



# STATE LAND USE and GROWTH MANAGEMENT REPORT 2010









Fellow Pennsylvanians:

The Governor's Center for Local Government Services has an important statutory responsibility to report on land use and growth management trends in the Commonwealth every five years. This report fulfills that responsibility. It is the first update after the inaugural report in 2005.

The report talks about change. The latter half of the decade brought an economic recession and with it dramatic declines in building and development in Pennsylvania—plus more fiscal stress for state and local governments. Pennsylvania's population is one of the oldest in the nation. The average size of households continues to decrease as they are more comprised of one or two persons and less of families with children. Our state is diverse and land use issues vary from region to region. Marcellus Shale natural gas, not foreseen in the 2005 report, is a major issue today.

Planning and the character of land use and development play an important role in addressing the above issues. Pennsylvania and its communities need to look to the future; understand demographic, market, and technological changes; and be ahead of others in embracing new economic opportunities presented by these changes. We need to understand which community assets are most critical to both retaining and attracting people and businesses. These include not only basic infrastructure and services, but also historical, cultural, and natural features that make Pennsylvania stand out as a place to live, work, and enjoy. State and local governments must act strategically and cooperatively to invest shrinking resources in these priority assets.

I trust you will find the report insightful as we work collaboratively to address land use issues in a way that will provide all Pennsylvanians with the highest quality of life possible, whether they live in a rural community, a small town, a suburb, or a city. The Governor's Center for Local Government Services looks forward to working with state agencies, local governments, the business community, and other stakeholders to review the findings and put the recommendations into action.

Fred Reddig  
Executive Director  
Governor's Center for Local Government Services



# Executive Summary





The 2010 State Land Use and Growth Management Report builds on the work of the inaugural 2005 report with an assessment of statewide and regional growth and development patterns and an evaluation of major contemporary land use issues. This report provides several new recommendations—and opportunities for the Commonwealth to positively impact future growth and development patterns.

### **State Land Use and Growth Management Report**

“A comprehensive land use and growth management report to be prepared by the Center for Local Government Services and which shall contain information, data and conclusions regarding growth and development patterns in this Commonwealth and which will offer recommendations to Commonwealth agencies for coordination of executive action, regulation and programs.”

-Pennsylvania Municipalities Planning Code  
Section 107

## **Major Findings and Themes of the 2010 Report**

### **PRE-RECESSION – DEVELOPMENT OUTPACED GROWTH**

Prior to the current recession (pre-2008), the principal trend identified in the 2005 Land Use and Growth Management Report was still evident—Pennsylvania was developing but not growing. The most current (2005) land data from aerial imagery showed significant increases in developed land, mainly in suburbs and exurbs, at a time when population and the economy showed minimal growth.

- Between 1992 and 2005, urban (developed) land in Pennsylvania increased by 131.4 percent, from approximately 1.2 million acres in 1992 to almost 2.8 million acres in 2005. During this same time frame, Pennsylvania’s population only grew 4.5 percent. The economy, in terms of GDP constant dollars, grew 33 percent.
- Pennsylvania’s population grew by 3.4 percent between 2000 and 2010, compared to 9.7 percent national growth, and ranked 47th in the nation for natural increase (the addition of births and subtraction of deaths) between 2000 and 2009.
- Since 2000, city/borough population decreased at a slower pace and township population increased at a slower rate than in the prior three decades. The decentralizing pattern slowed, but continued.

**Pennsylvania is growing slower than the nation, but consistent with the Northeast region.**



## RECESSION – POOR ECONOMY AND DRAMATIC DROP IN DEVELOPMENT

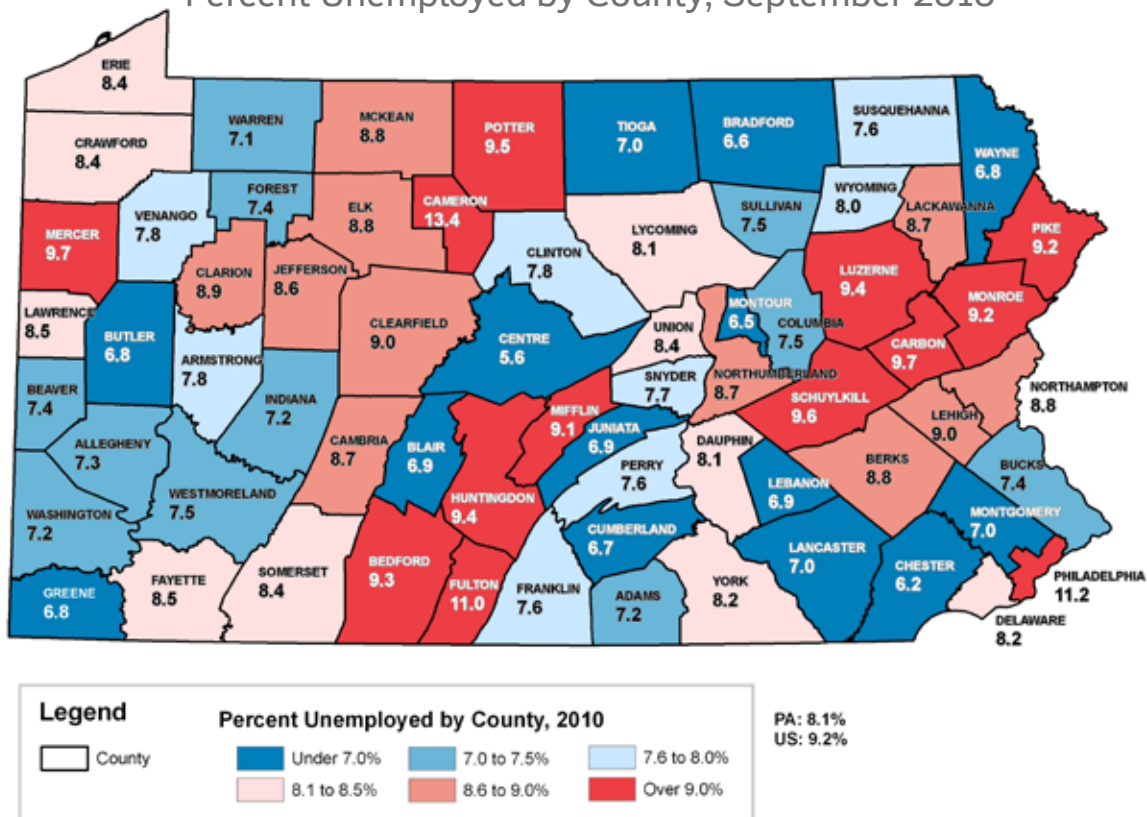
In 2008 and 2009 during the nationwide recession, Pennsylvania's economy as measured by GDP declined, unemployment increased, and development activity dropped precipitously. The number of residential building permits reached lows not seen in 50 years. Subdivision and land development activity slowed considerably throughout the state. Despite the decline, indicators show that what little development occurred was located mainly in suburbs, exurbs, and rural areas.

- In September 2010, the state unemployment rate was 8.1 percent, compared to the June 2007 unemployment rate of 4.4 percent.
- Between 2007 and 2009, the number of new residential building permits declined approximately 46 percent. However, Pennsylvania fared slightly better than the national rate of decline of 58 percent.

- A 2010 survey of county planning agencies shows subdivision and land development activity is down in 83 percent of Pennsylvania counties since January 2008.



## Percent Unemployed by County, September 2010



Source: U.S. Bureau of Labor Statistics



## CHANGING DEMOGRAPHIC DEMANDS

Demographic shifts affect future land use and the character of development. Pennsylvania already has a large proportion of senior citizens compared to other states—a trend which will continue. This trend will impact land use due to seniors' less mobile lifestyle; desire for closer-to-home health care and services; need for smaller, more community-connected housing; and preferred recreations. With the number of deaths approaching the number of births, for Pennsylvania to grow, its communities will need to be attractive to people outside of the state. The principal component of population change in the last decade has been in-migration from other countries, not other states, and in-migrants have been less educated and of lower income than out-migrants.

- In 2009, Pennsylvania ranked 6th in the nation with a median age of 39.9.
- Currently one out of every five Pennsylvanians is over the age of 60. By 2020 it is projected that this age group will account for 25 percent of the state's population.
- Pennsylvania's low tax burden coupled with a relatively low cost of living for the region makes it an attractive place for seniors to live and retire.
- Pennsylvania cities, boroughs, and older suburbs offer urban lifestyle opportunities which are increasingly becoming more popular among the 45-and-older baby boomer population. These communities also provide potential health benefits by offering more opportunities to walk.
- The average size of households continues to decrease as they are more comprised of one or two persons and less of families with children.







## PLANNING ISSUES VARY WIDELY BY REGION

Pennsylvania is a tale of two states. Data and maps regularly depict a dividing line running from South Central Pennsylvania up through the Lehigh Valley and the Poconos. Areas to the south and east are experiencing more growth, better economic indicators, and a younger population than to the north and west. Clearly a one-size-fits-all policy approach won't work.

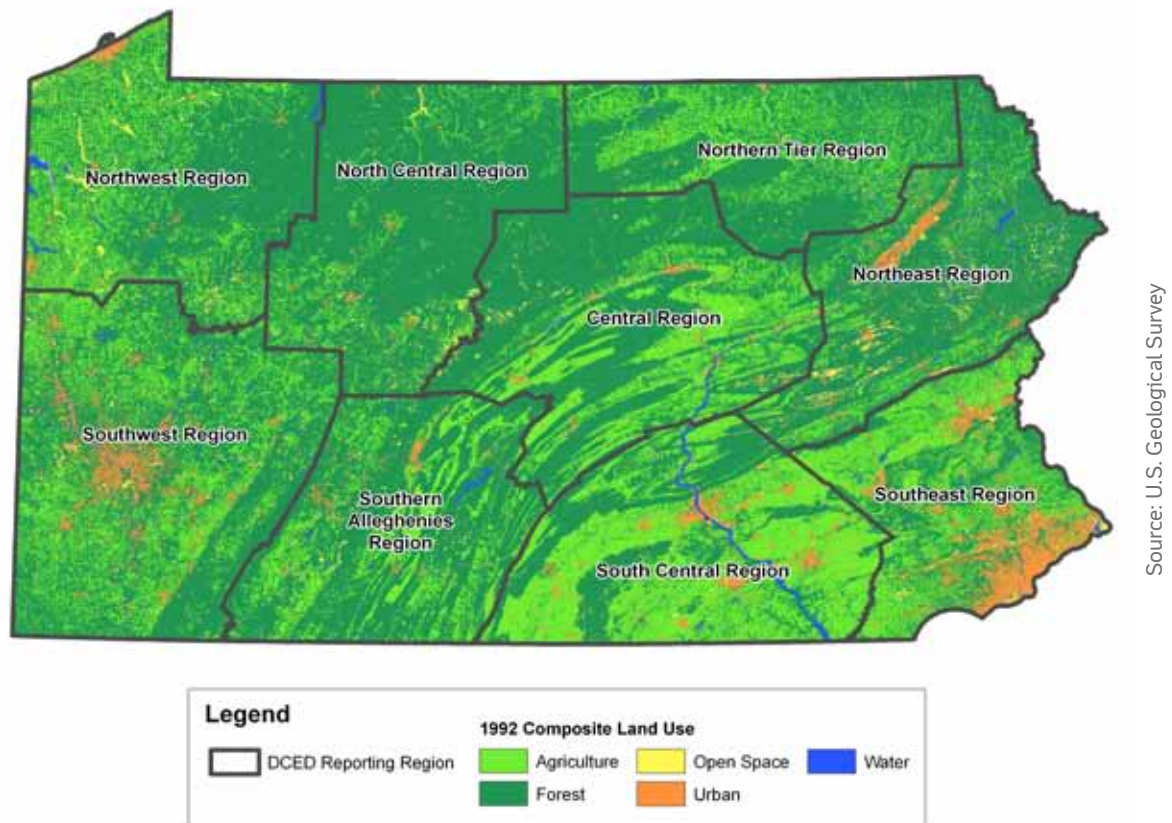
- Between 1970 and 2007, the Southeast and South Central regions experienced the greatest increase in population and housing, whereas the Southern Alleghenies and Southwest regions saw a loss in population and an increase in housing units.
- Pennsylvania's total developed land area increased from 4.1 percent of the state's total land area in 1992 to 9.6 percent in 2005—with the most significant acreage increases occurring in the Southeast and South Central regions. A total of approximately 500,000 acres of agricultural land was lost to development within these two regions.

- The Southeast region experienced the greatest percentage loss in acres of forest to developed land (20.4 percent), while three regions (Northern Tier, North Central, and Central) experienced less than a 2 percent loss. The Southeast Region also had the greatest percentage loss of acres of agricultural land to developed land (24.4 percent), while the Northern Tier had the lowest percentage loss with 4.9 percent.

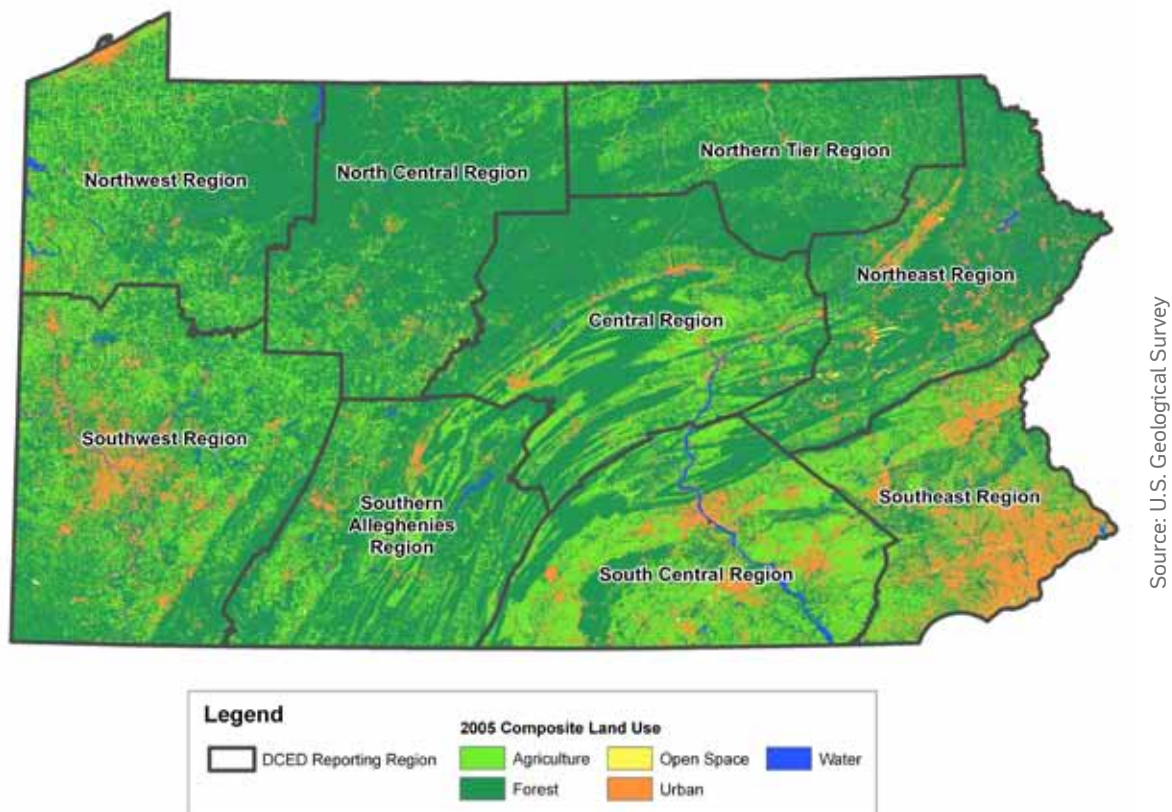
Pennsylvania's different regions and municipality types are growing at different rates and changing in different ways.



