PA ECONOMIC COMPETITIVENESS DASHBOARD

ECONOMY

DEMOGRAPHICS

- POPULATION CHANGE AGING
- POPULATION

LABOR & INDUSTRY

- GDP
- TRADE
- MEDIAN INCOME
- EMPLOYMENT & UNEMPLOYMENT
- BUSINESS DYNAMISM

TALENT

EDUCATIONAL ATTAINMENT

- ATTAINMENT & MIGRATION
- ATTAINMENT & JOB REQUIREMENTS
- PUBLIC HIGHER ED FUNDING & TUITION
- APPRENTICESHIPS
- UNION MEMBERSHIP

PLACE

INFRASTRUCTURE

- BROADBAND

GOVERNANCE

- REGULATIONS
- LICENSING

QUALITY OF LIFE

- HOUSING COSTS
- CRIME
- WEATHER
- ARTS VIBRANCY

ECONOMY

The Economy category covers high level indicators of a state's population, business and labor trends. These indicators include population and demographic change, GDP, trade, median income, employment rates, and metrics of business dynamism.

While the indicators can stand alone as informative measures, together they form a more cohesive narrative about the economic trends over time in the states examined. The indicators examined in this category are generally not mutually exclusive and are analyzed in the context of other indicators and trends.

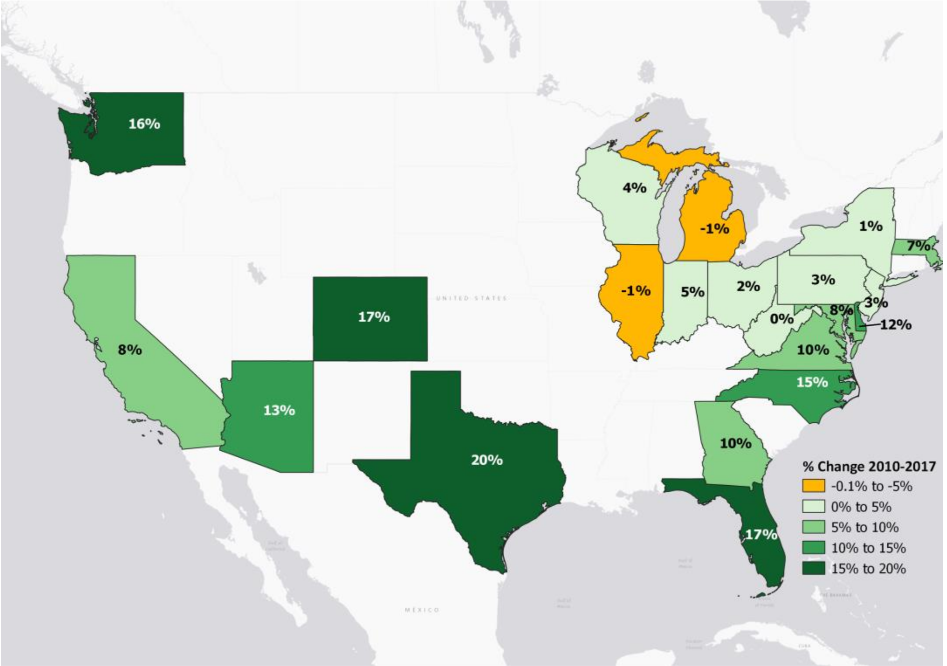
PA ECONOMIC COMPETITIVENESS DASHBOARD

DEMOGRAPHICS

POPULATION CHANGE

Population change is an important indicator of a state's overall economic growth. Increase in domestic migration is an especially strong indicator of state competitiveness, as it shows where people see opportunity and value among the states. As a state's population grows, economic activity increases as more people work, spend, and innovate there. In this way, population growth is often an indicator of growth in other areas, such as GDP and employment. On the other hand, loss of population may be an indicator of a loss of working age people, "brain drain", lower business dynamism, and a larger older population. **Read more →**

Population Growth/Decline, 2010-2017



Source: American Community Survey (2017)

Go to migration trends →

Where does PA rank?

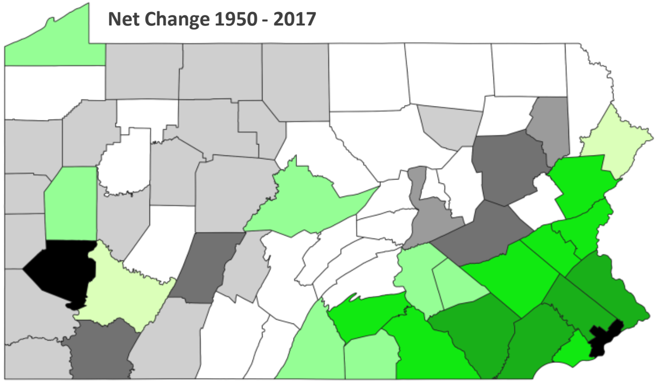
Rank	State	5 Year Pop Growth
1	Florida	9%
2	Texas	9%
3	Colorado	8%
4	Washington	7%
5	Arizona	7%
6	North Carolina	5%
7	Georgia	5%
8	Delaware	5%
9	California	4%
10	Virginia	3%
11	Massachusetts	3%
12	Maryland	3%
13	Indiana	2%
14	New Jersey	2%
15	New York	1%
16	Wisconsin	1%
17	Ohio	1%
18	Michigan	1%
19	**Pennsylvania**	**0.3%**
20	Illinois	-1%
21	West Virginia	-2%

PA ECONOMIC COMPETITIVENESS DASHBOARD

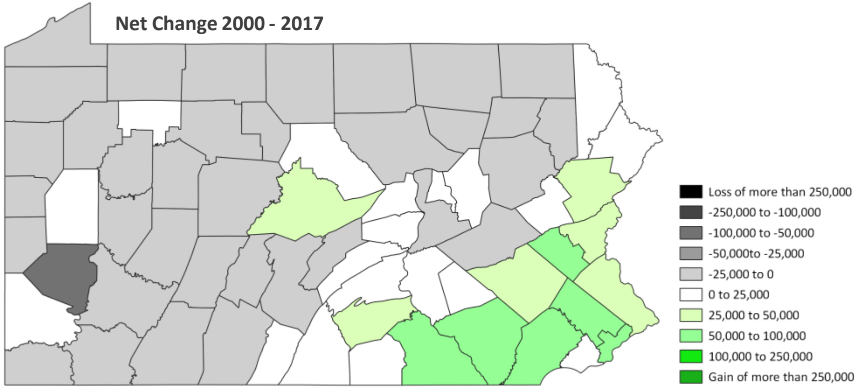
DEMOGRAPHICS

POPULATION CHANGE: PENNSYLVANIA

Net Change 1950 - 2017



Net Change 2000 - 2017



METRO VS NONMETRO

Pennsylvania's population has undergone significant changes since the mid-20th century. Between 1950 and 2017, Philadelphia and Allegheny Counties respectively lost 550,000 and 234,000 people. Many of these movers in the Philadelphia region moved from the city to the surrounding suburbs. In fact, these counties – Bucks, Chester, Delaware, and Montgomery – experienced a net population growth of 1.3 million people over this time. Most of the rest of the state, especially rural counties, have experienced either little to moderate population loss since 1950. Overall, Pennsylvania has seen an increase of 1.8 million people, with the Philly MSA making up 71% of this growth.

The population changes between 2000 and 2017 are less drastic and tell a slightly different story. Philadelphia has started to regain its population, adding 63,000 people since 2000. The total Philly MSA has continued to see population growth, adding 270,000 people during this time period. The Allentown, Scranton and Penn State regions have also seen modest growth. However most counties in Pennsylvania have continued to see decline, with the Pittsburgh region continuing to experience population loss.

National population trends point toward continued growth in metro areas surrounding major cities. State policies should support economic development in these areas while keeping in mind the needs and changing realities of the state's rural regions.

Go to migration trends →

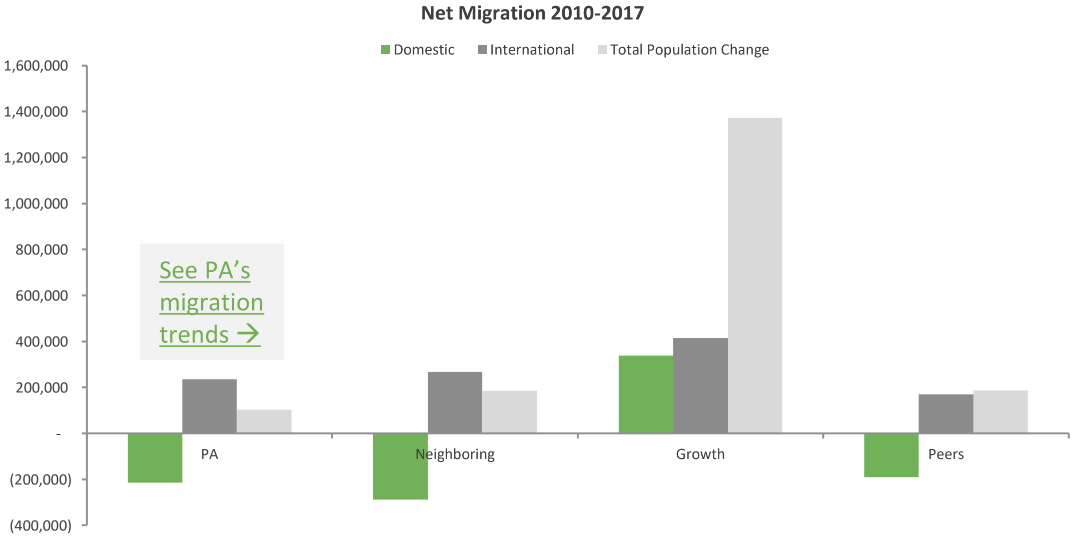
Source: American Community Survey (2017)

PA ECONOMIC COMPETITIVENESS DASHBOARD

DEMOGRAPHICS

POPULATION CHANGE: A CLOSER LOOK

High growth states (Arizona, California, Colorado, Florida, Georgia, North Carolina, Texas, and Washington) have experienced the most pronounced population growth over the last 10 years. A significant amount of this growth was concentrated in urban areas. For example, 63% of the one million Americans that relocated to Texas since 2010 moved to the state's three major metro areas. This reflects national trends of domestic migration growth in large cities and metro areas. In Pennsylvania, the Philadelphia metro area has seen modest population growth after years of decline. Domestic migration has not yet outpaced out-migration, international migration has increased, with 150,000 international immigrants having moved to Philadelphia between 2010 and 2018.



See PA's migration trends →

Sources: US Census Bureau (2017)

Philly Metro Area Population Changes

Total Population Change

+130K

Domestic Migration

-160K

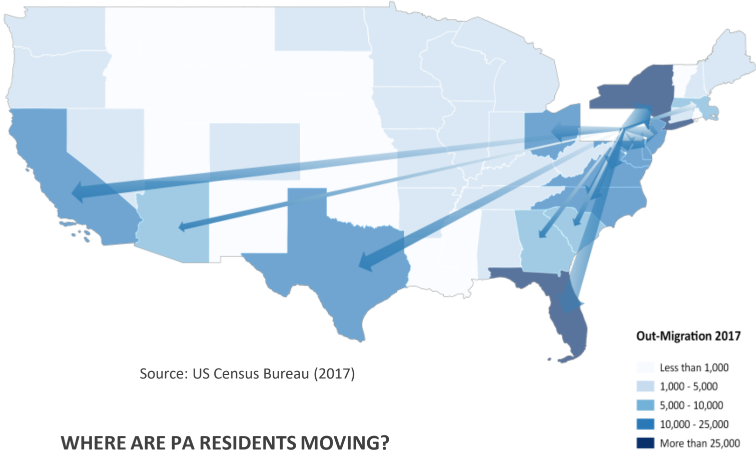
International Migration

+150K

TALENT

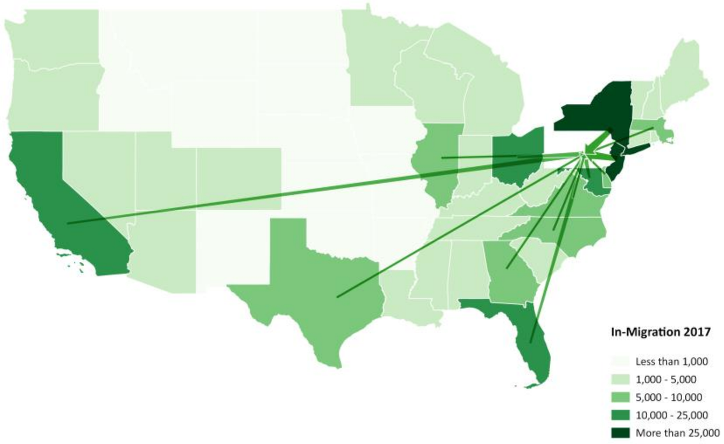
MIGRATION: PENNSYLVANIA

Pennsylvania Domestic Out-Migration, 2017



Source: US Census Bureau (2017)

Pennsylvania Domestic In-Migration, 2017



WHERE ARE PA RESIDENTS MOVING?

In 2017, a total of 253,000 residents moved out of Pennsylvania and relocated to other states. Of these states, the top 16 were our identified competitor states. The most popular destinations were Florida and New York, receiving respectively11% and 10% of migrating PA residents in 2017. In total, relocation to competitor states made up 83% of all Pennsylvania out-migration in 2017.

Similarly, many residents from our competitor states relocated to Pennsylvania. In 2017, 250,000 people relocated from other states to Pennsylvania. Pennsylvania received the most residents from New York and New Jersey, with 80,000 moving to Pennsylvania from both states. In-migration from competitor states made up 84% of all in-migration.

These trends provide context into what is going on across the country. While Pennsylvania saw a 3,000 person decline in the amount of net domestic migration in 2017, it largely gained populations from the places it was losing it to. Additionally, these migration flows may provide helpful context for certain policy issues, such as licensing processes for people moving between states.

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DEMOGRAPHICS

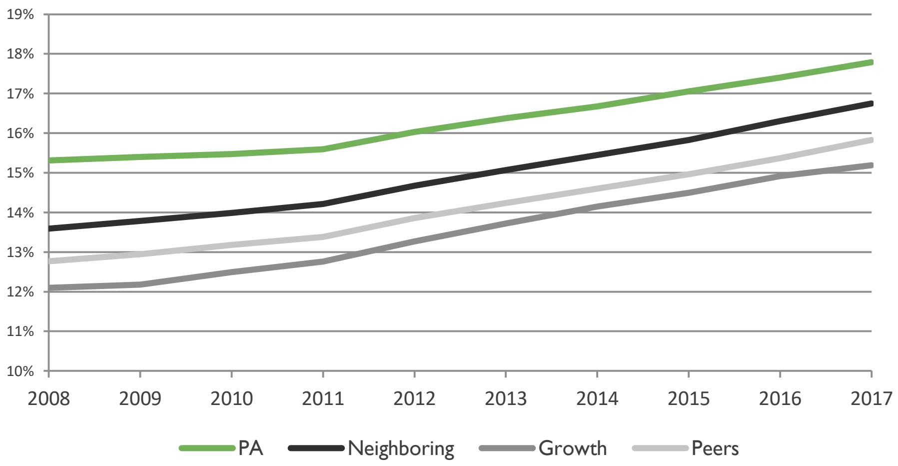
AGING POPULATION

The baby boomer generation born between 1946 and 1964 represents a disproportionate share of the population across the US, with 10,000 boomers estimated to turn 65 each day nationally for nearly two decades. The 65 and older population has increased its share of the population in every state examined; however, 4 of the highest growing states (California, Colorado, Georgia, and Texas) had the smallest 65+ share of total populations in 2017. These demographic changes are projected to be especially pronounced in Pennsylvania, which is currently the eighth oldest state in the nation by median age. **Read more →**

Largest Share of 65+ Population

1. Florida	20%
2. West Virginia	19%
3. Delaware	18%
4. Pennsylvania	18%
5. Arizona	17%

65+ Share of Population



Source: American Community Survey (2017)

Lowest Share of 65+ Population

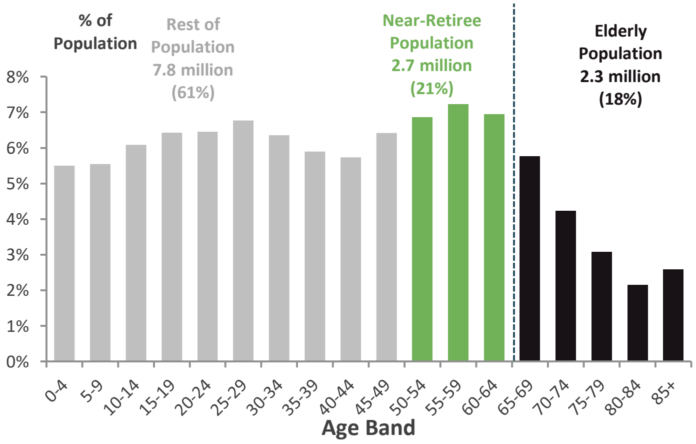
17. Maryland	15%
18. California	14%
19. Colorado	14%
20. Georgia	13%
21. Texas	12%

DEMOGRAPHICS

AGING POPULATION: PENNSYLVANIA'S PROJECTIONS

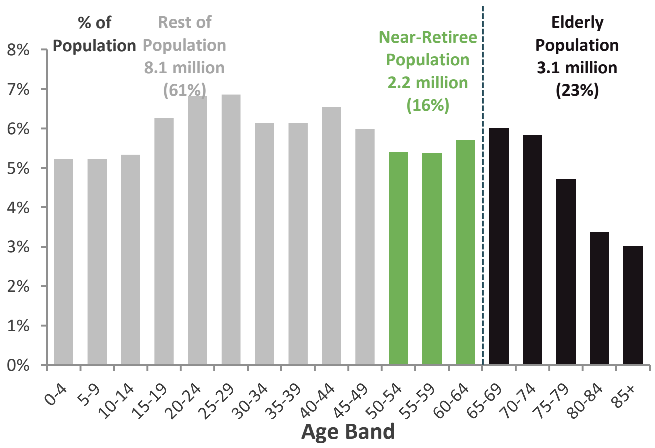
Projections from the Pennsylvania Independent Fiscal Office (IFO) estimate that the population of residents age 65 and older will increase to 3.1 million by 2030, and represent 23 percent of the state's population. This growth is driven primarily by the aging of this baby boomer cohort, which will cross into the elderly age range (demarcated by the dotted line in the figures below) over this time period. This changing population composition has significant fiscal implications for the Commonwealth of Pennsylvania. State assistance costs are typically larger for retirees than for working-age residents, due in large part to elder care and medical needs. In addition, elderly residents typically have lower incomes than working-age residents, qualifying them in larger numbers for state funded means-tested programs.

Age Distribution of Pennsylvania's Population, 2017



Sources: American Community Survey (2017), IFO (2018)

Age Distribution of Pennsylvania's Population, 2030



Sources: American Community Survey (2017), IFO (2018)

PA ECONOMIC COMPETITIVENESS DASHBOARD

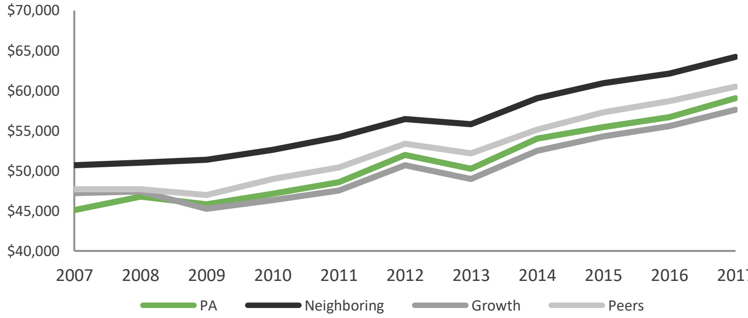
LABOR & INDUSTRY

GSP – GROSS STATE PRODUCT

GSP is a broad measurement of a state's economic activity; it is the sum of value added from all industries in the state. GSP growth shows promise of a state's value in the changing global economy. In general, GSP has been growing at similar rates for all states examined. The graph below shows GSP per capita in order to demonstrate state productivity in relation to its total population to represent the state's standard of living.

