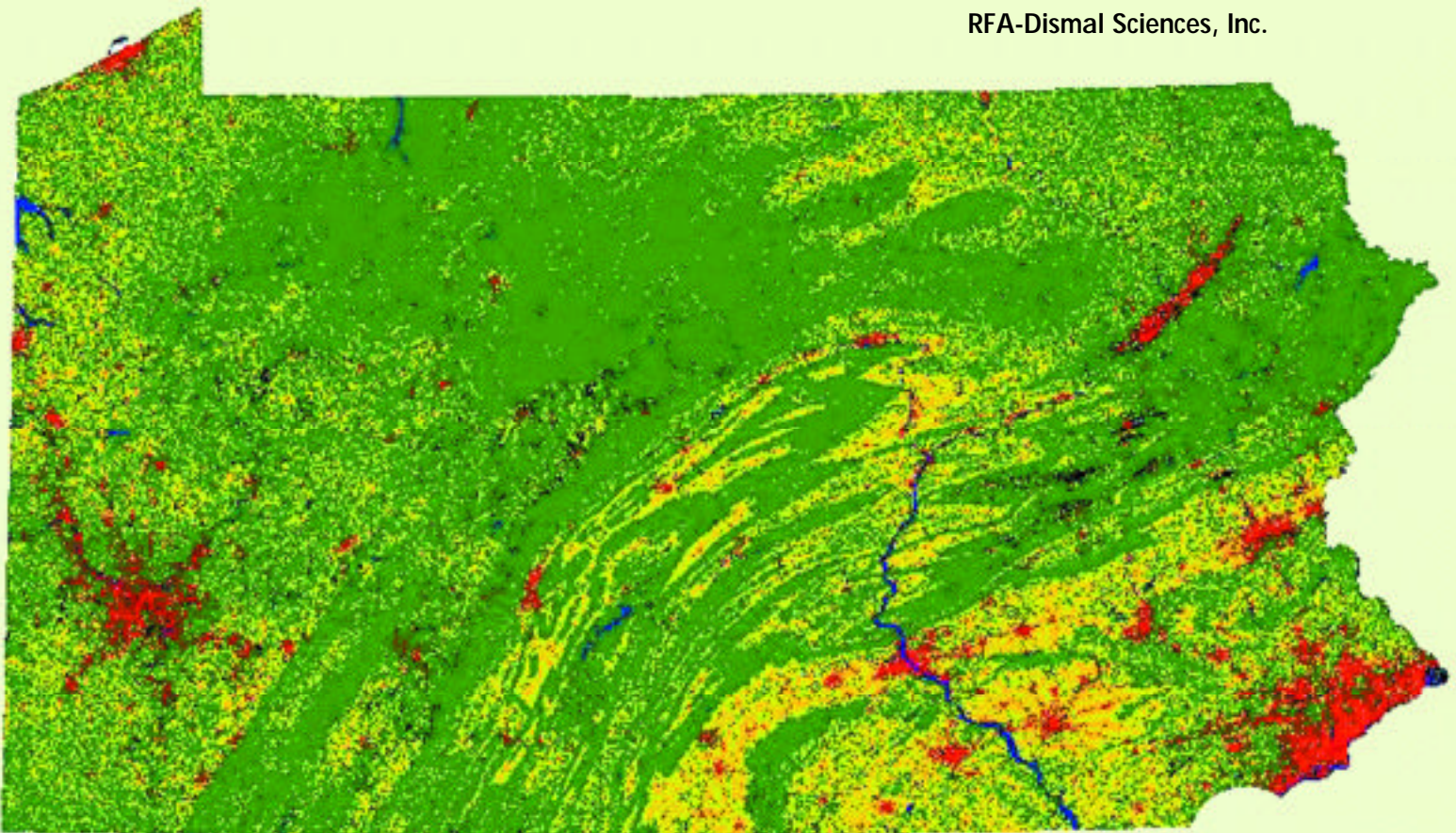


Prepared for:  
The Governor's Center for  
Local Government Services

January 2000

# LAND USE TRENDS IN PENNSYLVANIA

Prepared By:  
RFA-Dismal Sciences, Inc.



**Cover:** Pennsylvania Land Cover, 1992. The map on the cover of this report is the result of a study conducted by the Office for Remote Sensing of Earth Resources, a center within the Environmental Resources Research Institute of Pennsylvania State University. It uses satellite imagery to examine the nature of urbanization in Pennsylvania. The map illustrates Pennsylvania's primary urbanized (red), agricultural (yellow), and forested areas (green) in 1992, which is the most recent statewide analysis available. Urbanized areas include urban and suburban areas. The blue areas show large rivers and lakes. The black areas show barren land, including mineland and quarries.

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## Executive Summary

Urbanization, the spreading of urban and suburban development into former farmland, forest land or open space, is expanding at a rapid pace in Pennsylvania. This trend is occurring despite the Commonwealth's relatively slow population growth. Between 1982 and 1997, developed land increased by 56% in Pennsylvania versus 40% nationally. At the same time, Pennsylvania's population increased by only 1.4% compared to 16% nationwide.

Pennsylvania's land use is a study of contrasts. For example, 81% of the Commonwealth's land remains rural, consisting primarily of farm and forest lands. Forest land is the largest land cover in the state, accounting for slightly over half of Pennsylvania's 29 million acres compared to 21% nationally. Farmland, which includes crop and pasture land, accounts for 7.1 million acres or 24% of Pennsylvania's land area compared to 25% nationally.

Although Pennsylvania's land is mostly forested, the state's share of developed land accounts for an above average 15% of its total land compared to 5% nationally. Moreover, developed land is expanding rapidly, largely at the expense of farmland. Between 1982 and 1997, 1.47 million acres of Pennsylvania's farmland were developed, representing 94% of all newly developed land during this time period. The greatest land development occurred between 1992 and 1997 with 1.12 million acres of land developed in these five years versus 431,000 acres during the

previous ten years. Thus, the loss of farmland has accelerated in recent years. Since 1950, Pennsylvania has lost nearly half of its farmland compared to a loss of 20% nationally.

The Commonwealth has a long history of protecting its land and water resources. Land for state forests and parks was steadily acquired during the first half of the century and most gamelands were established in the 1930s and 1940s. The focus shifted to historic preservation in the second half of the century to help preserve Pennsylvania's rural and industrial heritage. State government now promotes historic preservation and land conservation through several programs such as Pennsylvania's Farmland Preservation Program, the Historic District Act, the National Register of Historic Places, the Investment Tax Credit Program, and the Community Conservation Program, which provides grants for Rails-to-Trails, open space, parks and natural areas.

Pennsylvania is also addressing the need to improve environmental quality and promote sound land use through the restoration of wetlands, abandoned minelands, brownfields, and economically distressed areas. Since 1991, approximately 3,500 acres of wetlands have been restored. In addition, Pennsylvania's Land Recycling Program has restored 537 brownfield sites since 1995 and the Department of Environmental Protection's Bureau of Abandoned Mine Reclamation has restored 14,190 acres of abandoned mineland since 1994.

*(Executive Summary, Cont'd)*

Governor Ridge's recently enacted Growing Greener Program will accelerate conservation and restoration efforts by directing over \$645 million over the next five years to watershed protection, farmland and open space preservation, parks and outdoor recreation programs, abandoned mineland reclamation and improved water and sewer infrastructure. Also, the State has established tax-free Keystone Opportunity Zones in 58 of Pennsylvania's 67 counties that provide incentives for business attraction and community revitalization in some of the Commonwealth's most economically distressed areas.

Land use patterns are influenced by transportation systems, economic conditions, a changing industrial structure, and housing alternatives. Demographic patterns also determine the way in which land is used. For example, rising affluence has increased the number of automobiles in Pennsylvania by 34% over the past 20 years, allowing for an accelerated expansion of low-density development. In addition, daily vehicle travel has increased by 24% since 1988. Despite the fact that Pennsylvania ranks third in state support of mass transit, ridership among the Commonwealth's 42 urban and rural transit systems declined by nearly 26% during this same period. Over the past two years that trend has edged upward, although it is too early to conclude that the downward trend has reversed.

Socioeconomic factors drive land development too. Economic expansion brings more jobs and increases the demand for commercial land while healthy income growth and

improved housing affordability generate demand for new and larger homes. Single-family housing accounts for 75% of Pennsylvania's housing stock. This is up from just over 71% in 1980 and is well above the current nationwide figure of 67%. Housing affordability in Pennsylvania is good and is getting better, which is supporting growth in single-family housing. Furthermore, substantially greater housing affordability increases demand for housing in Pennsylvania's Northeast and Southcentral counties as households seeking more affordable housing within commuting distance from higher cost of living areas in New York, New Jersey, and Northeast Maryland move into Pennsylvania.

The expansion of infrastructure such as roadways, sewer and water systems, and waste disposal management are factors that can influence the pace and pattern of business and residential communities. Pennsylvania has increased its total public roadway mileage by only 1.7% since 1988. Rather than focusing on building new roads, the Pennsylvania Department of Transportation is increasingly relying upon monitoring systems to regulate traffic flow and manage congestion and is concentrating on the improvement and maintenance of existing road surfaces. As transportation links follow development, the Southeast accounted for 63% of the new road mileage in Pennsylvania.

Public water systems, another component of development, are expanding in Pennsylvania. In 1995, approximately 75% of Pennsylvania's households used publicly supplied water. This share is up from 69% in 1985. In addition, Pennsylvania households are conserving

*(Executive Summary, Cont'd)*

water. Per capita water usage dropped to 61 gallons per day from 66 over this ten-year period.

The number of households using public sewage systems is also increasing, particularly in counties surrounding major urban areas. However, the share of households using public sewage systems decreased between 1970 and 1990 as the number of households relying on private disposal, such as on-lot septic systems, increased more rapidly. On-site disposal requires larger lots, thus encouraging low-density residential development.

Nearly all direct mechanisms for land-use planning in Pennsylvania are relegated to municipal government, which means that the effort is fragmented among its 2,568 cities, townships and boroughs. Furthermore, roughly 61% of Pennsylvania's municipalities have populations of less than 2,500, making land use management an arduous task for many of Pennsylvania's smaller municipalities. Currently, only 65% of Pennsylvania's municipalities have planning commissions and 57% have comprehensive plans. But 93% of municipalities are covered by subdivision and land development ordinances and 64% are covered by municipal zoning ordinances.

Many land use and environmental issues such as transportation and water resource management span a number of municipalities within a region. Regional cooperation between municipal governments is encouraged by the Governor's Executive Order 1999-1 and is authorized

by the Pennsylvania Municipalities Planning Code. When municipalities cooperate, it is most often on a transportation corridor basis, then on comprehensive and watershed planning. Joint planning among municipalities, however, remains the exception rather than the rule.

Cooperation among county governments is more prevalent, with 61 counties out of 67 involved in joint planning with other counties. Most of these efforts involve transportation planning, but other regional efforts involve heritage parks, comprehensive plans, conservation, tourism, or water/sewer plans. In addition, 60 counties have adopted comprehensive plans and 40 county governments are linking their comprehensive plans to the long-range transportation plan within their region. With increasing concern over open space, 28 counties have adopted an open space plan. Sixteen counties are utilizing the concept of growth areas as a tool to manage growth. In most of these counties, the county encourages municipalities to direct development to areas where infrastructure exists or is planned.

Coordination between counties and municipalities is an important tool for successful land use management. Cooperation among municipalities is most prevalent in the Southeast, Northeast, Central, and Southwest counties, regions that are experiencing the highest rate of urbanization and land development. For example, survey results show that joint comprehensive and transportation plans are the most

*(Executive Summary, Cont'd)*

prevalent types of joint effort. At the municipal level, four joint zoning ordinances in Pennsylvania have been adopted in Allegheny, Berks, Bucks, and Montour Counties. Furthermore, municipalities in these high growth regions are more likely to have adopted and updated plans for land use management. A greater share of municipalities in the East and Southwest are covered by comprehensive plans and zoning ordinances. ■

## Introduction

"Pennsylvania's land is a precious, yet finite, resource." Based on this sentiment, Governor Ridge in his Executive Order 1 of 1999 asked for an annual report on land use trends in Pennsylvania. This report is the first such report that details current land use trends and some of the many factors related to the Commonwealth's land use patterns.

The Executive Order was prompted by the 21st Century Environment Commission's Report and by the recognition that farmland is being lost to development, and that development is spreading rapidly despite slow population growth in the state. Consequently, the Governor found it in the interest of the Commonwealth to promote sound land use practices to help alleviate urban sprawl, traffic congestion and environmental degradation, and simultaneously accommodate economic development.

The charts and graphs on the following pages describe current land use trends, illustrate changes that have taken place over the past several decades, show how conditions vary across the variety of landscapes within the Commonwealth, and measure the progress made in implementing methods of land use management. For the first time, this report provides a comprehensive statewide picture of land use trends across the Commonwealth. A "snapshot" or pictorial format is used to illustrate state and regional information on a broad range of environmental and economic issues.

Some historical context is provided to many of the issues directly related to land use management. At the top of each page a time trend illustrates changes in land use and environmental indicators such as developed land, farmland, forests, parks, reclaimed mineland, water quality, and wetlands. Trends that directly or indirectly have an impact upon or are impacted by land use patterns are profiled, including population trends, housing patterns, availability of roads and sewers, auto ownership, travel patterns, congestion and economic trends. In addition, some context for the management of these issues is provided with information on the extent of local government planning practices around the Commonwealth.

Each page also provides some spatial context to each land use indicator. A map at the bottom of each page illustrates the geographic distribution of the indicator that is reviewed on that page. The charts on each page are accompanied by two paragraphs. The first paragraph describes the data source and the significance of the data. The second paragraph summarizes the trends that are illustrated in the charts and provides other background information.