Land Cover Composite Map of Pennsylvania, 1992



Land Cover Composite Map of Pennsylvania, 2005





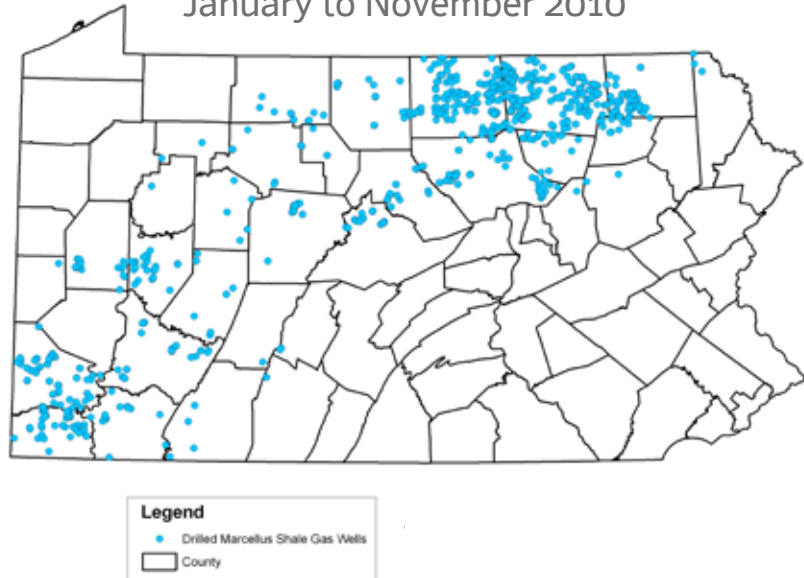
## NATURAL RESOURCE MANAGEMENT AND GROWTH

There are large-scale natural resource issues that will have an impact on land use and development. This includes major natural gas exploration and well activity related to the Marcellus Shale, Total Maximum Daily Load (TMDL) for the Chesapeake Bay Program (and potentially for other watersheds in the future), and energy costs and demands for conservation.

- Sudden expansion in the natural gas industry is introducing environmental, infrastructure, economic, and social impacts, as well as an influx in population to primarily rural areas of the state.

- Bradford, Susquehanna, and Tioga counties are likely to continue as “hot spots” for Marcellus Shale activity in the next several years.

Marcellus Shale Gas Wells Drilled,  
January to November 2010



## INADEQUATE CAPACITY TO ADDRESS GROWING NEEDS

Government fiscal capacity to deal with these matters is declining at both the state and local levels. At the local government level, the burdens of employee pensions and health care, energy costs, and growing government responsibilities are forcing deferred maintenance of infrastructure (roads, water and sewer systems, and parks) and service cuts. Reliable infrastructure is critical to a community's ability to attract investment in homes and businesses. Fiscal stress is becoming more of a reality for all levels of government, not just inner cities and boroughs.

- In 2008, 44.5 percent of municipalities were operating at a deficit. More than half (58.4 percent) of Pennsylvania's cities fell into this category as did 50 percent of townships of the first class. Many boroughs (44 percent) and townships of the second class (43.4 percent) were also operating at a deficit.
- As of November 2010, 19 municipalities (11 cities, 6 boroughs, and 2 townships) were classified as Act 47 distressed communities.

- Existing annual unmet transportation needs are estimated to total \$2.3 billion (local and state needs), rising to almost \$5 billion by 2020. Water and wastewater systems have combined capital needs of \$36.5 billion in the next 20 years.
- Land Use Planning and Technical Assistance Program (LUPTAP) grants have been provided to 470 local government grantees and 25 regional or statewide grantees since the start of the program in 2000. Budget cuts beginning in fiscal year 2009-2010 reduced LUPTAP funding to less than 10 percent of prior levels, limiting planning help available to local governments.

In 2008,  
44.5 percent of municipalities  
were operating at a deficit.



# Areas of Recommendation...

## Opportunities for the Future Pennsylvania

### Planning is a Local Government Function

In Pennsylvania, planning and regulation of land use and development are—appropriately—local government functions. It makes sense for multiple municipalities to work together to deal with issues that cross municipal boundaries, such as economic and development markets, transportation, and environmental systems.

### Planning is Essential

Community planning is an essential local government function, even though not mandated by state law (in most instances). Planning is how a community learns of and adapts to change. It sets priorities for community services and improvements most important for attracting people and businesses. It guides spending decisions. A well-done plan is the springboard for desired development and community improvements.

## Recommendation Area 1: Local Governments Need Resources for Planning

The track record shows that where the Commonwealth, counties, or local organizations provide funding and hands-on technical assistance, local government plans get results—community revitalization projects, better designed development, innovative development regulations, and investments in priority infrastructure and community assets.

### Opportunities for the Commonwealth:

- Develop and maintain a best practices web resource library to share successful practices in planning.
- Enhance planning guidance and develop a training program.
- Coordinate geospatial data and technologies to better inform and assist local governments in decision making.
- Continue the State Planning Board as a non-partisan forum for assessing needs related to land use and growth management.
- Continue the Interagency Land Use Team as a coordination point for state agency funding and permitting actions related to land use and growth management.
- Continue DCED's Land Use Planning and Technical Assistance Program.

Pennsylvania's **Land Use Planning and Technical Assistance Program (LUPTAP)** has a 10-year record of success, and has funded:

- comprehensive plans for 46 counties, 142 partnerships of multiple municipalities, and 69 individual municipalities;
- 74 projects to modernize and improve land use ordinances; and
- 164 strategic plans spurring economic development, revitalization, and community improvements in downtowns, highway corridors, and small communities.



## Recommendation Area 2: Strategic Investment

A strategic approach to investment is crucial to the future of Pennsylvania's communities. It is fiscally smart, if not absolutely necessary. It focuses a community's limited resources on assets most critical to attracting desired development and enhancing quality of life. It results in a win-win of development that both provides real economic growth and is sustainable over the long term.

### Opportunities for the Commonwealth:

- Evaluate the effectiveness of the Keystone Principles and Criteria and continue to implement them through state agency programs.
- Continue the Community Action Team (CAT) approach to deliver Commonwealth financial and technical assistance to local governments.
- Target state investments to important assets identified through local community planning.
- Provide flexible revenue sources for local governments beyond real estate and income taxes.
- Reevaluate and strengthen Commonwealth infrastructure financing programs.

The [Keystone Principles and Criteria](#) were developed by the Interagency Land Use Team and adopted in 2005 by the Governor's Economic Development Cabinet. They include 10 basic principles, a set of core criteria, and preferential criteria for each principle. Twenty-three state agencies have incorporated them as evaluation or scoring factors in financing programs.





## Recommendation Area 3: Green and Walkable

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Pennsylvania's growth opportunity is green and walkable. Changing demographics suggest there is an emerging market for development that is green (energy and environmentally conscious) and walkable (compact, affordable, mixed-use, and favoring pedestrians). This is a win-win scenario. Pennsylvania CAN attract growth AND sprawl less.

### Opportunities for the Commonwealth:

- Embrace a policy to facilitate green and walkable development and capture related market opportunities.
- Realign state funding, program, and permitting priorities to assist green and walkable development throughout the state.
- Promote standards and tools for green and walkable development such as LEED, LEED-ND, revised local zoning and development ordinances, expedited permitting, and tax and development bonuses.
- Establish a designation program to encourage communities to become greener and more walkable—a designation that can be marketed to attract residents and businesses.

Green and walkable development can occur in all community types—cities, boroughs, and townships of all sizes. It can take the form of redevelopment, infill, and greenfield development.

## Recommendation Area 4: Emerging Areas

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Five other emerging issue recommendation areas identified in the 2010 report include:

- Marcellus Shale Natural Gas Industry – Provide financial and technical assistance to help local governments address impacts.
- Resource Protection Programs – Initiate a state effort to better integrate natural resource and farmland protection programs.
- Chesapeake Bay Program – Monitor impacts of TMDL implementation on land use and development.
- Intergovernmental Cooperation – Continue to offer state aid for shared local government services and programs, and promote more options for voluntary intergovernmental initiatives.
- Development Permitting Processes – Convene a discussion on ways to streamline and coordinate development permitting processes.





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# Introduction





In 2000, Acts 67 and 68 brought the most extensive amendments to the Pennsylvania Municipalities Planning Code (MPC) since 1988. Changes included the requirement of general consistency among county and municipal comprehensive plans, enhancements to encourage multimunicipal planning, and the requirement that the Governor's Center for Local Government Services (GCLGS) issue a Land Use and Growth Management Report by 2005 and a report update every 5 years thereafter (MPC, Section 307).

The 2005 report provided an assessment of statewide and regional growth and development patterns, plus strategic policy recommendations. The 2010 report builds on the work of the inaugural report with an evaluation of the primary contemporary land use issues, significant historic and projected trends, and statewide and regional development patterns. The report is organized into three sections to provide background and trend data, as well as a summary of future projections:

- Socioeconomic Setting
- Land Use and Natural Resource Trends and Sustainability
- Government Capacity

This report also calls attention to a number of new recommendations, or specific opportunities for the Commonwealth to positively impact future growth and development patterns.



## Preparation of this Report

This report was prepared by GCLGS with contracted assistance from a private consulting team led by PB Americas, Inc. The consultant team researched recent relevant reports and data sources (see endnotes) to identify significant land use issues and potential solutions for the Commonwealth to undertake. A web-based survey of county planning directors was conducted to verify the leading land use issues found throughout the various regions of the state. Data and findings were discussed at two work sessions of a project steering committee comprised of the Pennsylvania State Planning Board and additional state agency and local government representatives. And, there were two work sessions involving the steering committee and interested stakeholders from private business, economic development, building and development, real estate, conservation, and planning.

## Steering Committee Members

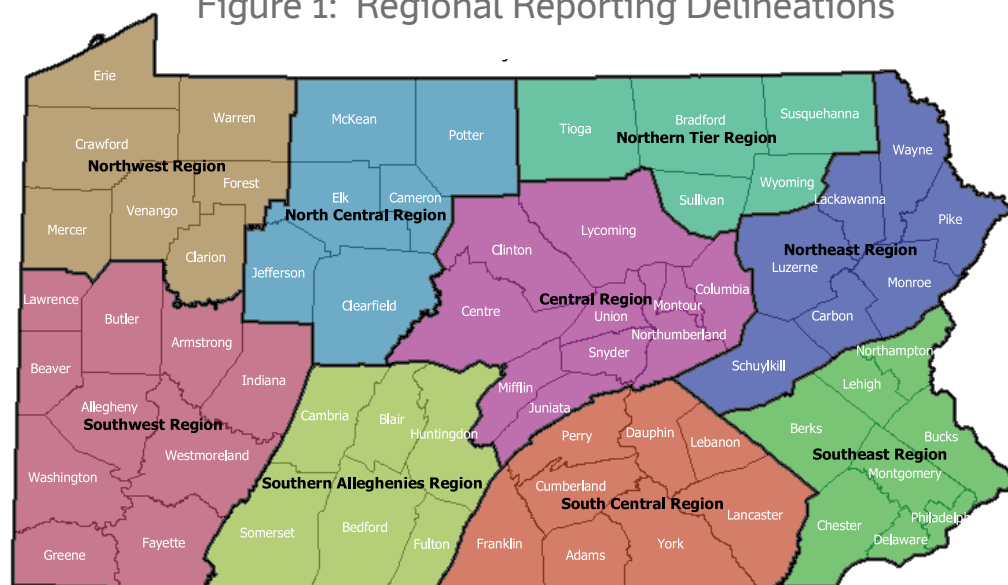
- Pennsylvania State Planning Board
- Pennsylvania Department of Conservation & Natural Resources
- Pennsylvania Department of Aging
- Pennsylvania Department of Labor & Industry
- Pennsylvania Department of Education
- Governor's Office of Policy
- County Commissioners Association of Pennsylvania
- Pennsylvania State Association of Boroughs
- Pennsylvania State Association of Township Commissioners
- Pennsylvania State Association of Township Supervisors
- Pennsylvania League of Cities and Municipalities
- American Planning Association Pennsylvania Chapter

## Participating Stakeholders

- 10,000 Friends of Pennsylvania
- County Planning Directors Association of Pennsylvania
- PennFuture
- Pennsylvania Association of Housing & Redevelopment Authorities
- Pennsylvania Association of Local Development Districts
- Pennsylvania Association of Realtors
- Pennsylvania Builders Association
- Pennsylvania Business Council
- Pennsylvania Economic Development Association
- Pennsylvania Environmental Council
- Pennsylvania Infrastructure Investment Authority (Pennvest)
- Pennsylvania Land Trust Association
- Pennsylvania State Data Center
- Team PA Foundation



Figure 1: Regional Reporting Delineations



Source: Governor's Center for Local Government Services

Focused research was conducted by the project team to collect and analyze quantitative data to show historic and projected trends for the top identified land use issues. In addition, spatial data was obtained and used to prepare a selection of maps to reflect statewide and regional land cover changes from 1992 through 2005. The reporting regions used throughout this report are identical to the regions delineated for the 2005 report as illustrated in Figure 1.

Pennsylvania has 2,562 municipalities in 67 counties: 1,547 1st or 2nd class townships; 958 boroughs; 56 cities of the 1st, 2nd, or 3rd class; and one town. Sixty-five percent of municipalities are rural.

### State Land Use and Growth Management Report

"A comprehensive land use and growth management report to be prepared by the Center for Local Government Services and which shall contain information, data and conclusions regarding growth and development patterns in this Commonwealth and which will offer recommendations to Commonwealth agencies for coordination of executive action, regulation and programs."

-Pennsylvania Municipalities Planning Code Section 107



## Recommendations from the 2005 Report



The 2005 report made seven recommendations to address land use and growth management issues in Pennsylvania. Below is a progress report on implementation of the recommendations.

### **Recommendation – Improve Pennsylvania’s geospatial technologies to guide community and economic investment decisions.**

- Accomplishments – The PAMAP effort funded from multiple public sources and led by PA DCNR, plus PASDA (Pennsylvania Spatial Data Access) led cooperatively by Penn State University and the Commonwealth, have created and made available for broad use digital aerial imagery and elevation data across the Commonwealth.

### **Recommendation – Strengthen the capacity of county and municipal governments to address their growth and development issues.**

- Accomplishments – DCED’s Center for Local Government Services made changes to the Land Use Planning & Technical Assistance Program (LUPTAP) to promote more innovative and effective community plans, more intergovernmental cooperation, and more help to local governments to implement plans.

### **Recommendation – State agencies should coordinate funding and permitting decisions that have regional significance and impact.**

- Accomplishments – Greatly increased coordination via the State Interagency Land Use Team and DCED’s Community Action Team.

### **Recommendation – Conduct a comprehensive review of all state policies, programs, and regulations affecting land use planning to ensure they are consistent with Pennsylvania’s newly adopted Keystone Principles.**

- Accomplishments – 23 state agencies incorporated the Keystone Principles and Criteria into funding programs.





**Recommendation – The State Planning Board should continue to monitor trends and issues related to Pennsylvania’s land use, economic development, and growth patterns.**

- Accomplishments – The Board completed a comprehensive report in 2006 and has been promoting proposals on governance and planning (voluntary municipal consolidation options enacted as Act 102 of 2010).

**Recommendation – County and municipal governments should ensure their financial planning goals are linked and integrated with their community planning and economic development objectives.**

- Accomplishments – GCLGS occasionally offers a training program on the topic and encourages integration by local governments of comprehensive plans with long-term fiscal plans using combined LUPTAP and EIP (Early Intervention Program) funding.

**Recommendation – Promote and support collaborative efforts among and between necessary partners to strengthen municipal planning and economic development.**

- Accomplishments – This is being encouraged by the State Interagency Land Use Team, DCED’s Community Action Team, and revised LUPTAP guidelines.



# Acknowledgements



## Steering Committee

The Pennsylvania State Planning Board served as the core of the steering committee. There are 25 members—sixteen gubernatorial appointments, four legislative appointments (two from each party in each chamber), and five cabinet secretaries.

## Gubernatorial Appointees

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Wordsworth Communications



# Socioeconomic Setting





Pennsylvania is the 6th largest state in the nation but ranks 15th nationally in numeric increase—and 42nd in percent increase—in population since 2000. Although the Commonwealth’s growth is similar to other Northeastern states, the state is growing at a slow pace compared to nationwide figures. Pennsylvania also continues to grow older. In 2000, the Commonwealth ranked second in the nation in percentage and fifth in number of residents aged 65 and above. By 2030, this sector is expected to make up 22.6 percent of the state’s total population.

Pennsylvania’s population and housing continue to show growth in the south and east while the north and west continue to lag behind. The suburban townships of Pennsylvania continue to grow while urban cities and boroughs continue to lose residents.

In recent decades Pennsylvania has maintained a relatively stable economy, though it has grown slower than the national economy and it declined along with the national economy in the late-2000s recession. Pennsylvania’s economy will likely continue to shift away from manufacturing to service-oriented industries. However, there are promising employment opportunities in the growing biosciences and high-tech sectors along with the emerging industries of Marcellus Shale natural gas production and “green” jobs.