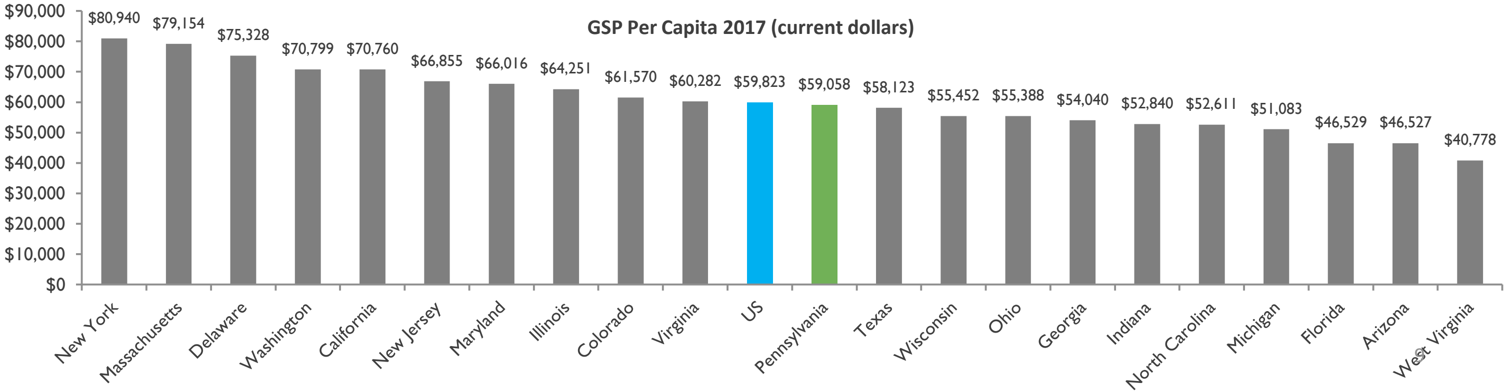
HIGH PERFORMERS
Two top GSP per capita states are also two of Pennsylvania's neighboring states – New York and Delaware. New York's GSP is largely driven by New York City's powerhouse economy; its financial services industry alone generated $380 billion in 2017. Similarly, Delaware's concentration of financial services and insurance corporations generated most of the state's $72.5 billion GSP in 2017.

GSP per Capita Growth – 2007-2017



Source: American Community Survey (2017), Bureau of Economic Analysis (2017)

GSP Per Capita 2017 (current dollars)

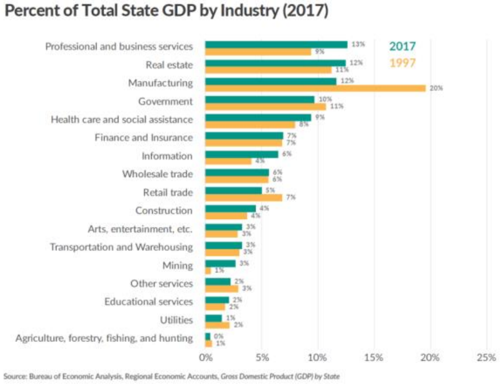


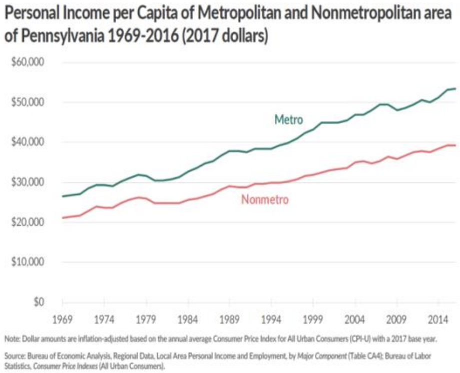
LABOR & INDUSTRY

GSP in PA

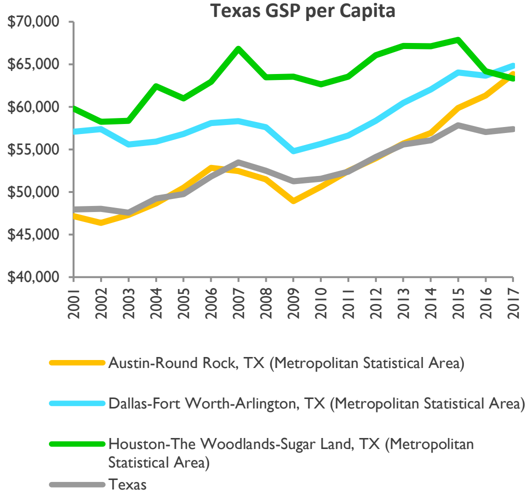
When compared to competitor states, Pennsylvania's GSP per capita performance falls in the middle, about the same as the national average. However, a closer look at GSP per capita in different regions of the state reveals a disparity between GSP per capita in major metro and non-metro areas. In fact, even small metro areas like the Scranton MSA perform worse than the Philly, Pittsburgh, and Harrisburg MSAs, averaging $20,000 less in GSP per capita.

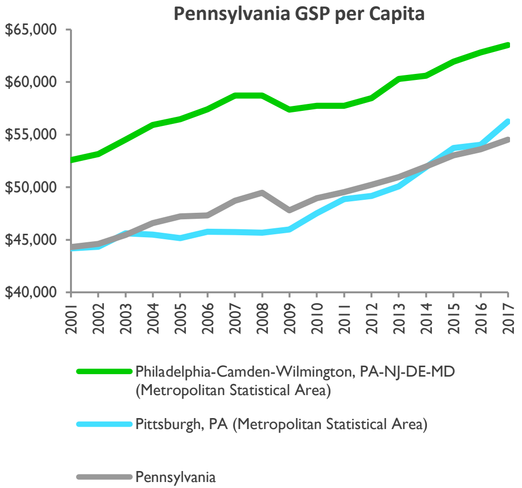
According to the Tax Foundation, GSP per capita in the Philly MSA has grown by 22% since 2001, exceeding the national average of 12%; however, smaller areas like the Allentown, Harrisburg, Lancaster, and Scranton MSAs fell behind the national average, growing only 8% since 2001. This may be due to changes in industry, such as manufacturing's shrinking share of overall GDP, which would impact the per capita GSP is certain areas of the state. Read more about the changes in Pennsylvania's industries and establishments here →





Source: Tax Foundation (2018)



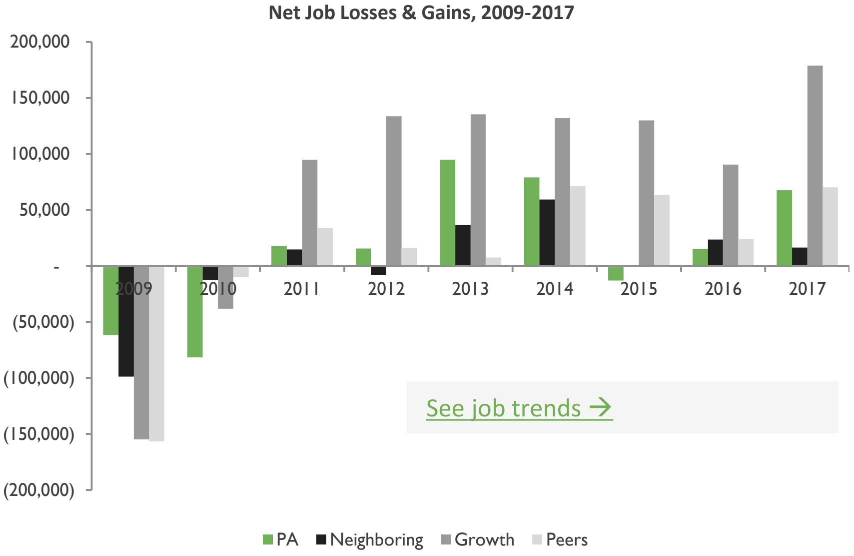


Source: American Community Survey (2017), Bureau of Economic Analysis (2017)

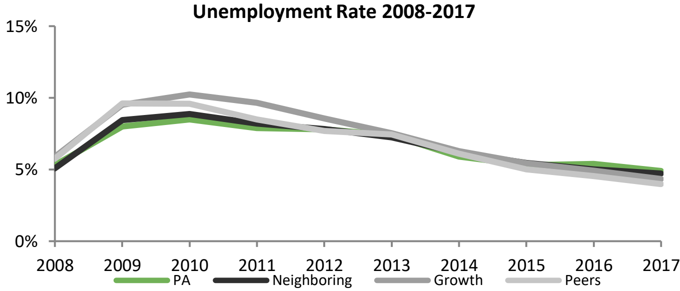
LABOR & INDUSTRY

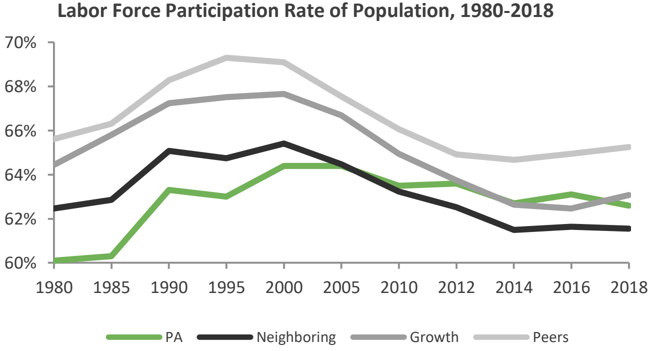
EMPLOYMENT & UNEMPLOYMENT

Labor force participation and unemployment rates measure how much of a state's population is a) actively participating in the labor market and b) whether they are working or are unemployed. This measurement provides an indication of the supply of labor in the state and the levels at which that population engage in the production of goods and services.



See job trends →





Sources: Bureau of Labor Statistics (2017)

TRENDS

In general, the unemployment rate in PA and competitor states does not differ significantly and has changed similarly over time. The difference in labor participation among the states are not significantly different either, though the differences are slightly more noticeable. These differences in labor force participation are impacted by the age demographics in the state. In Pennsylvania, a growing 65+ population along with a decline in labor participation among young adults has influenced the overall labor participation rates. This trend is happening nationally, with more young adults forgoing labor participation for college enrollment. While a growing share of older people generally means a larger share of people not in the labor force, there have been increases in labor participation in the 65+ age group nationally and in Pennsylvania over the past decade.

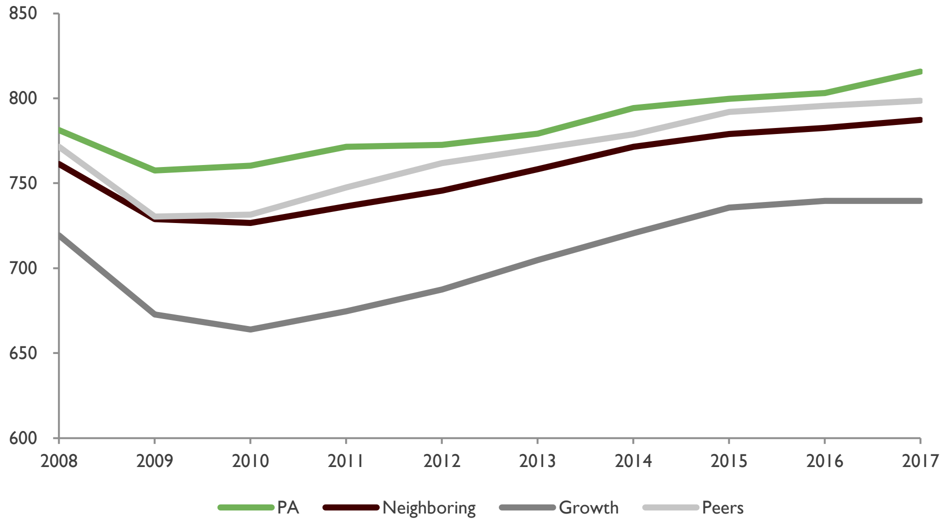
PA ECONOMIC COMPETITIVENESS DASHBOARD

LABOR & INDUSTRY

JOBS

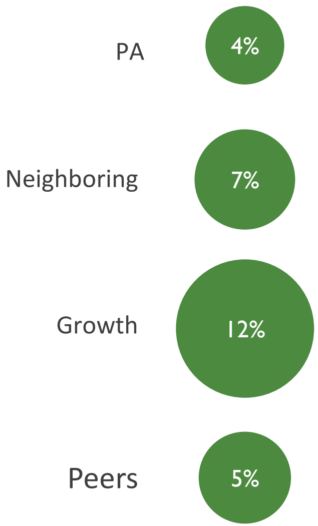
Job growth is strongly correlated with economic growth in each state. The chart below shows jobs per 1,000 labor force participants in each state type. This ratio gives a sense of the state's employment levels in respect to its working population. Pennsylvania leads the state types in terms of jobs per labor force participants, a trend that seemed to fare somewhat better than the other state types during the Recession. Jobs in High Growth states took a major hit during the Recession, which can be seen in the high unemployment rates in those states. However, these jobs have recovered at a higher rate than the rest of the state types, having grown by 12% over the last 10 years.

Jobs per 1,000 Labor Force Participants



Sources: Bureau of Labor Statistics (2017)

Job Growth, 2008-2017



See job trends in PA →

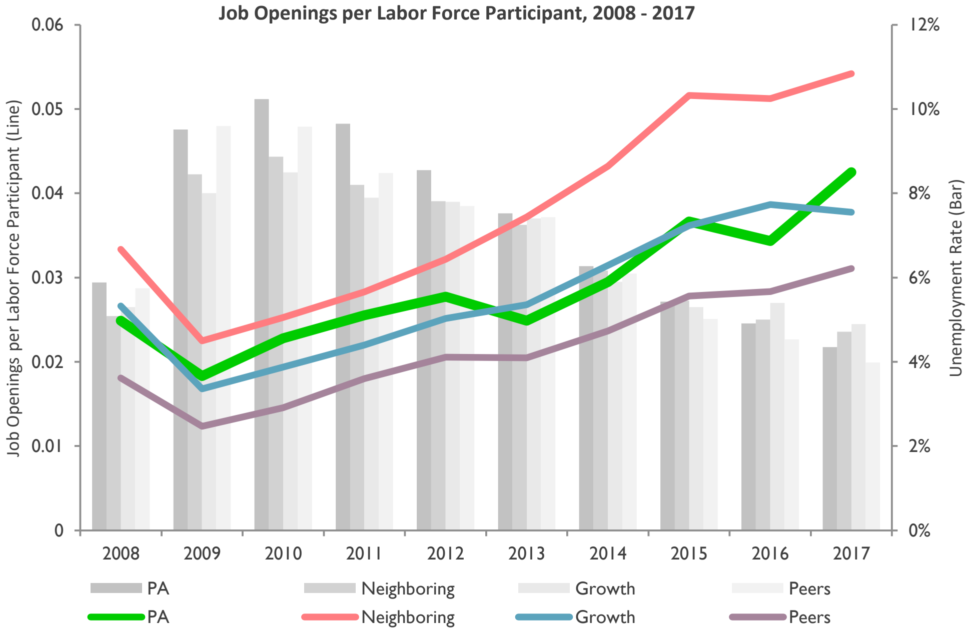
PA ECONOMIC COMPETITIVENESS DASHBOARD

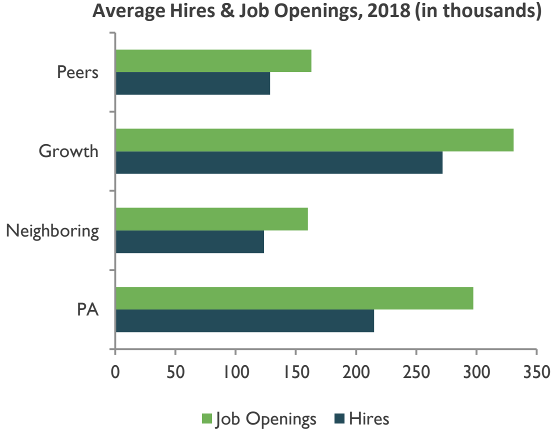
LABOR & INDUSTRY

EMPLOYMENT & UNEMPLOYMENT: JOB OPPORTUNITIES

Job openings and hirings represent an economy's dynamism and expansion. The chart below shows the trend of average monthly job openings per labor force participant in a series of years (line graph) compared against the average unemployment rate in those years (bar graph). Job openings are jobs that are identified as available at the beginning of a month and are still open on the last day of the month. The labor force population includes both employed and unemployed individuals.

The trends show that as unemployment has fallen, job openings per labor force participant has increased. This means that while the share of employed people in the labor force grows (as unemployment shrinks), job openings per participant still continue to increase; this indicates higher levels of job churn. Both job churn and new jobs are positive signs of an expanding economy that provides valuable job opportunities. However, hires have been lower than openings in Pennsylvania and most competitor states, signifying* that employers are not expediently filling empty positions.





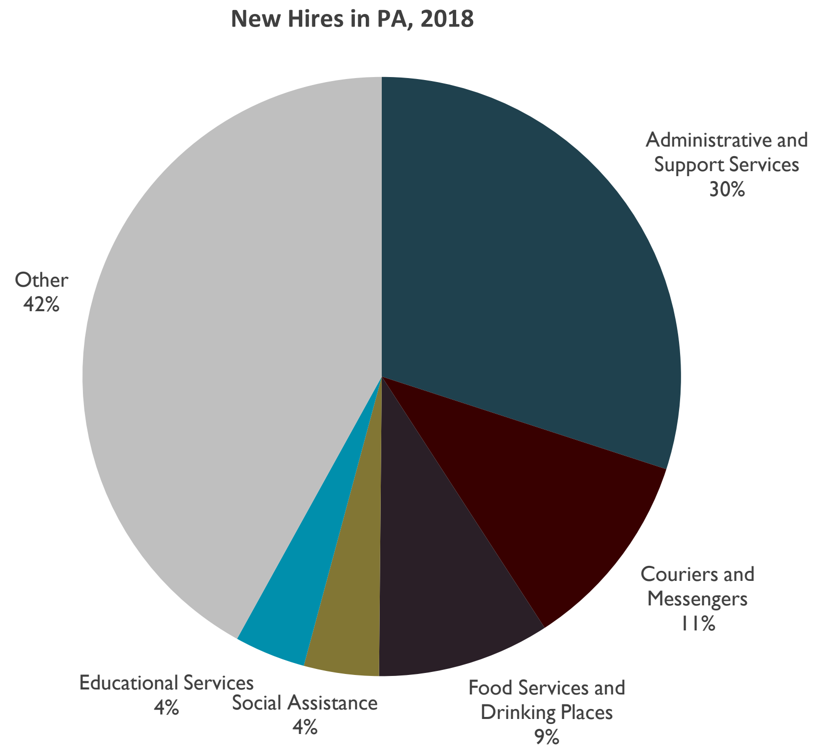
***Lower hires, higher job openings:** occurs when businesses need workers but cannot fill positions within a month of jobs becoming available. This happens because:

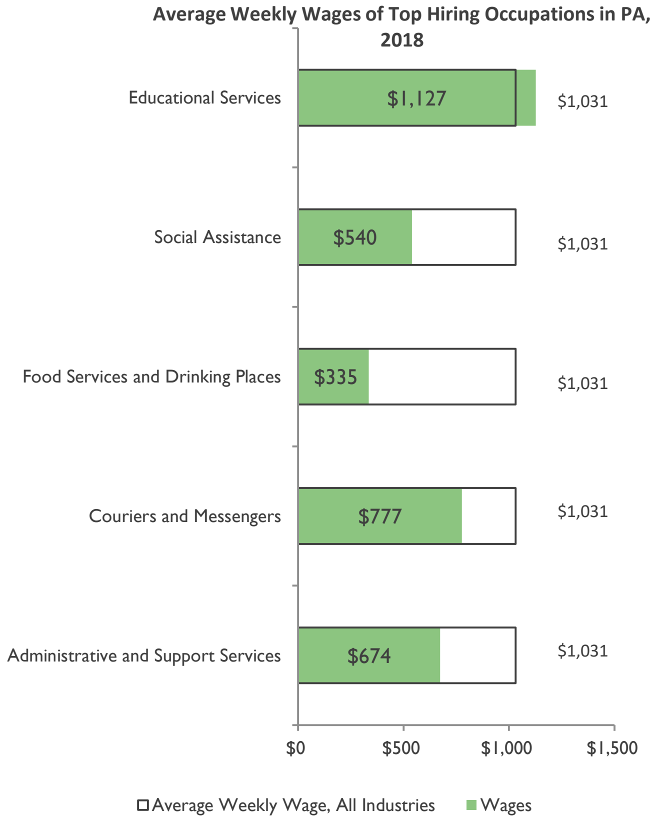
1. There is a lack of workers that are qualified for the jobs OR
2. Employers are not offering wages high enough to attract qualified workers

Sources: Bureau of Labor Statistics (2017)

