with some college and no credential. They note that many Comebackers "stopped out because of a mismatch with the college or university they started attending, difficulties balancing family and life issues with school, finances, or debt." <https://graduate-network.org/>. See also Education Strategy Group. 2021. *The Accelerating Recovery through Credentials Adult-Ready Playbook*. <https://edstrategy.org/resource/adult-ready-playbook/>.
- <sup>vii</sup> Blumenstyk, G. January 22, 2020. "By 2020, They Said, 2 Out of 3 Jobs Would Need More Than a High-School Diploma. Were They Right?" *The Edge*. <https://www.chronicle.com/newsletter/the-edge/2020-01-22>. As mentioned in the Introduction, it is safe to assume that the "some college" category includes individuals with postsecondary certificates, which have not been historically captured in federal surveys (See Carnevale, Garcia, Ridley, & Quinn. 2020. *The Overlooked Value of Certificates: and Associate's Degrees: What Students Need to Know Before They Go to College*. <https://1gyhoq479ufd3yna29x7ubjn-wpengine.netdna-ssl.com/wp-content/uploads/CEW-SubBA.pdf>.)
- <sup>viii</sup> Carnevale, Jayasundera, & Gulish. 2016. *America's Divided Recovery: College Haves and Have-Nots*. <https://1gyhoq479ufd3yna29x7ubjn-wpengine.netdna-ssl.com/wp-content/uploads/Americas-Divided-Recovery-web.pdf>. Carnevale & Wenzinger. 2020. *Tracking the COVID-19 Economic Devastation*. <https://medium.com/georgetown-cew/tracking-the-covid-19-economic-devastation-59154db6fbbf>.
- <sup>ix</sup> Carnevale & Wenzinger. 2020. *Tracking the COVID-19 Economic Devastation*. <https://medium.com/georgetown-cew/tracking-the-covid-19-economic-devastation-59154db6fbbf>. (See Carnevale, Garcia, Ridley, & Quinn. 2020. *The Overlooked Value of Certificates: and Associate's Degrees: What Students Need to Know Before They Go to College*. <https://1gyhoq479ufd3yna29x7ubjn-wpengine.netdna-ssl.com/wp-content/uploads/CEW-SubBA.pdf>.)
- <sup>x</sup> The quality of northern Virginia's workforce, i.e., its talent as measured by postsecondary attainment, is what highly influenced Amazon's decision to locate its second headquarters in the District of Columbia metro area. Virginia Economic Development Partnership. 2020. *Linking Jobs and Talent: Landing Amazon HQ2 in Virginia*. [https://www.mhec.org/sites/default/files/resources/20201109Linking\\_Jobs\\_Talent\\_SMoret.pdf](https://www.mhec.org/sites/default/files/resources/20201109Linking_Jobs_Talent_SMoret.pdf)
- <sup>xi</sup> The Community College Research Center defines stackable credentials as "sequential postsecondary awards that allow individuals to progress on a career path (<https://ccrc.tc.columbia.edu/media/k2/attachments/stackable-credentials-awards-for-future.pdf>). For innovations in this area, see Education Strategy Group. 2021. *The Accelerating Recovery through Credentials Adult-Ready Playbook*. <https://edstrategy.org/resource/adult-ready-playbook/>.
- <sup>xii</sup> Next year, Pennsylvania will be able to determine the pandemic-related decline in postsecondary credentials awarded when the 2020-21 IPEDS data becomes available.
- <sup>xiii</sup> Cobb & Krownapple. 2019. *Belonging Through a Culture of Dignity: The Keys to Successful Equity Implementation*.
- <sup>xiv</sup> Pennsylvania State Board of Education. Postsecondary Attainment Goal. July 11, 2018. <https://www.stateboard.education.pa.gov/Documents/About%20the%20Board/Board%20Actions/2018/Attainment%20Goal%20Memo.pdf>.
- <sup>xv</sup> Pennsylvania Department of Education. Pennsylvania Information Management System data matched with National Student Clearinghouse data on the Class of 2020.
- <sup>xvi</sup> Western Interstate Commission on Higher Education. 2020. *Knocking on the College Door: Projections of U.S. High School Graduates*. <https://knocking.wiche.edu/wp-content/uploads/sites/10/2020/12/Knocking-pdf-for-website.pdf>.
- <sup>xvii</sup> IPEDS includes all enrollees, including those who graduated from Pennsylvania high schools.
- <sup>xviii</sup> National Center for Education Statistics. *Completions Survey (2018-19)*. Integrated Postsecondary Education Data System. Accessed June 2021. National Center for Education Statistics. *Completions Survey (2019-20)*. Integrated Postsecondary Education Data System. Accessed June 2022.
- <sup>xix</sup> Lumina Foundation. 2021. *A Stronger Nation: Learning Beyond High School Builds American Talent*. <https://luminafoundation.org/stronger-nation/report/2021/#/progress>.
- <sup>xx</sup> Community Education Council. n.d. Pennsylvania Department of Education. <https://www.education.pa.gov/Postsecondary-Adult/CollegeCareer/Pages/Community-Education-Council.aspx>.
- <sup>xxi</sup> Strategic Priority 4: Innovate and Redesign Postsecondary Institutions for Today's Learners defines and describes these learners.
- <sup>xxii</sup> Yuen. 2020. *The \$78 Billion Community College Funding Shortfall*. <https://www.americanprogress.org/article/78-billion-community-college-funding-shortfall/>.