## Population Growth



U.S. Census Bureau data shows that Pennsylvania experienced a relatively rapid increase in population through the early part of the 20th century (Figure 2), but population growth slowed in the latter part (Figure 3). Population growth was negligible in the 1970s and 1980s, but modest growth resumed in the 1990s and 2000s. The 2010 Census count is 12,702,379. Pennsylvania's growth rate in the last decade (3.4 percent) is comparable to the Northeast (3.2 percent), which includes states in both New England and the Mid-Atlantic. However, Pennsylvania's population growth continues to lag in comparison to the U.S. as a whole, and the state is making up a progressively smaller percentage of the national population (Figure 4). The shrinking proportion of population has caused Pennsylvania to lose at least one seat in the U.S. House of Representatives every year since 1920. The latest census gives Pennsylvania 18 seats in the House—half of what it had in 1920.

Pennsylvania is growing slower than the nation, but consistent with the Northeast region.



Figure 2: Pennsylvania Population and Share of U.S. Population, 1790-2010

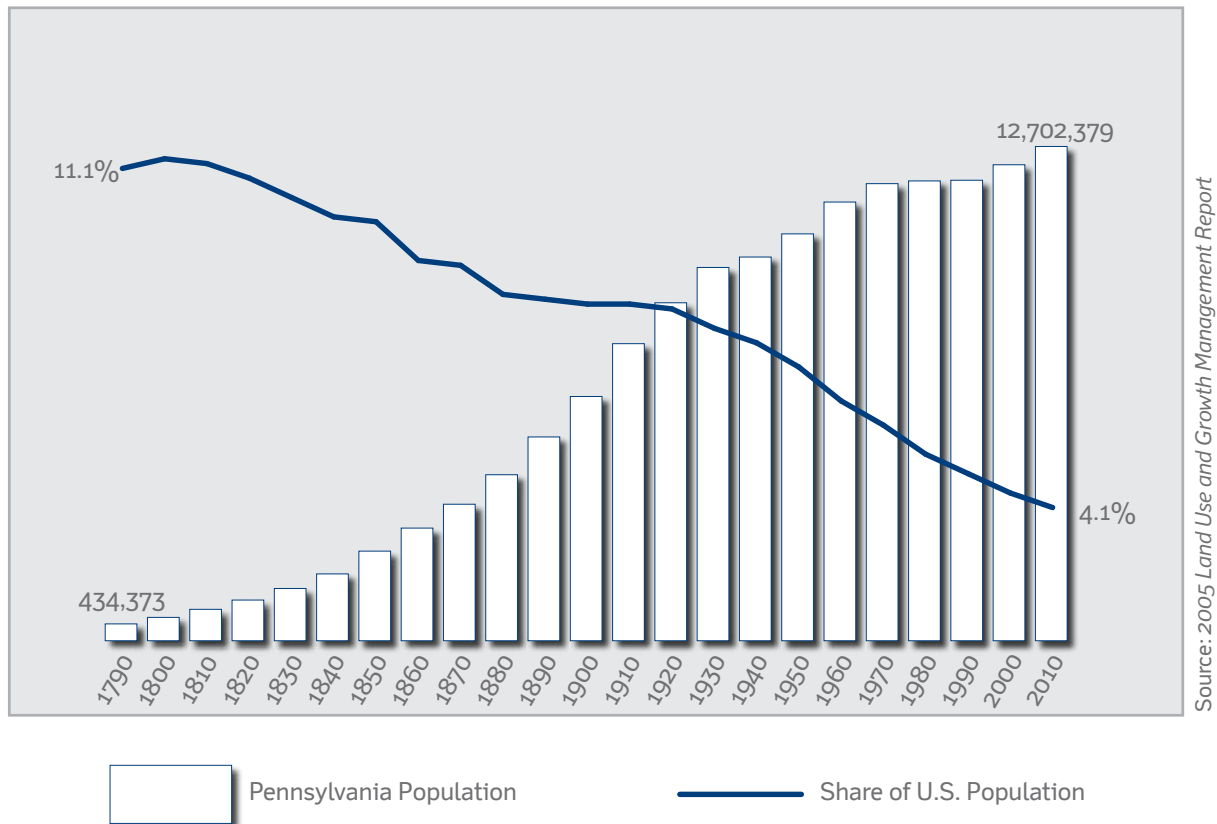


Figure 3: Pennsylvania Population Change, 1950-2010

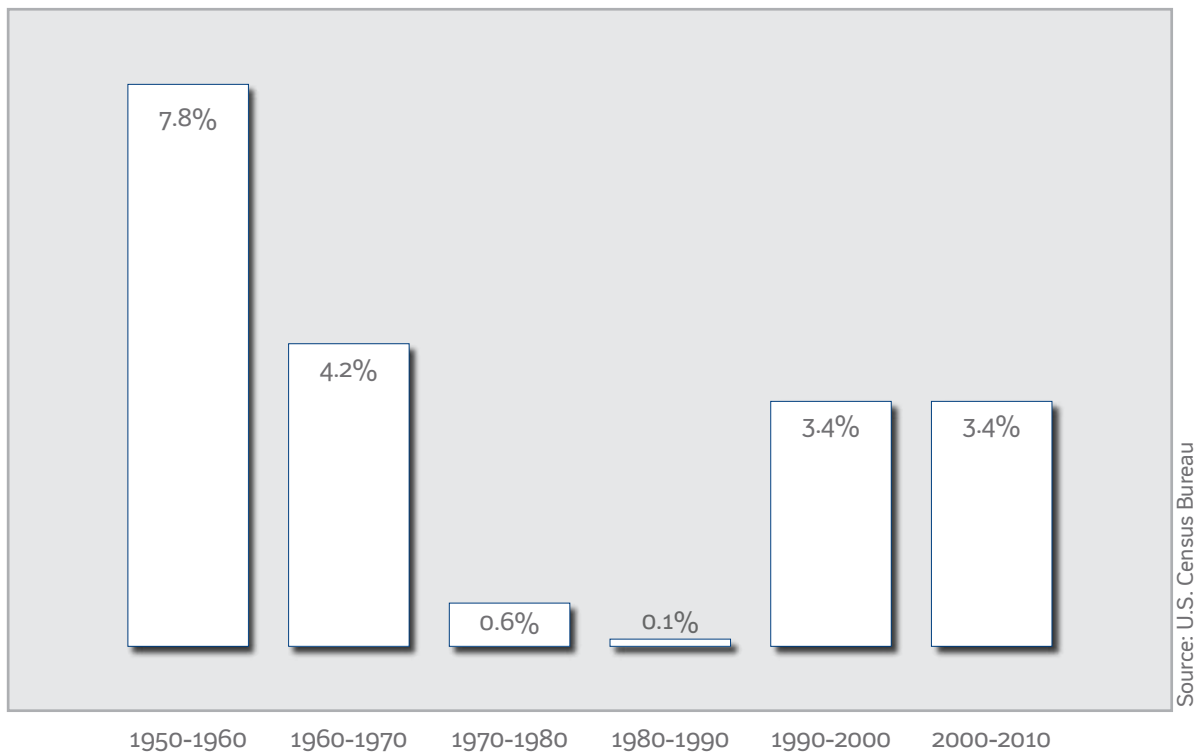
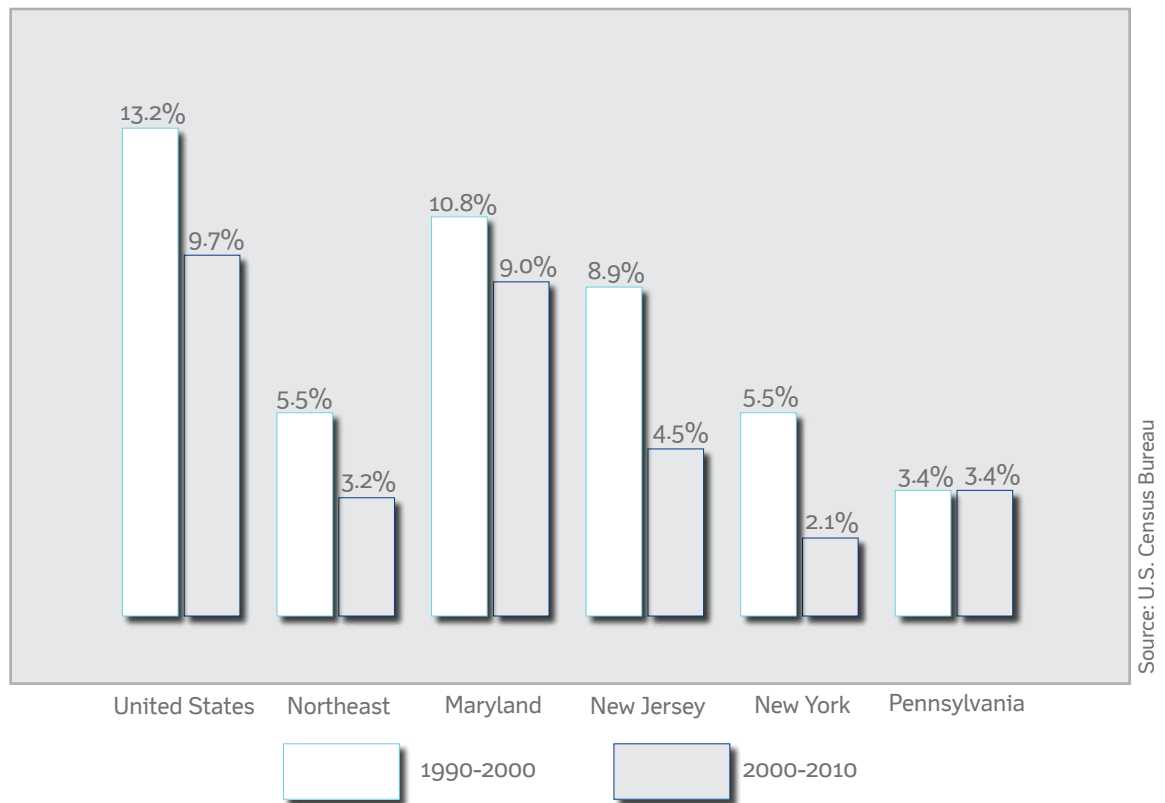




Figure 4: Regional Population Change, 1990-2010



The growth that has occurred in Pennsylvania can be largely attributed to international migration (people moving here from other countries). The state ranked 47th in the nation for natural increase (the addition of births and subtraction of deaths) between 2000 and 2009. During that time frame 32 counties experienced a natural decrease (more deaths than births). However, many of these losses have been compensated by in-migration, predominantly from other countries. Pennsylvania's population increased by 323,696 people during this period; 55 percent of those arrived from other countries. The counties of Chester, York, and Northampton experienced the largest total net in-migration while Philadelphia, Allegheny, and Erie counties experienced the largest population loss to out-migration.

Recent migration characteristics show out-migrants from Pennsylvania to be slightly older, more educated, and having larger income than persons moving into Pennsylvania. A small net domestic out-migration of young adults

also occurred. This reflects the continuing trend from recent decades where Pennsylvania has experienced an out-migration of young educated residents.

Of the residents who remained in Pennsylvania, 87.4 percent lived in the same home as they had the previous year. According to the U.S. Census, Pennsylvania ranked fifth in the nation in the percentage of persons who did not move their residence during the previous year.

During the 2000-2010 time frame, Pennsylvania ranked 42nd nationally in population percent change.



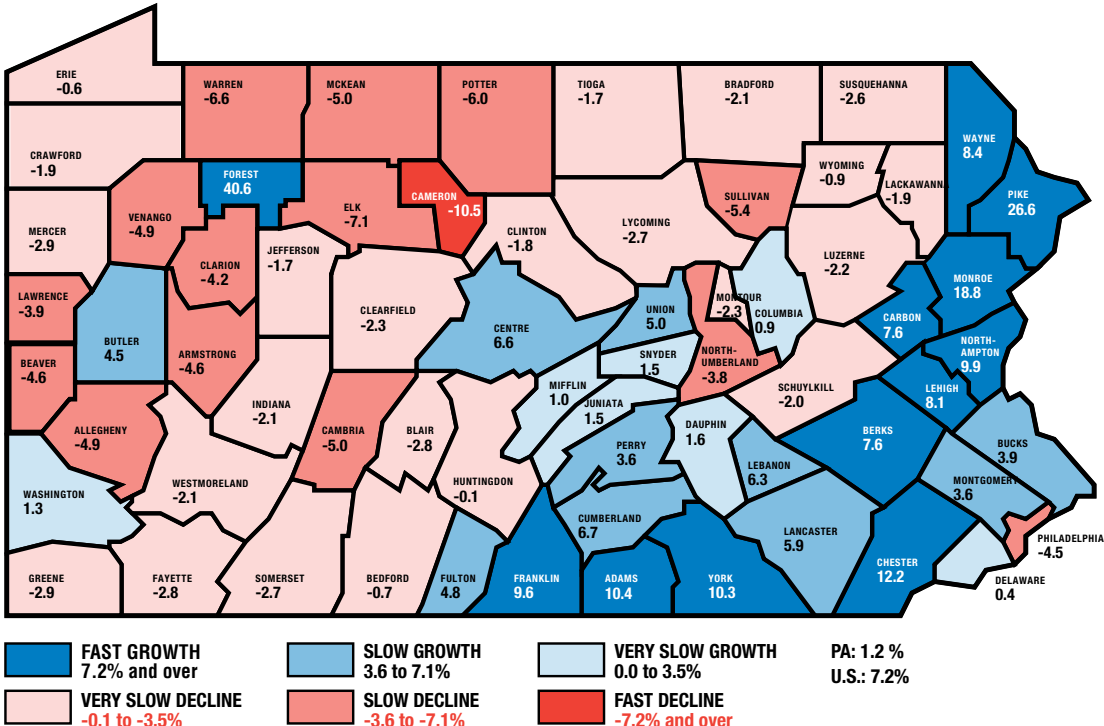
# Varying Patterns of Development

Pennsylvania's different regions and municipality types are growing at different rates and changing in different ways.

Pennsylvania is characterized by diverse geography and communities with varying patterns of development. Differences in population density and migration trends between counties and regions are rooted in disparate economic growth patterns. Between 2000 and 2007, the Northeast and South Central reporting regions were the primary growth areas of the state, as demonstrated by their net gain in population (Figure 5). Forest County had the largest percent population increase in the Commonwealth, primarily due to the mid-decade construction of a new state

correctional institution. Conversely, the North Central region and several counties in the Southwest region experienced the greatest out-migration of residents to other Pennsylvania counties and to other states. The counties of Chester, Cumberland, Lebanon, and Pike led the state in percent population growth for 2008-2009 with 0.9 percent growth. The Lebanon Metropolitan Statistical Area was the fastest growing metropolitan statistical area in the state, and the 149th fastest-growing metro area in the country for 2009.

Figure 5: Estimated Percent Change in Population, 2000-2007



Source: Pennsylvania: Road to Growth, February 2009.