LABOR & INDUSTRY

EMPLOYMENT & UNEMPLOYMENT – Hires in Pennsylvania

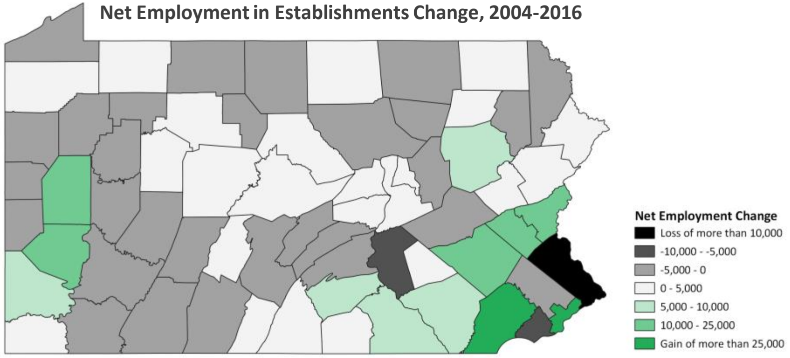




Sources: Bureau of Labor Statistics (2017)

PA ECONOMIC COMPETITIVENESS DASHBOARD

LABOR & INDUSTRY



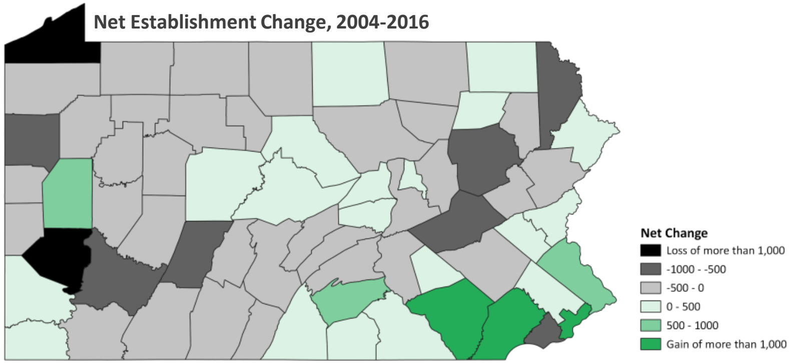
Source: American Community Survey (2017)

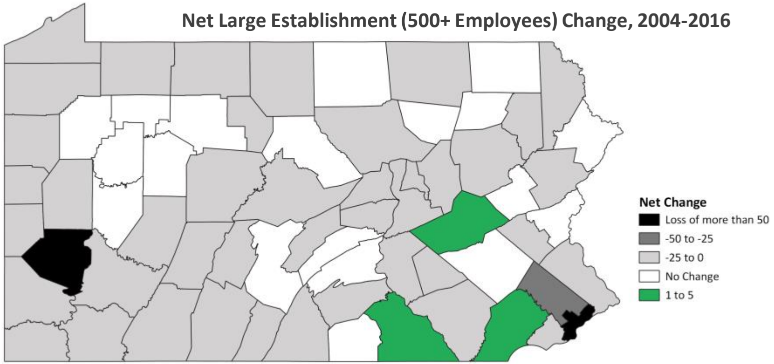
INSIGHT: PA

Pennsylvania has experienced a number of noticeable changes in its industries and employment over the past decade. Outside of the Philadelphia metro region, most counties have seen significant changes in overall establishment presence. What has likely made a significant impact in many counties is the loss of major employers, defined here as companies that employ more than 500 people. Allegheny County experienced the largest loss of major employers, losing an estimated 57 of these establishments between 2004 and 2018. Rural counties not included in major MSAs lost a total of 166 major employers in the last decade.

The Philadelphia metro region was not immune to the loss of major employers. The City of Philadelphia experienced major factory closures throughout the 2000s as some major companies moved out to the suburbs. However, overall establishment growth has increased in the Philly MSA and employment has increased in the City and Chester County.

While employment at small to large establishments in most counties has decreased, Pennsylvania as a whole has seen an increase of 174,000 employees. Most of this increase – 75% - occurred in the Philadelphia, Pittsburgh, and Allentown metro areas.

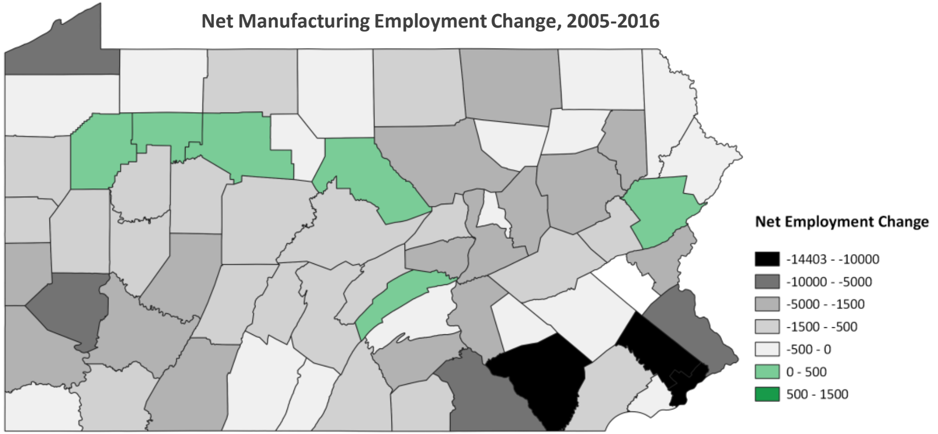




PA ECONOMIC COMPETITIVENESS DASHBOARD

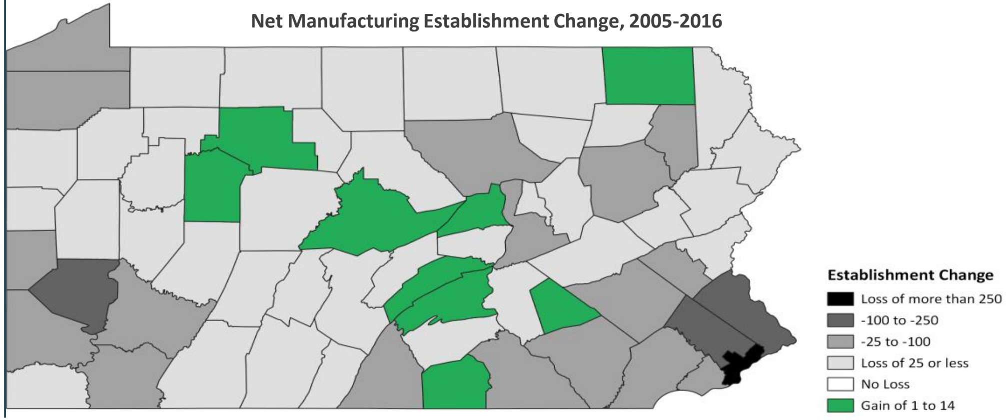
LABOR & INDUSTRY

Net Manufacturing Employment Change, 2005-2016



Source: American Community Survey (2017)

Net Manufacturing Establishment Change, 2005-2016



MANUFACTURING IN PA

The Pennsylvania manufacturing sector has long been central to the commonwealth's economy. The sector is a large contributor to Gross State Product and a substantial source of jobs. However, the sector has seen significant losses over the last several decades.

From 2004 to 2016, the manufacturing industry lost 23,300 jobs – a 20% decline - over the 12-year period. Primarily due to this loss of jobs in the manufacturing industry, Pennsylvania saw an 18.8% employment decline in the High-Middle Income wage group over the same time period.

Read more →

LABOR & INDUSTRY

INSIGHT: MANUFACTURING IN PA

Manufacturing declines are not specific to Pennsylvania; in fact, in the states examined, only Washington saw an overall increase of manufacturing employment by 5%. Texas has been somewhat insulated, declining by the least amount at 7%. Wisconsin has declined by the same amount, a fortunate outcome for a state whose manufacturing jobs account for 18% of all employment in the state.

Only 9 counties in Pennsylvania – Adams, Centre, Elk, Jefferson, Juniata, Lebanon, Mifflin, Susquehanna, and Union Counties - have seen increases in manufacturing establishment presence since 2004. As shown on the employment map on page 11, this growth has also supported increases in manufacturing jobs in and around these counties. The majority of this growth has been in fabricated metal product manufacturing (24), beverage and tobacco manufacturing (20), food manufacturing (19), and nonmetallic mineral product manufacturing (15).

While these gains provide economic opportunities for people living in or near these counties, it hasn't been enough to mitigate the manufacturing losses for the entire state. Since 2004, over 2,000 manufacturing establishments have closed. At the 3-digit NAICS code level, the biggest losses have been in printing, apparel, furniture, fabricated metal product, machinery, computer and electronics, and chemical manufacturing.

LOSSES IN VALUABLE SUBSECTORS

Chemical and machinery manufacturing are highly valuable subsector manufacturing industries in the United States. Last year, machinery manufacturing made up 29% of the value added by all US manufacturing sectors, while chemical manufacturing accounted for 16%. As of 2016, these subsectors constituted only 13% of all manufacturing in PA, and together have lost a net total of 208 PA establishments since 2004. This share is significantly higher in High Growth states like Texas and North Carolina, whose chemical and machinery manufacturing make up 19% and 20% respectively, of all their manufacturing establishments, as well as 46% and 32% of manufacturing employment compared to only 7% in PA.

POLICY IMPLICATIONS

Manufacturing industry reports point to fiscal policy as a common determining factor in industrial location - and to taxes as a deterrent to manufacturing investment. A Pennsylvania manufacturing industry study surveyed manufacturers and found that respondents considered the tax climate in the commonwealth to be "overly burdensome" and that reform to the tax structure would be necessary to help PA compete, especially against states like North Carolina and Texas that have more business-friendly tax environments. Respondents focused on the high corporate income tax rate as well as the complexity of PA's tax code.

LABOR & INDUSTRY

TRADE: EXPORTS

The amount of exports to other states and countries serves as a basic indicator of a state's participation in the domestic and global marketplace. Exports bring income in from other areas and do not consume the incomes of residents. The level of exports can serve as a good indicators of a state's standard of living and the robustness of its economy.

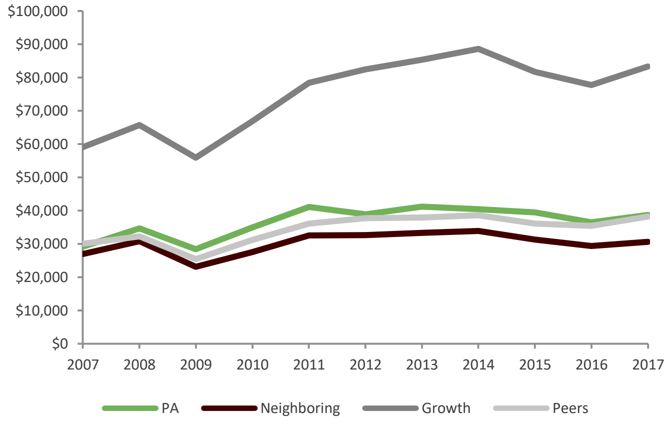
The Average Exports chart shows the average yearly value of exported goods and services by state type.

HIGH PERFORMERS

Growth states have the highest annual average of exports, but this is relative to the size of their large populations (Pennsylvania's population is less than half the size of Texas' and less than a third of California's). There is also more volatility in high growth states, with precipitous drops in exports having occurred during the Recession and again between 2014 and 2016 when the energy industry was negatively impacted by a drop in oil prices.

Keeping the size of states in mind, the exports per capita data shows a different story for Pennsylvania. While the state is the 10th largest exporter of all 50 states, and while it has higher total exports than Peer and Neighboring states, in exports per capita PA is the lowest of the state types.

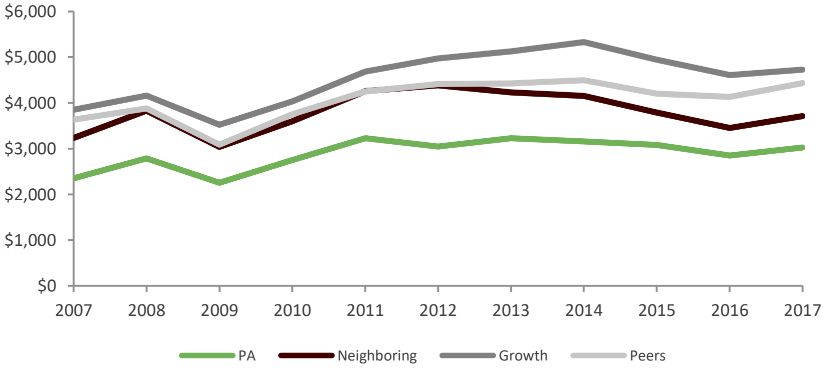
Average Exports ($M)



Sources: Bureau of Labor Statistics (2017)

See high tech share of exports →

Exports per capita



LABOR & INDUSTRY

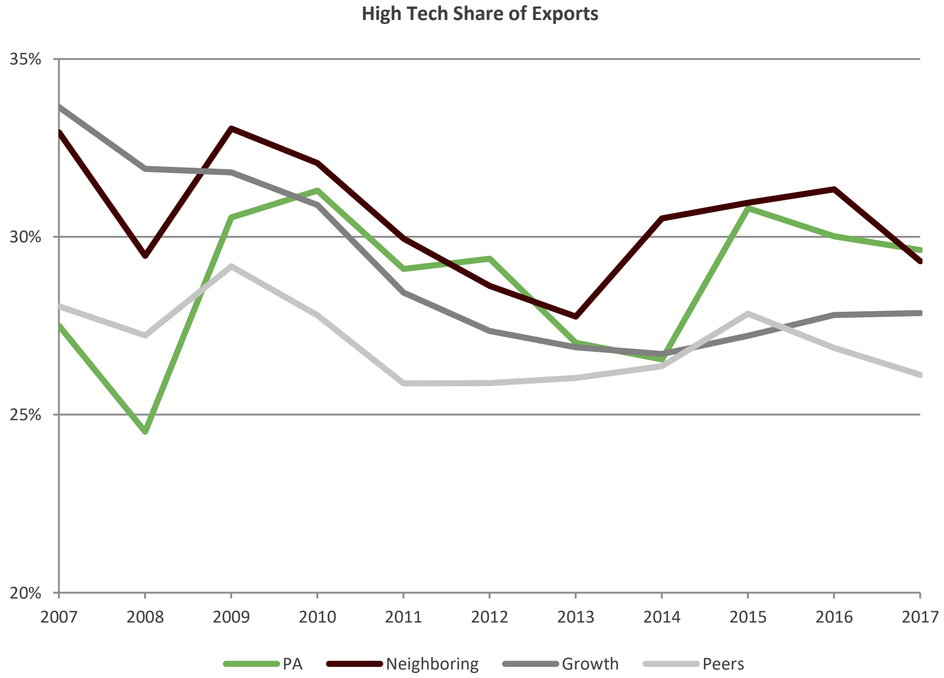
TRADE: HIGH TECH SHARE OF EXPORTS

"High tech" (or "advanced tech") exports serve as an indicator of the technological competitiveness of a state. High tech products and innovations have become critical drivers of our national and global economies. A higher share of high tech exports represents a concentration of certain technology-related economic activity happening in the state. This activity is typically high value and supports well paying jobs.

Defining **Advanced Technology Products:**
- The technology of the product is from a recognized high technology field (ex. Biotechnology)
- Represents cutting edge technology in that field
- Constitutes a significant part of all items covered in the selected commodity classification code

HIGH PERFORMERS
Delaware, New Jersey, and Massachusetts have the largest share of high tech exports of all state exports. These three states are well known for their concentration of advanced industries, include financial services in Delaware, the tech corridor around Boston, and biopharma in New Jersey.

INSIGHT: PENNSYLVANIA
Pennsylvania has been competing well with regard to its high tech share of overall exports. Pennsylvania's top ten exports include electrical machinery, pharmaceuticals, precision instruments, organic chemicals, and aircraft goods, all of which include advanced technology products



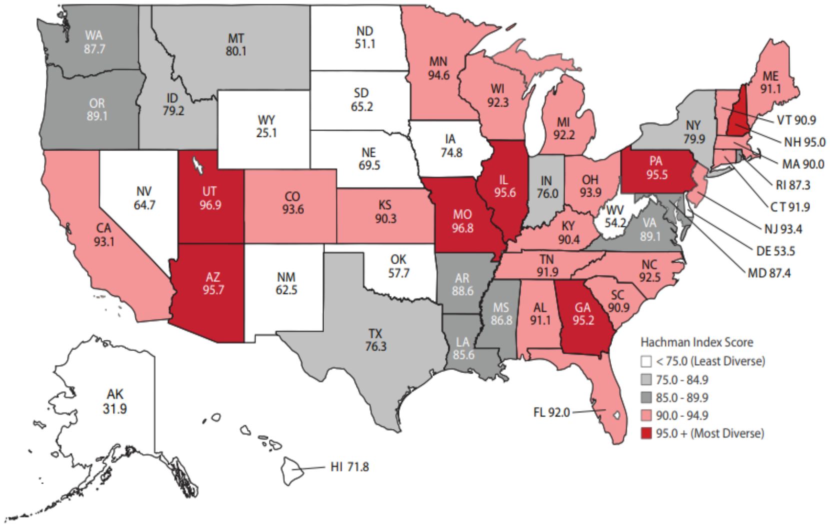
Sources: US Census Bureau (2017)

LABOR & INDUSTRY

TRADE: ECONOMIC DIVERSIFICATION

The diversity of a state's economy is an indicator of productivity (especially in urban areas[1]) as well as resiliency to economic volatility[2] . The Hachman Index is a measure of a state's economic diversity which includes indicators such as GDP and employment. High scores indicate more economic diversity while lower scores indicate lower levels of economic diversity. Pennsylvania scores highly on this index with one of the most diversified economies in the nation. Many of the low scoring states happen to be major exporters, with Texas, Washington, and New York in the top 5 exporting states in the country. Economic diversification alone is not necessarily a positive indicator; increased diversity may occur in the wake of major company closures and increased unemployment. However, the resiliency of a diversified economy can protect a state against severe market downturns. For example, Pennsylvania's top export (chemicals, 22% of total exports) did not experience any declines in value traded during the recession, while Washington's main export (transportation equipment, 55% of total exports) experienced a 16% decline between 2007 and 2010, and began to recover to 2007 levels in 2011. During this time, Washington experienced unemployment rates 1.5 to 2 percentage points more than Pennsylvania.

Figure 1: Hachman Index for States, 2017



Source: Gardner Policy Institute analysis of U.S. Bureau of Economic Analysis GDP data

Sources: Hachman Index(2017)

Ranking	State	Total Exports ($M)	#1 Export	#1 Share of Exports
1	Texas	$315,448	OIL & GAS	18%
2	California	$178,405	COMPUTER AND ELECTRONIC PRODUCTS	25%
3	Washington	$77,700	TRANSPORTATION EQUIPMENT	55%
4	New York	$81,487	MISCELLANEOUS MANUFACTURED COMMODITIES	28%
5	Illinois	$65,415	MACHINERY; EXCEPT ELECTRICAL	18%
6	Michigan	$57,940	TRANSPORTATION EQUIPMENT	49%
7	Florida	$57,241	COMPUTER AND ELECTRONIC PRODUCTS	23%
8	Ohio	$54,293	TRANSPORTATION EQUIPMENT	31%
9	**Pennsylvania**	**$41,050**	**CHEMICALS**	**22%**

Sources: US Census Bureau (2017)

PA ECONOMIC COMPETITIVENESS DASHBOARD

LABOR & INDUSTRY

MEDIAN INCOME

Median income is a basic indicator of economic wellbeing in a state. While there are some noticeable differences among the states examined, in general they have similar median income levels most of which are slightly above the median income levels for the US in general.