Note that the charts sometimes include more than one indicator. If this is the case, a letter "L" or "R" indicates whether a time series refers to the left or right axis of a chart. Also, any data that are valued in dollars use nominal dollars and are not inflation adjusted. Text references to regions within a map are based on the ten Team Pennsylvania

*(Introduction, Cont'd)*

Marketing Regions that have been delineated by Pennsylvania's Department of Community and Economic Development. A map illustrating these regions is provided at the end of this report.

The report is organized in four sections. The first section illustrates trends in land use patterns, including current land use, the distribution of state-owned protected lands such as parks, gamelands and greenways, and results of land restoration programs such as wetlands, brownfields, and minelands. The second section describes basic demographic, economic and housing trends in Pennsylvania. The third section includes indicators that impact or are impacted by land use patterns such as transportation and water and sewer infrastructure trends. Finally, the distribution of local government and the land-use management techniques that it implements are illustrated in section four.

All land use data used in this report come from official state or federal sources and are the latest available as of December 1999. The Pennsylvania Departments of Agriculture, Community and Economic Development, Conservation and Natural Resources, Environmental Protection, and Transportation, and state agencies such as the Center for Rural Pennsylvania, Game Commission, Pennsylvania Housing Finance Authority, and Pennsylvania Historical and Museum Commission were extremely helpful in providing data and reviewing drafts of this report. Federal agencies such as the United States Census Bureau and the Bureau of Economic Analysis also provided valuable information. Several socioeconomic indicators were

produced by RFA, the economic forecasting and consulting unit of Dismal Sciences, Inc. of West Chester, Pennsylvania, using government data sources. All references to data in the Executive Summary and the Introduction are drawn from the report pages and their respective data sources.

Information regarding local government land use management practices was obtained from two surveys (one of counties and one of municipalities)—conducted by the Governor's Center for Local Government Services in August 1999. These two land use surveys are a continuation of similar surveys conducted in 1986, 1992 and 1995.<sup>1</sup> The surveys asked about the use of land use management techniques such as comprehensive plans, planning commissions, zoning ordinances, and subdivision and land development ordinances. The 1999 County Survey added a number of questions to obtain more detail on land use management techniques such as planning for transportation, recreation, open space and greenways, conservation, and sewage plans, as well as joint planning and zoning efforts across multiple jurisdictions. The 1999 Municipal Survey asked similar questions.

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1. Previous Department of Community Affairs (DCA) land use surveys include the 1986 Inventory of Selected Planning Controls By County and Municipality, 1992 Inventory of Selected Land Use Controls By County and Municipality, and the 1995 Survey of Land Use Techniques in Pennsylvania. The former DCA was combined with the Department of Commerce to become the Department of Community and Economic Development by Act 58 of 1996. The Governor's Center for Local Government Services was created by the same act.

*(Introduction, Cont'd)*

All of Pennsylvania's 67 counties responded to the 1999 County Survey. Approximately half (53%) of the municipalities responded to the Municipal Survey. This response rate was distributed evenly across the Commonwealth, and the median population of the responding municipalities (1,986) was close to the state median of 1,801. This report was compiled by RFA, the economic forecasting and consulting unit of Dismal Sciences, Inc. of West Chester, Pennsylvania. RFA has ten years of experience in analyzing and forecasting economic, demographic, real estate and financial market conditions in the U.S., in all 50 states and in the nation's 318 metropolitan areas. RFA has previously prepared a report on the changing industrial structure of Pennsylvania and its ten Team Pennsylvania regions. RFA also provides quarterly reports to the Commonwealth on the economic conditions and future outlook of Pennsylvania and of each of its regions.

While this report was compiled by RFA with data that came from a variety of sources, the final responsibility for this report remains that of the Governor's Center for Local Government Services. Any comments or questions that you may have should be referred to the Governor's Center for Local Government Services at 1-888-223-6837. ■

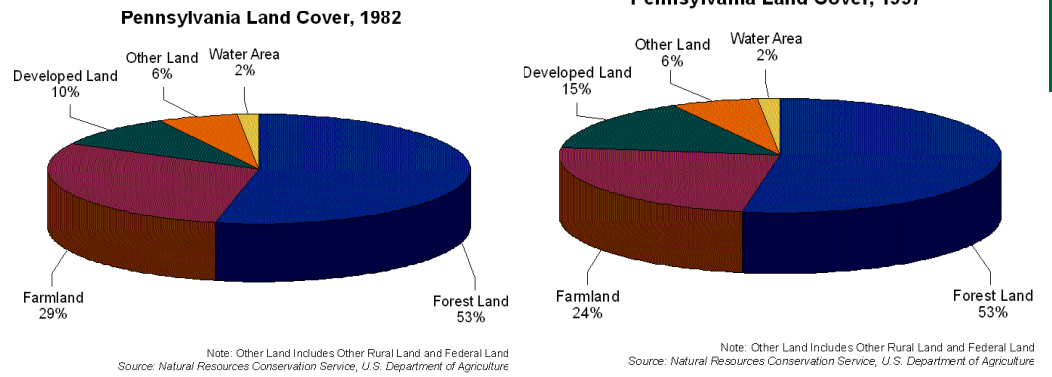


## Section 1: Land Use Indicators

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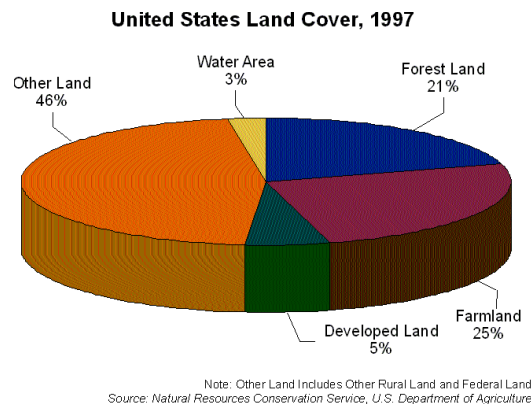


# Land Cover



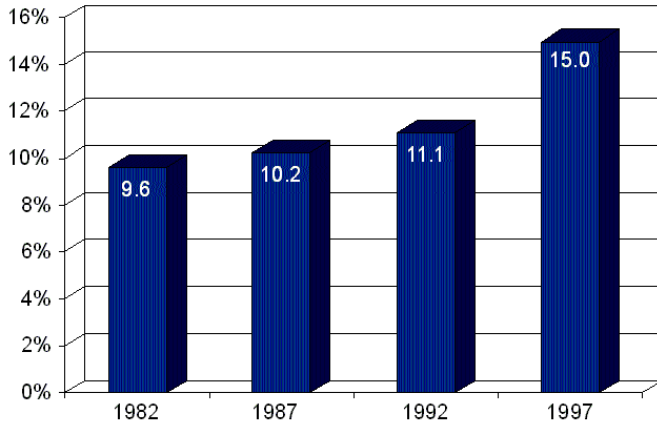
The USDA's National Resources Inventory (NRI) provides a fifteen-year comparison of land resources in the U.S. broken down by land use category. Total land cover is classified as farmland, forest land, developed land, water area, and other land such as barren land, land enrolled in a Conservation Reserve Program, miscellaneous rural land, and federal land.

Compared to the U.S., Pennsylvania possesses an above-average amount of forest land, which covers 15.3 million acres out of a nearly 29 million in the state. This land is concentrated in the Northcentral, Northern Tier, Central, Southern Alleghenies, and Northeast regions of Pennsylvania and is mostly privately owned. (Using the Pennsylvania Department of Conservation and Natural Resources' broader definition of forest land that includes reclaimed and abandoned farmland, there are 17 million acres of forest land in Pennsylvania.) Based on NRI data, the share of forest land has decreased slightly from 53.3% to 52.8% between 1982 and 1997. The next most prominent land type is agriculture. This land cover, consisting of 7.1 million acres of cropland and pastureland, is concentrated in Southeast and Southcentral Pennsylvania, where high quality farmland is dominant. Due to its location, this land cover is the most susceptible to development. Between 1982 and 1997, Pennsylvania lost 1.47 million acres of its agricultural land to development. Pockets of development are primarily concentrated in the Southeastern, Southcentral, and Northeast regions. Pennsylvania's share of developed land is above the national average. ■



## Increase in Developed Land

**Percent of Land Developed in Pennsylvania**

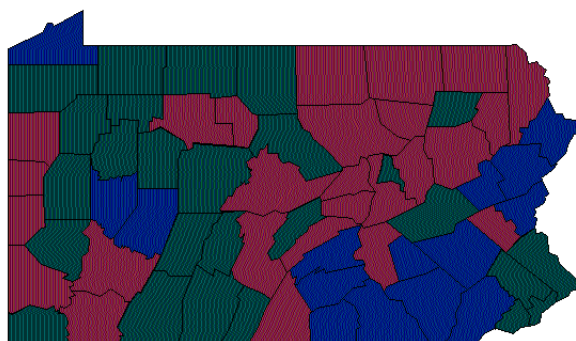


Source: Natural Resources Conservation Service, U.S. Department of Agriculture

The USDA's National Resources Inventory defines developed land as land cover consisting of residential, industrial, commercial, and institutional land including public transportation systems and small parks within urbanized areas. A fast pace of land development is increasingly bringing quality of life issues to the forefront.

Pennsylvania is developing its land at an accelerated pace. Since 1982, developed land increased by 1.6 million to 4.3 million acres or from 9.6% to 15% of total land. The greatest development occurred between 1992 and 1997 with 1.12 million acres of land developed over this five-year period compared to only 431,000 acres in the previous ten years. This development was largely at the expense of agricultural land. Northeast, Southeast, and Southcentral Pennsylvania are developing open land at the fastest pace as a result of both economic and demographic conditions. Economic expansion and above average population growth compared to the statewide average are driving development in these regions, especially in areas close to higher cost of living areas such as New York, New Jersey, and Maryland. Land consumption has been much slower in regions lacking these drivers of development. ■

**Growth in Developed Land, 1982 - 1997**

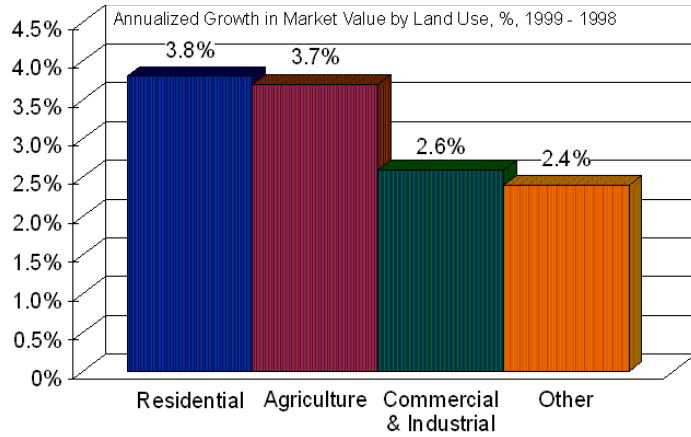


**Pennsylvania: 56% Increase in Developed Land**

- 73% to 161% Increase in Developed Land
- 46% to 73% Increase in Developed Land
- 0% to 46% Increase in Developed Land

Source: National Resources Conservation Service, U.S. Department of Agriculture

## Market Value of Land

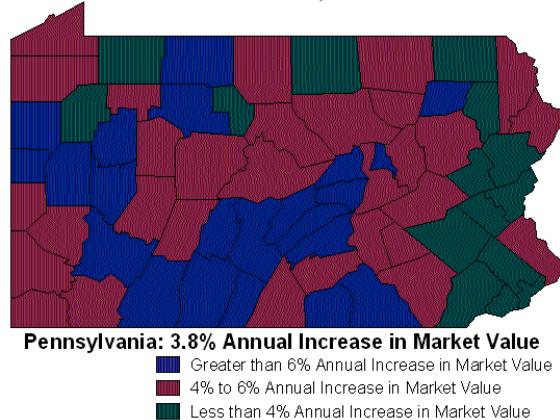


Source: State Tax Equalization Board

Land market values in Pennsylvania are estimated from the State Tax Equalization Board's (STEB's) assessed value by land use category. Common level ratios from STEB are applied to these assessment values to arrive at a market value. Land values are important indicators of land development. Strong residential demand supports strong price appreciation in surrounding properties. As residential demand increases, there is increasing pressure on undeveloped agricultural land. Thus, land values for agricultural land are appreciating strongly, as this open space is consumed for housing.

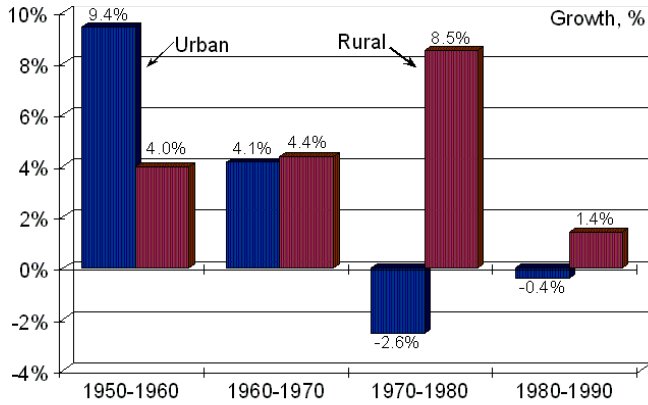
Pennsylvania's total land is valued at approximately \$475 billion with the largest share attributed to residential development, then to industrial and commercial land, and finally agricultural land use. Out of these land categories, residential and agricultural property owners are seeing the greatest appreciation in the market value of their assets. Pressure on land values is primarily outside of Pennsylvania's largest cities. The strongest price appreciation is occurring in the Southcentral, Central, Southwest, Northwest, and the Southern Alleghenies, while the Eastern region is realizing below-average appreciation for these land categories. An overbuilt housing market in Southeast Pennsylvania and a downturn in economic conditions in the early 1990s led to little price appreciation in these counties between 1989 and 1998. ■

**Residential Land Market Value, Annualized Growth, 1989 to 1998**



Source: State Tax Equalization Board

# Urban and Rural Population Growth

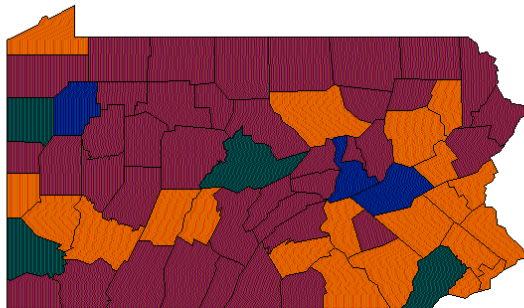


Source: 1990 Population & Housing Unit Counts, 1960, 1970, 1980 Number of Inhabitants, United States Census Bureau

The United States Census Bureau defines an area as either urban or rural. An urban area comprises all territory, population, and housing units located in urbanized areas and in places of 2,500 or more inhabitants outside of an urbanized area. An urbanized area is a continuously built up area with a population of 50,000 or more. It is made up of a central city and densely settled surrounding areas called urban fringe, more commonly known as the suburbs. All else is considered rural.