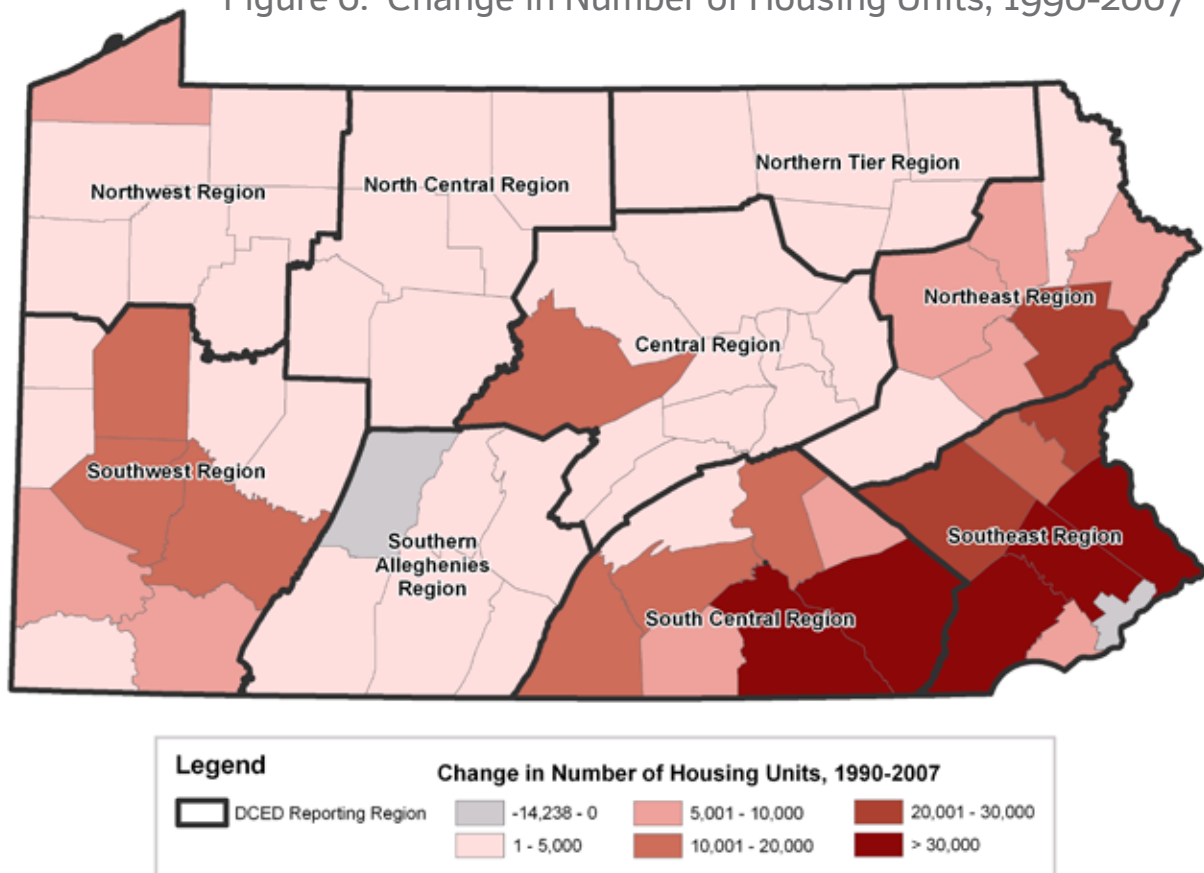
## Housing versus Population Growth

Between 2000 and 2007, two counties in the Northeast region—Pike and Monroe—gained significantly higher percentage increases in housing units than the state average, Pike with a 15.6 percent increase and Monroe with a 16.1 percent gain.<sup>1</sup> This dramatic increase in housing construction likely reveals a continuation of the interstate migration pattern experienced in this corner of Pennsylvania. Chester, York, and Montgomery counties were the top three counties in terms of the absolute number of

housing units built.<sup>2</sup> In contrast, the western portion of the state saw proportionately small increases in housing units since the early 2000s.

Pennsylvania population increased by 4.6 percent between 1990 and 2007, yet the state experienced a 10.9 percent increase in the number of housing units during the same time frame. Growth in housing units for Pennsylvania slightly surpassed New York (9.9 percent) and was relatively comparable to housing growth in New Jersey (13.8 percent). However, housing growth was relatively limited in comparison to the neighboring state of Maryland (22.5 percent). Every county except Philadelphia and Cambria increased in total number of housing units. The degree of housing growth varied greatly across the state as illustrated in Figure 6. With the exception of the City of Philadelphia, the eastern and south central portions of the state experienced the greatest amount of housing growth. The counties of Butler, Allegheny, and Westmoreland in the Southwest region and Centre County in the Central region also gained more than 30,000 housing units.

Figure 6: Change in Number of Housing Units, 1990-2007



Sources: U.S. Census Bureau; Pennsylvania State Data Center, May 2001.  
Compiled by the Pennsylvania Department of Aging

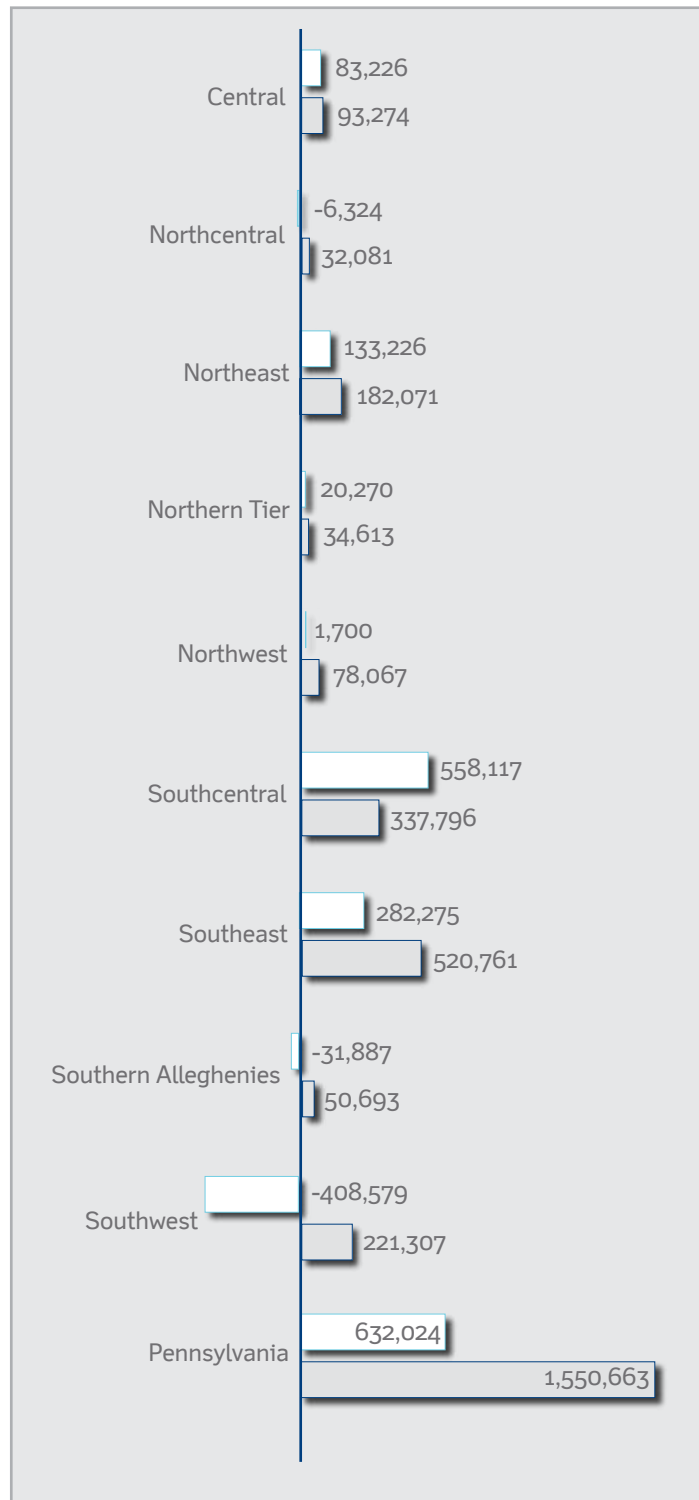




A look at a longer trend (1970-2007) in housing and population by region supports the more recent trend discussed above. Figure 7 compares population and housing growth within and across each region. Similar to the more recent trend, the greatest increases in population and housing units occurred in the eastern and south central portions of the state while the northern portions of the state have shown minimal growth since 1970. However, note that housing growth exceeded population growth in every region of the state, with housing increases even present in regions with net population loss.

An uptick in new housing construction and rehabilitation in cities and boroughs occurred between 2000 and 2004, with 22.5 percent more housing permits issued during that time period than between 1995 and 1999.<sup>3</sup> However, due to the recent economic recession, the number of new residential building permits declined approximately 46 percent in both rural and urban Pennsylvania counties between 2007 and 2009. Pennsylvania fared slightly better than the national rate of decline of 58 percent. In 2009, one residential permit for every 600 residents was issued in the rural counties of Pennsylvania and one for every 730 residents was issued in urban counties. The national average for residential construction was one permit for every 527 residents.<sup>4</sup>

Figure 7: Change in Population and Housing Units, 1970-2007

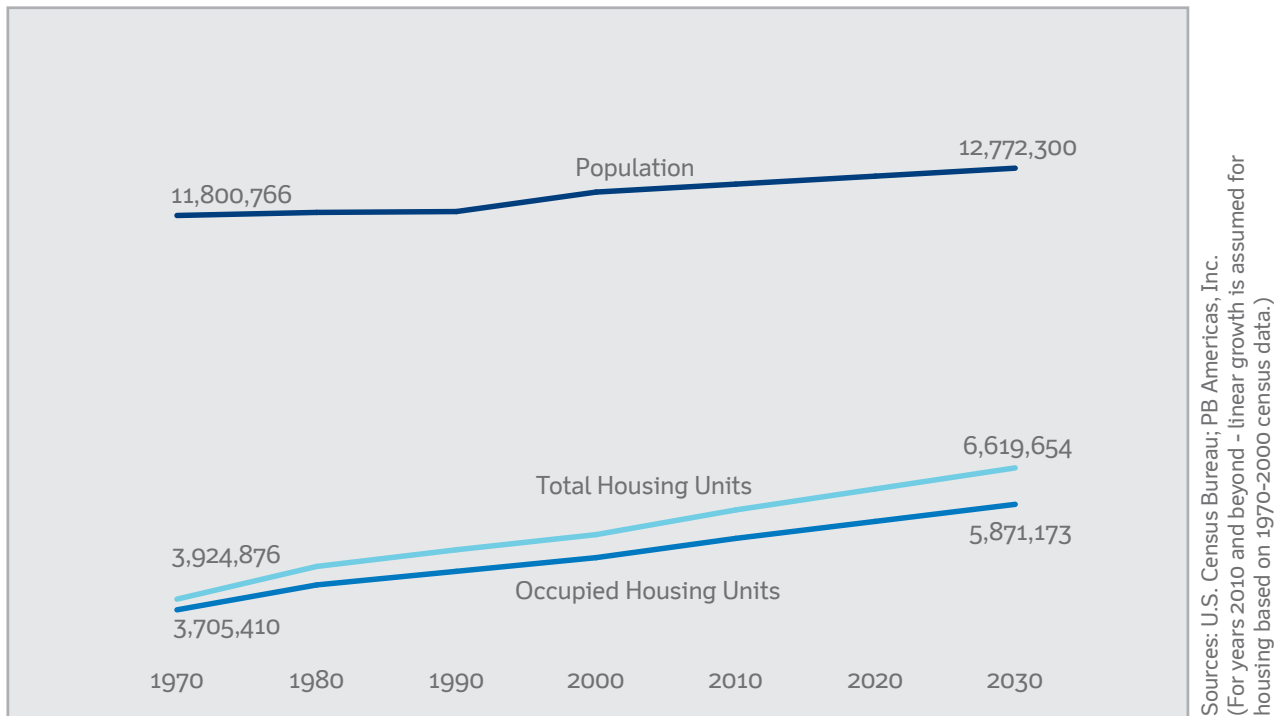


Source: U.S. Census Bureau





Figure 8: Pennsylvania Population and Housing Trends, 1970-2030



The Pennsylvania trend in housing growth beginning in 1970 and projected through 2030 is illustrated in Figure 8. It is evident that the overall growth in new housing units outpaces the growth in population and occupied housing units. During this time frame the size of Pennsylvania households is expected to decrease while the total number of housing units is expected to increase. The number of

persons per occupied housing unit decreases from 3.18 persons in 1970 to a projected 2.18 persons in 2030 (Table 1). Although it appears that the decrease in household size contributes to the increase in housing units, the number of vacant housing units also increases. The housing unit vacancy rate increases from 5.6 percent in 1970 to 10.1 percent in 2010 and a projected 11.3 percent in 2030.

Table 1: Persons per Household and Vacancy Rate, 1970-2030

Year	Persons per Household	Vacancy Rate
1970	3.18	5.6%
1980	2.81	8.3%
1990	2.64	9.0%
2000	2.57	9.0%
2010	2.41	10.1%
2020	2.28	10.8%
2030	2.18	11.3%

Sources: U.S. Census Bureau; PB Americas, Inc.  
(For years 2010 and beyond - linear growth is assumed based on 1970-2000 census data.)



## Growth by Municipality Type

Not only are Pennsylvania's regions experiencing variations in population and housing growth, trends indicate disparate population gains and losses based on municipality type. Using most recent census counts, cities, boroughs, and townships of the first class (those typically located closer to cities and boroughs) all experienced an overall decline in population share between 1970 and 2000 (Figure 9 and Figure 10). In 1970, more people lived in Pennsylvania's cities than its townships or boroughs. Between 1970 and 2000, the share of population living in cities declined from 34.5 percent to 25.5 percent. By 2000, the greatest percentage of Pennsylvanians (41.7 percent) lived in second class townships. This population shift signified a historic trend in rural and suburban population growth and urban decline.

Municipal population estimates from the U.S. Census Bureau indicate the trend is continuing but slowing (Figure 11 and Figure 12). Between 2000 and 2008, Pennsylvania's population in older cities and boroughs decreased 4.5 percent and 3.0 percent, respectively, while townships increased 5.9 percent. When combined, townships of the first and second classes grew by approximately the same percentage that cities and boroughs (combined) declined. Using the estimates, it is evident city/borough population is decreasing less and township population is growing less this decade than in the prior three decades.