1. Maryland $81,084

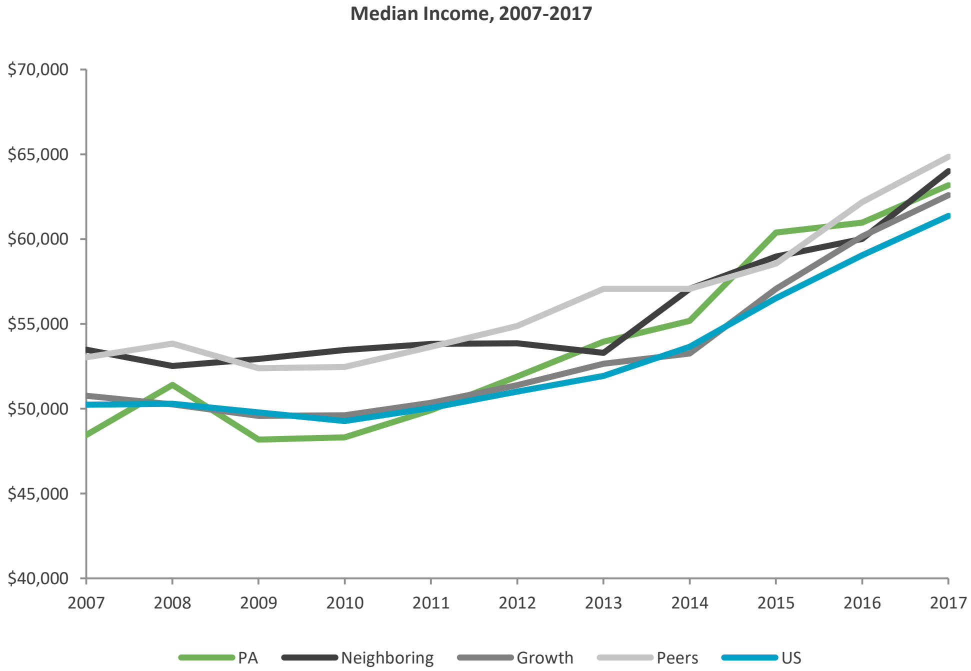
2. Washington $75,418

3. Colorado $74,172

4. Massachusetts $73,227

5. New Jersey $72,997

10. Pennsylvania $63,173

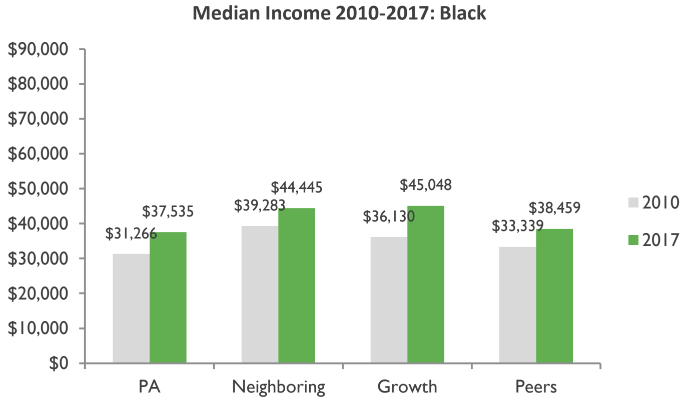


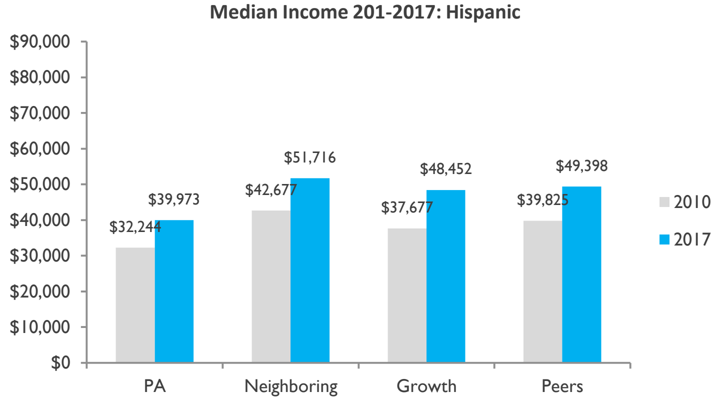
Source: American Community Survey (2017)

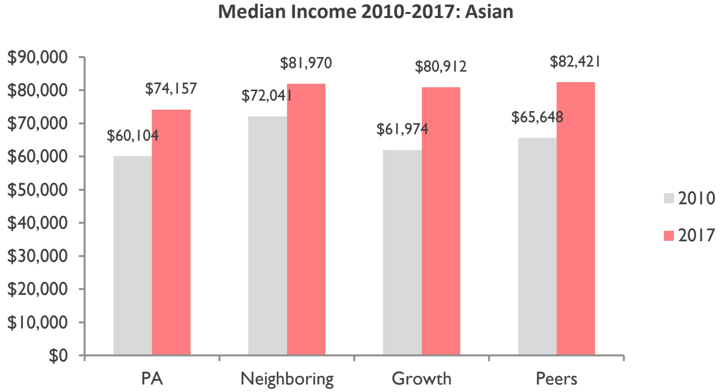
LABOR & INDUSTRY

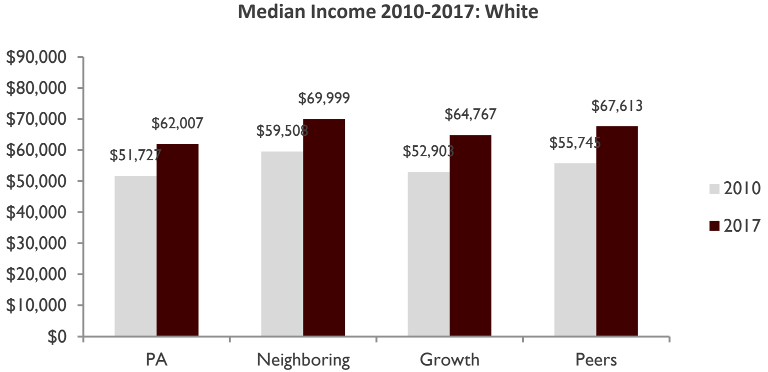
MEDIAN INCOME: BY RACE

Median income varies across racial groups in Pennsylvania and our competitive states. In general, Black and Hispanic Pennsylvanians fall behind White and Asian residents in terms median income, making about $20,000 less than White Pennsylvanians every year. These disparities are consistent across our competitor states.









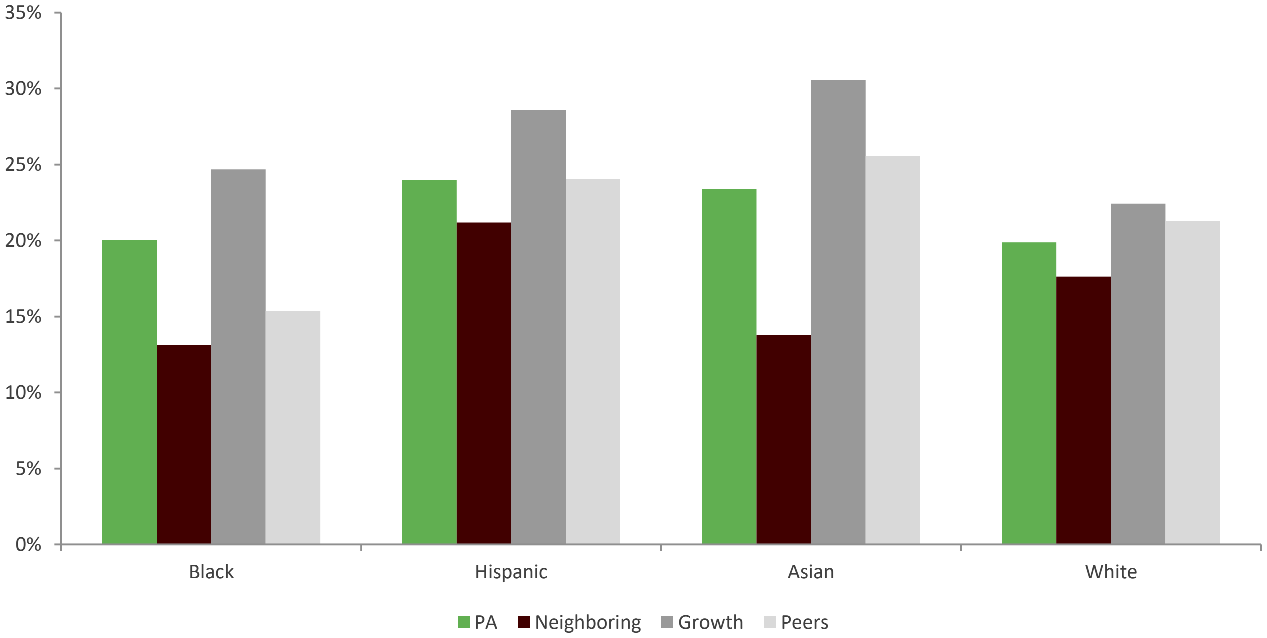
Source: American Community Survey (2017)

LABOR & INDUSTRY

MEDIAN INCOME: GROWTH BY RACE

Increases in median income have been realized at different levels across various racial groups in our competitor states. Black residents in Pennsylvania and High Growth states have experienced median income growth of 20% and 25%, respectively. The biggest increases in median income levels have been in Asian and Hispanic populations in High Growth states, with Asian groups experiencing a 31% increase and Hispanic groups experiencing a 29% increase. Since 2010, High Growth states saw the biggest increases in income across all racial groups represented in this graph, with an average of 27% across these groups; however, Pennsylvania is not far behind, with these racial groups experiencing an average of a 22% increase in median income over this time.

Median Income Growth by Race, 2010-2017



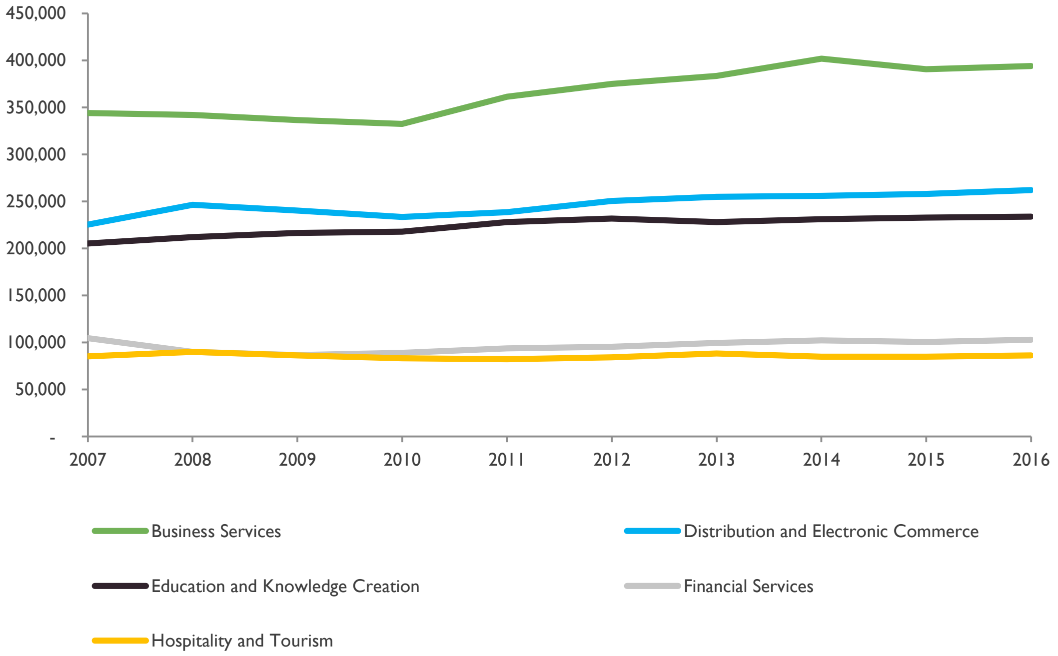
Source: American Community Survey (2017)

LABOR & INDUSTRY

JOBS: PENNSYLVANIA

Total jobs have grown by 4% in the last 10 years. This rate is similar to our Peer states but markedly less than High Growth States. Much of this job growth has been in the Business Services Industry Cluster, which added 50,000 jobs between 2007 and 2016; much of this employment growth was concentrated at Corporate Headquarters. Additionally, the Distribution and Electronic Commerce Industry Cluster also added 36,500 jobs while Education and Knowledge Creation added 28,500 jobs. These three Industry Clusters are projected to continue to grow both nationally and in Pennsylvania.

Employment in PA's Top Industry Clusters, 2007-2016



INDUSTRY CLUSTERS

Business Services:
- Corporate Headquarters
- Computer Services
- Business Support Services
- Consulting Services
- Engineering Services

Education & Knowledge Creation:
- Universities
- Research Organizations

Distribution & Electronic Commerce:
- Warehousing & Storage
- Wholesale Trade Agents & Brokers
- Wholesale of Drugs
- Electronic and Catalog Shopping
- Wholesale of Professional and Commercial Equipment

Source: Harvard Business School (2017) U.S. Economic Development Administration (2017)

ECONOMY
DEMOGRAPHICS
POPULATION CHANGE
AGING POPULATION
LABOR & INDUSTRY
GDP
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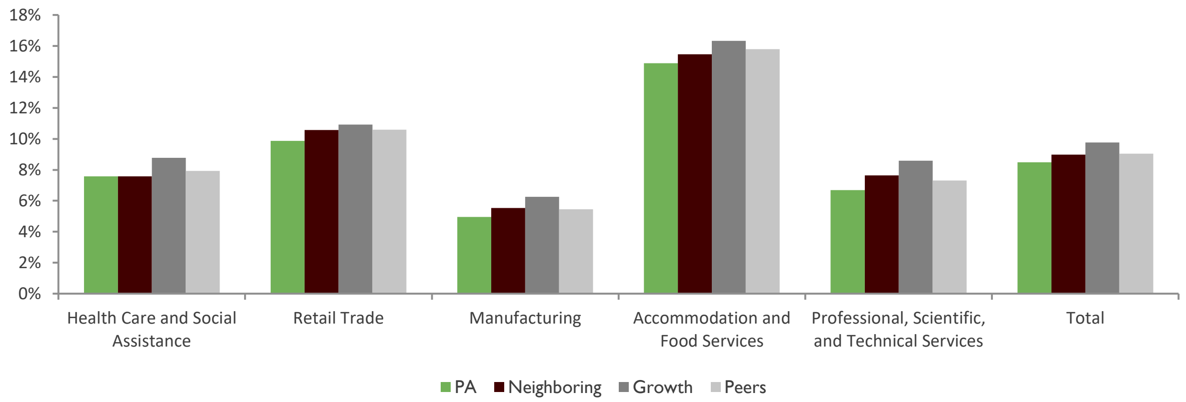
GOVERNANCE
REGULATIONS
LICENSING
QUALITY OF LIFE
HOUSING COSTS
CRIME
WEATHER
ARTS VIBRANCY

LABOR & INDUSTRY

BUSINESS DYNAMISM: TURNOVER

Employee turnover measures the rate at which employees begin and end their employment. High turnover is not necessarily a negative indicator of a state's economic wellbeing; in fact, it might be the opposite. Existing research on employee retention shows that a growing economy goes hand-in-hand with increased turnover, due to a growing market place and a greater ability to make better career moves.

Employee Turnover Rates by Sector, 2017



Sources: US Census Bureau (2017)

Where does PA rank?

State	Total
Pennsylvania	**8%**
Illinois	9%
Maryland	9%
New Jersey	9%
New York	9%
North Carolina	9%
Massachusetts	9%
Delaware	9%
Virginia	9%
Wisconsin	9%
Ohio	9%
Michigan	9%
California	9%
Indiana	9%
West Virginia	9%
Florida	9%
Texas	10%
Georgia	10%
Washington	10%
Arizona	10%
Colorado	11%

TRENDS

In 2017, PA had lowest turnover rate of the states at 8%. There is not much variation among states – the rate range from 8% to 11%. PA has most turnover in the mining sector, which has been volatile in the last few years.

High growth states have higher levels of turnover in most of the sectors, perhaps due to rising population and jobs.

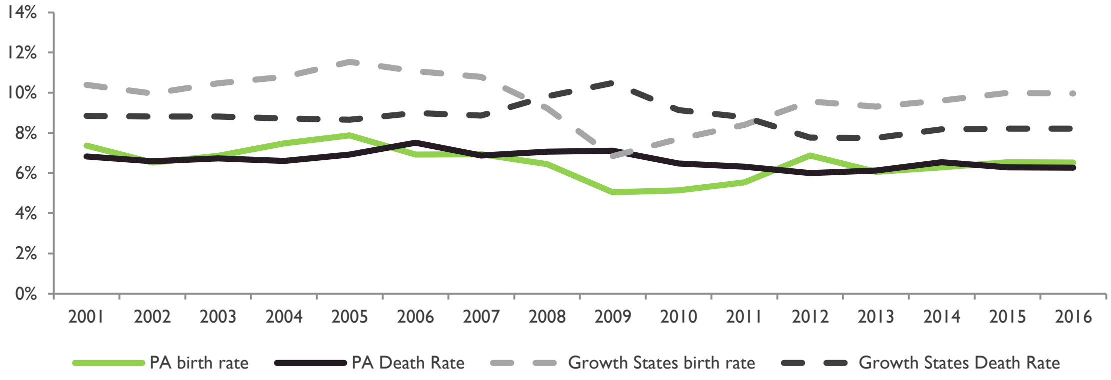
See firm births & deaths→

LABOR & INDUSTRY

BUSINESS DYNAMISM: FIRM BIRTHS & DEATHS

Rates of firm births (creations) and deaths (closings) are an indicator of business dynamism and job flows across states. High rates of business churn from firm births and deaths are "strongly correlated with expanding local economies", according to a 2017 report from the Economic Innovation Group.

Firm Birth and Death Rates, 2001-2014



Sources: US Census Bureau (2017)

TRENDS

Nationally, firm creation has declined for decades but fell steeply in the wake of the Recession. After 2008, firm deaths have been outpacing firm births across the country. However, High Growth states have performed well in this area. The chart below shows the difference in rates between Pennsylvania and High Growth states. While firm births nose dived during the Recession in High Growth states, their rates have recovered significantly and have outpaced firm deaths by about 2 percentage points. Pennsylvania's firm start ups were also impacted by the Recession but not as dramatically; however, our recovery has been lackluster compared to High Growth states, and firm births have been on pace with firm deaths for the past five years.

Sources: US Census Bureau (2017)

PA ECONOMIC COMPETITIVENESS DASHBOARD

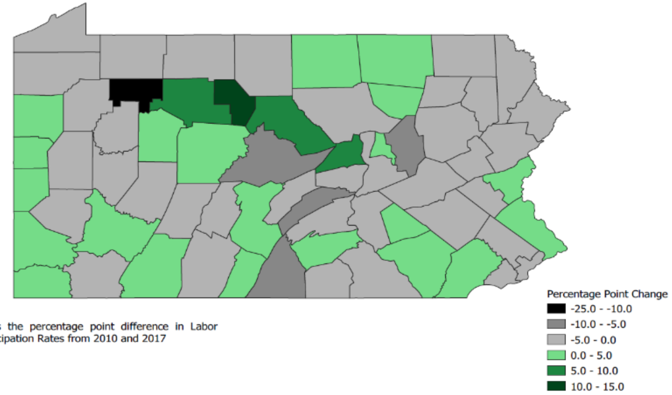
LABOR & INDUSTRY

PENNSYLVANIA'S LABOR FORCE

Nationally, labor force participation rates have been slowly declining since reaching a peak in 2000. Since then, labor participation rates have declined more significantly in the 16-24 age group, dropping 10 percentage points. Some of this may be due to an increase in college enrollment rates, which have increased by 7 percentage points (37% to 42%) over this time period.

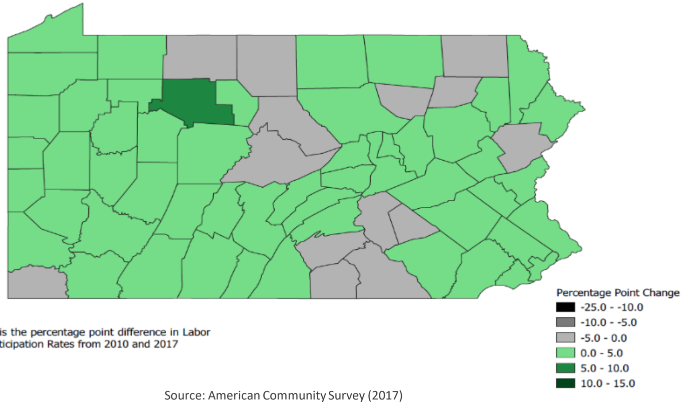
Conversely, labor participation rates in the 65+ age group have increased at the same rate that 16-24 year old labor force participation have declined. Pennsylvania reflects the labor force participation trends happening nationally. Between 2010 and 2017, rates declined by 2 percentage points for the 16-24 age group while they increased by the same amount for those 65 and older. This inverse correlation is apparent at the county level, shown in the maps below. Almost all counties that lost 16-24 labor force participants gained 65 and older participants, while a few counties gained or lost both.

Labor Force Participation Rate Change* in 16-24 Age Group, 2010-2017



*Change is the percentage point difference in Labor Force Participation Rates from 2010 and 2017

Labor Participation Rate Change* in 65+ Age Group, 2010-2017



*Change is the percentage point difference in Labor Force Participation Rates from 2010 and 2017

Source: American Community Survey (2017)

TALENT

The Talent category covers indicators of a state's workforce. These include educational attainment, apprenticeship programs, unionization rates, and state investments in resident populations. These variables indicate the workforce readiness of a state's resident population, its investment in training its population for a changing economy, and its ability to attract different kinds of workers to meet the demands of growing industries within the region.

Analysis of these indicators measures different trends in a state's workforce alongside job trends and projections. Attention is also paid to migration trends of educated people as well as specific occupational projections in Pennsylvania.