- <sup>xxiii</sup> University of Hawai'i System. 15 to Finish. <http://blog.hawaii.edu/hawaiiigradinitiative/15-to-finish/>.
- <sup>xxiv</sup> Education Strategy Group. 2021. *The Accelerating Recovery through Credentials Adult-Ready Playbook*. <https://edstrategy.org/resource/adult-ready-playbook/>.
- <sup>xxv</sup> House Education & Labor Committee. 2021. What They're Saying: Pell Grant Preservation and Expansion Act. <https://edlabor.house.gov/media/press-releases/what-theyre-saying-pell-grant-preservation-and-expansion-act>
- <sup>xxvi</sup> The U.S. Department of Education provides federal funding to several postsecondary institutions under several titles in the Higher Education Act, including, but not limited to Minority-Serving Institutions (MSIs) such as Hispanic-Serving Institutions (HSIs), Historically Black Colleges and Universities (HBCUs), and Tribal Colleges and Universities (TCUs); along with other federal programs such as the Carl D. Perkins Career and Technical Education.
- <sup>xxvii</sup> Includes state funding via state appropriations to community colleges, state-related universities, and state system universities as well as direct state funds to independent, nonprofit institutions via the Pennsylvania Higher Education Assistance Agency Institutional Assistance Grants.
- <sup>xxviii</sup> Ma, Jennifer and Matea Pender. 2021. *Trends in College Pricing and Student Aid 2021*. New York: College Board. <https://research.collegeboard.org/media/pdf/trends-college-pricing-student-aid-2021.pdf>
- <sup>xxix</sup> State Higher Education Executive Officers Association. 2022. *SHEF: State Higher Education Finance FY2021*. <https://shef.sheeo.org/report/>.
- <sup>xxx</sup> The Hope Center for College, Community, and Justice. (2021). *#RealCollege 2021: Basic Needs Insecurity During the Ongoing Pandemic*. Philadelphia, PA. Conroy, E.V., Magnelia, S., Dahl, S., & Goldrick-Rab, S. (2021). *The real price of college: Estimating and supporting students' financial needs*. The Hope Center for College, Community, and Justice. The COVID-19 pandemic has made many of these costs essential, rather than optional due to basic needs insecurities that have been exacerbated and fully uncovered.
- <sup>xxxi</sup> AlQuaisi. 2021. College Affordability Gap Grows for Students from Low-Income Backgrounds. <https://www.ncan.org/news/563546/College-Affordability-Gap-Grows-for-Students-from-Low-Income-Backgrounds.htm>.
- <sup>xxxii</sup> The Institute for College Access and Success. 2021. *Student Debt and the Class of 2020*. <https://ticas.org/wp-content/uploads/2021/11/classof2020.pdf>.
- <sup>xxxiii</sup> In addition to The Institute for College Access and Success, The Education Trust has highlighted the impact of student loan debt on borrowers of color in several of its reports, <https://edtrust.org/our-resources/publications/>
- <sup>xxxiv</sup> Pennsylvania Higher Education Assistance Agency (PHEAA) offers EducationPlanner.org and MySmartBorrowing.org as financial literacy and postsecondary education learning tools for teachers and counselors, providing curriculum for K-12 students.
- Pennsylvania School Counselors Association offers their latest report on staffing. Oldham, A. (2022). PSCA Staffing Report <https://www.paschoolcounselor.org/post/pasca-staffing-report>. Parzych et al. 2019. *Measuring the Impact of School Counselor Ratios on Student Outcomes*. The American School Counselor Association (ASCA) presents support for the 250:1 student to school counselor ratio and its effects. Carnevale, Garcia, & Gulish. 2017. *Career Pathways: Five Ways to Connect College and Careers*. <https://cew.georgetown.edu/cew-reports/careerpathways/>. Education Commission of the States. 2022. *50-State Comparison: Dual/Concurrent Enrollment Policies*. <https://www.ecs.org/50-state-comparison-dual-concurrent-enrollment-policies/>. Collins & Dortch. 2022. *The FAFSA Simplification Act*. <https://sgp.fas.org/crs/misc/R46909.pdf>.
- <sup>xxxv</sup> Pennsylvania Department of Labor and Industry. "Occupational Wages." <https://www.workstats.dli.pa.gov/Products/Occupational%20Wages/Pages/default.aspx>.
- <sup>xxxvi</sup> The Institute for College Access and Success. 2021. *Student Debt and the Class of 2020 State Fact Sheets: Student Debt for College Graduates in Pennsylvania*. <https://ticas.org/wp-content/uploads/2021/11/Student-Debt-for-College-Graduates-in-Pennsylvania.pdf>.
- <sup>xxxvii</sup> Pennsylvania Department of Education. n.d. *TAOC Policies*. <https://www.pacollegetransfer.com/Administrators/TAOC-Policies>.
- <sup>xxxviii</sup> Pennsylvania Department of Education. n.d. *24 P.S. § 20-2002-C. Duties of public institutions of higher education*. <https://www.pacollegetransfer.com/Portals/6/PAFiles/24%20P.S.%2020-2002-C.pdf>.
- <sup>xxxix</sup> In 2022-23, the Governor and General Assembly amended the Public School Code requiring school districts, charter schools, cyber charter schools, regional charter schools, and career technology centers to have at least one dual enrollment agreement with a Pennsylvania postsecondary institution. In addition the budget included \$7 million in state appropriations for dual enrollment.
- <sup>xl</sup> The State Board of Education approved the creation of Erie County Community College (ECCC) in July 2020 and ECCC is in the process of being accredited.
- <sup>xli</sup> The State Board of Education approved the creation of Erie County Community College (ECCC) in July 2020. ECCC is in the process of being accredited.
- <sup>xlii</sup> Fifteen years ago they were called non-traditional learners, and since then others have used post-traditional learners, new majority learners, or working learners. Western Interstate Commission for Higher Education. 2012. *Going the Distance in Adult College Completion: Lessons from the Non-traditional No More Project*, <https://www.wiche.edu/wp-content/uploads/2018/resources/ntnmStateCaseStudies.pdf>. American Council on Education. N.d. *Post-Traditional Learners*, <https://www.acenet.edu/Research-Insights/Pages/Student-Support/Post-Traditional-Learners.aspx>. Education Design Lab. N.d. *Who are new majority learners?*, <https://eddesignlab.org/newmajoritylearners/>. Georgetown University Center on Education and the Workforce. 2015. *Learning While Earning: The New Normal*, <https://cew.georgetown.edu/cew-reports/workinglearners/>.
- <sup>xliii</sup> Since its founding in 2017, Higher Learning Advocates has advocated for a shift in federal policy to accelerate responsiveness to support the success of today's students, a shift that also needs to take place at the state level.