Pennsylvania's rural areas are gaining population while its urban population is declining. Rural areas saw a 50,304 increase in population compared to a decline of 32,556 people in urban areas between 1980 and 1990. The acceleration in population growth in traditionally rural areas is most prominent in regions bordering higher cost areas such as New Jersey and Maryland. Although 63% of Pennsylvania's counties are considered rural, the majority of Pennsylvania's population resides in urban areas. Approximately 69% of Pennsylvanians live in urban counties, with the largest share of these people living in the Pittsburgh and Philadelphia area. Since 1970, seven counties have been reclassified. Centre, Chester, Mercer, and Washington changed from predominantly rural to predominantly urban. Conversely, Northumberland, Schuylkill, and Lawrence switched to predominantly rural because they lost population in their urban areas. ■

## Urban and Rural Counties, 1990

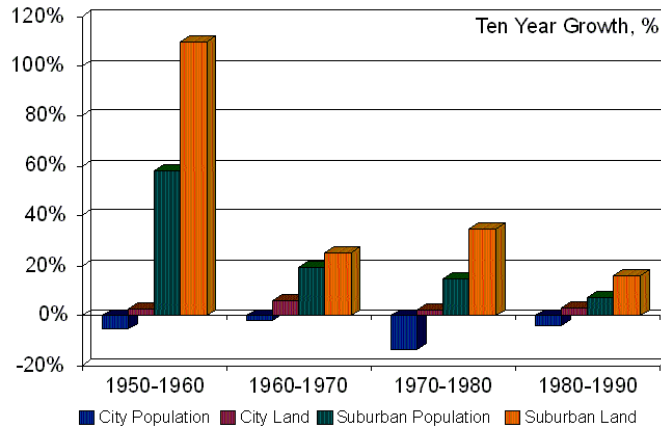


**Pennsylvania Urban Population = 69%, Pennsylvania Rural Population = 31%**

- Newly Classified Rural County
- Rural County : Rural Population Greater Than 51%
- Newly Classified Urban County
- Urban County : Rural Population Less Than 51%

Note: Urban and Rural County Population Represented As Share Of Total Population  
Source: United States Census Bureau, Center for Rural Pennsylvania

# Urbanized Land Development

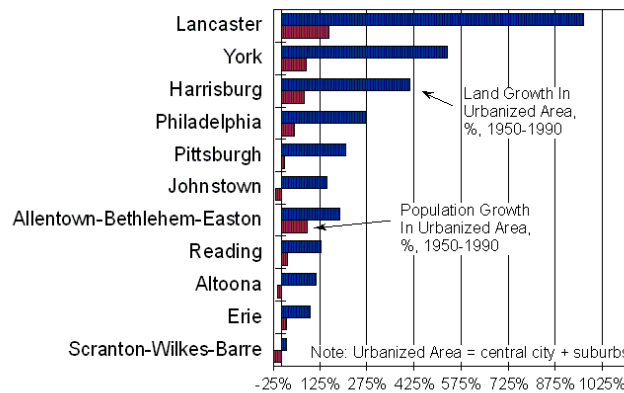


Source: 1990 Population & Housing Counts, 1960, 1970, 1980 Number of Inhabitants, United States Census Bureau

An urbanized area has a minimum population of 50,000. It comprises the land and the population of central cities and their adjacent densely settled territory called the urban fringe. This fringe, commonly called the suburbs, is the continuously built up area surrounding the principal city.

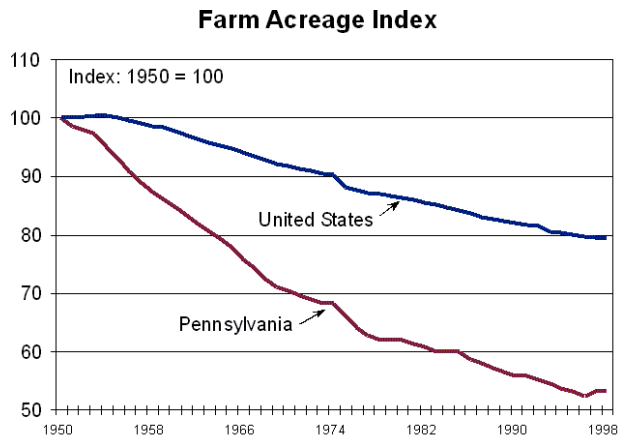
Between 1950 and 1960, the entire increase in population and 99% of the increase in urbanized land area in the eleven urbanized areas in Pennsylvania occurred in the suburbs. Between 1960 and 1990, population in these areas grew by 13% while their land area grew by 80%, according to United States Census Bureau data. In particular, the suburbs are growing larger at the expense of central cities in Pennsylvania. The suburban population continues to grow while central cities continue to lose people (see chart above). Furthermore, suburban land development is outpacing its population growth, as development is spreading out and is using increasingly more land. This trend is also occurring in central cities even as people are moving out of these areas. When comparing Pennsylvania's eleven largest urbanized areas, Lancaster, York, and Harrisburg are the fastest growing areas in terms of land growth, which is outpacing population growth significantly. In contrast, Altoona, Johnstown, and Scranton-Wilkes-Barre are also experiencing a great degree of spreading, low-density development, as land development continues even with a decline in population (see chart below). ■

## Change in Land and Population for Urbanized Areas



Source: Rusk, David. *Social & Economic Costs of Urban Sprawl in Pennsylvania*, United States Census Bureau

## Loss of Farmland

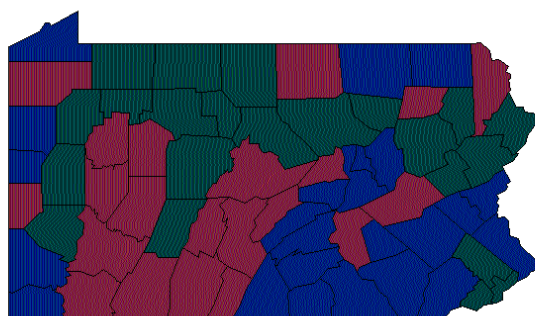


Source: National Agricultural Statistics Service, U.S. Department of Agriculture

The farm acreage index, created from the National Agriculture Statistics Service, estimates farm acreage in Pennsylvania and the United States. To calculate the index, the farm acreage from each year is divided by the farm acreage in the base year, which is 1950. Acreage in farms includes land used for crops, livestock, pastureland, woodland, wasteland and idle farmland.

Since 1950, Pennsylvania has lost nearly half of its farmland compared to a loss of 20% nationally. Several factors ranging from the profitability of farming to urban growth pressures are behind this loss. As illustrated in the American Farmland Trust map (next page), high quality farmland is coming under development pressure. The red areas denote regions with prime farmland, a specification based on USDA and AFT criteria, that have experienced an above-average development rate between 1982 and 1992 according to the USDA's National Resources Inventory. Farmland in counties surrounding Philadelphia and Pittsburgh is at high risk, as people and businesses migrate to more affordable and more open spaces in the Southeast and Southwest. Longer term, RFA expects rapid land development in Lehigh Valley, Southeast, and Southcentral counties, as the economic performance of these counties will remain above average compared to the state. Farmland in counties bordering Maryland, New Jersey, and New York will also be at risk as households move into these areas seeking a lower cost of living. ■

### Percent of Land in Farms, 1997

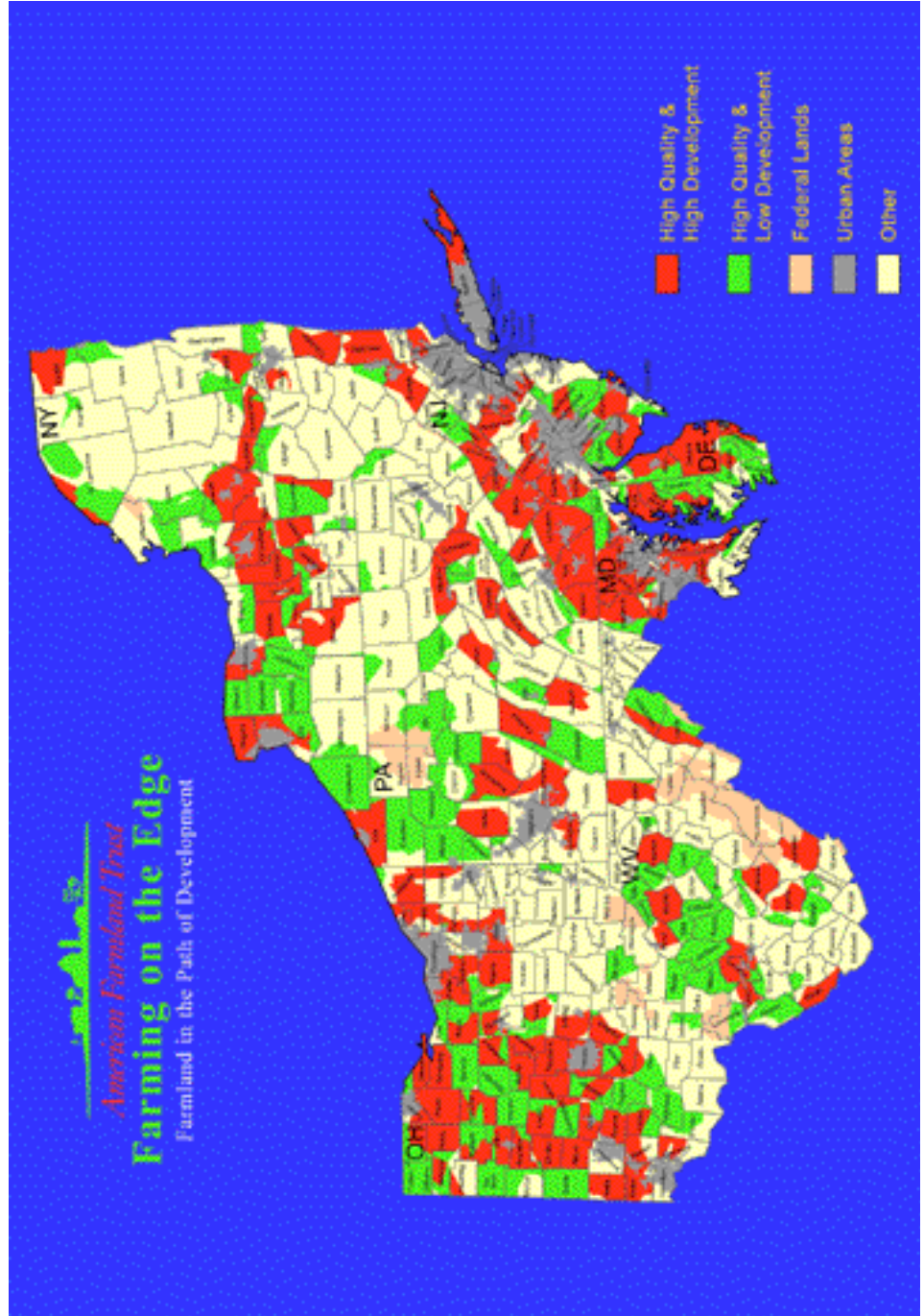


- 35% to 100% of Total Land in Farms
- 19% to 35% of Total Land in Farms
- 0% to 19% of Total Land in Farms

Source: National Agricultural Statistics Service, U.S. Department of Agriculture

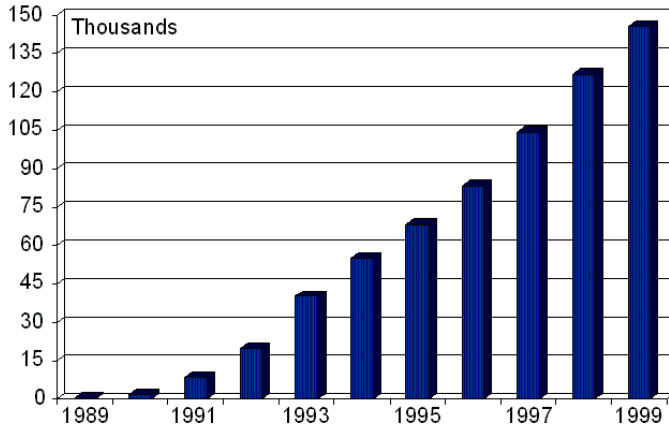
SECTION 1: LAND USE INDICATORS

# American Farmland Trust



# Farmland Preservation

**Total Acres of Farmland In Conservation Easements**

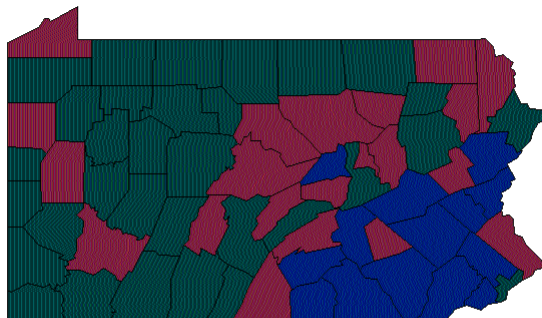


Source: Bureau of Farmland Protection, Pennsylvania Department of Agriculture

The Pennsylvania Farmland Preservation Program (Agricultural Conservation Easement Purchase Program) enables the state, county and local governments to purchase agricultural conservation easements from farmers whose land qualifies under the program. Through this program, the development or improvement of the land is restricted to agricultural uses by the holder of the easement; thus, the rural nature and the productivity of the land is preserved permanently. As of November 1999, 1,175 farms in 41 counties were covered by easements totaling 145,663 acres.