EDUCATIONAL ATTAINMENT

OVERVIEW

Educational attainment is an indicator of the training and skills possessed by a state's labor force. Ideally, the skills of the labor force would meet the needs of the jobs in the state. Over time, this dynamic may change; new or changing industries in the state may require different skillsets, while people with certain levels of education will follow job opportunities commensurate with their educational attainment and skills.

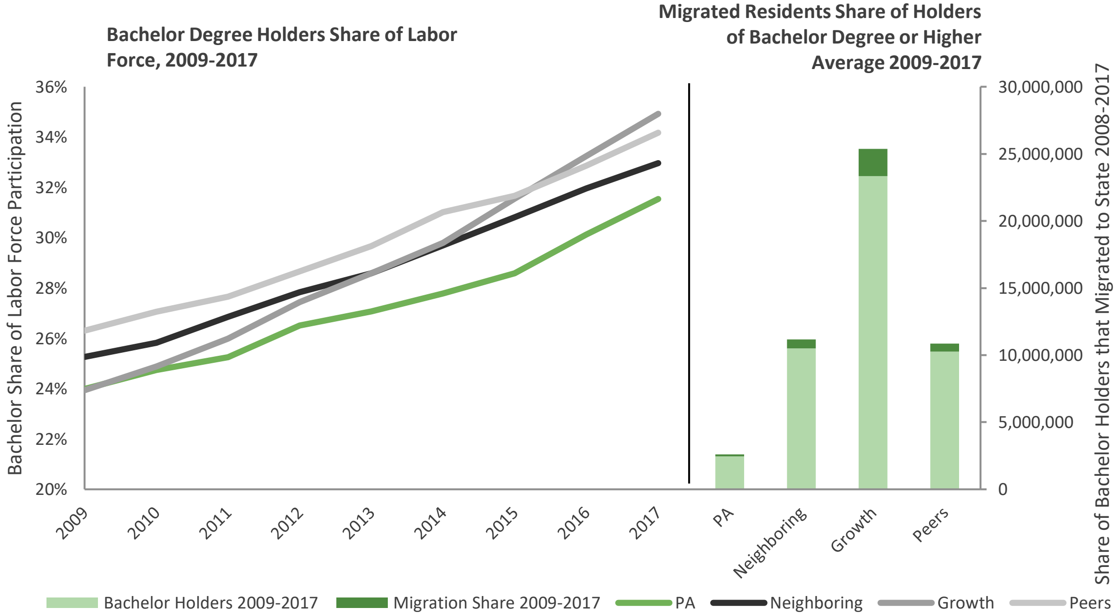
The charts below show the share of the state population that has received a Bachelor degree or higher. The **chart on the left** depicts overall higher educational attainment trends.

INSIGHT: MIGRATION

The chart on the right depicts the amount of Bachelor or higher degree holders who migrated to those states from another state. In high growth states, 9% of all Bachelor/graduate degree holders are residents that moved from another state, compared to 5% in Pennsylvania.

This indicates that there are economic opportunities for highly educated people in high growth states. These states have also had the highest growth in overall educational attainment levels in their labor forces. Pennsylvania falls behind in overall share of Bachelor/graduate degree holders in their workforce, which is due to lower educational attainment in its native population as well as low rates of in-migration.

See more about education attainment & migration →



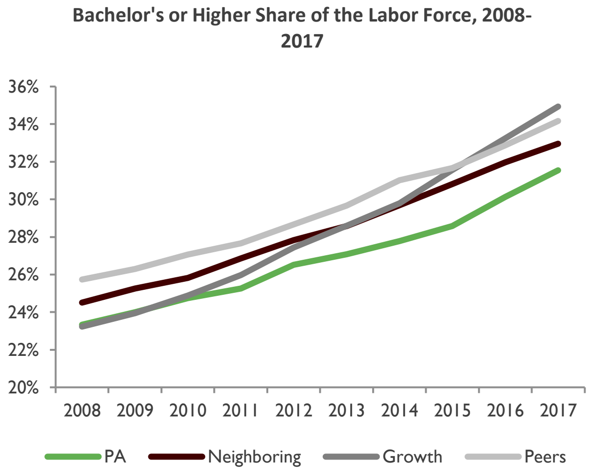
Source: American Community Survey (2017)

EDUCATIONAL ATTAINMENT BY RACE

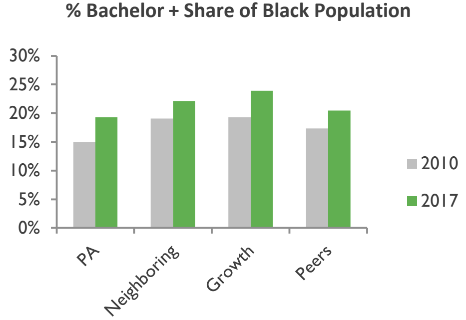
OVERVIEW

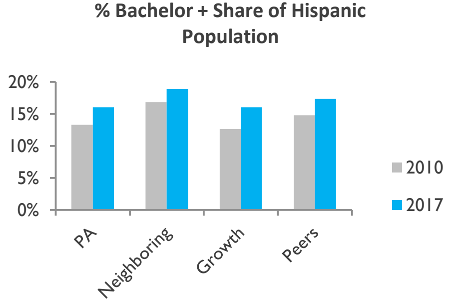
Since 2007, total Bachelor degree attainment in Pennsylvania has increased by about 30%. However, this growth has been realized differently across racial groups. White Pennsylvanians, who make up about 80% of the state population, constitute about 87% of Bachelor degree holders in the state. Black Pennsylvanians, who make up about 11% of the state population, constitute about 6% of all Bachelor degree holders.

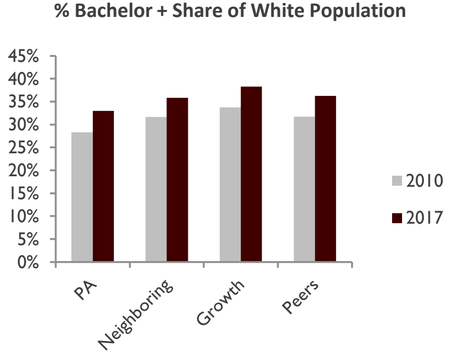
In Pennsylvania, all racial groups have seen increases in Bachelor degree attainment. Between 2010 and 2017, the share of Black Pennsylvanians with Bachelor degrees increased from 15% to 19%, while Hispanic Bachelor degree holders increased from 13% to 16%. These growth rates are similar across our competitor states, however other states maintain higher overall rates of Bachelor degree attainment than Pennsylvania. Asian groups have the highest rates of Bachelor+ attainment across the states, with 56% of Asian Pennsylvanians holding a Bachelor degree or higher in 2017.



Source: American Community Survey (2017)







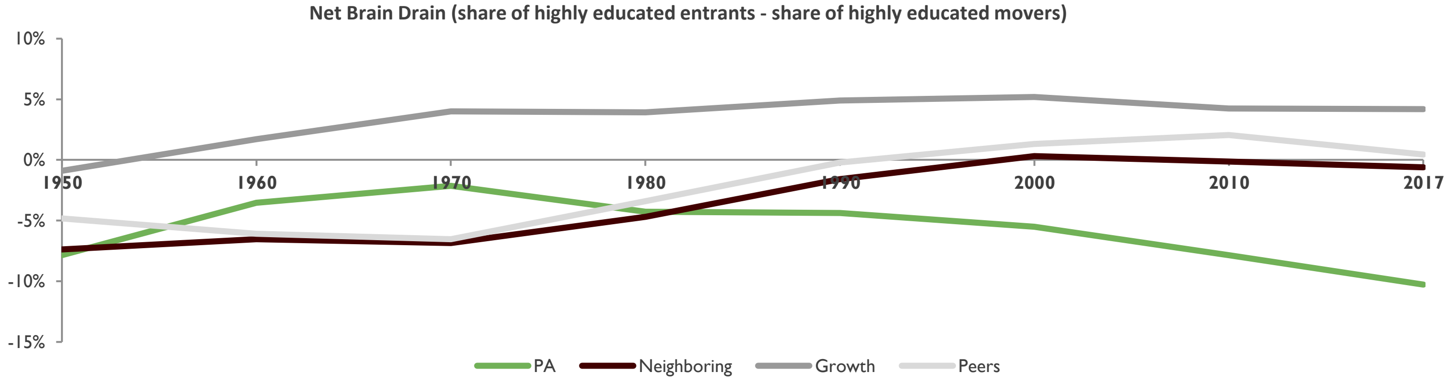
EDUCATIONAL ATTAINMENT

EDUCATIONAL ATTAINMENT: PENNSYLVANIA'S "BRAIN DRAIN"

Brain drain – the out-migration of highly educated residents – has been a trend in Pennsylvania since 1950, but has worsened significantly over the past decade. The chart below shows the net difference in the shares of highly educated entrants and leavers in Pennsylvania and our competitor states. In 2017, the share of leavers who were highly educated was 10 percentage points higher than the share of highly educated entrants. Of our competitor state types, Pennsylvania is faring very poorly in terms of net brain drain. High growth states in particular are performing very well as the share of new residents who are highly educated continues to be larger than the share of leavers who are highly educated. The impact of Pennsylvania's net brain drain is somewhat lessened by the fact that Pennsylvania has lower resident out-migration than other states (West Virginia, Plains & New England states), however the leavers are still better educated than the stayers and entrants.

One major contributor to and perhaps obvious reason for brain drain is a lack of appropriate jobs. Among competitor types, Pennsylvania is projected to have the highest share of jobs requiring a high school degree by next year; at the same time, jobs requiring postsecondary education are projected to outpace labor force participants with postsecondary educational attainment. Even though Pennsylvania attracts some of the highest numbers of out-of-state-students, the state is unable to retain enough of them to outpace highly educated out-migration. To keep educated people in Pennsylvania, or to entice more to move here, high paying jobs that require postsecondary education will need to be made available for the workforce.

Another issue influencing out-migration of highly educated residents may be taxes. A 2018 Cato Report on interstate migration found that 24 of the 25 highest-tax states had net out-migration, and 17 of the 25 lowest-tax states had net in-migration in 2016. In general, most people who migrate are young adults (those aged 25-29 are six times as likely to move as retirees), are well educated, and middle to low income earners (the majority of young migrants make less than $50,000 a year). Many of these young people are moving to metro areas which have fueled population growth in many states and offer dynamic job opportunities for graduates. Considering this context, it makes sense that young college graduates would migrate to states with lower tax burdens and better job opportunities.

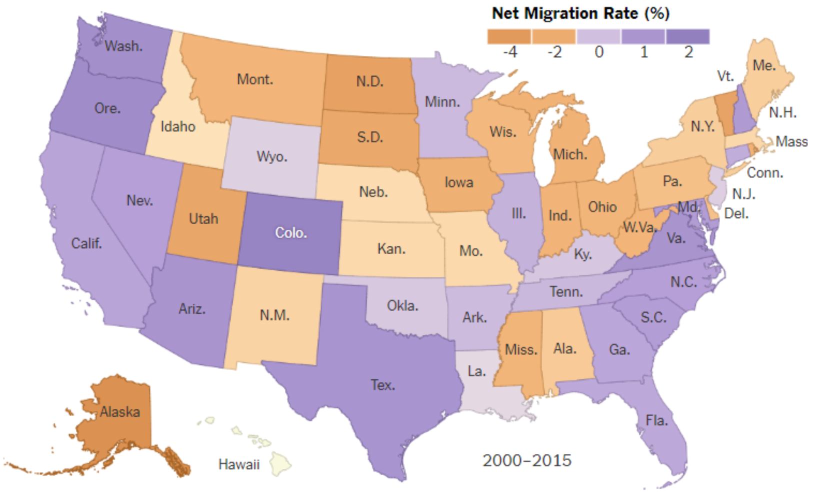


Sources: US Congress Joint Economic Committee (2019)

EDUCATIONAL ATTAINMENT

SOLUTIONS FOR BRAIN DRAIN:

- Better job opportunities – higher pay & requiring college degree
- Lower tax burdens
- Cheaper cost of living



Note: Those who grew up in one state, went to college in another, and then moved again are counted as migrating from the state where they attended college.

Source: IPUMS-USA, University of Minnesota

Source: New York Times (2016)

POLICIES TO ADDRESS BRAIN DRAIN:

- Tax reform in order to incentivize more businesses to locate in PA, especially in metro areas
- Supporting development in metro areas by providing funding for transportation, supporting local incentive programs, and investing in higher education
- Incentives for start-ups to establish and grow near Universities (New York's & North Carolina's tax incentive programs)
- State tax credits for student loans (Maine, Massachusetts, Maryland, Minnesota)

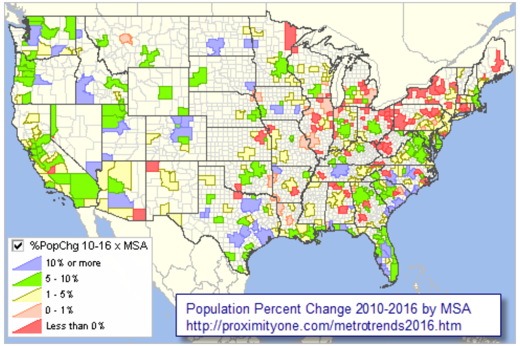
According to an annual Census survey, the number one reason (**16%** of responses) that people moved was ***"wanted new or better home"***. Another **12%** responded ***"to establish own household".***

EDUCATIONAL ATTAINMENT

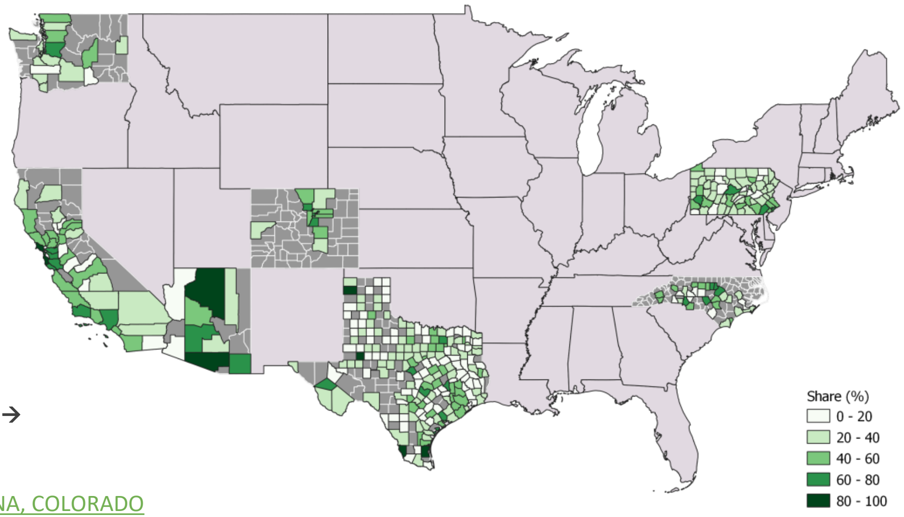
ATTAINMENT & MIGRATION

In high growth states, the majority of new residents are moving to the metro areas of large cities. Many of these new residents have high levels of educational attainment. The maps below show the share of new residents that have Bachelors or graduate degrees. This increase in educated individuals represents economic opportunities for a talented workforce; it also shows that educated populations are leaving other areas and concentrating in the metro regions of high growth states. These individuals generally have higher employment rates and earning power, which indicates a strengthening workforce in these areas.

Overall Metro Growth



Share of New Residents with Bachelor/Graduate Degrees, 2017



Source: American Community Survey (2017)

SEE BREAKDOWNS BY STATE →

TEXAS

CALIFORNIA, ARIZONA, COLORADO

NORTH CAROLINA

PENNSYLVANIA

ECONOMY

DEMOGRAPHICS

POPULATION CHANGE

AGING POPULATION

LABOR & INDUSTRY

GDP

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QUALITY OF LIFE

HOUSING COSTS

CRIME

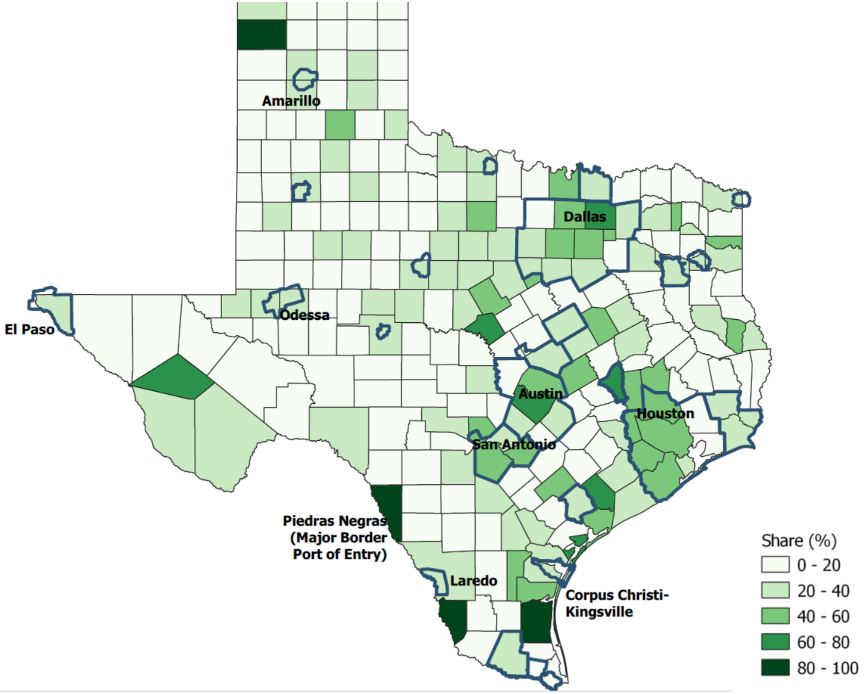
WEATHER

ARTS VIBRANCY

EDUCATIONAL ATTAINMENT

ATTAINMENT & MIGRATION: TEXAS

Share of New Residents with Bachelor/Graduate Degrees, 2017



MIGRATION TO TEXAS METRO AREAS

Since 2010, Texas has seen the largest total population increase of our subject states with a total increase of 3.2 million. 30% of this increase was due to domestic migration; in the same time frame, Pennsylvania *lost* 214,000 residents who moved to other states.

A majority – 63% - of new residents in Texas moved into three of the state's major metro areas: Dallas-Fort Worth-Arlington, Houston-Sugar Land, and Greater Austin. Of this population of new residents, 45% had a Bachelor Degree or higher, compared to 38% of new residents in the rest of the state. New residents with bachelor or graduate degrees in metro areas made up 67% of all new highly educated residents in the state. Some rural areas in Texas have also seen large shares of highly educated new residents, mostly in counties with Federal border entries and oil/natural gas industries.

This data reflects the national trend of migration to urban areas, particularly by highly educated young people. These metro areas offer good job opportunities, high quality of life, and higher education institutions that support educational attainment in the existing population as well as the research and workforce demands of local industry.

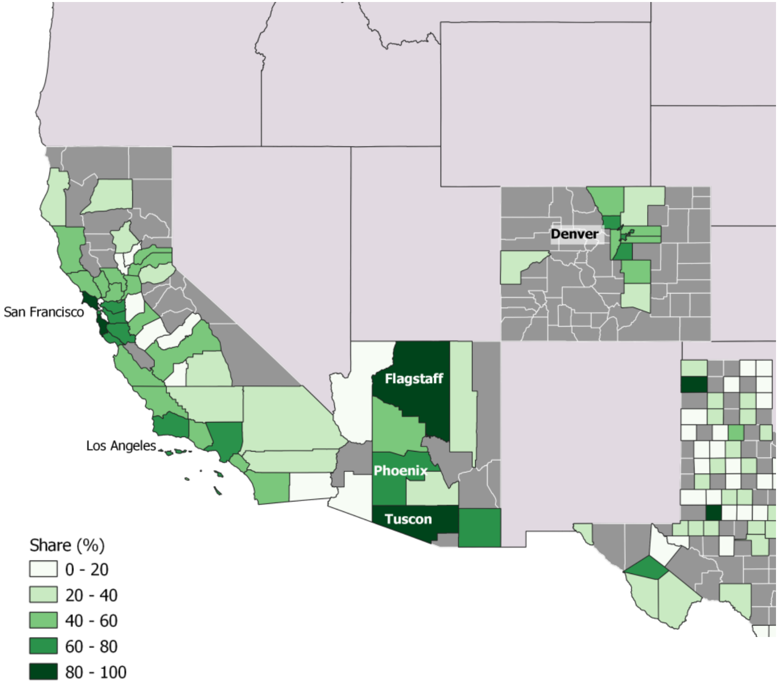
Source: American Community Survey (2017)

PA ECONOMIC COMPETITIVENESS DASHBOARD

EDUCATIONAL ATTAINMENT

ATTAINMENT & MIGRATION: CALIFORNIA, ARIZONA AND COLORADO

Share of New Residents with Bachelor/Graduate Degrees, 2017



MIGRATION TO METRO AREAS IN CALIFORNIA, ARIZONA & COLORADO

These Western states have been experiencing significant population changes over the past decade, particularly in their metro areas, and the changes vary by state.