- <sup>xliv</sup> Higher Learning Advocates. Who Are Today's Students? Accessed 2022. <https://higherlearningadvocates.org/policy/todays-students/>.
- <sup>xlv</sup> Education Strategy Group. 2021. *The Accelerating Recovery through Credentials Adult-Ready Playbook*. <https://edstrategy.org/resource/adult-ready-playbook/>. For more key characteristics, see Deil-Amen. 2021. *Working Learner College Students: A Diverse Not-So-New Majority*. <https://workinglearners.stanford.edu/resources/>.
- <sup>xlvi</sup> National Student Clearinghouse Research Center. 2022. Current Term Enrollment Estimates: Fall 2021, <https://nscresearchcenter.org/current-term-enrollment-estimates/>.
- <sup>xlvii</sup> Education Strategy Group. 2021. *The Accelerating Recovery through Credentials Adult-Ready Playbook*. <https://edstrategy.org/resource/adult-ready-playbook/>.
- <sup>xlviii</sup> District 1199 Training and Upgrading Fund. n.d. "All Learning Counts" Degree Program. <https://www.1199ctraining.org/degrees>.
- <sup>xlix</sup> Katherine Meyer, Kelli Bird, Ben Castleman. 2022. *Stacking the Deck for Employment Success: Labor Market Returns to Stackable Credentials*. EdWorkingPaper No. 20-317. <https://edworkingpapers.com/sites/default/files/ai20-317.pdf>
- <sup>l</sup> Complete College America. Math Pathways. <https://completecollege.org/strategy/math-pathways/>.
- <sup>li</sup> Colvin. 2020. The Math Problem: Removing the Math Barrier to College Completion. <https://www.luminafoundation.org/wp-content/uploads/2020/04/the-math-problem.pdf>.
- <sup>lii</sup> Cabrini University. n.d. "Justice Matters: Cabrini's Core Curriculum." <https://www.cabrini.edu/undergraduate/programs/justice-matters-core-curriculum>
- <sup>liii</sup> Cannon. 2013. *Intrusive Advising 101: How to be Intrusive Without Intruding*. <https://nacada.ksu.edu/Resources/Academic-Advising-Today/View-Articles/Intrusive-Advising-101-How-to-be-Intrusive-Without-Intruding.aspx>.
- <sup>liv</sup> Montgomery County Community College. 24/7 Online Tutoring, <https://www.mc3.edu/choosing-montco/academic-support/tutoring/online-tutoring-services>
- <sup>lv</sup> Cheyney University of Pennsylvania. *Our Success Coaches: Champions For Your Potential*. <https://cheyney.edu/campus-experience/holistic-student-support/successcoaches/>; West Chester University. *2022-2023 Success Coaches*. <https://www.wcupa.edu/universityCollege/achieve/graduateConsultants.aspx>
- <sup>lvi</sup> Franklin and Marshall College. *F&M Certificates*. <https://www.fandm.edu/academics/f-m-certificates>.
- <sup>lvii</sup> Temple University. *Fly in 4 Graduation Partnership*. <https://admissions.temple.edu/academics/fly-4-graduation-partnership#:~:text=Fly%20in%204%20is%20Temple%E2%80%99s%20innovative%20way%20of,plan%20to%20get%20ou%20to%20graduation%20on%20time>.
- <sup>lviii</sup> Postsecondary Value Commission. "Reports." <https://postsecondaryvalue.org/reports/>.
- <sup>lix</sup> Credential Engine. 2021. *Counting U.S. Postsecondary and Secondary Credentials*. <https://credentialengine.org/wp-content/uploads/2021/02/Counting-Credentials-2021.pdf>. The 9,968 degrees make up 65 percent while the 3,865 certificates make up 25 percent of the postsecondary credentials.