The amount of agricultural land under conservation easements is growing in Pennsylvania, but this program is still small. Less than 2% of total farm acreage falls under the program as of this year. Governments in Southeast and Southcentral Pennsylvania have acquired the highest number of development rights in terms of acreage. Lancaster, Berks, and Chester counties account for nearly 25% of all Pennsylvania land subject to easements. The pattern of easement purchases reflects the rapid pace of development in Southeast and Southcentral Pennsylvania, as these areas possess high quality farmland that is at high risk due to development pressure. ■

**Conservation Easements, 1999**



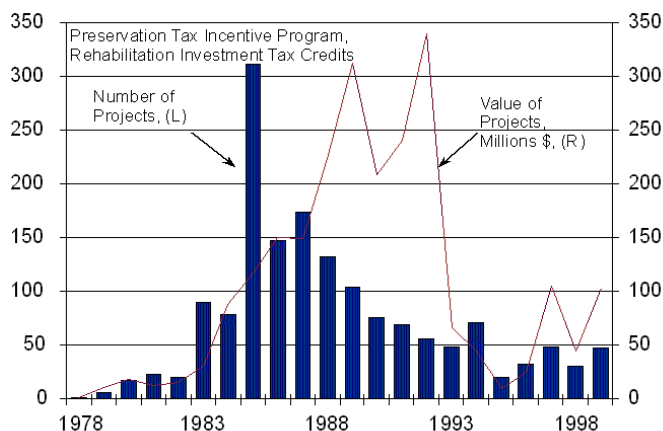
**Pennsylvania: 1.8% of Farm Land in Conservation Easements**

- 2.8% to 10.2% of Farm Land in Conservation Easements
- 0.5% to 2.8% of Farm Land in Conservation Easements
- 0% to 2.8% of Farm Land in Conservation Easements

Note: This map illustrates easements as % of farm acreage.

Source: Bureau of Farmland Protection, Pennsylvania Department of Agriculture

## Historic Preservation

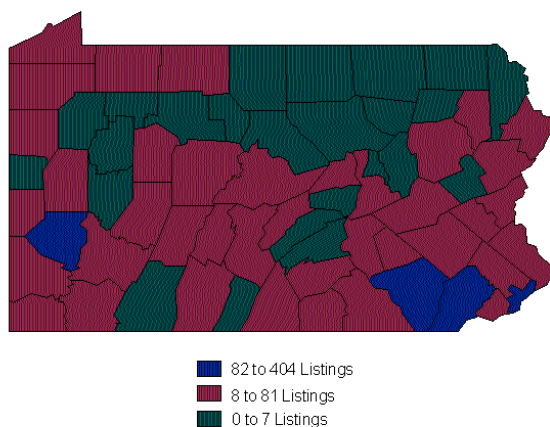


Source: Bureau for Historic Preservation, Pennsylvania Historical and Museum Commission.

The National Register of Historic Places is the official list of the nation's cultural resources worthy of preservation under the National Historic Preservation Act of 1966. Historical places include buildings, structures, objects, and sites that are important for their historical, architectural, archaeological, or cultural values. The U.S. Department of the Interior and the Pennsylvania Historical and Museum Commission provide incentives for historical preservation. For example, property owners may receive federal investment tax credits for the rehabilitation of historic income producing properties.

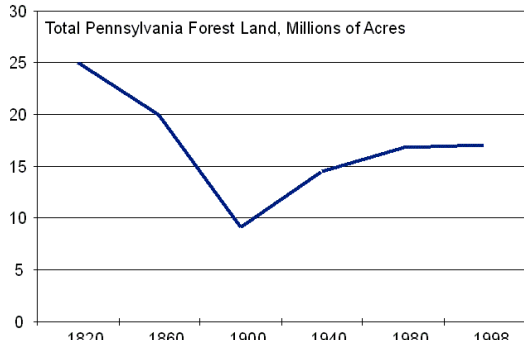
Since the inception of the Investment Tax Credit Program, over \$2.2 billion has been invested in approximately 1,600 Pennsylvania projects. Since the start of this decade, 60 historical rehabilitation projects on average have qualified for investment tax credits per year. This number is significantly lower than the 100 projects on average that qualified for federal credits each during the 1980s due to changes in the Internal Revenue Code. In Pennsylvania, nearly 3,000 individual properties and historic districts are listed in the National Register. The largest concentration is in Southeastern Pennsylvania. Pennsylvania also supports historic preservation through the Historic Preservation Act of 1961. Sixty-nine municipalities, spread throughout the Commonwealth but also concentrated in the Southeast, have established historic districts under this act. ■

### National Register Listings, 1999

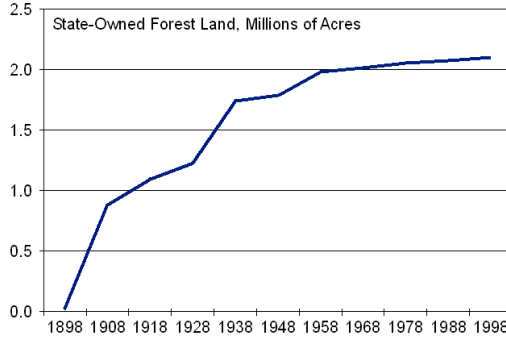


Source: Bureau for Historic Preservation, Pennsylvania Historical and Museum Commission

# Forest Land



Source: Bureau of Forestry, Department of Conservation and Natural Resources

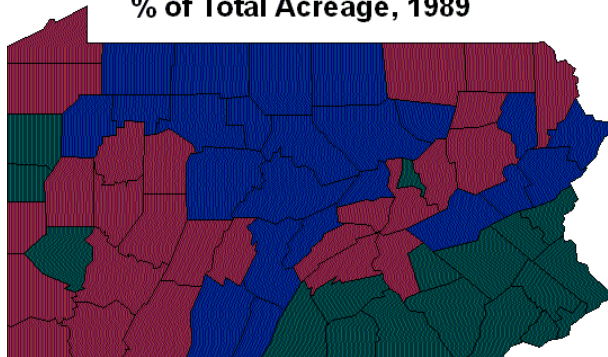


Source: Bureau of Forestry, Department of Conservation and Natural Resources

One of Pennsylvania's greatest resources is its forest land. This land cover provides the state with aesthetic beauty and many environmental and economic benefits, including natural water and air filtration, a renewable source of timber, open space, wildlife habitat, and vast recreational opportunities.

Using the Department of Conservation and Natural Resources' definition of forest land, forests cover 17 million acres or more than half of Pennsylvania. A large portion, 74% or 12.6 million acres of this land is privately owned. Various government agencies own the remaining acreage with the state in charge of 12% of Pennsylvania's forest land. The acquisition of forest land by the Bureau of Forestry occurred primarily in the early to mid-1900s in response to the dramatic decline in forest land during the 1800s. State purchases have tailed off dramatically since the late 1950s with only 6% of state forest land purchased since 1958. Forest land is concentrated in Northern and Central Pennsylvania. Consequently, state-owned land is also primarily located in these counties. In contrast, Southeast and Southcentral Pennsylvania have less forest land, as these counties have a high concentration of farmland and developed land. ■

## Share of Total Land that Is Forest Land, % of Total Acreage, 1989

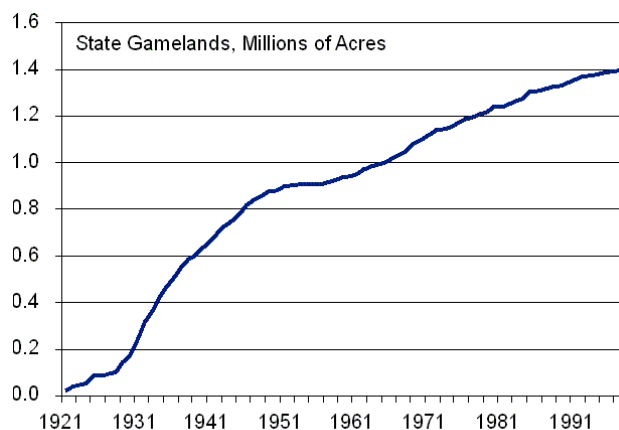


**Pennsylvania: 59% of Total Land is Forest Land**

- 67% to 100% of Total Land is Forest Land
- 46% to 67% of Total Land is Forest Land
- 0% to 46% of Total Land is Forest Land

Source: U.S. Forest Service, United States Department of Agriculture

## State Gamelands

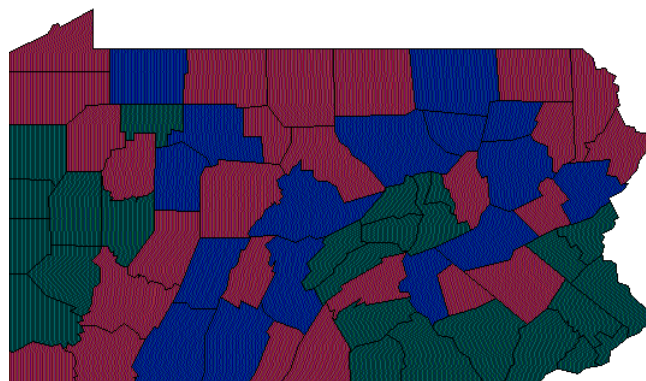


Source: Pennsylvania Game Commission

The benefits of gamelands extend far past their immediate use as public hunting grounds. State management of this land helps to conserve wildlife and their habitat and also broadens recreation alternatives for tourists and Pennsylvania residents. Gamelands also provide important watershed protection for the Commonwealth. Gamelands include all land under the stewardship of the Pennsylvania Game Commission.

Gamelands account for 4% of Pennsylvania's total acreage and are the second largest holding of state land. The acquisition of this land occurred primarily in the first half of this century, when approximately 60% of state gamelands were purchased. While land has been purchased since then, the pace of acquisition has been considerably slower over the second half of this century. Counties with the highest share of gamelands are concentrated in the Northeast and Central regions of Pennsylvania. These areas also have a high share of forest land. Southeast, Southcentral, Southwest, and Northwest Pennsylvania have the least amount of gamelands, as these counties tend to have less forest land and more farmland and development. ■

### Acres of State Gamelands, 1998

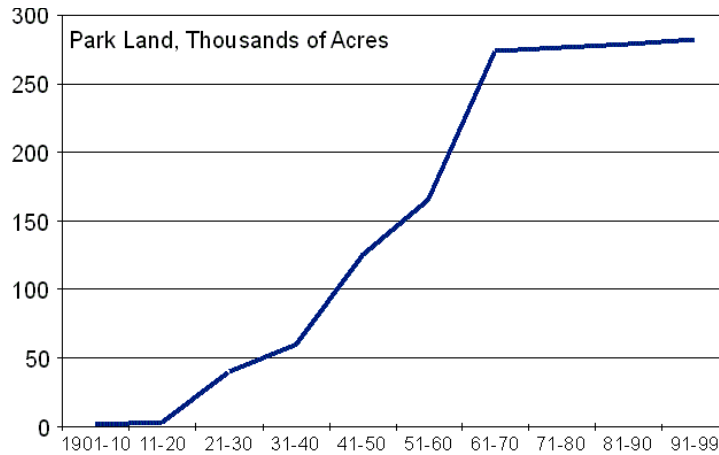


Pennsylvania: 1,397,429 Acres of Gamelands

- Greater than 28,760 Acres of Gamelands
- 11,600 Acres to 28,760 Acres of Gamelands
- Less than 11,600 Acres of Gamelands

Source: Pennsylvania Game Commission

## Park Land

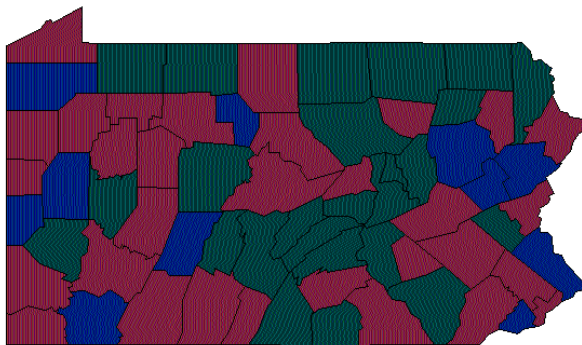


Source: Pennsylvania Bureau of State Parks, Department of Conservation and Natural Resources

Pennsylvania State Parks provide opportunities for outdoor recreation and environmental education. In addition, park land provides economic benefits from tourism and recreational activities. Parks may include forest land, historical sites, fields, lakes, or wetlands. This land is protected from residential development. Counties and municipalities also maintain approximately 200,000 acres of park land across the Commonwealth.