Figure 9: Distribution of Pennsylvania Population by Municipality Type, 1970

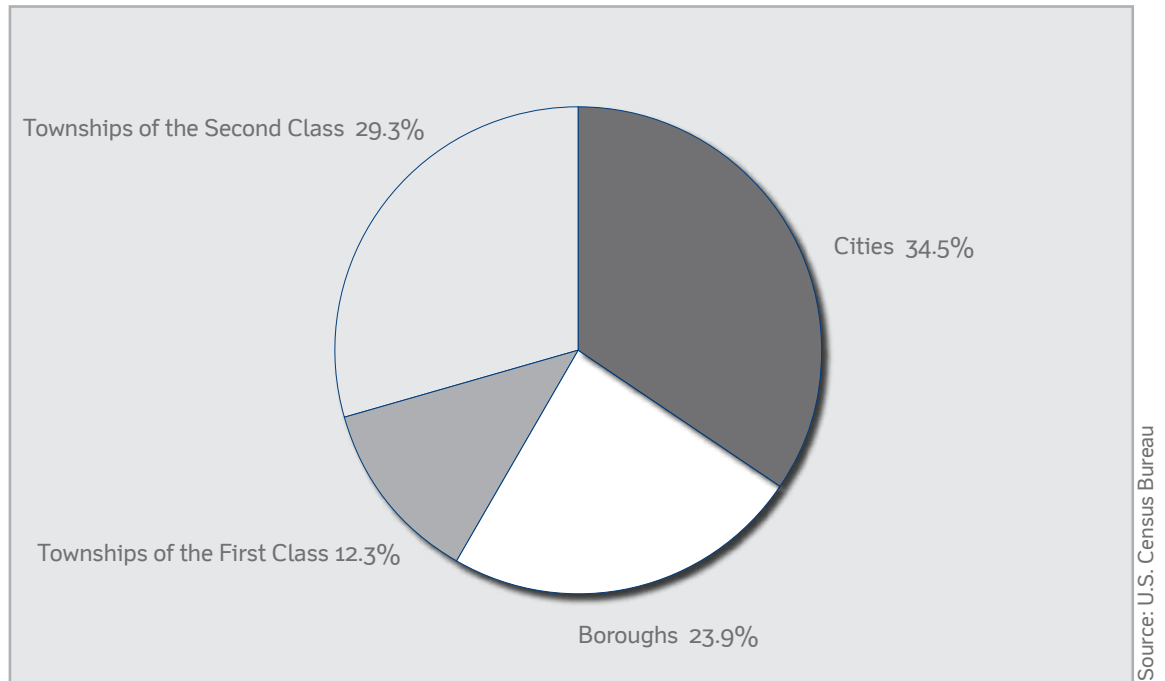


Figure 10: Distribution of Pennsylvania Population by Municipality Type, 2000

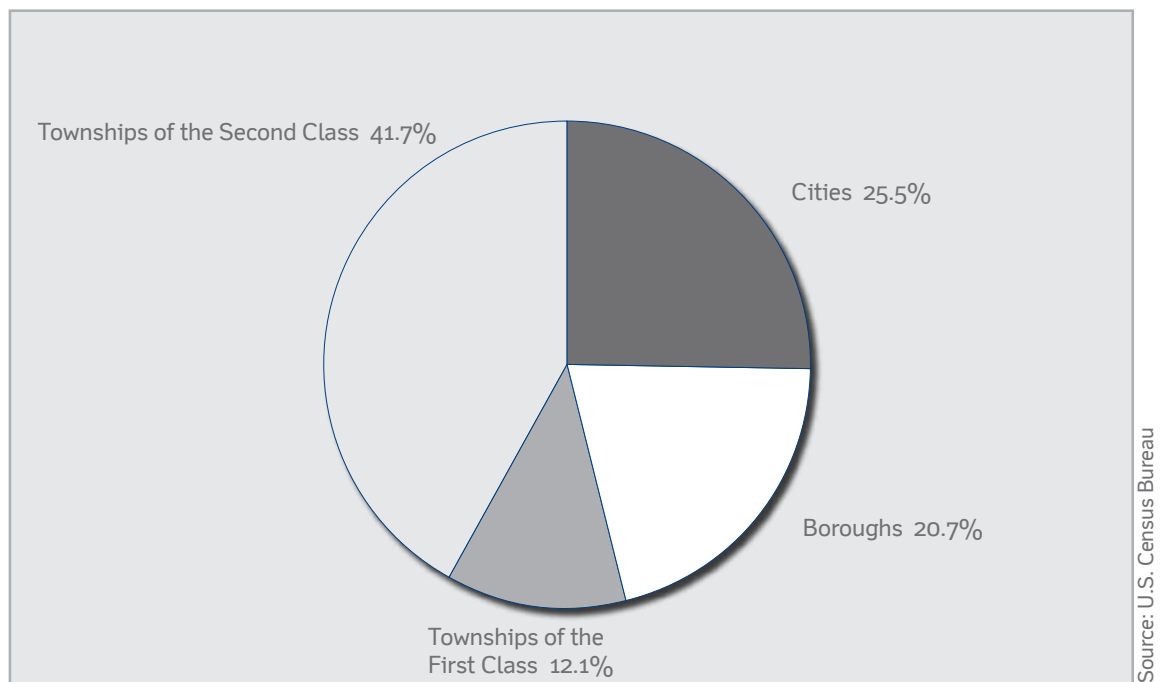




Figure 11: Population Change by Municipality Type, 1970-2000

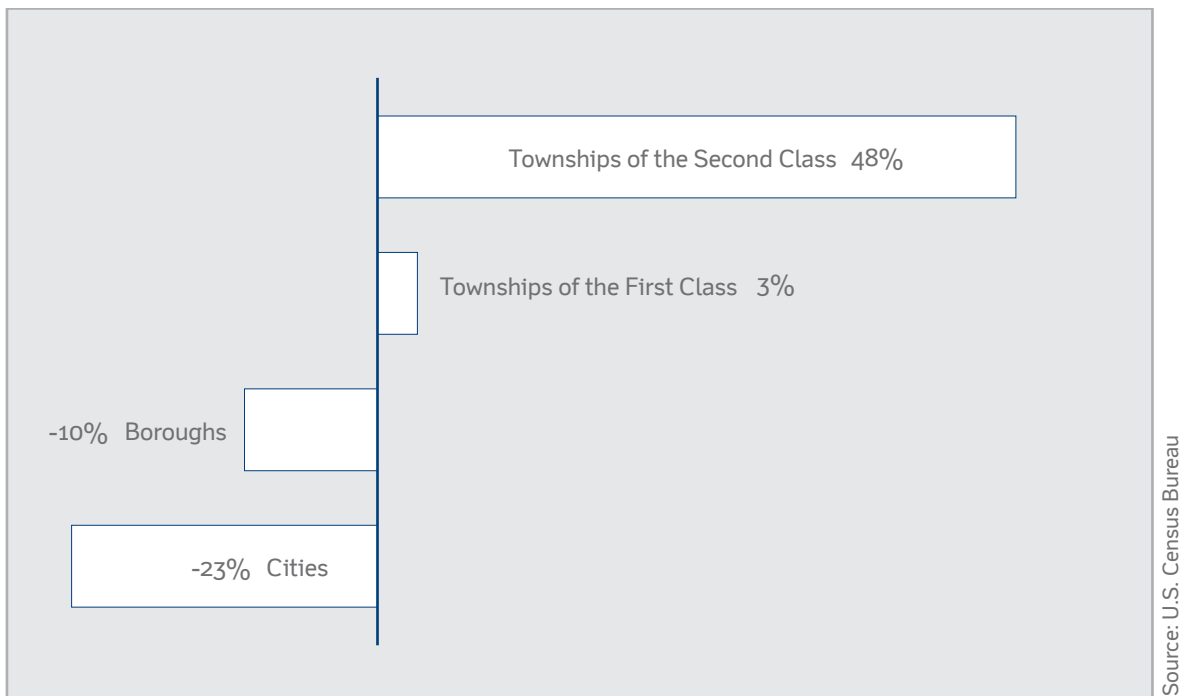
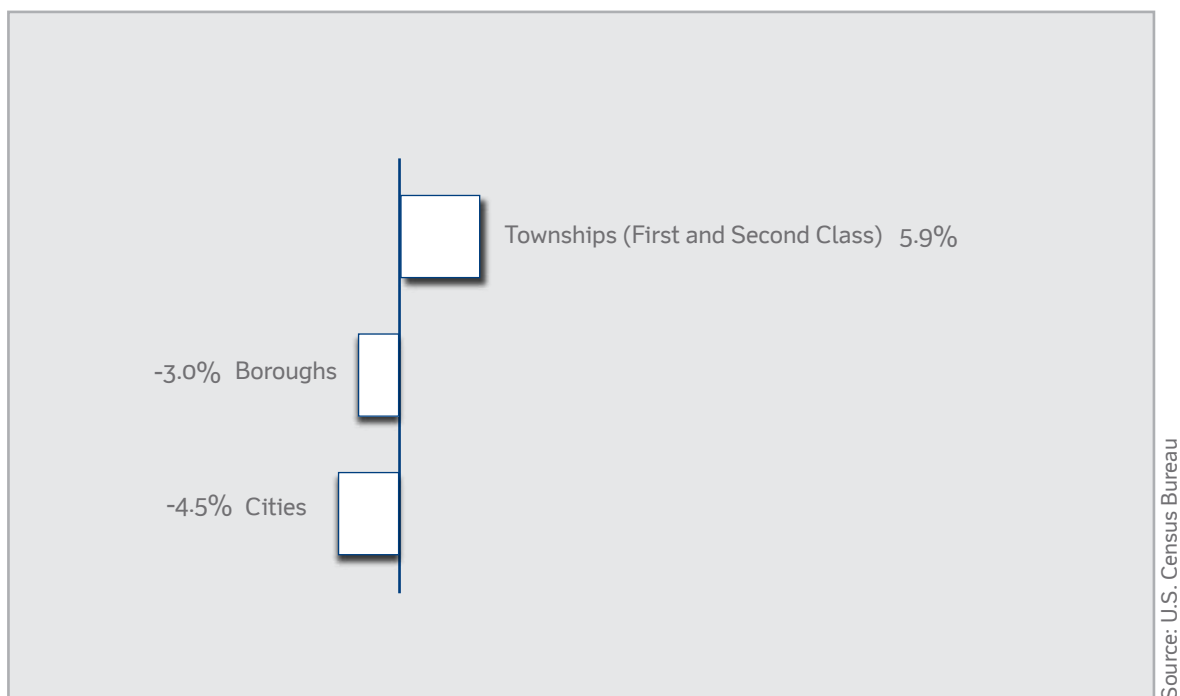


Figure 12: Population Change by Municipality Type, 2000-2008





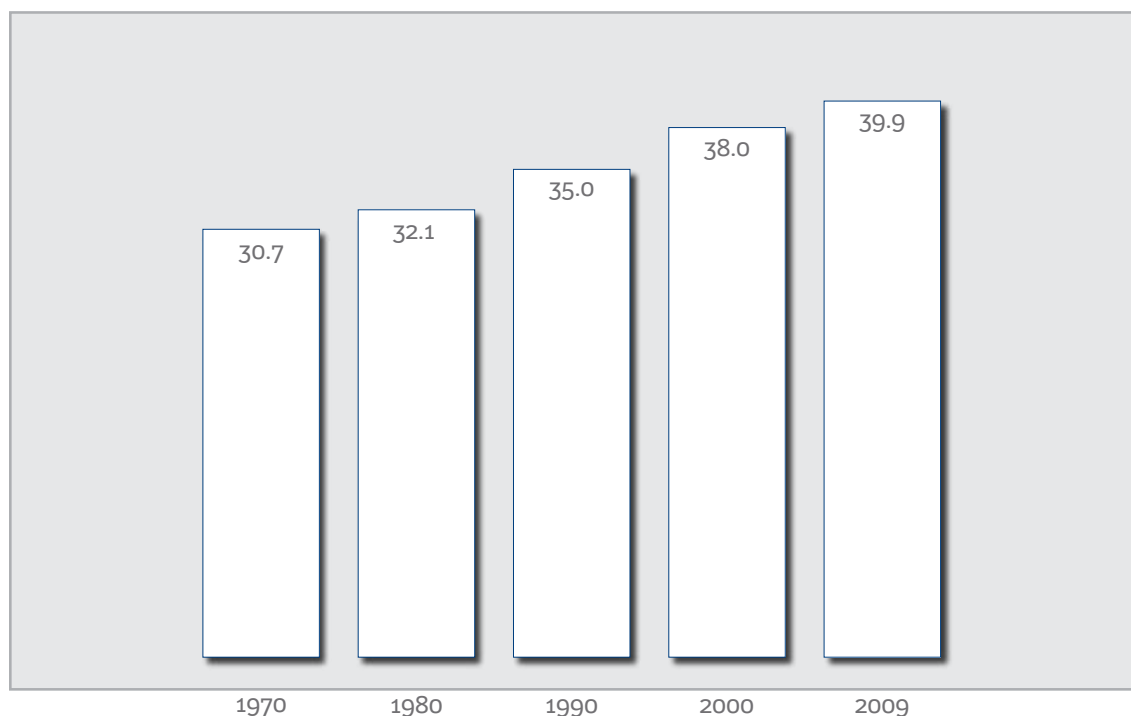
## The Aging Demographic



One out of every five Pennsylvanians is over age 60. By 2020, this age group will be one-quarter of the population.<sup>5</sup> In 2000, Pennsylvania ranked number 2 in the nation in percentage and number 5 in number of residents aged 65 and above.<sup>6</sup> In comparison, neighboring states ranked significantly lower in percent of population over age 65: Maryland (number 41), New Jersey (number 18), and New York (number 24). Pennsylvania continues to grow older and has increased in median age from 30.7 in 1970 to 39.9 in 2009 (Figure 13).

Recent research by the [Pennsylvania Department of Aging](#) shows that Pennsylvania's 65 and over age group experienced a slight decrease of 0.8 percent between 2000 and 2005; however, the 85 and over age group increased by 12.8 percent. By 2005, there were approximately 1.9 million Pennsylvania residents aged 65 and above, and 44 percent of them lived within seven counties in the southeastern and southwestern areas of the state (Philadelphia, Montgomery, Delaware, Lancaster, Bucks, Allegheny, and

Figure 13: Pennsylvania Median Age, 1970-2009





In 2009, Pennsylvania had a median age of 39.9—only five other states had a median age greater than Pennsylvania.



Westmoreland). The southwestern counties of Allegheny and Westmoreland were the only two counties with higher percentages of residents 65 and older (17.9 percent and 18.3 percent) than the state as a whole (15.3 percent).<sup>7</sup>

In 2005, 40 percent of all households in Pennsylvania had a head of household who was at least 55 years old and 32 percent of householders aged 65 and above lived alone.<sup>8</sup> Over half of the 65 and older age group had lived in the same home for more than 30 years. Older householders aged 55 to 64 are considerably less likely to be living in poverty than are households headed either by younger householders or householders aged 85 and above.<sup>9</sup>



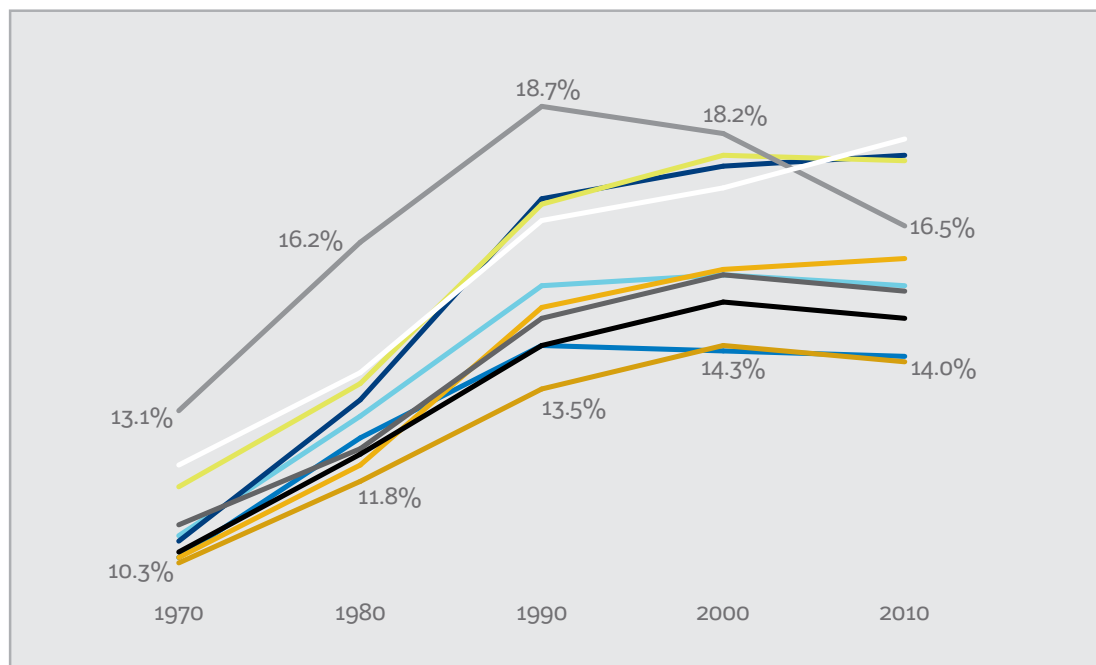


The different regions of the state have aged at varying rates. Figure 14 shows the percent of population aged 65 and older for Pennsylvania and each region from 1970 to 2010.<sup>10</sup> Four of the regions showed a significant increase in this age group compared to the overall state during this time frame:

- Northeast
- North Central
- Southern Alleghenies
- Southwest

The Northeast region had the highest portion of the over age 65 population and also experienced the greatest increase from 1970-1990. This age group sharply declined in 2000 and by 2010 the North Central region had the highest percentage of persons aged 65 and older. Conversely, the South Central region maintained the lowest percentage of persons aged 65 and older from 1970-2010—with the exception of the early 2000s when the Southeast region dropped in percent of aged 65 and over due to a continuing downward trend that started in the 1990s.