- <sup>lx</sup> Credential Engine. n.d. *Credential Engine and State Partnerships: Clear Data Powers Better Decisions*. <https://credentialengine.org/state-partnerships/>. Credential registries house up-to-date information about credentials, including their associated skills and competencies, in a way that is public, easily accessible, and actionable. The search tools that are built from these registries enable learners, workers, and employers to understand what it takes to earn each credential, what they represent, and how they connect to jobs. States are using Credential Engine's open source Credential Transparency Data Language (CTDL) to populate the Credential Registry, <https://credentialfinder.org/>.
- <sup>lxi</sup> Carnevale, Garcia, & Gulish. 2017. *Career Pathways: Five Ways to Connect College and Careers*. Georgetown University Center on Education and the Workforce. <https://cew.georgetown.edu/cew-reports/careerpathways/>.
- <sup>lxii</sup> New America. 2021. *Varying Degrees 2021*. <https://www.newamerica.org/education-policy/reports/varying-degrees-2021/findings/>.
- <sup>lxiii</sup> ECMC Group. 2021. *Question the Quo: Gen Z Teens Seek to Blaze their Own Higher Education Path*. <https://questionthequo.org/news/buzz/gen-z-teens-seek-to-blaze-their-own-higher-education-path>
- <sup>lxiv</sup> Carnevale, Fasules, & Campbell. 2020. *Workplace Basics: The Competencies Employers Want*. Georgetown University Center on Education and the Workforce. <https://1gyhoq479ufd3yna29x7ubjn-wpengine.netdna-ssl.com/wp-content/uploads/cew-workplace-basics-fr.pdf>
- <sup>lxv</sup> Carnevale, Fasules, & Campbell. 2020. *Workplace Basics: The Competencies Employers Want*. Georgetown University Center on Education and the Workforce. <https://1gyhoq479ufd3yna29x7ubjn-wpengine.netdna-ssl.com/wp-content/uploads/cew-workplace-basics-fr.pdf>
- <sup>lxvi</sup> Merisotis. 2020. *Human Work in the Age of Smart Machines*. RosettaBooks.
- <sup>lxvii</sup> National Skills Coalition. n.d. *The Skills Mismatch*. <https://nationalskillscoalition.org/skills-mismatch/>.
- <sup>lxviii</sup> National Skills Coalition. *The Roadmap for Racial Equity: An Imperative for Workforce Development Advocates*. [https://nationalskillscoalition.org/wp-content/uploads/2020/12/Racial-Equity-Report\\_6x9\\_web.pdf](https://nationalskillscoalition.org/wp-content/uploads/2020/12/Racial-Equity-Report_6x9_web.pdf).
- <sup>lxix</sup> Ositelu. 2021. *Five Things Policymakers Should Know About Short-Term Credentials*. New America. <https://www.newamerica.org/education-policy/reports/five-things-policymakers-should-know-about-short-term-credentials/>.
- <sup>lxx</sup> Pennsylvania School Counselors Association. 2022. *Pennsylvania School Counselor Staffing Report SY 2020-2021. A Review of Pennsylvania's Student to School Counselor Ratios*.
- <sup>lxxi</sup> U.S. Department of Education. *College Scorecard*. <https://collegescorecard.ed.gov/>. U.S. Census. *Postsecondary Employment Outcomes*. [https://lehd.ces.census.gov/data/pseo\\_experimental.html](https://lehd.ces.census.gov/data/pseo_experimental.html). Third Way. *Economic Mobility Index*. <https://www.thirdway.org/report/out-with-the-old-in-with-the-new-rating-higher-ed-by-economic-mobility>. Georgetown University Center on Education and the Workforce. <https://cew.georgetown.edu/>. Strada Education