The acquisition of land for state parks has given the Bureau of State Parks stewardship over only a small portion of Pennsylvania's land, approximately 283,000 acres. The expansion of the park system occurred primarily before 1970 when roughly 96% of state park land was acquired. The largest wave of park land purchases occurred between 1960 and 1970 when 37% of total state park land holdings or 107,246 acres were acquired. Since that time, the state has continued to acquire land, but at a significantly slower pace. Parks are much more scattered throughout the state than other recreation sites because of "Project 70," a 1960s initiative seeking to place a state park within 25 miles of every Pennsylvania resident. The largest of these parks are located in Northeast and Western Pennsylvania. ■

### State Park Land, % of Total Acreage, 1994

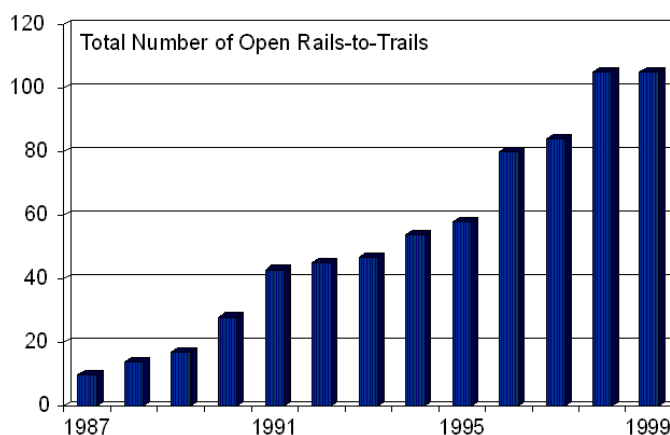


#### Pennsylvania: 1% of Total Land is State Park Land

- 1.7% to 9.0% of Total Land is State Park Land
- 0.3% to 1.7% of Total Land is State Park Land
- 0.0% to 0.3% of Total Land is State Park Land

Source: Bureau of State Parks, Pennsylvania Department of Conservation and Natural Resources

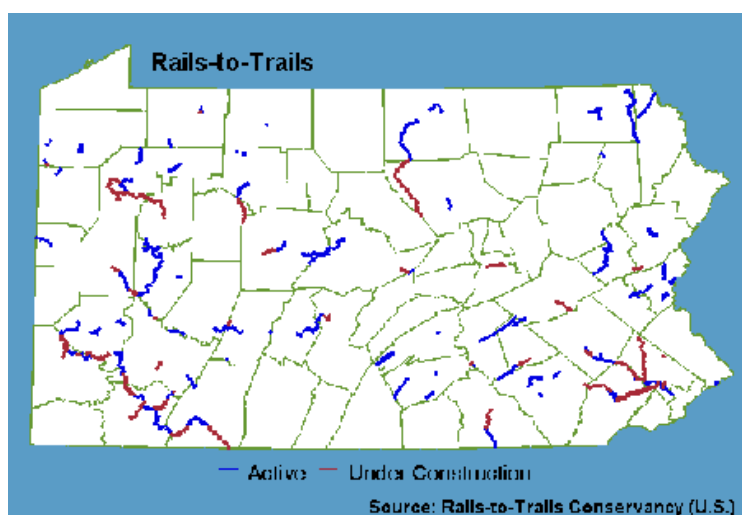
## Greenways and Rails-to-Trails



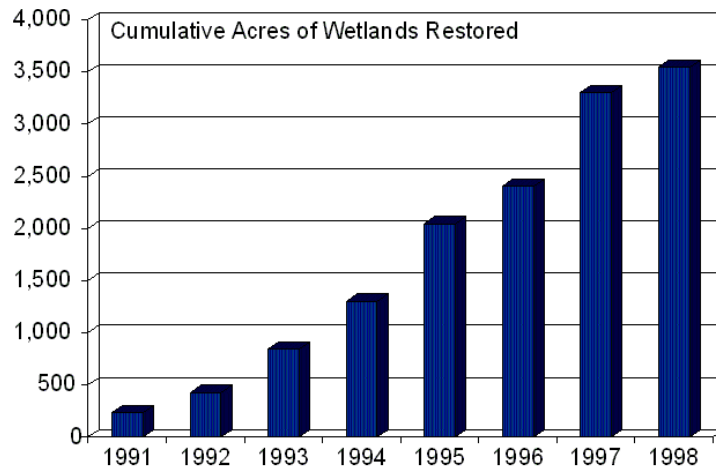
Source: Rails-To-Trails Conservancy (U.S.)

Greenways are open-space corridors that serve multiple purposes including recreational trails, habitat for wildlife, natural buffers along rivers and streams, and open space and natural areas in communities. They also help protect water quality, provide close-to-home outdoor recreation opportunities, and generally improve the quality of life and enhance economic development. Pennsylvania has thousands of miles of greenways and trails on its state park, forest and game lands, and in its county and community parks. The Governor's Pennsylvania Greenways Partnership Commission, which was created in 1998, is in the process of inventorying the Commonwealth's greenways and developing a statewide greenways plan.

Many greenways and rails-to-trails were developed using abandoned railroad rights-of-way. The state's 900 active miles of rail-to-trails qualify as one of the largest rail-to-trails systems in the country. With over 100 trails, Pennsylvania has more trails than any other state. Since 1987, the conversion of abandoned rails to public trails has increased tenfold. Pennsylvania's vast network of railroad lines presents the state with an opportunity to utilize these resources as valuable open space. These trails are found throughout the Commonwealth, although Western Pennsylvania has the largest concentration of trails in comparison to other regions. ■



## Wetlands Restored

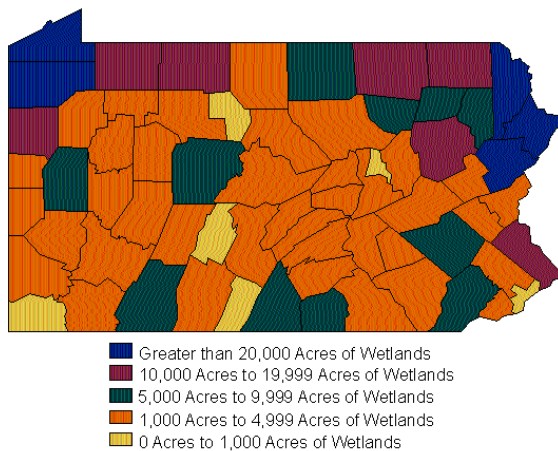


Source: Bureau of Water Quality Protection, Pennsylvania Department of Environmental Protection

Wetlands are areas that are wet for significant periods of time. They include the periodically flooded lands occurring between uplands and lakes, rivers, streams, and estuaries. Wetlands are also found in low-lying areas in valleys as well as depressional areas throughout Pennsylvania forests. Wetlands are commonly referred to by a host of terms, such as mudflats, wet meadows, hardwood swamps, marshes or bogs, based on their location and characteristics. They provide protection against flood and storm damage, control erosion, store water, and act as a pollution control measure because of their filtering function. Wetlands also provide habitat for a wide variety of plants and animals, including many that are now threatened or endangered because of historic wetland losses.

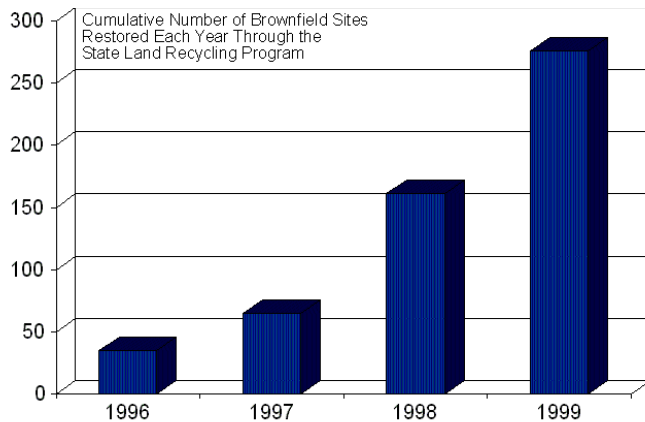
Since the settlement of Pennsylvania, over half of Pennsylvania's wetlands have been drained or filled. However, in 1978, the Pennsylvania legislature enacted laws that stemmed the loss of wetlands. Since 1988, in cooperation with federal and state agencies, a gain of 3,500 acres of wetlands has been realized. U.S. Fish & Wildlife Service studies indicate that roughly 430,000 acres now remain. The map provides the approximate number of wetlands located within each county in the Commonwealth. ■

### Acres of Wetlands by County, 1990



Source: United States Fish & Wildlife Service

## Brownfields Restored

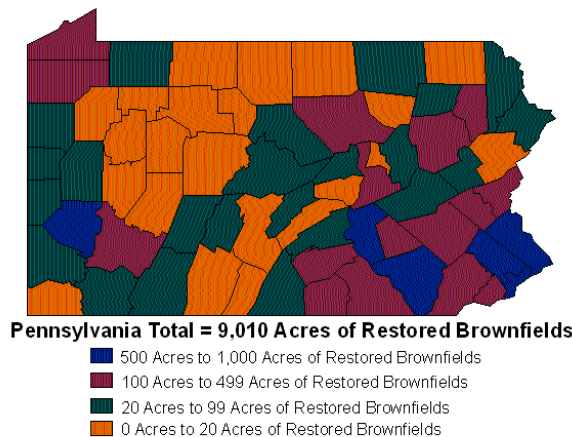


Source: Bureau of Land Recycling and Waste Management, Pennsylvania Department of Environmental Protection

The Department of Environmental Protection defines brownfields as abandoned, idle, or under-used industrial and commercial facilities where expansion or redevelopment is complicated by real or perceived environmental contamination. Pennsylvania's Land Recycling Program, which started in 1995, is focused on returning such sites to productive use by offering tax incentives and financial assistance in the form of low interest loans and grants to private entities, municipalities, and non-profit economic development agencies for the restoration of approved sites. Redevelopment plans for brownfields include mixed-use development that incorporates different commercial and industrial land uses and housing choices as well as the opportunity to create more green space in the form of parks, greenways and trails.

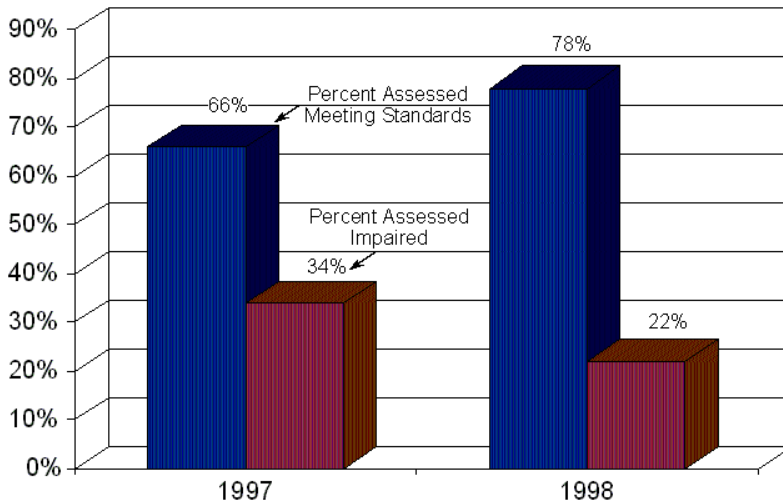
The Land Recycling Program in Pennsylvania has been very successful, with 236 out of a total of 537 sites restored this year. The number of brownfield sites restored has increased seven-fold since 1996. As expected, the oldest urbanized areas are leaders in the restoration of their brownfield sites, as the regions surrounding Philadelphia, Pittsburgh, York, and Erie are saddled with a large share of abandoned industrial and commercial sites. Southeastern Pennsylvania accounts for nearly 40% of the completed projects. ■

### Acres of Restored Brownfields, 1996 to 1999 (Estimated)



Source: Bureau of Land Recycling and Waste Management, Pennsylvania Department of Environmental Protection

## Assessed Streams

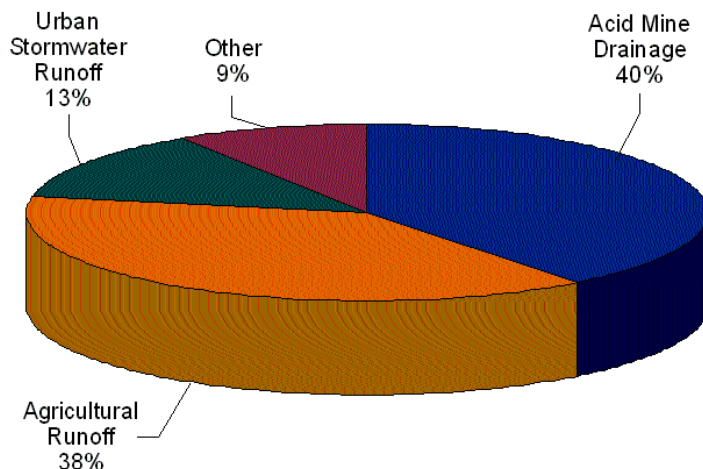


Source: Bureau of Watershed Conservation, Pennsylvania Department of Environmental Protection

Land use directly affects the quality and quantity of water in Pennsylvania's waters. Runoff from urbanized areas, agricultural land, and abandoned mine sites have contributed to water pollution in Pennsylvania. Impaired streams are waterways that do not meet national standards for water quality.