Figure 14: Percent of Population Aged 65 and Older by Reporting Region, 1970-2010



Sources: Pennsylvania State Data Center;  
Pennsylvania Department of Aging

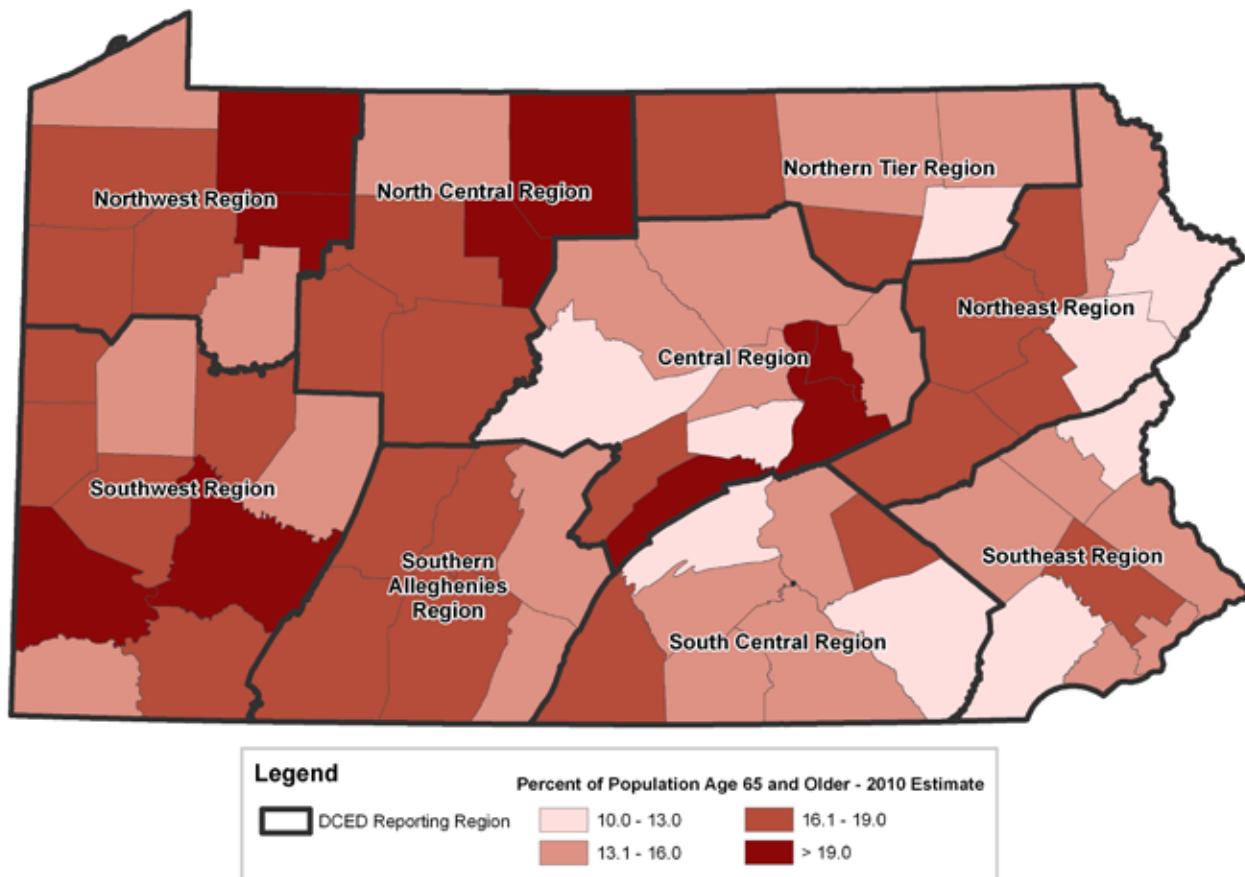


The geographic distribution of the age 65 and older population by county shows that the western half of Pennsylvania has the highest percentage of the older population compared to the counties in the east and south central portions of the state (Figure 15). The comparatively younger residents of the central portion of the state can be attributed largely to the student population of Pennsylvania State University in Centre County. Similarly, higher than average growth rates in the Poconos and southeastern/south central Pennsylvania are reflected in comparatively lower percentages of persons over 65.

The reasons behind the higher percentages of residents over 65 in Pennsylvania are multifaceted. One primary reason for this

demographic characteristic is that Pennsylvania offers a lower tax burden for retirees. While many states in the region, including Pennsylvania, do not tax Social Security income, Pennsylvania is the only nearby state that does not tax federal, state, or local pension income or IRA income for residents over age 59.5. Additionally, Pennsylvania's overall 2008 tax burden was 10.2 percent in comparison to neighboring states with significantly higher tax burdens. New Jersey ranks first in the nation with a tax burden of 11.8 percent; New York has 11.7 percent; Maryland has 10.8 percent. Pennsylvania's low tax burden coupled with a relatively low cost of living for the region makes it an attractive place for seniors to live and retire.

Figure 15: Percent of Total Population Aged 65 and Older by County, 2010



Sources: U.S. Census Bureau; Pennsylvania State Data Center, May 2001.  
Compiled by the Pennsylvania Department of Aging



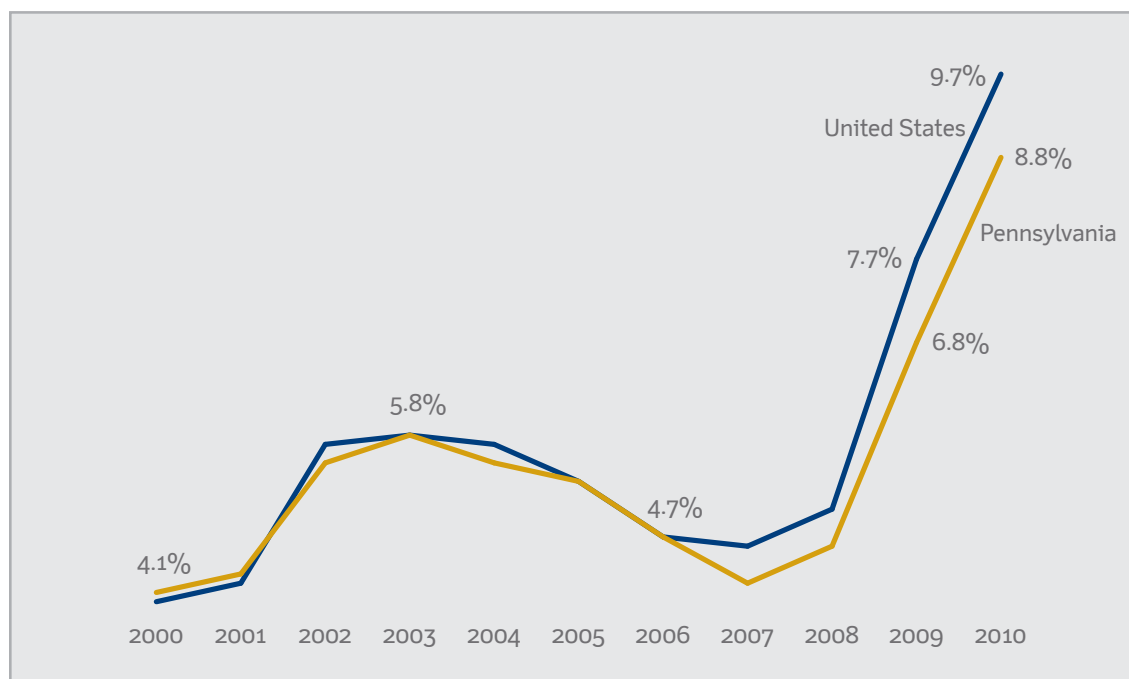
## Employment Conditions



Over the last decade, Pennsylvania's unemployment rate has nearly mirrored that of the nation (Figure 16). Between January 2003 and June 2010, the unemployment rate in Pennsylvania has remained at or below the national rate for all but three months. However, unemployment rates increased significantly throughout the country as a result of the recession that occurred later in the decade. In January 2000, Pennsylvania's rate of unemployment (4.1 percent) was slightly

higher than that of the U.S. and the neighboring states of Maryland (3.4 percent) and New Jersey (3.8 percent), but below New York (4.7 percent). By January 2010, Pennsylvania's unemployment rate (8.8 percent) equaled New York but was below the U.S. (9.7 percent) and New Jersey (9.9 percent) (Figure 17). Even with the recent economic downturn, Pennsylvania's unemployment trend throughout the past decade was relatively comparable to the national average and neighboring states.

Figure 16: Unemployment Rates for Pennsylvania and the U.S. (seasonally adjusted), January 2000-January 2010





In looking at geographic patterns of unemployment within Pennsylvania it is evident that the concentration of economic health has been influenced by the 2008 recession. The following maps and data obtained from the publication [Pennsylvania: Road to Growth](#) illustrate the recent economic trend between 2001 and 2007 (Figure 18). This data is supplemented by 2010 data to reflect the impact of the recent recession (Figure 19).



In September 2010, the state unemployment rate was 8.1 percent, in comparison to the June 2007 unemployment rate of 4.4 percent. In 2010, 34 counties had an unemployment rate above 8.1 percent. In 2007, 44 counties had an unemployment rate above the state average. The most significant difference between the 2007 and 2010 rates of unemployment occurred in the Northeast and Southern Alleghenies regions.

In September 2010, the state unemployment rate was 8.1 percent, compared to the June 2007 unemployment rate of 4.4 percent.

Figure 17: Unemployment Rates (seasonally adjusted), January 2000 and January 2010

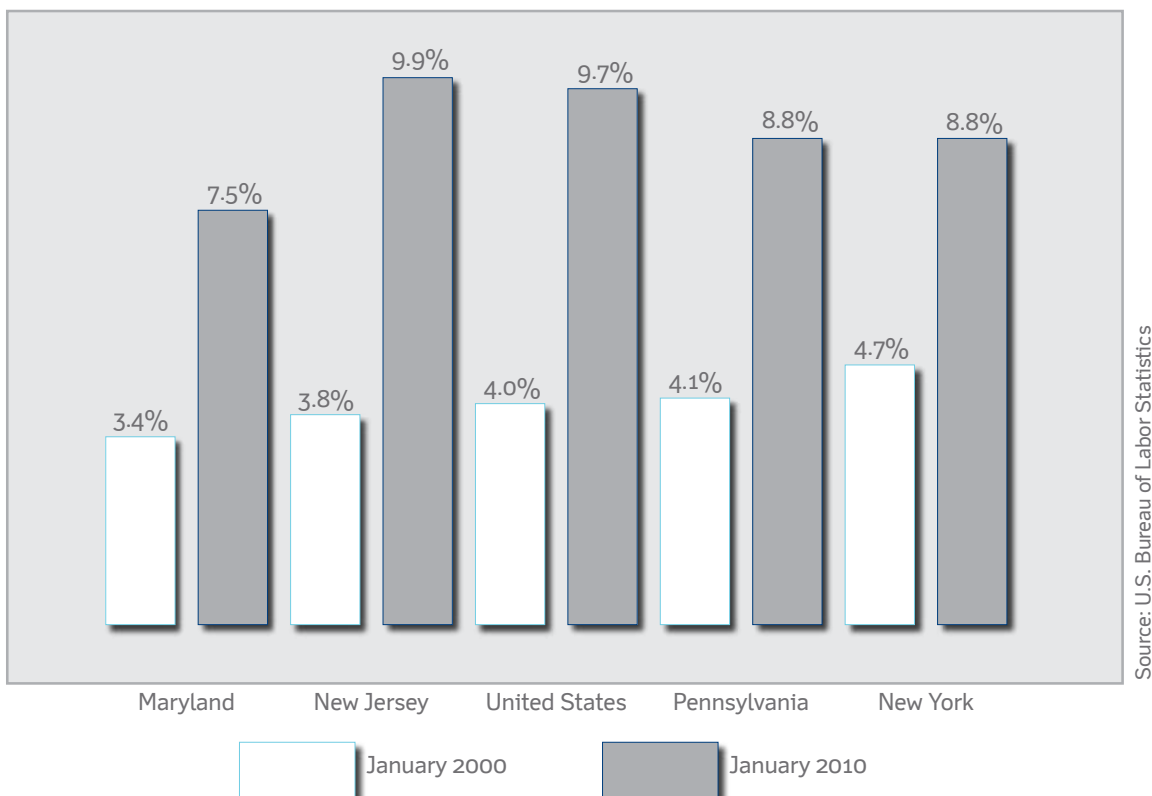
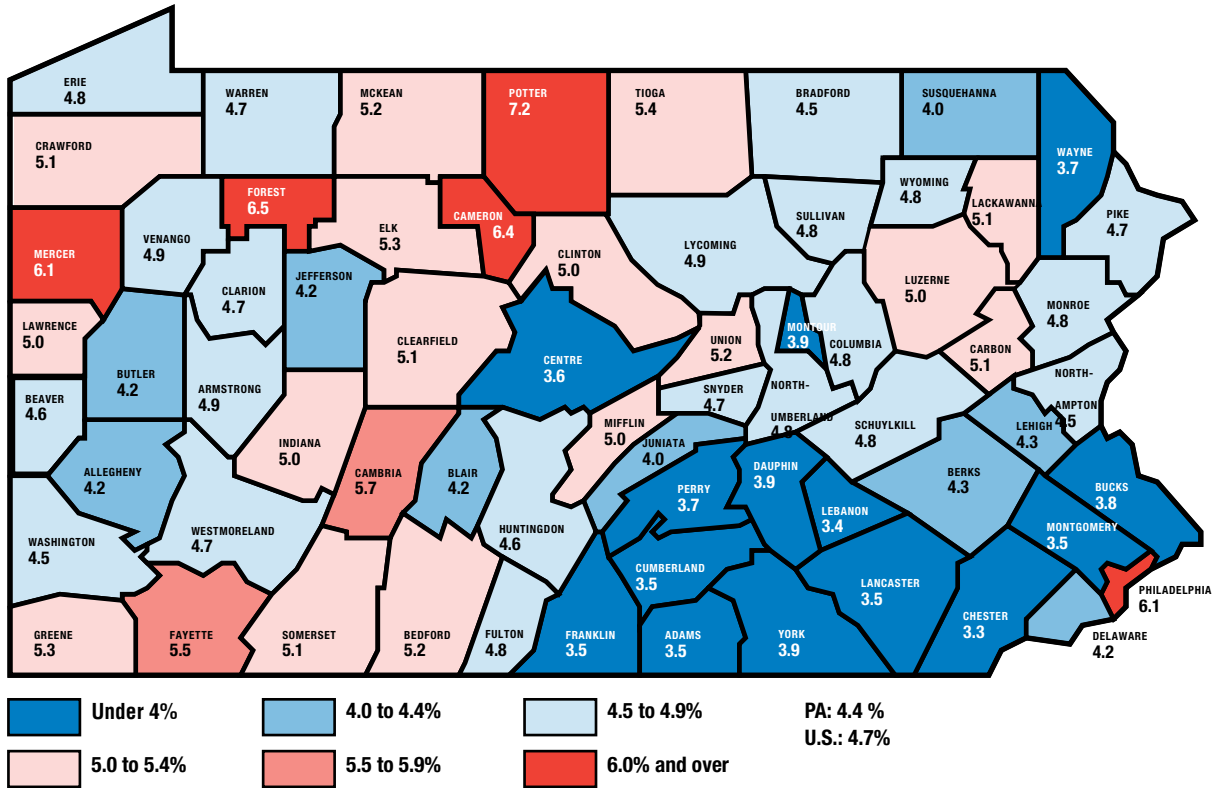


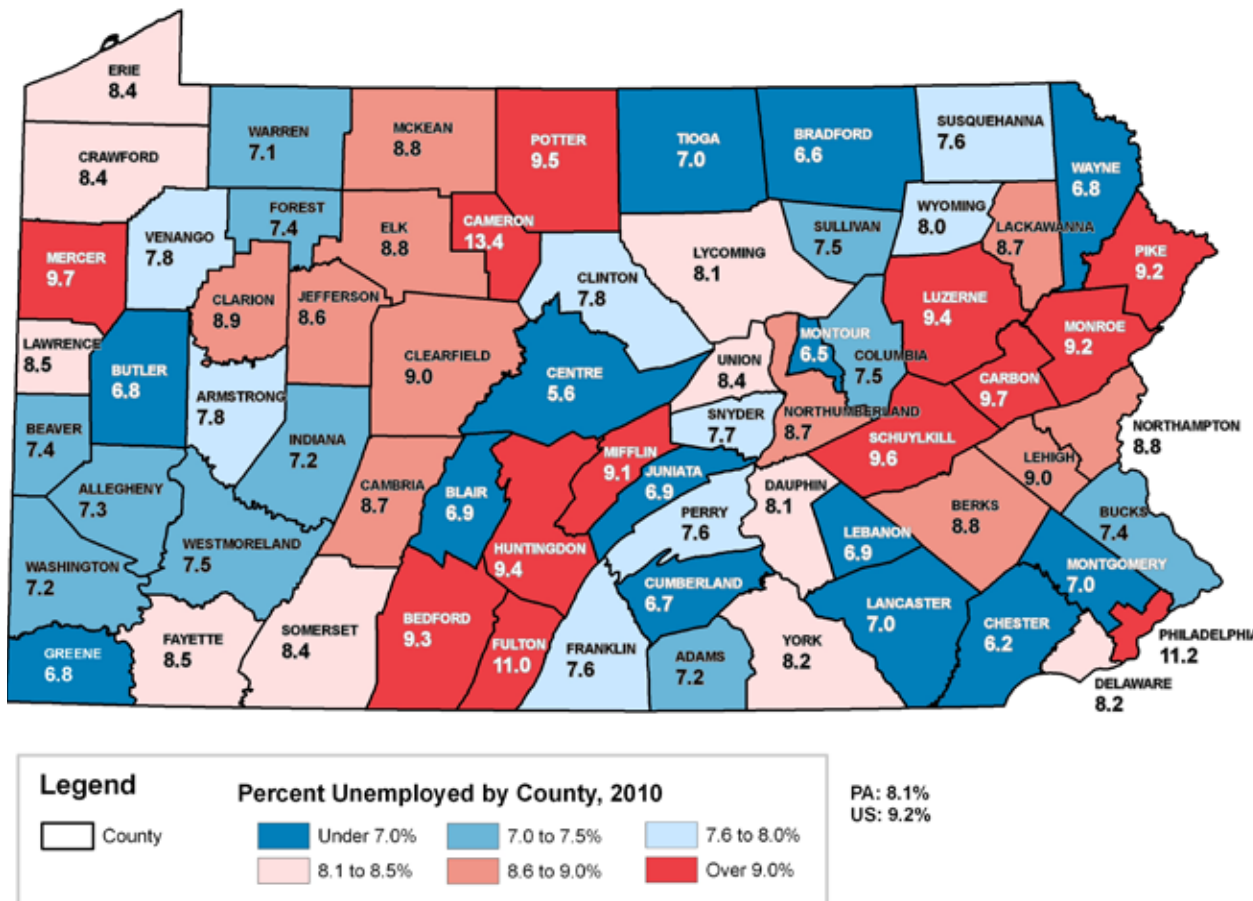


Figure 18: Percent Unemployed by County, June 2007



Source: Pennsylvania: Road to Growth, February 2009.