In California's major metro areas, the rate of domestic out-migration has been consistent with in-migration, but total population numbers have increased due to natural population growth and significant international migration. The significant share (**over 80%**) of highly educated new residents in the San Francisco area is correlated with its strong economic growth in areas of tech and research.

The Phoenix area has seen significant growth across all components of population change over the past decade. Since 2010, the Phoenix area's population increased by 665,000, about half of which was due to domestic in-migration. About half of the new residents in this area had postsecondary degrees. Phoenix's economy has been expanding, with high tech jobs – many of which require a college degree - increasing by 48%.

Denver's metro area has also received a large number of new residents, with a total of 183,000 people moving there from other states since 2010. Denver has experienced large growth in its technology sector, adding 7,000 new technology jobs in 2018.

SNAPSHOT: PHOENIX METRO AREA STATS

Total Population Change

+665K

Net Domestic Migration

+327K

Net International Migration

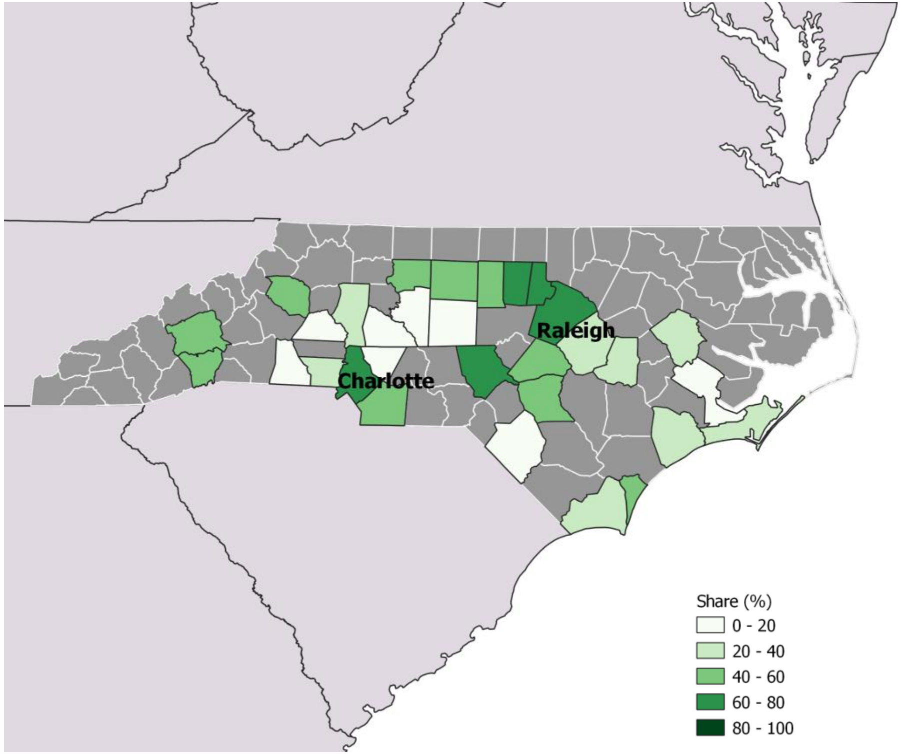
+108K

PA ECONOMIC COMPETITIVENESS DASHBOARD

EDUCATIONAL ATTAINMENT

ATTAINMENT & MIGRATION: NORTH CAROLINA

Share of New Residents with Bachelor/Graduate Degrees, 2017



MIGRATION TO METRO AREAS IN NORTH CAROLINA

Similar to the trends in other states, North Carolina has seen large shares of highly educated new residents moving to its largest metro areas.

The state has experienced a 13% increase in overall population growth since 2010. During that time, over 330,000 people moved to the Raleigh and Charlotte metro areas from other states. Of these new residents in the Raleigh and Charlotte areas, 63% and 66%, respectively, had a Bachelors degree or higher.

These metro areas have economies defined by biotech, pharmaceutical, aerospace, energy, and financial services industries. Many jobs in these fields require at least a college degree.

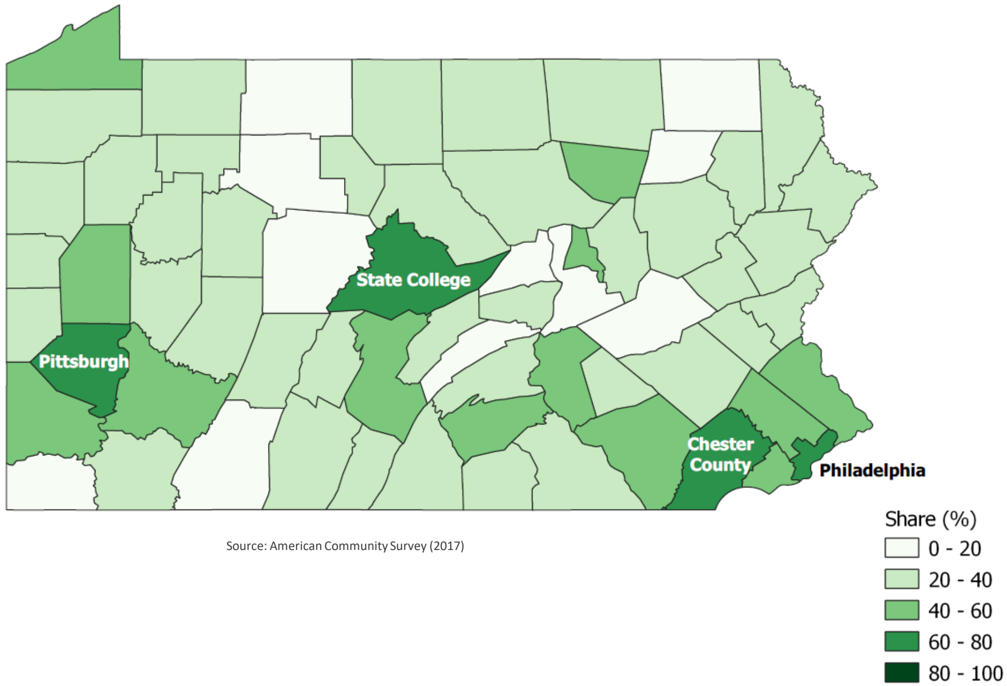
North Carolina is also home to a number of large universities and affiliated research institutions. The University of North Carolina is located in the "Research Triangle" which has been supported and expanded with the help of significant state investment over the years.

PA ECONOMIC COMPETITIVENESS DASHBOARD

EDUCATIONAL ATTAINMENT

ATTAINMENT & MIGRATION: PENNSYLVANIA

Share of New Residents with Bachelor/Graduate Degrees, 2017



Source: American Community Survey (2017)

MIGRATION TO METRO AREAS IN PENNSYLVANIA

Similar to the migration trends in Texas, Pennsylvania is experiencing higher shares of college graduates migrating to metro areas rather than to other areas of the state.

While no area saw the same level of increases as metro areas such as San Francisco or Seattle, the Philadelphia, Pittsburgh, and Centre County areas did experience high shares of postsecondary educational attainment in their domestic immigrant populations. The share of new residents with their Bachelor or graduate degrees was 62% in both the Philadelphia and State College areas and 63% in the Pittsburgh area.

Not surprisingly, the areas with the largest shares of highly educated new residents are cities with major universities.

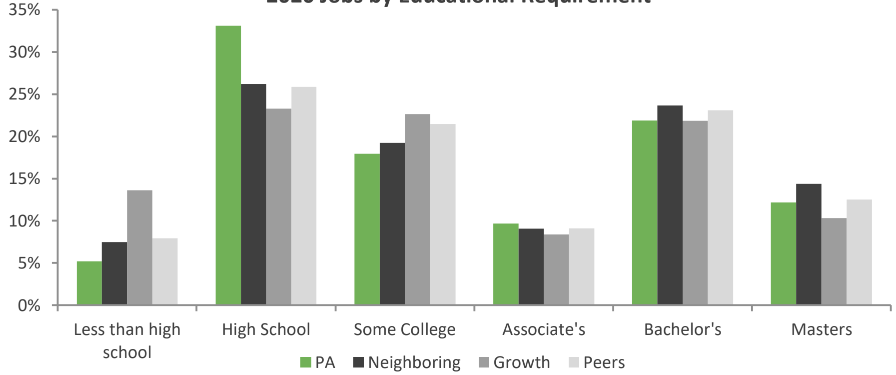
EDUCATIONAL ATTAINMENT:

JOB PROJECTIONS & REQUIREMENTS

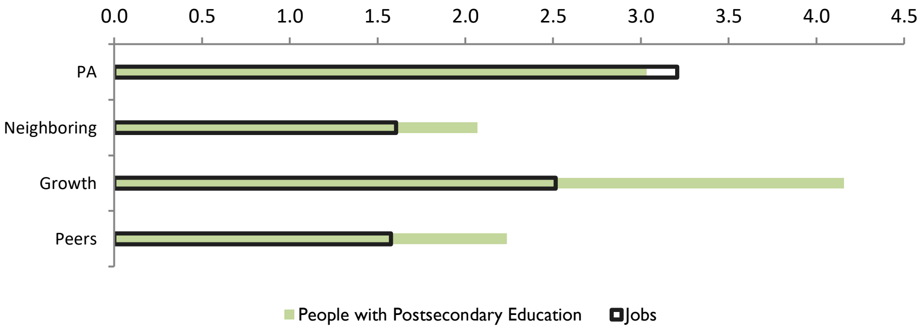
Job projections provide useful insight into the direction of a state's economy. As overall educational attainment increases, so have the skills and training requirements of employers.

More jobs are requiring postsecondary degrees*, but these trends differ among the states. Of the state types examined here, Pennsylvania has a higher share of jobs that will require only a high school degree, but most jobs will still require some kind of postsecondary degree. Neighboring states have the highest share of jobs requiring Bachelor or higher degrees, while high growth states have a higher share of jobs that require little to no education.

2020 Jobs by Educational Requirement



People with Postsecondary Education vs. Jobs requiring Postsecondary Education, 2020 Projections (in millions)



Despite its higher share of jobs requiring lower levels of educational attainment, Pennsylvania is projected to have a shortage of appropriately educated laborers in respect to the requirements of future jobs. Most of this job growth will be in jobs requiring some level of college attainment, an Associate's degree, or a Bachelor's degree.

Sufficient training for PA's labor supply may be attainable through strengthening community college programs and vocational training. These needs may also be met in the future with increased migration of highly educated workers, as is the case in high growth states.

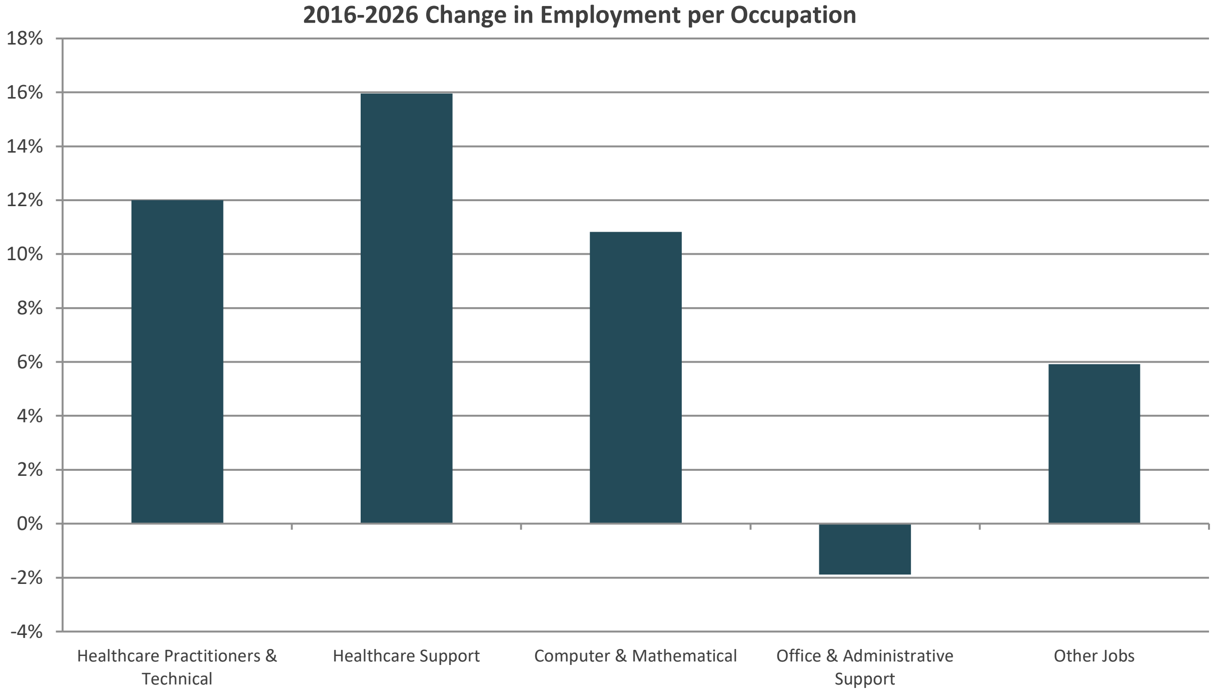
*Postsecondary degrees include Associates, Bachelor's, Graduate, PhD, and professional degrees

Sources: US Census Bureau(2017), Bureau of Labor Statistic (2018), Georgetown University (2015)

PA ECONOMIC COMPETITIVENESS DASHBOARD

PROJECTED JOBS IN PENNSYLVANIA

Below are four of the most popular occupations in Pennsylvania. These occupations are projected to either expand as their respective industries grow or retain their shares of overall occupations in the state (while Office & Admin support will decline in overall employment, these occupations will still make up the highest share of jobs in the state, dropping slightly from a 16% to 15% share of all jobs).



See Detailed Projections →

See Detailed Projections →

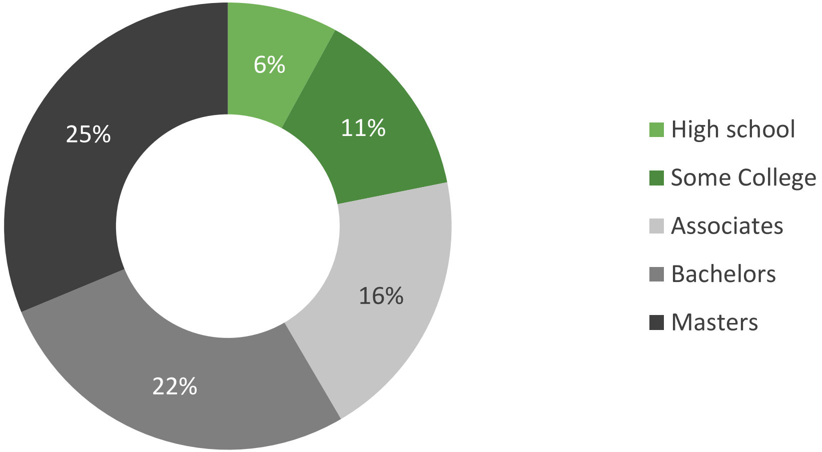
See Detailed Projections →

See Detailed Projections →

Source: Bureau of Labor Statistic (2018),

PROJECTED JOBS IN PENNSYLVANIA

Healthcare Practitioners & Technical

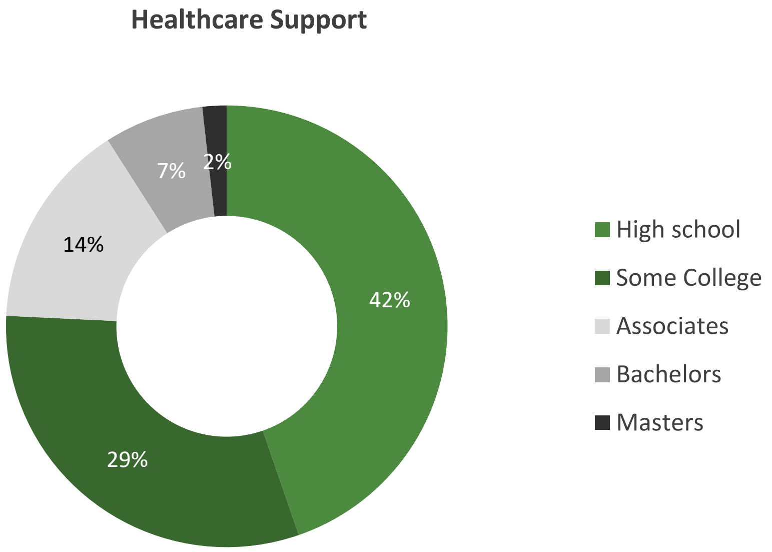


Healthcare Practitioners will be in demand as PA's population ages and requires more primary and specialized health care. Most of these occupations require at least a Bachelor's degree, although a share (including Nursing occupations) require only an Associate's degree, which can be obtained through community college.

Job Growth			
2017	2026	Total New Jobs	Growth
395,930	443,430	47,500	12%

Source: Bureau of Labor Statistic (2018),

PROJECTED JOBS IN PENNSYLVANIA



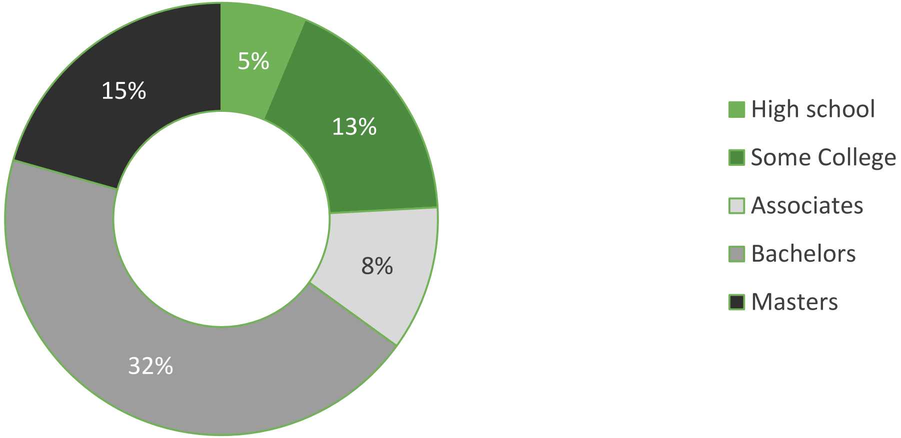
The **healthcare support sector** is projected to experience the highest growth in jobs by 2026**. 90% of these jobs will not require a Bachelor's degree**. Much of this growth is due to PA's aging population, who consume more health care services than the rest of the population.

Job Growth			
2017	**2026**	**Total New Jobs**	**Growth**
198,080	229,690	31,610	16%

Source: Bureau of Labor Statistic (2018),

PROJECTED JOBS IN PENNSYLVANIA

Computer & Mathematical



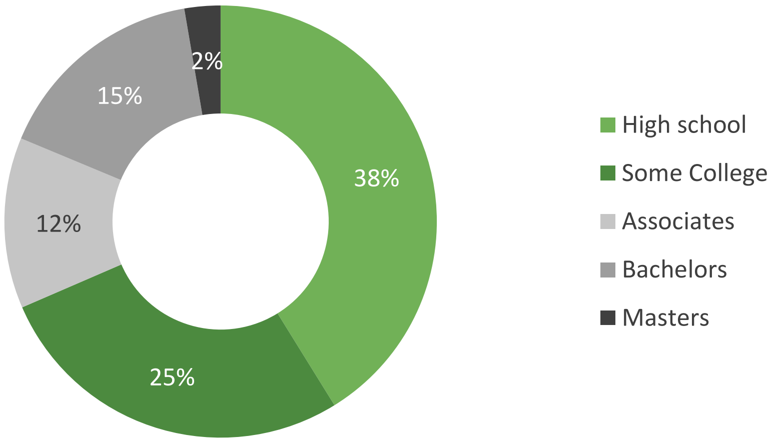
Jobs in the computer & mathematical sector are projected to grow by 11%, falling in the top three highest growth sectors. **Most of these jobs will require a college degree.** Jobs in this sector are well-paying, with an average salary of $83,000 in 2017.