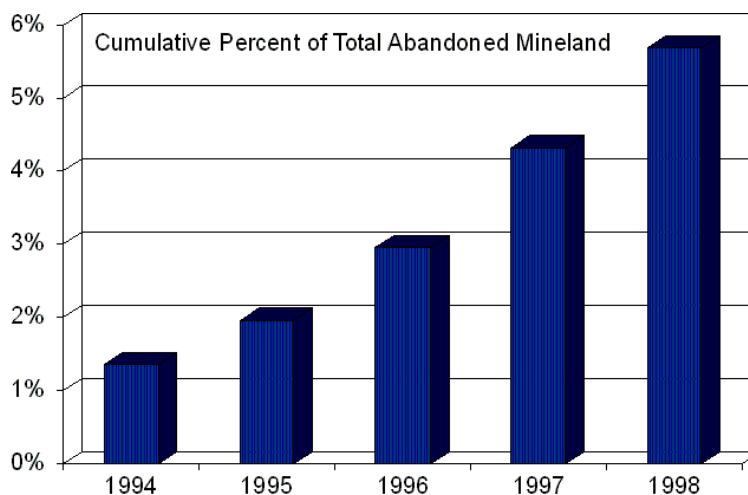
Of the waterways that have been assessed in the state, only 22% fail to meet standards for water quality. However, only 30% of Pennsylvania's 83,240 miles of streams have been assessed to date. For those that have been assessed, the primary cause of impairment is acid mine drainage from Pennsylvania's abandoned mines. In 1998, approximately 2,150 assessed stream miles in Pennsylvania were polluted for this reason. Another 2,075 miles were affected by agricultural runoff and 711 more miles were impaired due to urban storm water runoff. ■

### Reasons For Stream Impairment, 1998



Source: Bureau of Watershed Conservation, Pennsylvania Department of Environmental Protection

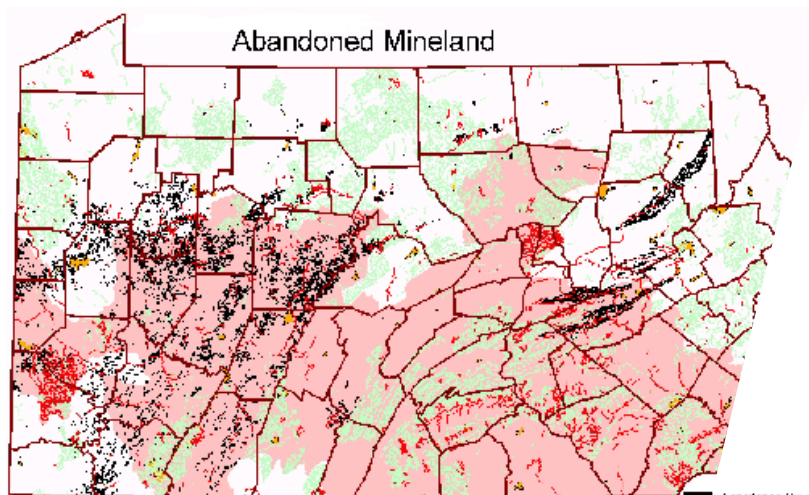
## Abandoned Mineland Reclaimed



Source: Bureau of Abandoned Mine Reclamation, Bureau of Mining and Reclamation, Pennsylvania Department of Environmental Protection

The environmental problems associated with abandoned minelands reduce the potential use of land in communities located near these sites. Abandoned mine reclamation is the process of cleaning up environmental hazards associated with such sites and returning the land to more productive uses. Reclamation eliminates hazards such as acid mine drainage, open pits, mine fires, dangerous highwalls, and erosion. Pennsylvania's "Reclaim PA" initiative works in conjunction with state watershed restoration efforts, as abandoned sites greatly affect surrounding water quality and wildlife habitat.

Pennsylvania is saddled with one-third of the nation's abandoned mines according to DEP, or approximately 250,000 acres. As of 1998, nearly 6% of this acreage has been restored through state, federal and private sector efforts. As seen below, the Northeastern and Western parts of the state have the highest concentration of abandoned minelands. As a result, these areas also have a substantial amount of impaired streams that fail to meet water quality standards. ■



Source: Bureau of Watershed Conservation, Bureau of Abandoned Mine Reclamation, Pennsylvania Department of Environmental Protection

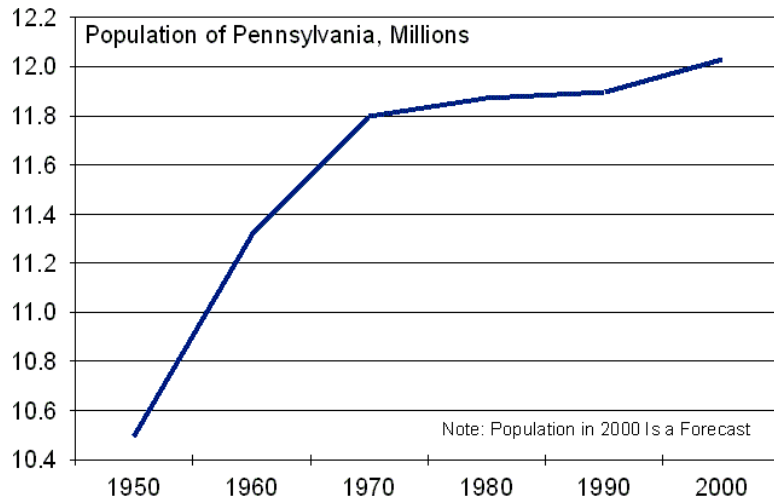


## Section 2: Demographic, Economic and Housing Trends

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## Population Growth

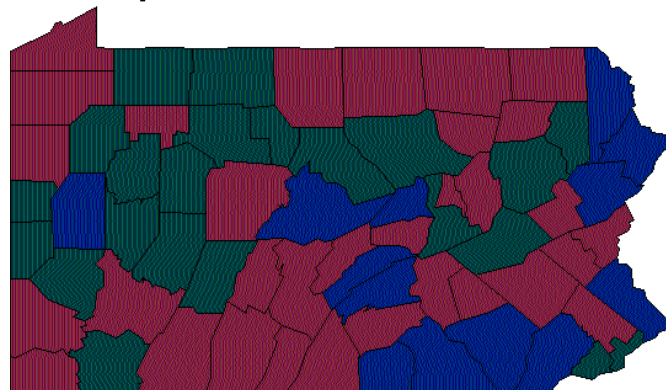


Source: United States Census Bureau, RFA/Dismal Sciences, Inc.

Demographic patterns will shape Pennsylvania's land development in the near term. Regions growing at a faster-than-average pace will demand greater attention toward land use policy. Issues arising from stronger demographic trends include the dispersion of residential communities, traffic congestion, and environmental quality.

Pennsylvania's population is growing, but at a slower pace than the nation. There are areas, however, where land use issues will increasingly emerge due to stronger regional demographic trends. Northeastern and Southcentral Pennsylvania are the fastest growing regions in the Commonwealth as these areas have an above average share of people of childbearing age and stronger than average net migration. RFA forecasts show above-average population growth continuing in these regions due to the suburbanization of rural counties outside of Philadelphia, Harrisburg, and Pittsburgh as well as counties that are within close proximity to higher cost metro areas in New Jersey, Maryland, and New York. ■

### Population Growth: 1988 to 1998

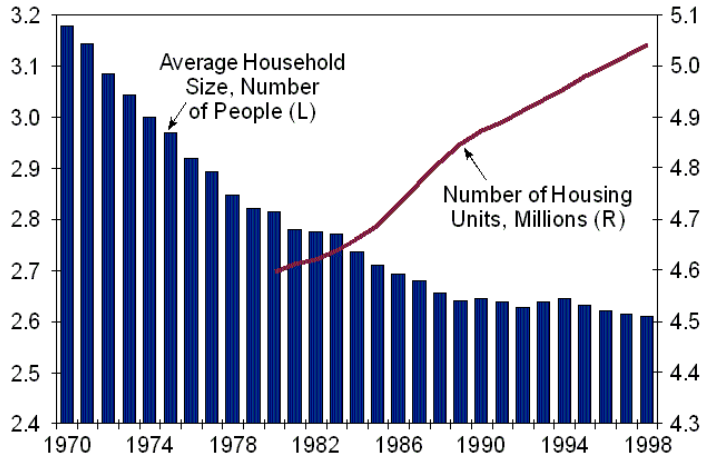


Pennsylvania: 0.7% Increase in Population

- 0.8% to 5% Increase in Population
- 0.01% to 0.8% Increase in Population
- -1.2% Decline in Population to Zero Growth in Population

Source: United States Census Bureau, RFA/Dismal Sciences, Inc.

# Households and Household Size

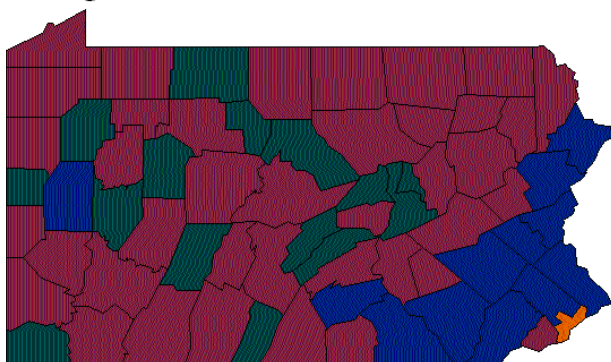


Source: United States Census Bureau, RFA/Dismal Sciences, Inc.

Strong housing demand increases pressure on undeveloped agricultural land. Thus, the pattern of housing stock growth is an important land use indicator. As defined by the Bureau of the Census, a household includes all persons who occupy a housing unit, which is a house, an apartment, a mobile home, or other forms of shelter such as a group of rooms. The average household size is the average number of people per household.

Pennsylvania's single-family and multifamily housing stock is increasing as the average household size decreases. Falling birth rates and an aging population account for the smaller household size. Pennsylvania's below average pace of household formations (0.5% annually since 1988 versus 1.2% for the U.S.) keeps the growth of the housing stock below average. Within the Commonwealth, the more rapidly growing Northeast and Southeast regions have captured 90% of the new housing stock since 1988. One exception is Philadelphia County, where population decline and a deterioration of the single-family and multifamily stock have led to abandonment and demolition of units. The conversion of housing into alternative uses such as small businesses is another factor in this decline. ■

## Change in Household Units, 1988 to 1998



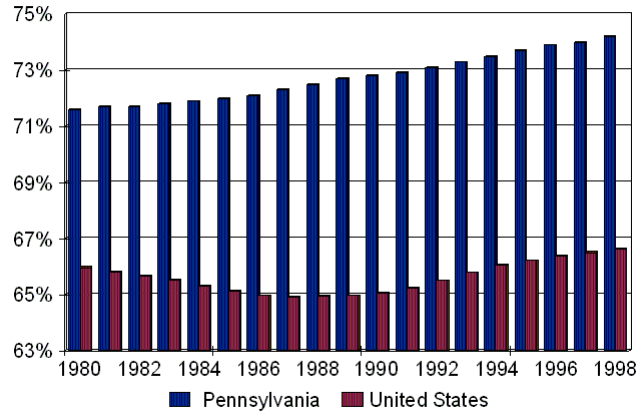
**Pennsylvania: + 230,800 Housing Units**

- + 9,000 to + 30,000 Housing Units
- + 2,000 to + 9,000 Housing Units
- + 1 to + 2,000 Housing Units
- - 17,000 to 0 in Housing Units

Source: United States Census Bureau, RFA/Dismal Sciences, Inc.

# Single Family Housing

Single-Family Housing as Share of Total Housing Units

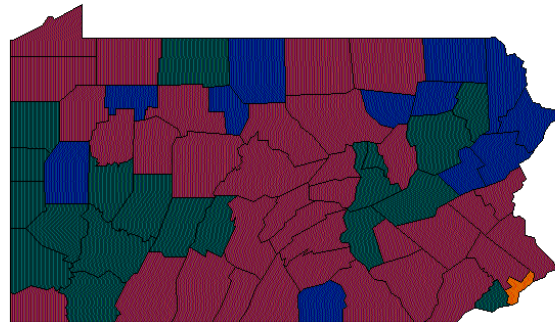


Source: United States Census Bureau, RFA-Dismal Sciences, Inc.

The mix of housing is an important land development issue. Growth in single-family homes is more consistent with a spreading, lower-density expansion whereas multi-family housing is necessarily a higher-density type of development. The United States Census Bureau breaks housing into three main categories: single-family units, multi-family units such as apartments, and other forms of shelter such as mobile homes.

Nearly 75% of the state's housing stock is comprised of single-family units compared to roughly 67% nationally. Furthermore, increasingly more single-family homes are being built instead of multifamily units. Thus, the share of multifamily units is decreasing and is now only 20% of the housing stock compared to 26% nationally. Alternative forms of shelter such as mobile homes account for only 5% of Pennsylvania's housing stock. The strongest growth in single-family units over the past ten years occurred in Northeast Pennsylvania, where the number rose by 24%, compared to 12% nationwide. Other pockets of strong construction activity include Adams and Butler Counties where population growth of 1.4% per year has driven demand for new housing. Philadelphia's declining population and relatively older single-family housing has led to the abandonment and demolition of homes. The conversion of housing to alternative uses such as commercial establishments is another reason behind a decline in Philadelphia's single-family housing stock. ■

Single-Family Housing Growth, 1988 to 1998



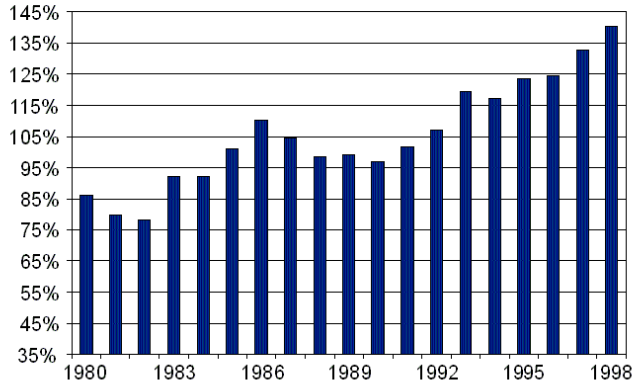
Pennsylvania: 7% Increase in Single-Family Housing

- Greater Than a 21% Increase in Single-Family Housing
- 7% to 21% Increase in Single-Family Housing
- 0.1% to 7% Increase in Single-Family Housing
- -3% Decline to Zero Growth in Single-Family Housing

Source: United States Census Bureau, RFA/Dismal Sciences, Inc.