Figure 19: Percent Unemployed by County, September 2010



Source: U.S. Bureau of Labor Statistics



In September 2010, Cameron County exhibited the highest unemployment rate (13.4 percent) while Centre County had the lowest rate (5.6 percent).

Pennsylvania's economic output is primarily concentrated within its major metropolitan areas. In fact, of the 14 metropolitan statistical areas in Pennsylvania, the top six—Philadelphia, Pittsburgh, Harrisburg/Carlisle/Lebanon, the Lehigh Valley (Allentown/Bethlehem/Easton), Scranton/Wilkes-Barre/Hazleton, and Lancaster—constitute 68.4 percent of the state's population and generate 80.5 percent of the state's economic output.

In 2007, the four largest employing sectors—which represent more than 50 percent of total employment in Pennsylvania—were health care and social assistance, manufacturing, retail trade, and accommodation and food services. The percent change in nonagricultural employment between December 2007 and October 2010 reflects significant industry shifts due to the recession and Marcellus Shale activities. The mining and logging industry saw the greatest increase in employment with a 23.9 percent increase. The construction and durable goods manufacturing industries experienced the greatest decline at 17.5 percent and 16.7 percent, respectively.

In addition, Pennsylvania has achieved national prominence in four highly attractive sectors—biosciences, high technology, advanced manufacturing, and business services. These gains are fed in part by Pennsylvania's network of public and private colleges and universities, which provide both highly trained employees as well as research in these areas. These businesses are primarily clustered around the major metropolitan areas of Pittsburgh and Philadelphia. Workforce development and retention in these globally competitive industry sectors will be important as Pennsylvania continues to transition away from a manufacturing-based economy.

Studies show that an indication of a declining economy is the propensity of educated young adults to be the first to move out of state. In recent decades, Pennsylvania has struggled to attract and retain young educated residents. Although young adults will always tend to gravitate to wherever employment opportunities are more abundant, having amenities that promise a better quality of life is an important factor in determining exactly where this young workforce chooses to reside. Currently Pennsylvania urban areas are more likely to attract the young workforce from rural areas of the state due to the “bright city lights” effect—unique entertainment and other amenities offered by urban environments. Adjusting local economies to the new realities of the 21st century may be a means to reversing Pennsylvania's long-standing trend of a slowly growing and statistically older population. Attracting post-industrial, knowledge-based industries that will provide more employment opportunities to a young workforce can be facilitated by capitalizing on the various amenities sought out by this demographic.<sup>11</sup>

– *Journal of Regional Analysis and Policy*, 2008.

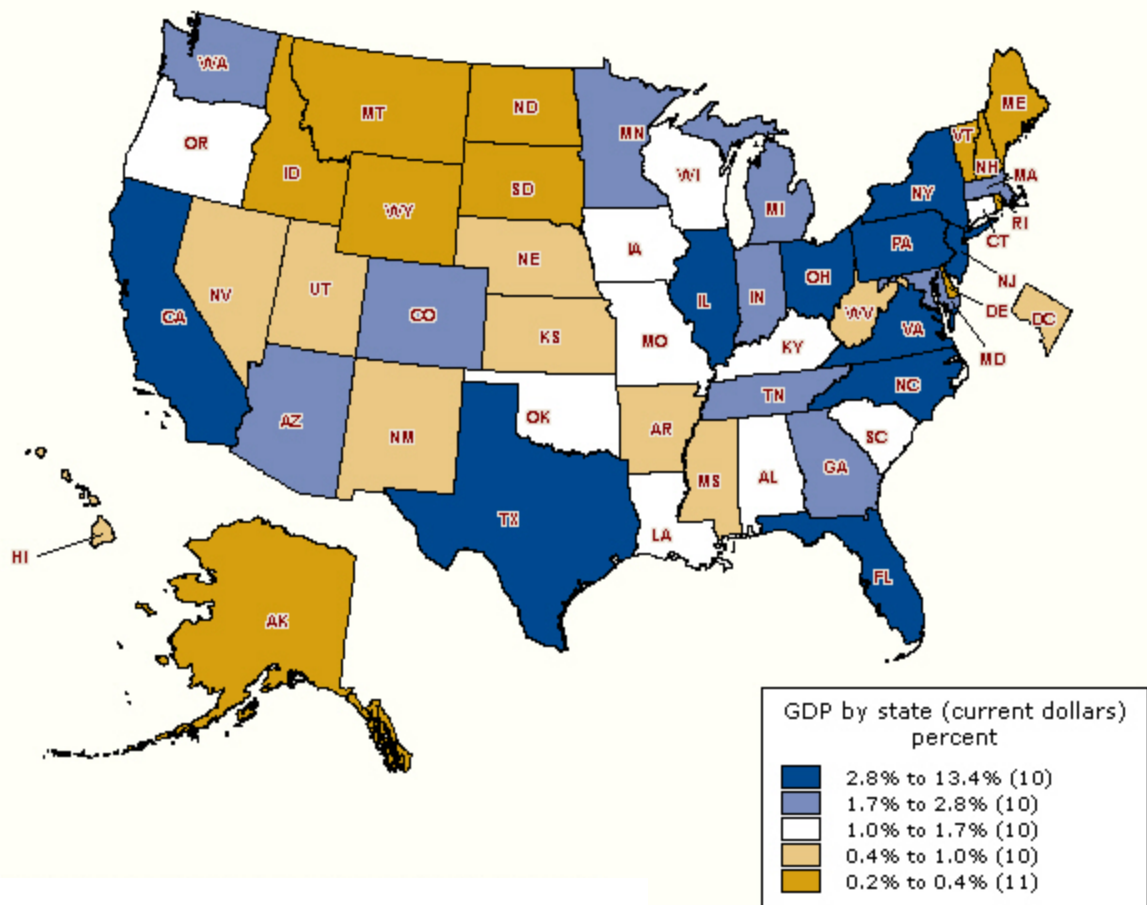
The percent change in nonagricultural employment between December 2007 and October 2010 reflects significant industry shifts due to the recession and Marcellus Shale activities.



## Pennsylvania's Position in the National Economy

In comparison to the rest of the country, Pennsylvania ranks in the top quintile for Gross Domestic Product (GDP) by state. In 2007, Pennsylvania ranked 7th in the nation with a GDP of \$533 billion, or 3.9 percent of the total U.S. GDP. Pennsylvania has historically been one of the top 10 states for total GDP, however, average annual growth in GDP between 2001 and 2007 paints a different picture. During this six-year time frame, the Commonwealth ranked 37th nationally with a growth rate of 4.6 percent (Figure 20 and Figure 21). In comparison, the GDP for the U.S. grew by 5.3 percent. Pennsylvania has fared better in the current recession. Between 2007 and 2009, U.S. GDP decreased 2.0 percent; Pennsylvania GDP decreased only 0.2 percent.

Figure 20: Gross Domestic Product (GDP) by State, 2009

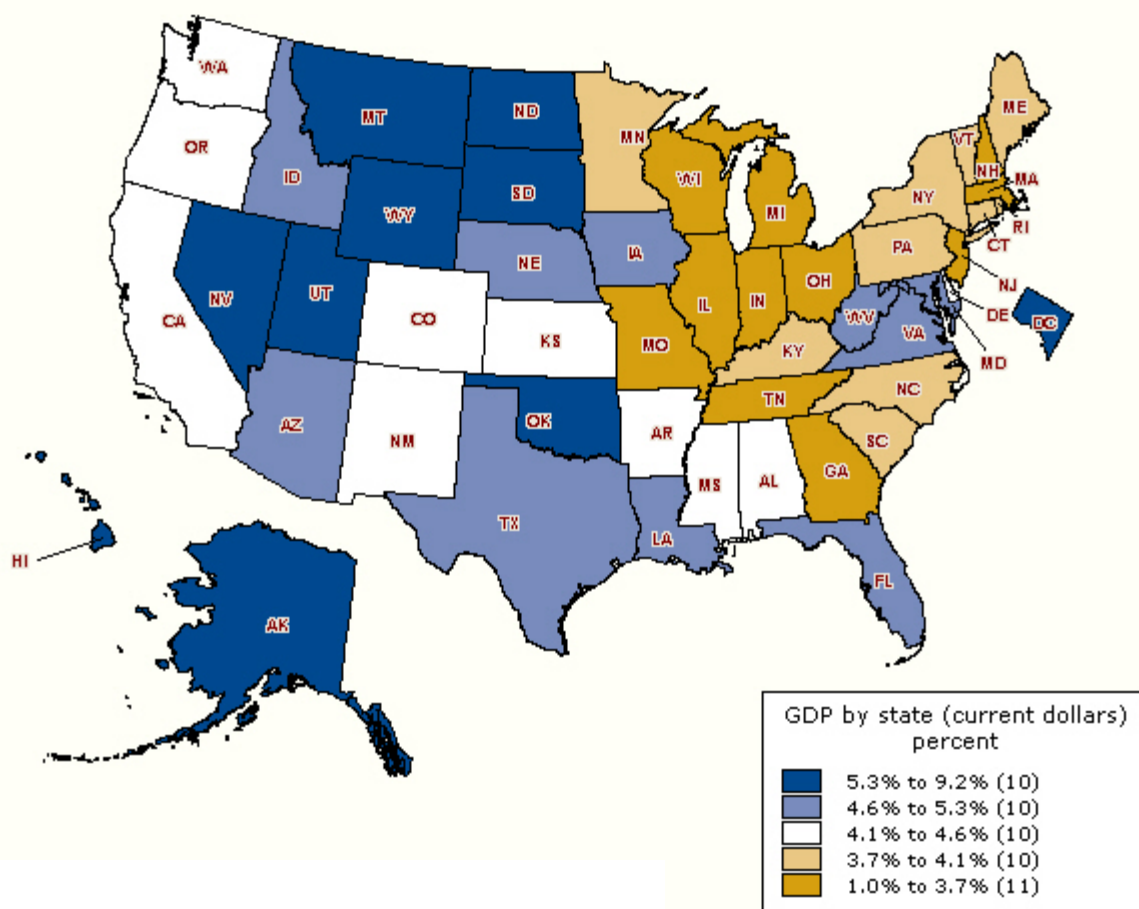


Source: U.S. Bureau of Economic Analysis, data released on November 18, 2010





Figure 21: Change in Gross Domestic Product (GDP) by State, 2000-2009



Source: U.S. Bureau of Economic Analysis, data released on November 18, 2010



Table 2: Residential Building Permits\*

Year	Pennsylvania	United States
1990	37,204	1,110,800
1991	34,608	948,900
1992	38,282	1,094,700
1993	40,126	1,199,200
1994	40,210	1,371,800
1995	36,250	1,332,300
1996	37,895	1,425,600
1997	39,877	1,441,100
1998	41,616	1,612,300
1999	42,662	1,663,600
2000	41,076	1,592,267
2001	41,403	1,636,676
2002	45,114	1,747,678
2003	47,356	1,889,214
2004	49,665	2,070,077
2005	44,525	2,155,316
2006	39,128	1,838,903
2007	33,665	1,398,415
2008	24,577	905,359
2009	18,275	582,963

Source: U.S. Census Bureau

Note: \*Number of new privately-owned units

## Building Permits

Building permit data sheds more light on the current economic recession. Annual residential building permit totals for both Pennsylvania and the U.S. are the lowest they've been in at least 50 years. Table 2 shows the last 20 years. Between 1990 and 2004, annual permit totals generally grew, though Pennsylvania's growth over the period (33.5 percent) lagged behind the national growth (86.4 percent), further evidence of the lag in the state's economy during that time. Since 2004, the drop in annual permits has been precipitous. Pennsylvania's

decrease (63.2 percent) has been less than the nation's (71.8 percent).

Land development activity is also down. A 2010 survey of county planning agencies reported subdivision and land development activity since January 2008 to be less than prior years in 83 percent of the counties. More than half the counties reported activity to be *much* less. Of the 10 percent of counties reporting more activity, all but one were rural counties in energy hot spots with increasing land development related to natural gas (Marcellus Shale), wind turbines, or coal.

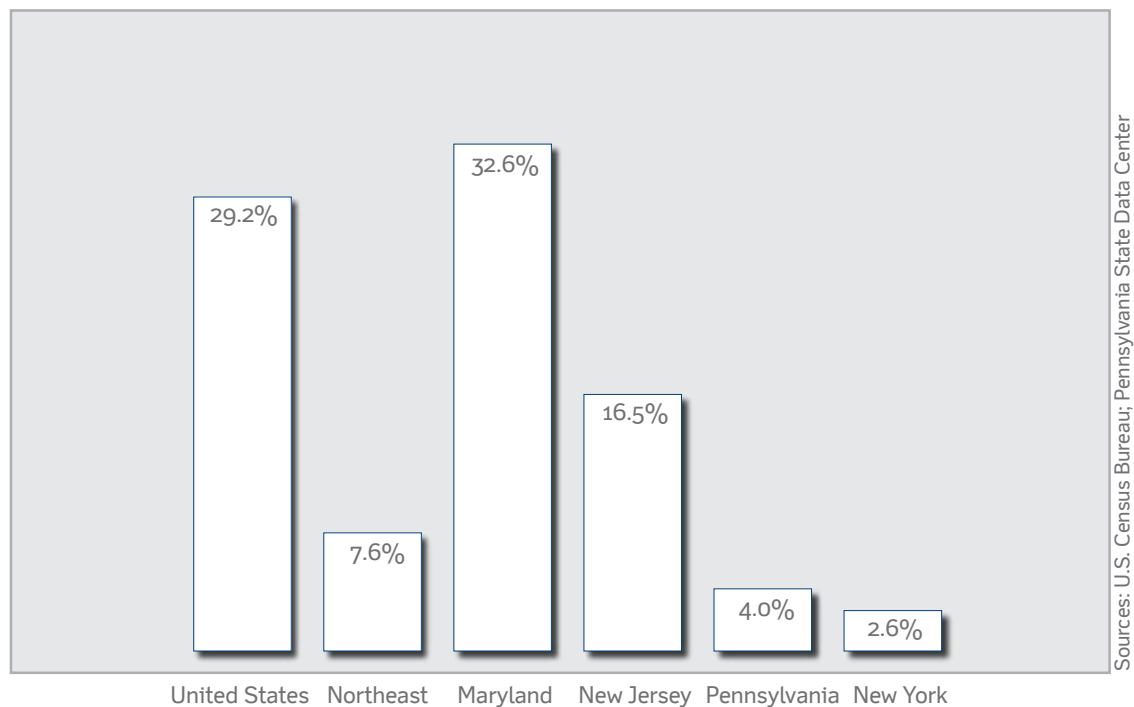


## Where Are We Heading?

The U.S. Census Bureau estimates that Pennsylvania's population will continue to grow at a relatively slow pace over the next 20 years—and grow more slowly than the neighboring states of Maryland and New Jersey, with a total increase of only 4 percent between 2000 and 2030. U.S. population as a whole is expected to grow by more than 29 percent during this same period (Figure 22).