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Network. 2022. *Completion with a Purpose, Consumer-Driven Education and Training Policy. A 'How To' Playbook for America's Governors*. [https://www.stradaeducation.org/wp-content/uploads/2019/12/Strada\\_Playbook\\_STANDARD.pdf](https://www.stradaeducation.org/wp-content/uploads/2019/12/Strada_Playbook_STANDARD.pdf)

<sup>lxxxii</sup> Carnevale, Garcia, & Gulish. 2017. *Career Pathways: Five Ways to Connect College and Careers*. Georgetown University Center on Education and the Workforce. <https://cew.georgetown.edu/cew-reports/careerpathways/>.

<sup>lxxxiii</sup> For more information on these disparities at the national level, see Carnevale, Cheah, & Wenzinger. 2021. *The College Payoff: More Education Doesn't Always Mean More Earnings*. Georgetown University Center on Education and the Workforce. <https://cew.georgetown.edu/cew-reports/collegepayoff2021/>. Lifetime earnings are typically calculated over a 40-year period, when workers are between 25 and 65 years old.

<sup>lxxxiv</sup> Credential Engine. 2021. *Counting U.S. Postsecondary and Secondary Credentials*. This is Credential Engine's third annual report, where it identified 967,734 credentials in 17 categories. Its first report in 2018 identified 334,114 credentials in 8 categories and in its second report in 2019, there were 738,428 credentials in 17 categories.

<sup>lxxxv</sup> PASSHE. Workforce Outcomes.

<https://viz.passhe.edu/t/Public/views/PASSHEWorkforceOutcomes/WorkforceOutcomes?%3AisGuestRedirectFromVizportal=y&%3Aembed=y>

<sup>lxxxvi</sup> Penn State. We Earn. <https://weearn.psu.edu/>. United State Census Bureau. Post-Secondary Employment Outcomes (PSEO). [https://lehd.ces.census.gov/data/pseo\\_experimental.html](https://lehd.ces.census.gov/data/pseo_experimental.html)

<sup>lxxxvii</sup> The University of Texas System Seek UT. <https://seekut.utsystem.edu/>

<sup>lxxxviii</sup> CUNY Graduate Center. Career Maps and Guides. <https://www.gc.cuny.edu/center-urban-research/new-york-city-labor-market-information-service/career-planning-and-information-tools>

<sup>lxxxix</sup> My Colorado Journey. <https://www.mycoloradojourney.com/journey>

<sup>lxxx</sup> Virginia Education Wizard. <https://www.vawizard.org/wizard/home>

<sup>lxxxxi</sup> Montgomery County Community College. *Career Training & Professional Development*.

<https://www.mc3.edu/degrees-and-programs/career-training-and-professional-development>

<sup>lxxxii</sup> Washington and Jefferson College. *Practicum*. <https://www.washjeff.edu/course/practicum/>