# Housing Affordability

**Housing Affordability Index for Median Income Households**

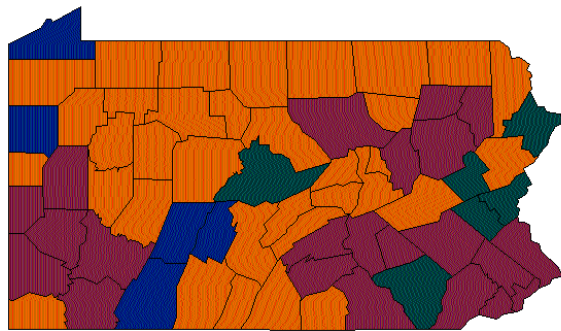


Source: United States Bureau of Economic Analysis, United States Census Bureau, RFA/Dismal Sciences, Inc.

The housing affordability index illustrates single-family housing affordability in Pennsylvania's metropolitan areas. The index is based on the median sales price of single-family homes, current mortgage rates, median household income, and assumes a 20% down payment and a 30-year fixed-rate mortgage, and includes estimates for payments of property taxes and insurance. An index of 100% indicates that a median income household can afford to purchase a median-priced home.

Housing affordability is good in Pennsylvania, and it is getting better. In 1998, Pennsylvania's index of 141% was about equal to the U.S. average and is well above the Commonwealth's 1980 figure of just 86%. The current index means that, on average, a median income household (earning \$39,100) could afford to purchase a house priced 41% higher than the median-priced house (median = \$107,000). Affordability does vary by region. It is the lowest in Pike County, which is impacted by higher prices in nearby New York State. Still, affordability in Northeast Pennsylvania is significantly higher than nearby metro areas in New York and New Jersey. Affordability is the highest in the Altoona and Sharon metro areas where the median sales price is under \$60,000. Affordability in the more densely populated Southeast and Southwest areas is in the middle range for Pennsylvania. Nowhere in the Commonwealth does the index drop below 100%. ■

**Housing Affordability, %, 1998**

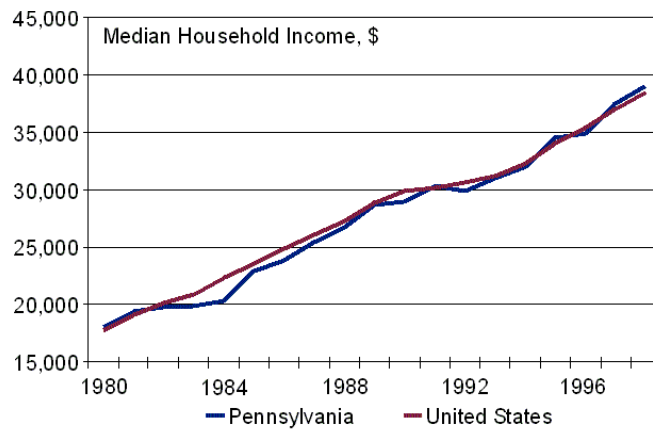


Pennsylvania's Housing Affordability Index for Median Income Households: 141%

- Above Average Housing Affordability (Index: 179% to 225%)
- Modest Housing Affordability (Index: 140% to 179%)
- Below Average Housing Affordability (Index: 108% to 140%)
- Data Not Available

Source: United States Bureau of Economic Analysis, United States Census Bureau, RFA/Dismal Sciences, Inc.

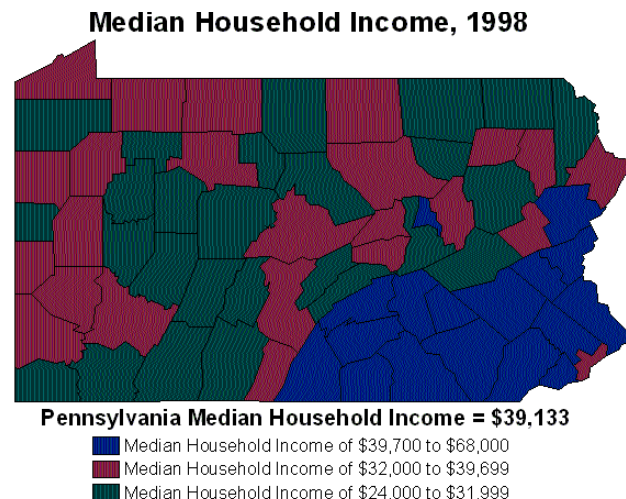
## Income Growth



Source: United States Bureau of Economic Analysis, United States Census Bureau, RFA/Dismal Sciences, Inc.

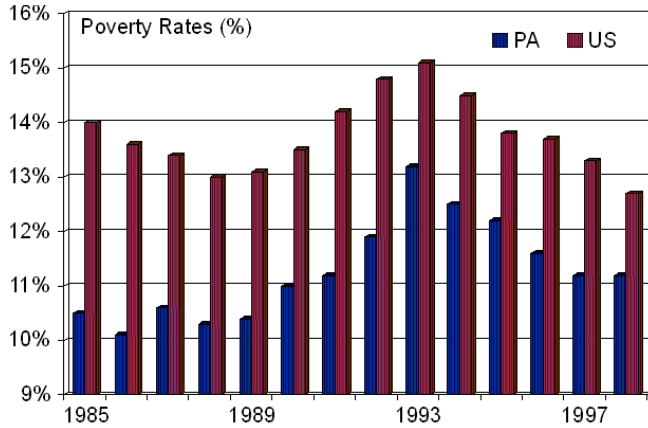
Income is an indicator of economic health and is a primary factor in determining demand for housing and other consumer goods and services. Economic development will occur at a faster pace in areas with higher levels of income, which supports the expansion of residences and commercial establishments. Per capita income measures the average income received by an individual from employment, investments, and transfer payments. Median household income is the level of income where half of the households are above this value and half are below this value.

Pennsylvania households and individuals are keeping up with the average, as per capita income and median household income are nearly equal with the nation. Southeast and Southcentral Pennsylvania generate the greatest income in the state. The economies in these counties account for nearly 50% of Pennsylvania's total income. Thus, households in these regions earn the highest incomes in the state, on average. As the majority of economic wealth accrues to this region, development pressure is greater in Southeast and Southcentral Pennsylvania. ■



Source: United States Bureau of Economic Analysis, United States Census Bureau, RFA/Dismal Sciences, Inc.

# Poverty Rate

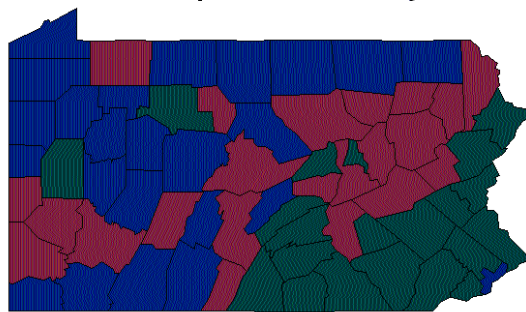


Source: United States Census Bureau

Rising wealth is an important factor that allows households to support suburban land use patterns with its larger house and lot sizes. The poverty rate, an indicator of wealth in the economy, is defined as the number of people living below the poverty line as a percentage of total population. A family of four earning an income below \$16,660 is considered impoverished.

Pennsylvania's poverty rate of 11% is well below the national average and has declined from a peak in 1993. In 1998, roughly 1.3 million people were considered below the poverty line in Pennsylvania. Based on 1995 figures, the lowest incidence of poverty is in the Northeast, Southeast, and Southcentral regions. This corresponds with a stronger degree of job creation, greater concentration of high tech jobs, and above-average median household income. Lower poverty rates in these regions correspond to more rapid housing development and expansion of urban land uses. The incidence of poverty is higher in the Northcentral, Northwest, Northern Tier, Southwest, and Southern Alleghenies, as well as in Philadelphia County. Nearly one-quarter of Pennsylvania's poor reside in this county, which is the largest city. Data compiled by the Center for Rural Pennsylvania also shows a higher incidence of poverty in Pennsylvania's largest cities (20%), medium-sized cities (19%) and boroughs (11%) than in the outlying townships (a 5% poverty rate in 1st class townships and 7% rate in 2nd class townships). ■

**Percent of Population In Poverty, 1995**

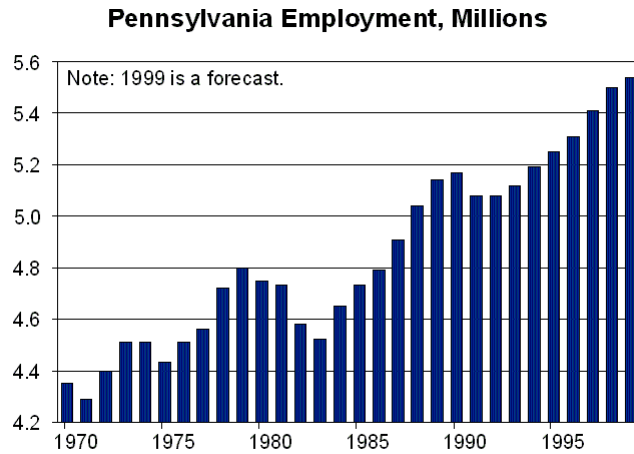


**Pennsylvania Population in Poverty: 11.3%**

- Population in Poverty of 12.9% to 23.5%
- Population in Poverty of 9.5% to 12.9%
- Population in Poverty of 4.6% to 9.5%

Source: United States Census Bureau

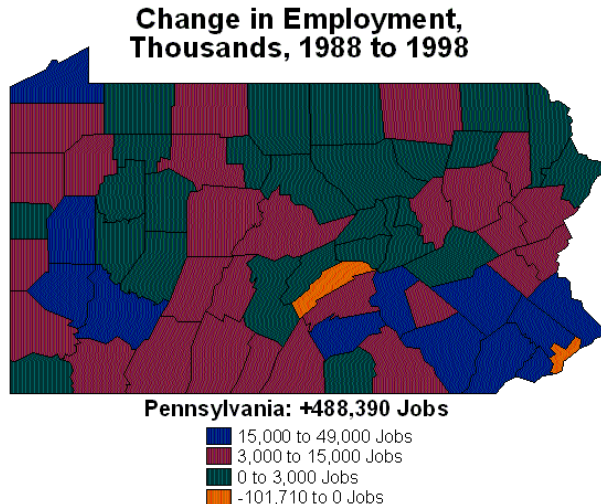
# Employment Growth



Source: Bureau of Labor Statistics, U.S. Department of Labor, RFA/Dismal Sciences, Inc

Economic expansion brings more jobs and development. Some regions that are benefiting from rapid job growth are also experiencing some of the disadvantages of rapid development, such as more congestion and the loss of farmland and open space. At the same time, other regions of the Commonwealth would welcome additional jobs and the accompanying development.

Since January of 1995, the Pennsylvania economy has created 300,000 jobs. The Southeast counties surrounding Philadelphia's urban core generated the largest amount of new jobs in the state. These economies created 46% of Pennsylvania's new jobs since 1988. The second largest increase in payrolls was generated in the Pittsburgh area, which accounted for 20% of the state's new jobs. Employment expansion was also above average in Central Pennsylvania and Erie County. In contrast, counties in Northern and Central Pennsylvania have added few jobs compared to the Southeast and Southwest. Over the last ten years, two counties lost jobs. Employment declined by 300 in Juniata County while Philadelphia lost 102,000 jobs. Philadelphia's urban core has deteriorated as increasingly more firms have opted to move into the suburbs. ■



Source: Bureau of Labor Statistics, U.S. Department of Labor, RFA/Dismal Sciences, Inc.

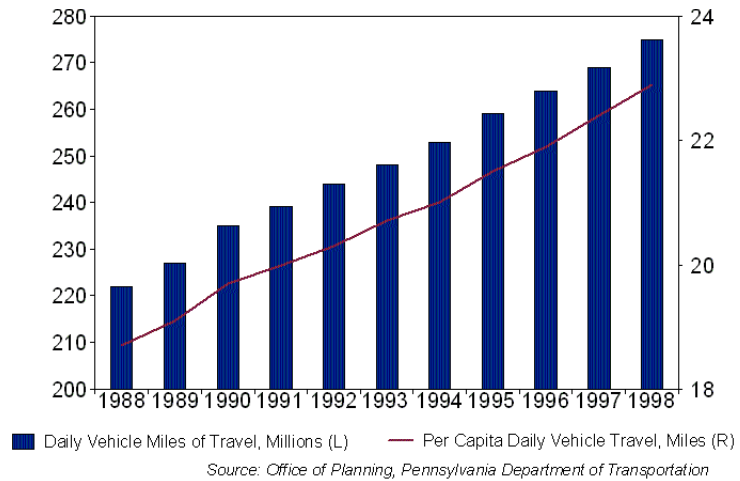


## Section 3: Indirect Factors of Land Use

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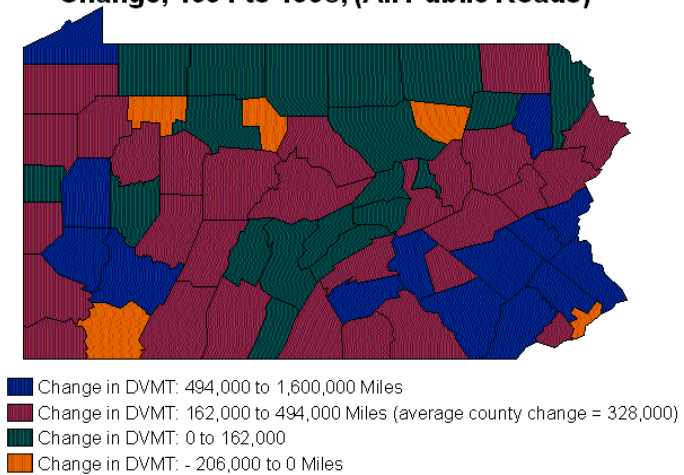
## Vehicle Travel



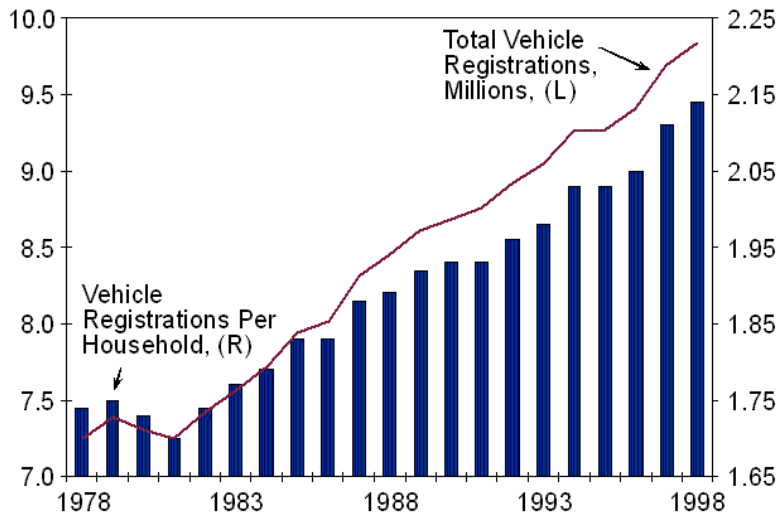
Transportation planning is a component of Pennsylvania's future land use decisions. Effective management of traffic is critical to relieving congestion on Pennsylvania's roadways. Demographic trends, travel patterns, and the mix of land development determine future maintenance and expansion of the state's road system. Daily vehicle miles of travel (DVMT), a measure of total travel by all vehicles each day, and average travel time to work for Pennsylvanians are indicators of the use of this highway system.