Figure 22: Population Change Projections, 2000-2030





Although Pennsylvania is expected to grow at a relatively slow pace during the 2000-2030 time frame, all age groups of the state's over 55 population are projected to increase. It is anticipated that the growth in mature residents within Pennsylvania will be slightly less than in surrounding states (Figure 23). The first wave of baby boomers born between 1946 and 1964 will reach age 65 in 2011. This post-World War II generation will contribute considerably to the 65 and over age group projections nationwide. By 2030, Pennsylvania's 65 and older and 85 and older populations—which are expected to increase by more than 50 percent and almost 75 percent respectively—will have a significant impact on Pennsylvania (Figure 24).<sup>12</sup> The 65 and older population will make up 22.6 percent of the state's population.

The aging baby boomer bubble will have a major impact on the country as a whole. Pennsylvania is projected to slip from the 2nd to the 11th spot in national ranking for the age 65 and older population by 2030. Nevertheless, Pennsylvania's older population will still be greater than the national average, with considerable implications for communities. The aging baby boomer population is different from previous generations of seniors. Many new retirees expect to live longer, and live more independent lives as they age than their parents and grandparents. As more Pennsylvanians choose to “age in place” in rural and suburban areas, these communities will need to support their older residents by providing housing and mobility options as well as improved access to health care and other essential services.

Figure 23: Projected Change in Total Population and Age 65 and Older Age Group, 2000-2030

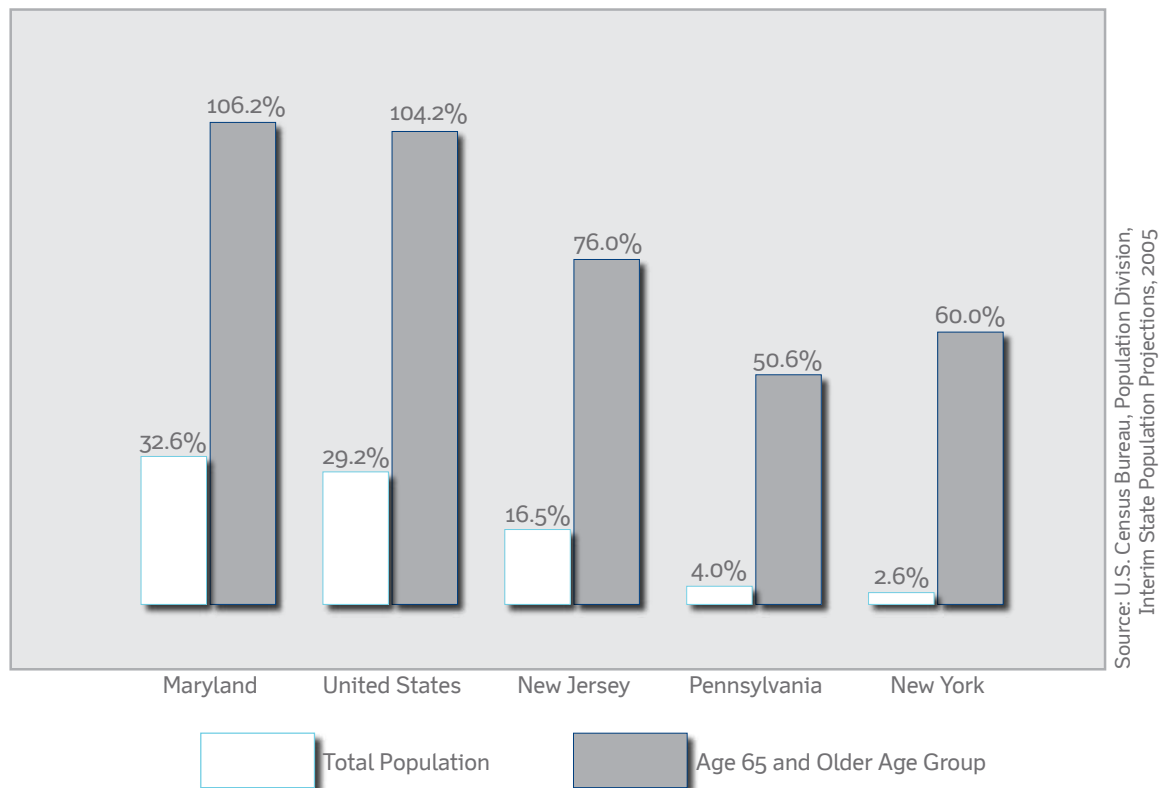




Figure 24: Population Pyramids of Pennsylvania, 2000 and 2030



Opportunities to boost Pennsylvania's economy and improve future employment conditions can be found through a number of growing industry sectors. According to the [Pennsylvania Center for Workforce Information and Analysis](#), the top 10 fastest-growing occupations through 2014 based on numeric employment change include:

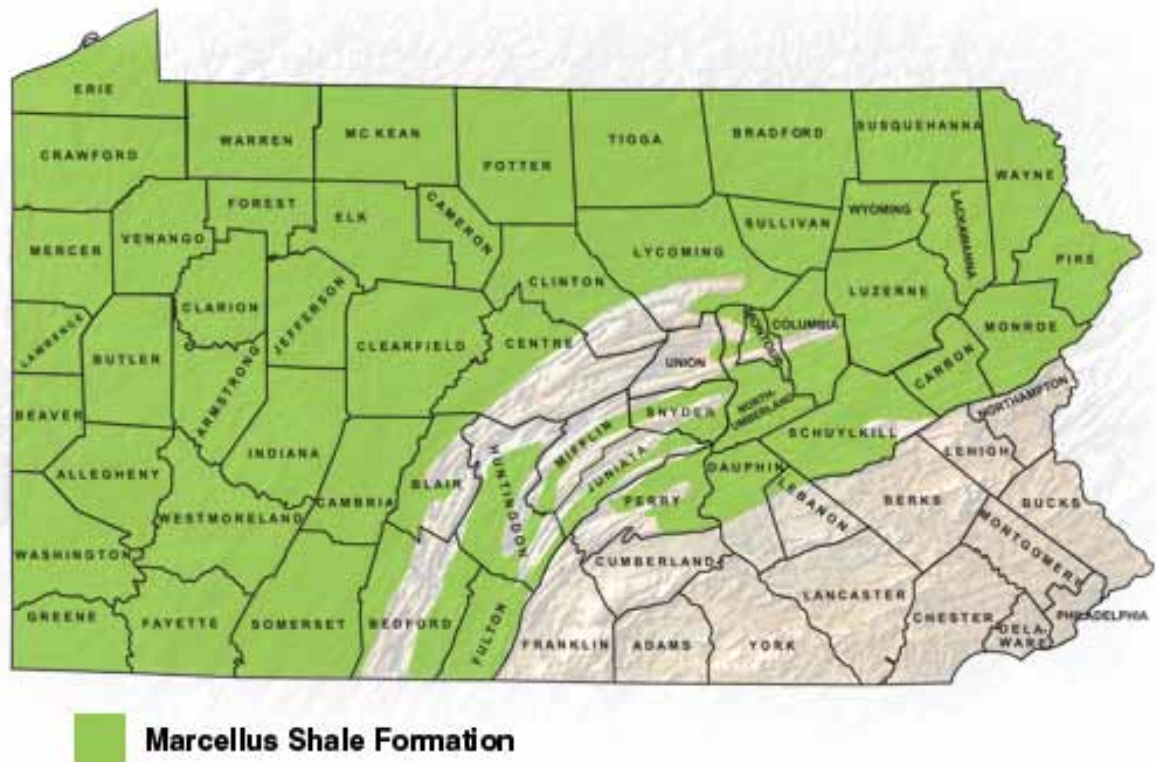
1. Food Preparation & Serving-Related Occupations
2. Management Occupations
3. Health Care Practitioners & Technical Occupations
4. Health Care Support Occupations
5. Personal Care & Service Occupations
6. Education, Training, & Library Occupations
7. Transportation & Material Moving Occupations
8. Building & Grounds Cleaning & Maintenance Occupations
9. Food & Beverage Serving Workers
10. Motor Vehicle Operators

These jobs may be the best opportunities available for many Pennsylvanians. However, few of these top 10 categories are on the cutting edge of 21st century economic development. More effective partnerships among schools, local and regional employers, and state and local agencies leading to long-term growth may be one way to add some of the more advanced economic sectors to this top 10 list, and thereby better enable the Commonwealth to maintain the highly educated labor force made available through its 240 colleges and universities.

In addition to the above fastest-growing employment opportunities, key economic trends indicate two emerging industries in Pennsylvania: [Marcellus Shale](#) natural gas production and "green jobs."



Figure 25: Marcellus Shale Formation in Pennsylvania



Source: Pennsylvania Department of Environmental Protection – Bureau of Oil and Gas Management

## Marcellus Shale

The Marcellus Shale, an organic-rich black sedimentary rock formation which underlies approximately 60 percent of Pennsylvania, is believed to hold between 50 and 390 trillion cubic feet (TCF) of recoverable natural gas (Figure 25),<sup>13</sup> possibly making it one of the largest unconventional on-shore gas deposits in the world. Geologists have been aware of the Marcellus Shale's natural gas deposits for decades, but only recently have new drilling techniques and rising energy prices made the Marcellus Shale formation an economically viable source of natural gas.

Unlike the gradual pace at which most trends unfold, the Marcellus Shale development is introducing opportunities and challenges at a very rapid pace. The first profitable wells for Marcellus Shale gas extraction in Pennsylvania were drilled in 2003 and started producing in 2005.<sup>14</sup> Now in many parts of the state a majority of landowners have sold their oil, gas, and mineral (OGM) rights or have been approached to do so. Marcellus Shale gas production has already become one of the most rapidly growing industries in Pennsylvania.

Permit information from the Pennsylvania Department of Environmental Protection

The number of Marcellus Shale wells drilled in Pennsylvania totaled:

- 196 in 2008,
- 763 in 2009, and
- 1,177 between January and October 2010

indicates that drilling activity in the Marcellus Shale increased dramatically in 2009 and was accelerating in the first several months of 2010. In fact, the number of wells drilled between January and October 2010 exceeds the total number of wells drilled in 2008 and 2009 combined.

According to Pennsylvania State University's Cooperative Extension update, *Accelerating Activity in the Marcellus Shale: An Update on Wells Drilled and Permitted*, the primary locations of activity appear to be shifting. Table 3 provides summary data of permitted and drilled wells in the top five counties from 2008 through April 2010. Washington County,



Table 3: Monthly Averages of Number of Wells Drilled and Permitted in the Top Five Counties in the Marcellus Shale Formation

Drilled Wells								
2008	Monthly Average	Total	2009	Monthly Average	Total	2010 January-April	Monthly Average	Total
Washington	2.7	32	Washington	11.5	138	Bradford	20.3	81
Susquehanna	2.7	32	Tioga	9.5	114	Tioga	11.5	46
Westmoreland	1.6	19	Bradford	9.4	113	Washington	7.3	29
Greene	1.5	18	Greene	7.6	91	Lycoming	4.5	18
Fayette	1.5	18	Susquehanna	5.0	60	Greene	4.3	17
Permitted Wells								
2008	Monthly Average	Total	2009	Monthly Average	Total	2010 January-April	Monthly Average	Total
Washington	7.7	92	Bradford	35.8	430	Bradford	41.0	164
Susquehanna	5.8	70	Tioga	25.0	300	Susquehanna	21.5	86
Bradford	5.1	61	Washington	17.4	209	Tioga	20.8	83
Lycoming	4.3	52	Greene	15.2	182	Washington	13.5	54
Greene	3.6	43	Susquehanna	12.9	155	Greene	6.8	27

Source: Pennsylvania Department of Environmental Protection – Bureau of Oil and Gas Management

the site of the first producing Marcellus well, remains an active area across all three years, but other counties have moved up the list. The most notable counties are Bradford and Tioga, as they moved to the top of the list in 2009 and 2010 in the number of wells drilled, and within the top three in the number of permits issued. The number of permits also suggests the areas of likely future activity, so Bradford, Susquehanna, and Tioga counties are likely “hot spots” for the next several years.

As the Marcellus Shale industry increases it is expected that more jobs and income should reach local residents. An economic study released by Pennsylvania State University in May 2010 estimates a dramatic expansion of Marcellus gas production from slightly over 327 million cubic feet per day during 2009 to over 13 billion cubic feet per day by 2020 and an increase in employment by 200,000 jobs.<sup>15</sup> This estimate does not account for new businesses and industries that may be attracted to these areas.

There are economic, environmental, and social impacts associated with the Marcellus Shale activities. These impacts include the construction of housing units to accommodate new residents and employees associated with the industry, increased demand on schools and community services and facilities, elevated crime and social tension, and pockets of new wealth as a result of royalties associated with gas leases. Because most natural gas activity is occurring in rural communities with relatively small local economies, the scale and significance of natural gas-related economic impacts could be much higher in Pennsylvania than in other parts of the country.

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Sudden expansion in the natural gas industry is also introducing population growth, including an influx of workers from other states with gas drilling experience. These trends tend to be more pronounced because they are occurring mainly in rural areas in the western and northern parts of the state. Rural areas are typically less able to absorb a spike in demand for infrastructure and services associated with a surge in temporary or longer-term populations. Small towns are seeing a strong demand for motels, apartments, houses, offices, and equipment yards, all of which need to be served by utilities, roads, schools, law enforcement, medical facilities, and supporting businesses and services such as restaurants, grocery stores, laundromats, and so on. Local governments and school districts will have to assume increased costs of providing additional services and infrastructure.

Another aspect of rapid population growth is the social tension that can result when a rural area with a relatively homogeneous population must adjust to an influx of “outsiders.” Just as tourism in Pennsylvania’s rural areas can introduce financial benefits but also infrastructure and social strains, so can a major change in the cultural landscape brought by a new industry.

Further, rapid and extensive changes—both positive and negative—alter the character of

communities, making them more desirable or less desirable to visit or live in, depending on an individual’s priorities and perspective. While the natural gas industry will draw many new workers and residents, others might move out of the area, beyond the influence of Marcellus Shale. Those who have leased land and have a substantial increase in income and options may choose to retire to a warmer climate or leave the area for other reasons. For small towns that have had relatively stable populations for generations, this new mobility is likely to result in significant changes in the social fabric and sense of community. Research suggests that “Energy Boomtowns” may result from the Marcellus Shale natural gas rush. Entrepreneurs can capitalize on such opportunities, but for local governments a population and industry boom presents tremendous challenges. Although overall economic conditions would be expected to improve, natural gas income is not subject to local taxation in Pennsylvania. Local governments are questioning the adequacy of indirect revenue increases—from local job and income increases and taxable real estate development—to meet cost increases.

Additional environmental considerations related to Marcellus Shale development are discussed in the next chapter.

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## Green Jobs

Green jobs—defined by the Pennsylvania Department of Labor and Industry as those that promote energy efficiency, contribute to the sustainable use of resources, prevent pollution, and reduce harmful emissions or clean up the environment—are also growing in Pennsylvania. According to the Pennsylvania Green Jobs Report, Pennsylvania’s green jobs are primarily found in the five industry sectors shown in Table 4. Fostering the growth and development of green jobs has become a focal point of the Pennsylvania Department of Labor and Industry. Pennsylvania’s focus on green jobs as a growth industry is still in the early stages, so data on growth in the number of jobs or industries is currently not available. However, the state is projecting \$10 billion in public and private investments between 2010 and 2012, which is expected to develop 115,000 green jobs.

Pennsylvania is actively promoting the development of green jobs through investment and training. While some green jobs will be filled by local workers who are currently unemployed or underemployed, green job growth will also likely spur some migration of businesses and people from other parts of the state or country.



Philadelphia has set the goal to become the greenest city in the United States by 2015. The City’s sustainability plan, *Greenworks*, identifies over 150 initiatives in five different goal areas—energy, environment, equity, economy, and engagement—all designed to help create jobs in the emerging green economy and reduce the city’s environmental footprint.

Table 4: Green Jobs by Industry Sector in Pennsylvania

Industry Sector	Sample Employers
Energy Efficiency	civil engineering consultants building construction contractors
Renewable Energy	wind turbine builders electric utility companies
Clean Transportation	aircraft manufacturers transportation management companies
Pollution Prevention & Environmental Cleanup	scientific research facilities water treatment builders
Agriculture & Resource Conservation	biomass farms energy consulting companies

Source: Pennsylvania Department of Labor and Industry, *The Pennsylvania Green Jobs Report*, 2010.