Job Growth			
2017	2026	Total New Jobs	Growth
158,430	175,590	17,160	11%

Source: Bureau of Labor Statistic (2018),

PROJECTED JOBS IN PENNSYLVANIA

Office & Administrative Support



While the number of **Office and Administrative Support** jobs is projected to decline by 2026, these occupations will still make up the largest share of employment in Pennsylvania. More than 60% of these jobs do not require a Bachelor's degree, though they are starting to require more technical skills involving software and data management.

Job Growth			
2017	**2026**	**Total New Jobs**	**Growth**
965,560	947,340	(18,220)	-2%

Source: Bureau of Labor Statistic (2018),

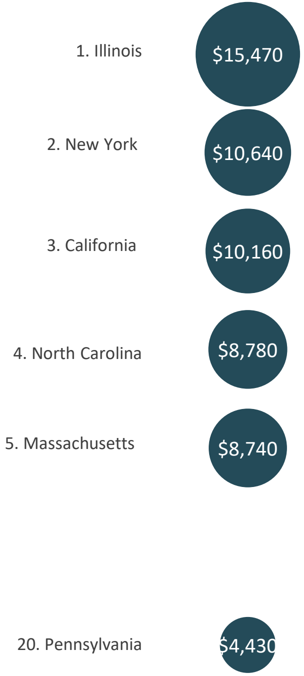
PA ECONOMIC COMPETITIVENESS DASHBOARD

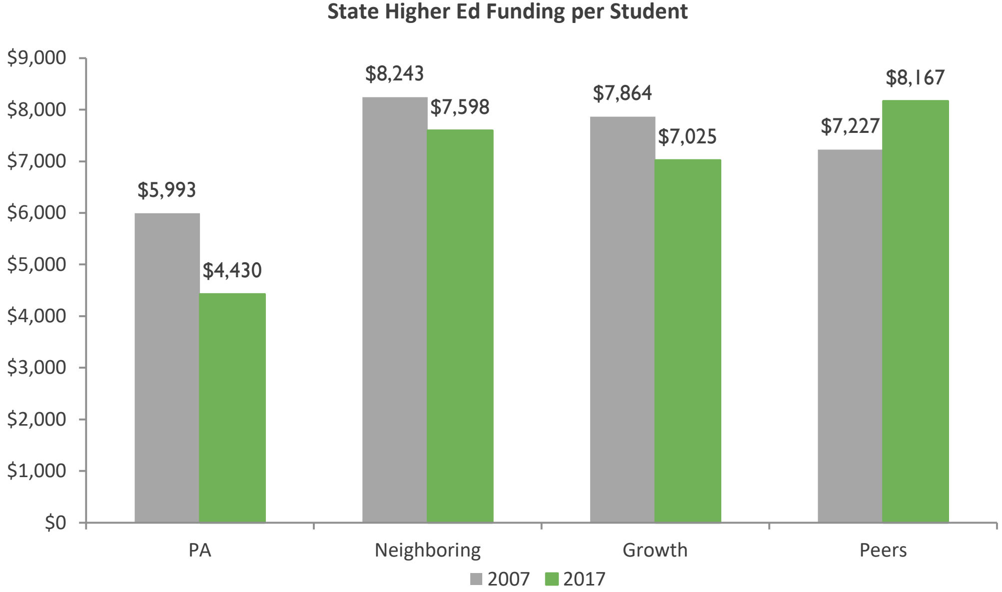
EDUCATIONAL ATTAINMENT: PUBLIC HIGHER ED

STATE FUNDING

State funding for higher education is a useful measure of a state's investment in the educational attainment of its population. Higher amounts of funding per student indicate a well-funded state university system, which benefits not only students but also industries that rely on universities as centers of research, development, and innovation. There is also evidence that state funding keeps tuition lower, since public university systems rely on tax dollars instead of tuition alone to fund the operations of their schools. Pennsylvania has consistently ranked as one of the lowest states on this indicator; compared to competitor states, Pennsylvania falls second to last in funding per college student.

State Funding per College Student, 2017



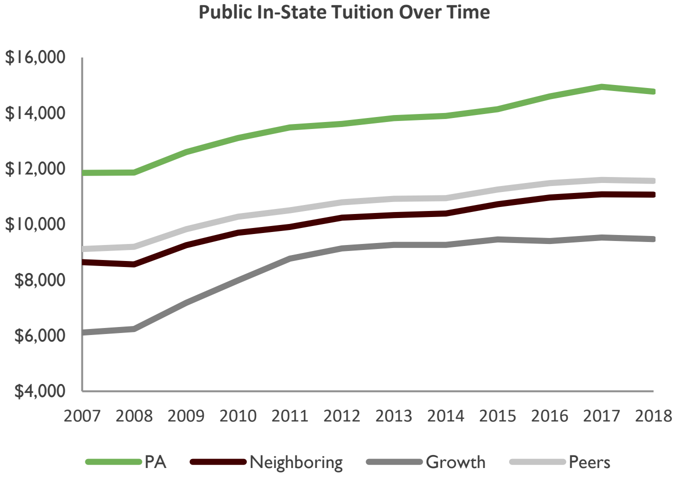


Source: College Board (2018)

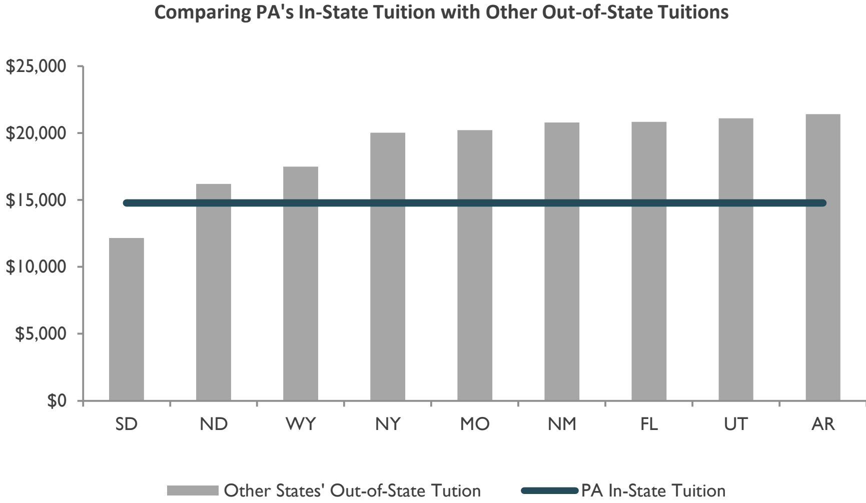
EDUCATIONAL ATTAINMENT: PUBLIC HIGHER ED

TUITION

Nationally, tuition for public colleges has increased by an average of 10% over the last 5 years. Pennsylvania's tuition has been one of the highest for at least a decade, and is currently the 3rd most expensive public tuition in the nation (behind Vermont and New Hampshire). Additionally, 7 states have out-of-state tuition prices competitive with (in a $7,000 range of) Pennsylvania's in-state tuition, with South Dakota's out-of-state tuition costing about $3,000 less than Pennsylvania's in-state tuition. This indicates that in-state tuition for Pennsylvania's residents may be so expensive that they could seek an education in states offering more affordable tuition options.



Source: College Board (2018)



PA ECONOMIC COMPETITIVENESS DASHBOARD

ECONOMY
DEMOGRAPHICS
POPULATION CHANGE
AGING POPULATION
LABOR & INDUSTRY
GDP
TRADE
MEDIAN INCOME
EMPLOYMENT & UNEMPLOYMENT
BUSINESS DYNAMISM
TALENT
EDUCATIONAL ATTAINMENT
ATTAINMENT & MIGRATION
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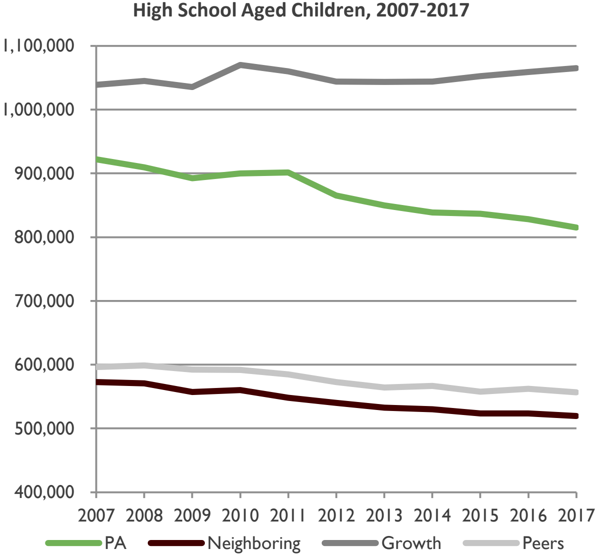
PUBLIC HIGHER ED FUNDING & TUITION
APPRENTICESHIPS
UNION MEMBERSHIP
PLACE
INFRASTRUCTURE
BROADBAND
GOVERNANCE
REGULATIONS
LICENSING
QUALITY OF LIFE
HOUSING COSTS
CRIME
WEATHER
ARTS VIBRANCY

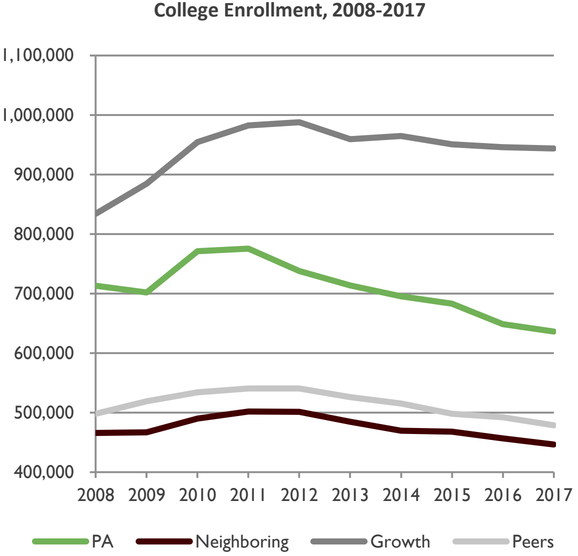
EDUCATIONAL ATTAINMENT: PUBLIC HIGHER ED IN PA

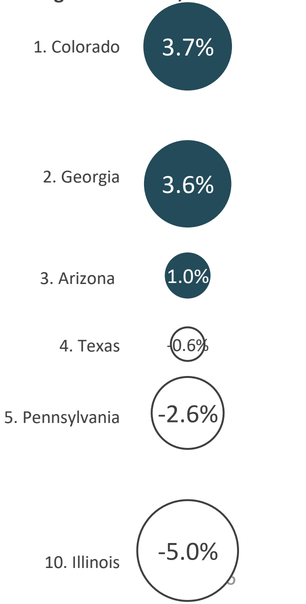
ENROLLMENT

Since 2008, Pennsylvania has seen an 11% drop in college enrollment, the fourth worst decline of all our competitor states. Over this time period, Arizona, Florida, and Texas have seen enrollment increase by 19%. A recent study from the National Student Clearinghouse Research Center found that this past year, Pennsylvania saw a 2.6% decline in college enrollment, about a percentage point higher than the national decline of 1.7%. Pennsylvania's colleges saw a decrease of more than 16,800 students, the fifth largest decline in total numbers in the country (behind Florida, California, Illinois, and Michigan). This decline is likely due to decreases in high school aged children, which has affected Pennsylvania more severely than almost all of our competitor states; the study also related the decline in enrollment to a stronger job market, however Pennsylvania has seen consistent declines in labor force participation for college-aged residents over the past 10 years.

Since 2007, Pennsylvania has experienced a 12% decline in high school aged children, outpaced only by New York which experienced a 14% decrease. Meanwhile, Texas experienced a 14% increase in high school aged children over this time period, followed by Colorado at 10%, and North Carolina and Arizona, both at 9%. This trend may get worse for Pennsylvania as the 5-9 age group has experienced sharp decreases since 2010, in total dropping by 7%. With in-state residents constituting 88% of the student body at Pennsylvania's public colleges, enrollment will likely decline as the number of school aged children in the state continues to decrease.







Source: American Community Survey (2017)

EDUCATIONAL ATTAINMENT: PUBLIC HIGHER ED IN PA

ENROLLMENT POLICIES: DUAL ENROLLMENT

Dual (or concurrent) enrollment allows high school students to take postsecondary classes while still in high school. Research shows that these programs produce a higher likelihood of college enrollment and outcomes like GPA and graduation rates . Many states, including Pennsylvania, support dual enrollment. The functions and funding of these programs are mostly dictated by state policy; in most cases, both high schools and colleges receive portions of state and other aid for these programs. Across the country, more than 1.3 million high school students are part of a dual enrollment program.

BEST PRACTICES:

COLORADO

- Colorado has a state strategy to double the number of postsecondary degrees earned by state residents
- 2009 College Enrollment Programs Act reformed existing dual enrollment programs by:
    - Creating the Accelerating Students Through Concurrent Enrollment Program (ASCENT), which allows high school students to stay for a fifth year that consists entirely of college classes
    - Directing $4.3 million in annual appropriations to ASCENT
    - Mandating coordination and transparency in schools and agencies participating/supporting ASCENT, including articulated qualifications for courses and instructors
    - Allowing high school and college institutions to claim per-pupil reimbursements for enrollees
    - Setting up an advisory board of education stakeholders to oversee the programs

GEORGIA

- Georgia has 4 dual enrollment programs:
    - Accel Program– state-funded, college dual enrollment program (not for technical certificates) for 11th and 12th graders.
        - In 2011, became state funded rather than lottery funded
    - Hope Grant Program – offered to students pursuing technical certification
        - Funded by lottery
    - Move On When Ready (MOWR) – established in 2009, MOWR offers 11th and 12th graders the opportunity to enroll full time (take on a full course load) at a postsecondary institution
        - Funded by school district funding (formula accounts for saved spending from student not attending high school, directs those funds to program)
    - University of Georgia’s Early College Initiative – targets students from underrepresented groups with goal of completing one or two years of transferable college credit prior to graduating high school
- Paid by a variety of sources –scholarships, grants, state formula funding; students only pay for the Hope Grant program.
- Administered by the Georgia Student Finance Commission and the Department of Education

TEXAS

- Texas state law requires all school districts to allow high school students to take up to 12 college credits free of charge
- Since 2003, Texas has provided per pupil funding for these programs, to both school districts and participating colleges
- Participating schools must report annually to the state legislature about program performance
- Participation in the program has increased from 12,000 in 1999 to over 90,000 in 2010, 17% of whom are low-income students

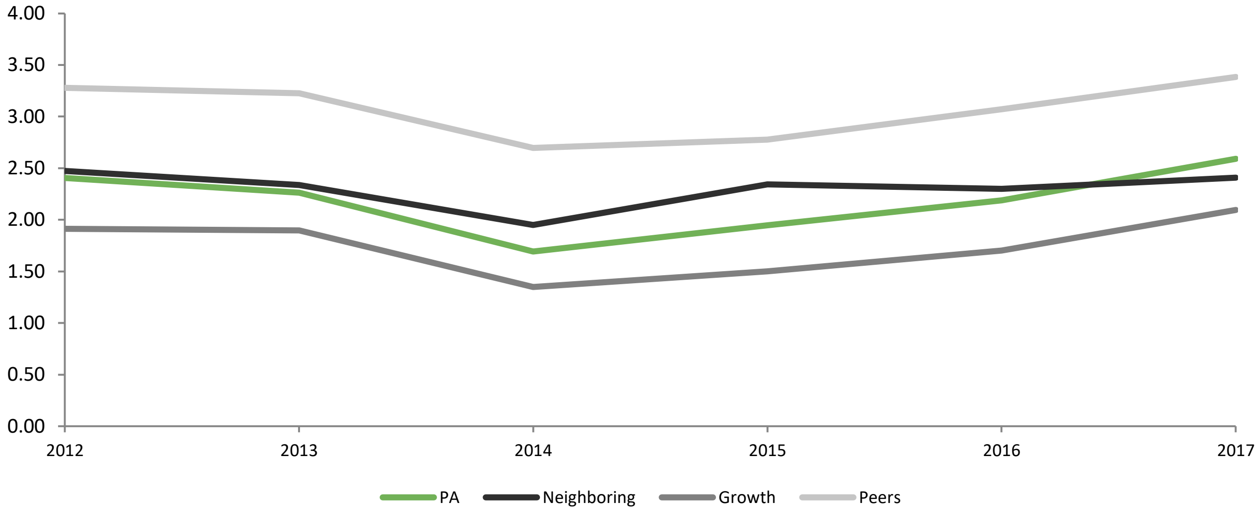
APPRENTICESHIPS

OVERVIEW

Apprenticeships are valuable training opportunities that may serve as an alternative or compliment to attending college. Apprenticeships offer direct pathways to specific careers and function as programs funded by employers, though often with the help of local and state workforce training programs. A higher number of apprenticeships per state indicates a higher level of employer investment in workforce training as well as a higher level of skill attainment in the labor supply.

Apprenticeship programs have generally had bipartisan support across the US. In 2016, President Obama directed $90 million to the ApprenticeshipUSA program to expand apprenticeships as the economy continued to recover from the Recession. In 2017, President Trump released an executive order to expand apprenticeships and created a task force dedicated to this goal. Additionally, the bipartisan Omnibus Appropriations Act of 2018 increased federal funding for apprenticeships.

Active Apprenticeships Per 1,000 Labor Force Participants, 2012-2017



Source: US Department of Labor (2018)

PA ECONOMIC COMPETITIVENESS DASHBOARD

ECONOMY

DEMOGRAPHICS

- POPULATION CHANGE
- AGING POPULATION

LABOR & INDUSTRY

- GDP
- TRADE
- MEDIAN INCOME
- EMPLOYMENT & UNEMPLOYMENT
- BUSINESS DYNAMISM

TALENT

EDUCATIONAL ATTAINMENT

- ATTAINMENT & MIGRATION
- ATTAINMENT & JOB REQUIREMENTS
- PUBLIC HIGHER ED FUNDING & TUITION
- APPRENTICESHIPS
- UNION MEMBERSHIP

PLACE

INFRASTRUCTURE

- BROADBAND

GOVERNANCE

- REGULATIONS
- LICENSING

QUALITY OF LIFE

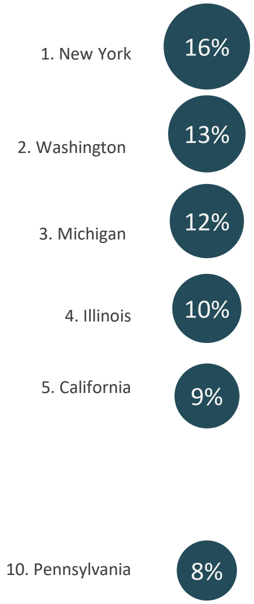
- HOUSING COSTS
- CRIME
- WEATHER
- ARTS VIBRANCY

UNION MEMBERSHIP

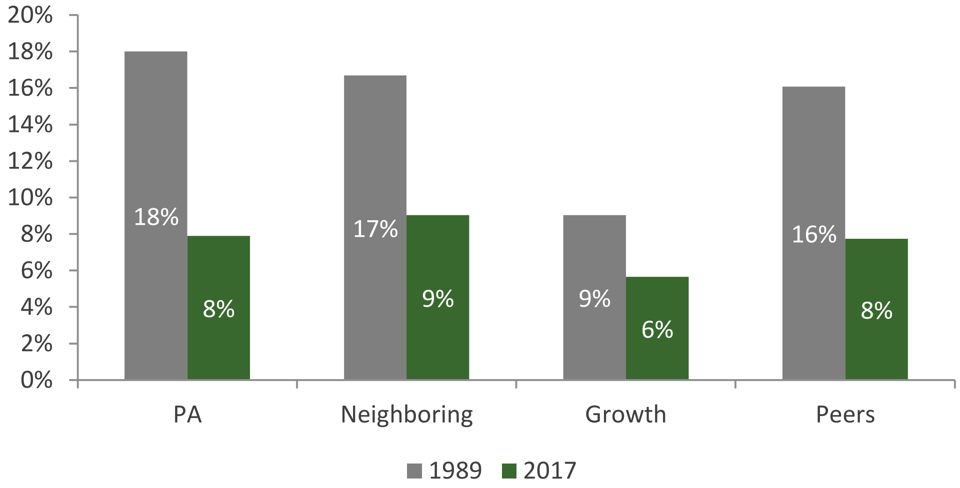
OVERVIEW

The level of union membership in a state serves as an indicator of the state's workforce, politics, and economic trends. According to the Bureau of Labor Statistics, union members in the private sector typically make about $100 to $200 more in weekly wages than their non-union counterparts in the same industry. These higher wages equate to higher economic activity generated from increased spending. Conversely, some studies have shown that higher levels of unionization correspond with slower economic growth. In fact, 4 out of the 5 states with the lowest shares of unionization are categorized as High Growth states (Texas, Georgia, North Carolina, and Arizona). While highly political, this indicator provides context for the trends of the labor force and other economic measures (like GDP, trade, and income) in each of the states.

Union Members Share of Employed Private Sector Employees, 2017



Private Sector Union Members' Share of Private Sector Employment, 1989 & 2017



Source: Bureau of Labor Statistics (2018)

PA ECONOMIC COMPETITIVENESS DASHBOARD

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INFRASTRUCTURE

BROADBAND

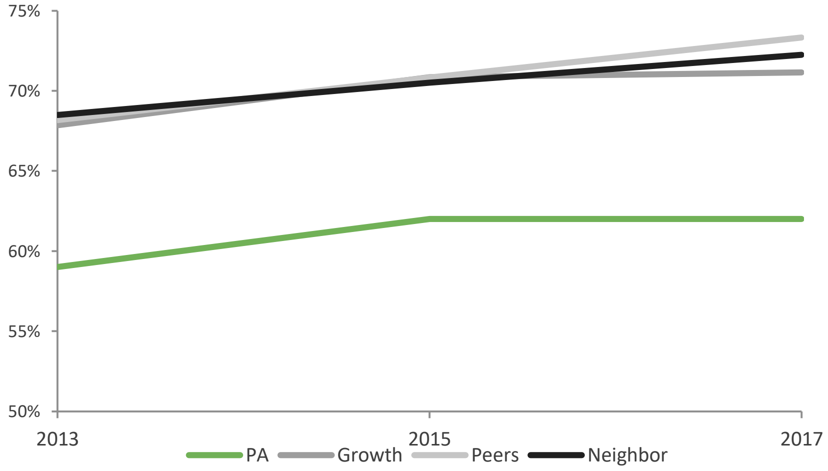
Broadband access has become increasingly important as our economy continues to become centered around technology and the internet. In fact, more than 90% of small businesses in the United States are Internet dependent. Of PA's competitor states, New Jersey has both the highest coverage at 99% and the fastest broadband speed at 52 Mbps. Pennsylvania comes in 8th in this ranking with a 95% coverage rate and an average broadband speed of 41.4 Mbps. The lowest of our competitive states, West Virginia, has only 75% coverage and an average broadband speed of 29.9 Mbps.

While Pennsylvania ranks relatively well in terms of broadband coverage, the state does not perform as well when it comes to coverage of farm businesses. While 71% of farms use smart phones, tablets or computers to manage their businesses, only 62% of farms actually have internet access (as of 2017).

Broadband Coverage, 2018

1. New Jersey	99%
2. New York	98%
3. Massachusetts	98%
4. Delaware	98%
5. Maryland	97%
8. Pennsylvania	95%

Share of Farms with Internet Access, 2013-2017



Source: US Department of Agriculture, National Agricultural Statistics Service (2018)

GOVERNANCE

INDICATORS
GOVERNANCE
REGULATIONS
LICENSING

This Indicator examines the regulatory, licensing, and tax environment in each state. Analysis of these measures includes existing ranking systems published by academic institutions and think tanks. These rankings index the regulatory and licensing requirements in each state, with states lower on the index (1, 2, 3) having more business-friendly and workforce-friendly governance structures than those lower on the list (48, 49, 50).

While the political leanings of each index author should be considered, these rankings show where states generally fall on objective measures of licensing fees, regulatory laws, and taxation. States with more welcoming regulatory environments may encourage more investment in development and small businesses as well as encourage labor force participation, especially for workers considering relocation to that state.

PA ECONOMIC COMPETITIVENESS DASHBOARD

ECONOMY

DEMOGRAPHICS

POPULATION CHANGE

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LICENSING & REGULATIONS

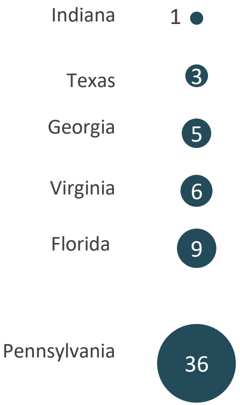
OVERVIEW: **REGULATIONS**

A state's regulatory environment can significantly impact the economic activity of the businesses and people located there. Restrictive, expensive and punitive policies can have the effect of slowing economic growth. However, they may be necessary in ensuring the safety of workers and customers. For example, licensing boards may act as barriers to entry for certain occupations but are necessary to ensure that workers in certain industries, such as healthcare, have met and continue to meet necessary requirements in order to keep clients safe. Other regulations, like fees and taxes, can be restrictive, costly, or unnecessary.

Below are the rankings of states on certain indicators of regulatory efficiency and freedom. In general , Pennsylvania falls in the middle on these rankings. Interestingly, many states with the best scores on these rankings are High Growth states, indicating that an efficient regulatory environment may actually facilitate economic growth.

Regulatory Freedom Rankings (Cato)

Overall Regulatory Structure Rankings (PRI)



LICENSING & REGULATIONS

OVERVIEW: LICENSING

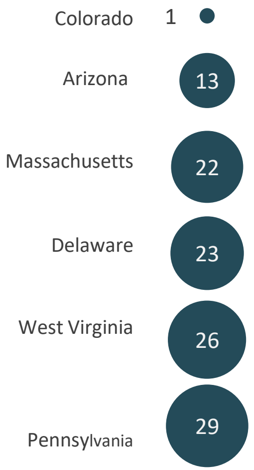
Below are the rankings of states on certain indicators of licensing and occupational requirements such as LLC fees. In the last few years, studies about the licensing and regulatory environment in Pennsylvania have identified shortfalls and barriers to entry. One major study in 2017 was ordered by Governor Wolf and explored the fees associated with licensing as well as some of the restrictive regulations on licensing in PA. One significant finding was that Pennsylvania is the only state that has a mandatory 10-year licensing ban that prevents 50% of licensing boards from approving a license to individuals who were convicted of drug felonies. This kind of ban may prevent many felons in PA from finding reliable work, an issue that has serious economic consequences.

Major findings from 2017 PA Licensing Study:

- PA has 14 licenses types that are only present in a few other states and 5 exclusive to PA
- PA has **strictest licensing ban for felons**
- **Renewal fees** are more expensive than initial fees – designed to create lower barrier to entry
- **2017-2018 legislative session**: at least 12 bills introduced that would create new licenses; 8 bills amended training requirements; **no bills to delicense or deregulate**

LLC Filing Fees

Occupational Freedom Rankings (Cato)



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ARTS VIBRANCY

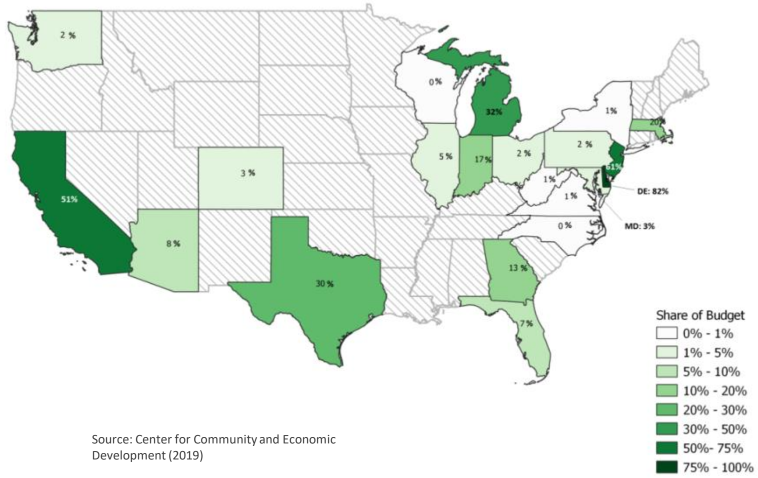
ECONOMIC DEVELOPMENT/WORKFORCE SPENDING

OVERVIEW

State workforce spending, categorized as a portion of state Economic Development budgets, differs greatly across the states. Workforce spending is not always categorized as such, since the focus of workforce programs like training and apprenticeship programs may be the responsibility of non-Economic Development agencies, such as Community Colleges.

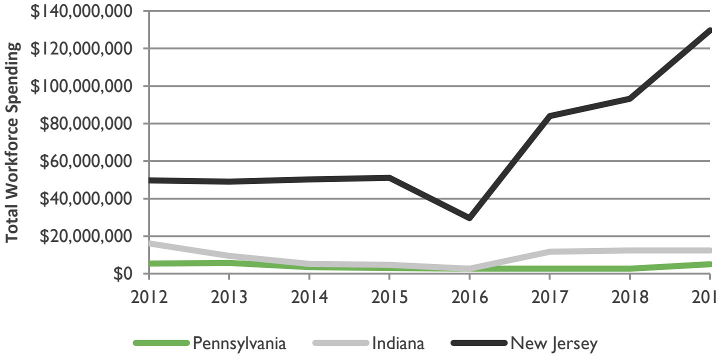
The Council for Community and Economic Development Research compiles funding breakdowns from state budgets and identifies how much state and federal dollars are spent on various Economic Development programs. The map below shows the portion of state Economic Development budgets that are spent on identified workforce programs. New Jersey, Delaware, and California spend the biggest portions of their Economic Development budgets on workforce programs; however, these Economic Development budgets are significantly smaller than Pennsylvania's $320 million budget – New Jersey's comes closest at $214 million.

Workforce Spending Share of State Economic Development Budgets, 2019



Source: Center for Community and Economic Development (2019)

Workforce Spending Over Time: PA & States with Comparable General Funds



Source: Center for Community and Economic Development (2019)

See More About PA's Economic Development Expenditures→

QUALITY OF LIFE

In measuring the overall economic competitiveness of a place, it’s important to consider the kinds of offerings and environments that make it an attractive place to live, work, and play. Popular state ranking reports use data on insurance rates, crime, parks, and weather in order to determine which states offer the best quality of life for their residents.

While some of these indicators are more subjective in nature, and others – like weather – are impervious to policy intervention, their interpretations in ranking reports provide insight into a state’s overall reputation and competitive potential.

PA ECONOMIC COMPETITIVENESS DASHBOARD

HOUSING COSTS

A US News & World Report ranking on affordability of the states ranks Pennsylvania as the10th most affordable among all 50 states. The ranking measures housing affordability as well as cost of living.

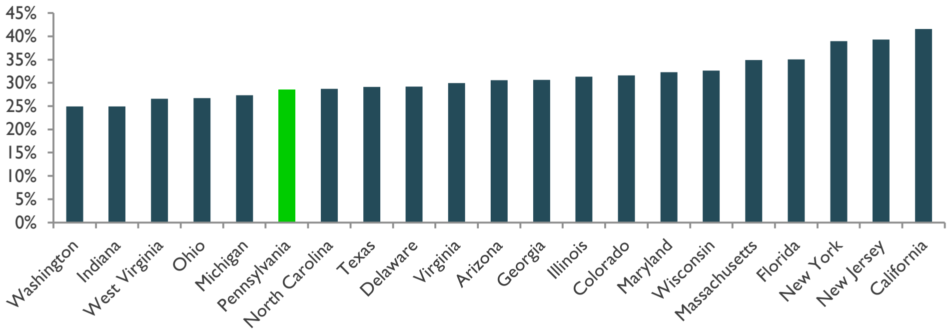
The graphs to the right show how Pennsylvania performs on housing affordability measures. The data reflected in the graphs is a measurement of the **share of households that spend 30% or more of household income on housing expenses**. These housing expenses include mortgage/rent, property taxes and fees, and cost of utilities.

Pennsylvania ranks 6th on this affordability metric, with 29% of its households spending more than 30% of household income on housing costs. This is significantly lower than California, where 42% of all households spend more than 30% on housing costs.

Pennsylvania also performs well when considering the share of income spent on housing costs for households making $50K or less. Pennsylvania ranks 7th, with 51% of households spending 30% or more of income on housing costs. New Jersey ranks lowest on this metric, with a whopping 73% of households making $50k or less spending at least 30% of income on housing costs.

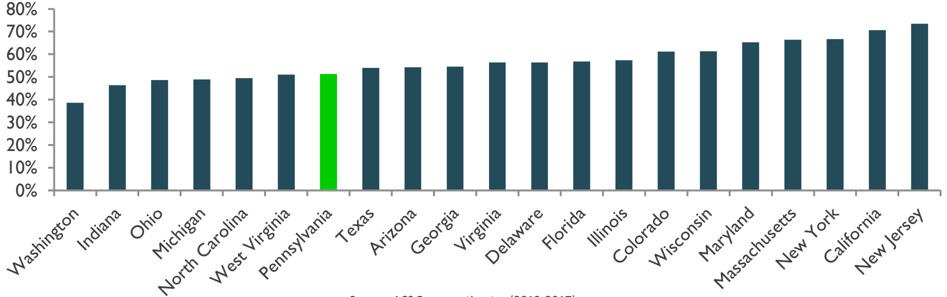
Pennsylvania's relative affordability for low to middle income signifies that households in the state have more disposable income as a result of lower housing costs, compared to other nearby states such as New Jersey, New York, Maryland, and Delaware.

% HH income spent on housing - all income levels



Source: ACS 5-year estimates (2013-2017)

% HH income spent on housing – HH making $50K and below

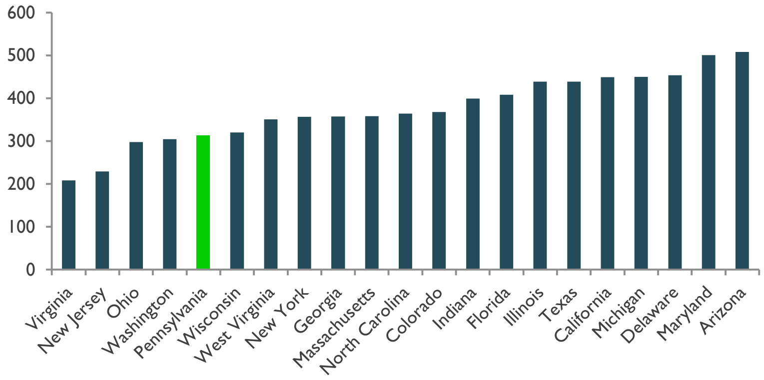


Source: ACS 5-year estimates (2013-2017)

PA ECONOMIC COMPETITIVENESS DASHBOARD

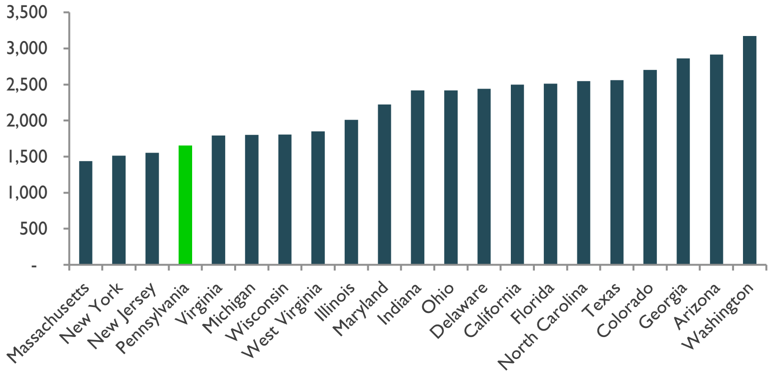
CRIME

Violent Crime per 1,000



Source: FBI UCR (2017)

Property Crime per 1,000



Source: FBI UCR (2017)

Public safety is an important component of quality of life and heavily impacts a place's reputation. US News & World Report includes state crime rates in its overall Best Of rankings. In 2019, US News ranked Pennsylvania as the 11th safest state among all 50 states in 2019. The report's public safety portion ranks the violent & property crime rates of the 50 states.

FBI crime reporting data shows that for violent and property crime rates, Pennsylvania has the 5th and 4th lowest crime rate per 1,000 people, respectively. The violent crime rate in Pennsylvania is 313 incidents per 1,000 people while lowest ranked Arizona has a crime rate of 508 per 1,000 people. Despite Arizona's higher violent and property crime rates, it continues to experience population and job growth, while some of the "safer" states – including Pennsylvania – have seen stagnant growth.

PA ECONOMIC COMPETITIVENESS DASHBOARD

ECONOMY

DEMOGRAPHICS

POPULATION CHANGE

AGING POPULATION

LABOR & INDUSTRY

GDP

TRADE

MEDIAN INCOME

EMPLOYMENT & UNEMPLOYMENT

BUSINESS DYNAMISM

TALENT

EDUCATIONAL ATTAINMENT

ATTAINMENT & MIGRATION

ATTAINMENT & JOB REQUIREMENTS

PUBLIC HIGHER ED FUNDING & TUITION

APPRENTICESHIPS

UNION MEMBERSHIP

PLACE

INFRASTRUCTURE

BROADBAND

GOVERNANCE

REGULATIONS

LICENSING

QUALITY OF LIFE

HOUSING COSTS

CRIME

WEATHER

ARTS VIBRANCY

WEATHER

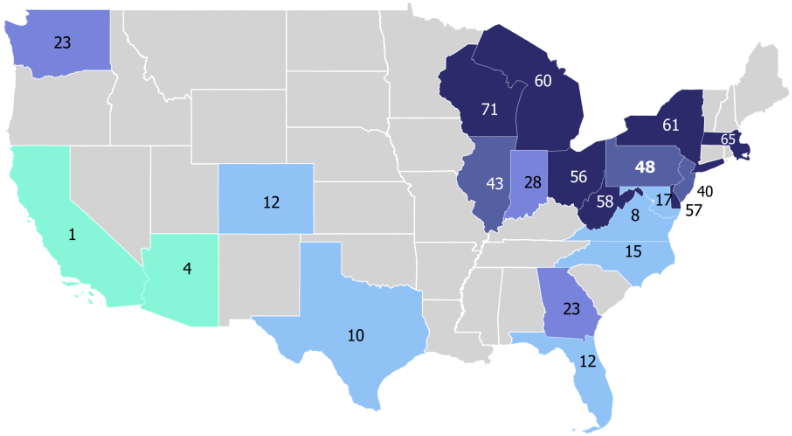
OVERVIEW

While there are many economic issues that can be influenced by human action, weather cannot be controlled. The seasonal climate of a place is intrinsically linked to its identity: sunny beaches in Florida and California, chilly winters in the northern Midwest, desert heat in Arizona, and scenic seasonal changes in Northeast states. Different people have different weather preferences, and many people consider these preferences when choosing a place to live. In fact, a report found that in 2017, 4% of people who left Pennsylvania did so for a change of climate.

In 2014, Wallethub published a ranking of the cities with the best and worst weather. The map below shows the highest ranking achieved by each state. The rankings are defined by percentile, so Pennsylvania's score of 48 means that it's best ranking city (Allentown) falls in the 48th percentile for overall weather quality.

Cities in each state that achieved best weather ranking:

Burbank, **CA** - 1
Scottsdale, **AZ** - 4
Suffolk, **VA** - 8
Midland, **TX** - 10
Greeley, **CO** - 12
Brandon, **FL** - 12
Gastonia, **NC** - 15
Silver Spring, **MD** - 17
Augusta, **GA** - 23
Yakima, **WA** - 23
Fishers, **IN** - 28
Trenton, **NJ** - 40
Joliet, **IL** - 43
Allentown, PA - 48
Toledo, **OH** - 56
Wilmington, **DE** - 57
Huntington, **WV** - 58
Rochester, **MI** - 60
New York, **NY** - 61
Lawrence, **MA** - 65



Source: Wallethub (2014)

PA ECONOMIC COMPETITIVENESS DASHBOARD

ARTS VIBRANCY

Cities	San Francisco	New York	Washington DC	Philadelphia	Pittsburgh
Independent artists	83	4	139	317	367
Arts and Culture Employees	4	8	9	67	19
Arts and Culture Organizations	5	29	42	48	155
Arts, Culture & Entertainment Firms	4	2	28	21	41
Program Revenue	10	17	3	18	24
Contributed Revenue	17	29	1	18	39
Total Expenses	7	12	1	10	18
Total Compensation	6	10	1	9	13
State Arts Dollars	206	13	127	68	128
State Arts Grants	187	63	250	229	401
Federal Arts Dollars	11	13	16	28	23
Federal Arts Grants	3	4	8	9	49
Arts Providers (Overall)	3	1	17	43	63
Arts Dollars (Overall)	7	12	1	10	18
Government Support (Overall)	12	7	19	18	55

A ranking report published by Southern Methodist University in 2018 measured the level of arts vibrancy in mid- to large-sized cities across the United States. The individual scores from the report are listed above. San Francisco, New York, and Washington DC were listed as the top 3 cities with the best arts vibrancy. Philadelphia and Pittsburgh were both listed in the top 25 of the large- and mid-sized cities, respectively. Philadelphia and Pittsburgh performed particularly well on measures of overall investment in their local arts scenes.