Pennsylvania's roadways are handling increasingly more traffic. Since 1988, DVMT has increased by 24%, an average of 2.4% per year. Predictably, absolute travel growth is largest in the urbanized areas of Pennsylvania. Roadway congestion is increasing in the Philadelphia and Pittsburgh metro areas according to the Texas Transportation Institute. However, in relation to other U.S. metro areas of comparable size, congestion in Philadelphia and Pittsburgh is below average. According to the 1990 Census, Pennsylvania residents take 21.6 minutes to commute to work, on average. This is slightly less than the 21.9 minutes of commute time in 1980. ■

**Daily Vehicle Miles of Travel (DVMT), Change, 1994 to 1998, (All Public Roads)**



## Vehicle Registration

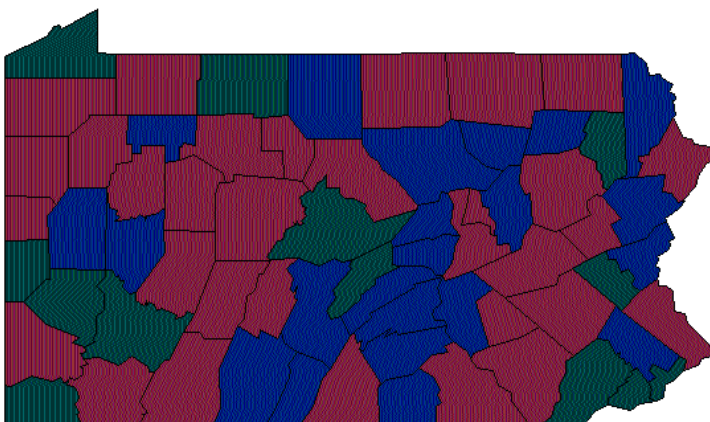


Source: Bureau of Motor Vehicles, Pennsylvania Department of Transportation

Total vehicle registrations are one way to measure the changing demand on Pennsylvania's transportation system. Increasingly more vehicles on Pennsylvania's roadways may require the development of new or expanded roads, increased maintenance of existing roads, and the development of transportation alternatives that make the system more efficient.

Motor vehicle registration in Pennsylvania has increased by 2.6 million vehicles or 34% since 1978. On average, each Pennsylvania household owns 2.14 vehicles. This category includes cars, sports utility vehicles, light trucks, and commercial vehicles. Households in suburban and fast growing rural counties own more vehicles than their urban counterparts. ■

### Total Vehicle Registrations per Household, 1998

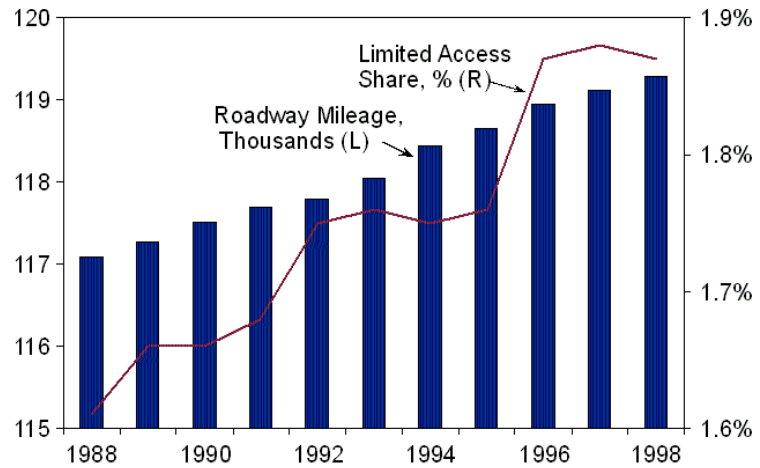


**Pennsylvania Average = 2.14 Vehicles per Household**

- 2.5 to 3.4 Vehicles per Household
- 2.1 to 2.5 Vehicles per Household
- 1 to 2.1 Vehicles per Household

Source: Bureau of Motor Vehicles, Pennsylvania Department of Transportation

## Road Mileage



Source: Office of Planning, Pennsylvania Department of Transportation

Transportation links follow patterns of development as people move from urban areas to suburban and rural areas. Improved access and infrastructure are key components of business and residential development. Public road mileage consists of all federal, state, and local roads.

While vehicle travel in Pennsylvania has increased 24% since 1988, public road mileage has only increased by 1.7%. Though development may have brought increases in all public road mileage from 117,277 in 1988 to 119,280 in 1998, the state has added little new mileage to the state-maintained 40,000-mile highway system in recent years. During the same time, limited access highway mileage has grown from 1.61% to 1.87% of all public road mileage. Between 1994 and 1998, the Southeast accounted for 63% of the new miles of road in Pennsylvania. Rather than trying to build more new roads to overcome congestion, Pennsylvania increasingly relies on such options as Intelligent Transportation Systems to manage congestion. These include traffic monitoring systems in Philadelphia and Pittsburgh, message signs and ramp meters to regulate traffic flow onto expressways. ■

### Change in Public Road Miles, 1994 to 1998

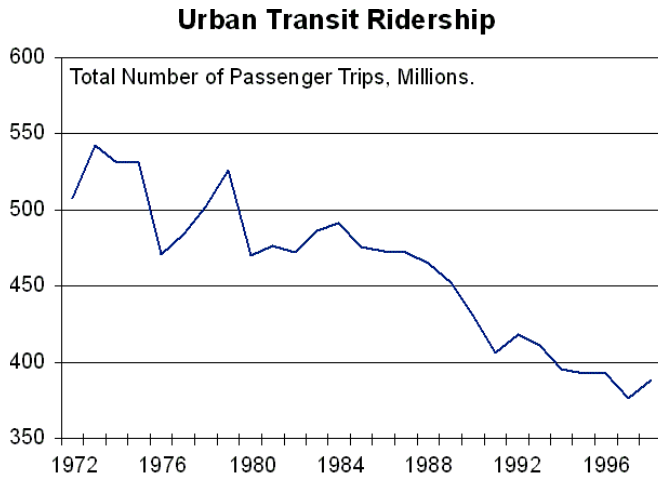


Change in Pennsylvania's Public Road Miles: + 836 Miles

- 50 to 168 Additional Miles
- 20 to 50 Additional Miles
- 1 to 20 Additional Miles
- No Additional Miles

Source: Office of Planning, Pennsylvania Department of Transportation

## Public Transit

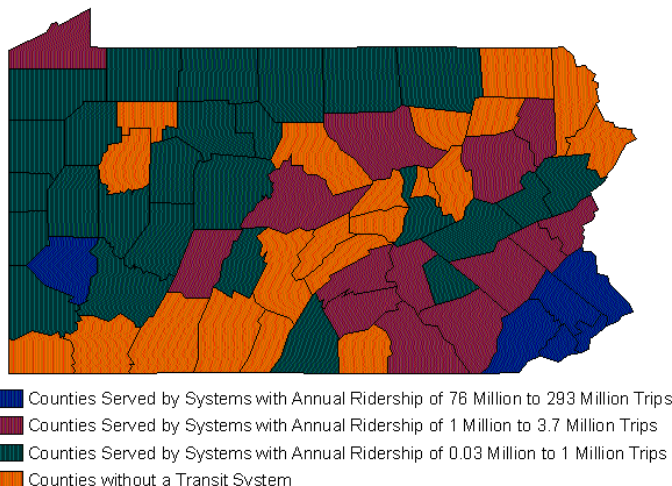


Source: Bureau of Public Transportation, Pennsylvania Department of Transportation

Pennsylvania ranks third in the nation in its support of mass transit and, in 1997, Governor Ridge committed an additional \$150 million a year for mass transit assistance. Pennsylvania has 42 locally managed urban and rural transit systems, which own and operate more than 5,000 vehicles, 900 miles of fixed guideway and 470 dedicated transit bridges. Community transit also serves older Pennsylvanians in areas without fixed transit routes.

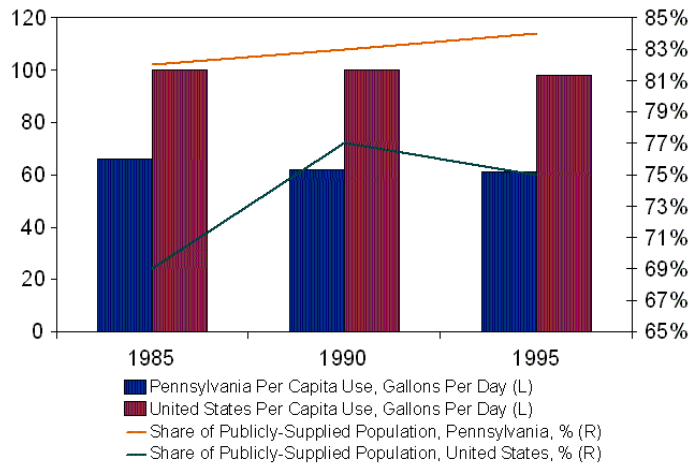
Attracting riders to the available mass transit options remains a challenge. Until 1997, urban transit ridership declined, falling by roughly 128 million trips or 26% since 1976. During this period, ridership declined in large urban areas as well as smaller urban areas. However, transit ridership increased in 1998 and it appears that ridership will also show an increase in 1999, according to the Pennsylvania Department of Transportation. Households in Philadelphia and Pittsburgh are the greatest users of public transit while smaller Pennsylvania communities use this option less often. ■

### Access to Public Transit, 1998



Source: Bureau of Public Transportation, Pennsylvania Department of Transportation

## Domestic Water Supply and Usage

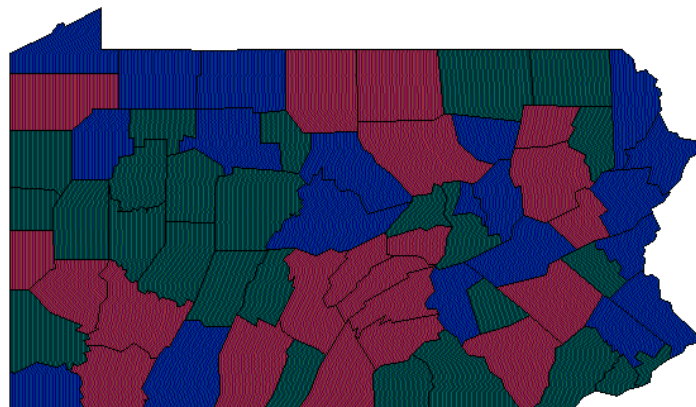


Note: Public supplier includes public and private companies  
 Source: Water Resources Division, United States Geological Survey

Domestic use of publicly supplied water is one indicator of land development. Expansion of water and sewer systems is an important infrastructure component of land development. Homeowners either receive water from municipal systems, private companies, or their own wells.

Between 1985 and 1995, the share of Pennsylvania's domestic population using publicly-supplied water increased from 69% to 75%. Due to the rural nature of Pennsylvania, this is a smaller percentage than the national average of 84%. Per capita water use in Pennsylvania is also below the national average and has decreased over the last ten years. Water use in the Southeast accounts for 44% of total water usage, as it is the most populated area in the state. The population in the Northeast also uses the largest amount of water per person per day. On average, Pennsylvania households use 61 gallons of water per day per person. ■

### Per Capita Water Usage, 1995

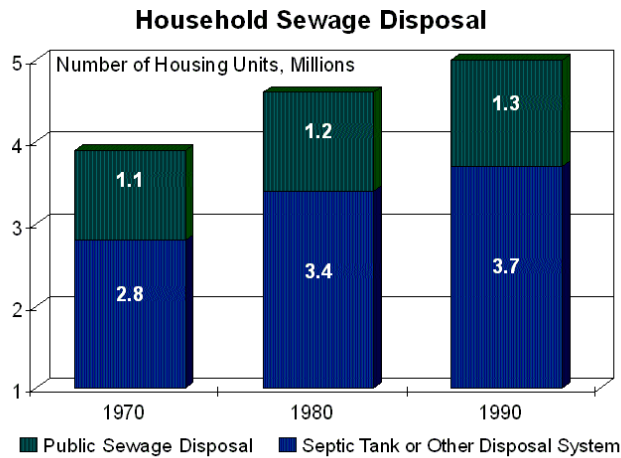


Pennsylvania Per Capita Water Usage: 61 Gallons Per Day Per Person

- 65 Gallons to 143 Gallons Per Day Per Person
- 58 Gallons to 65 Gallons Per Day Per Person
- 1 Gallon to 58 Gallons Per Day Per Person

Source: Water Resource Division, United States Geological Survey

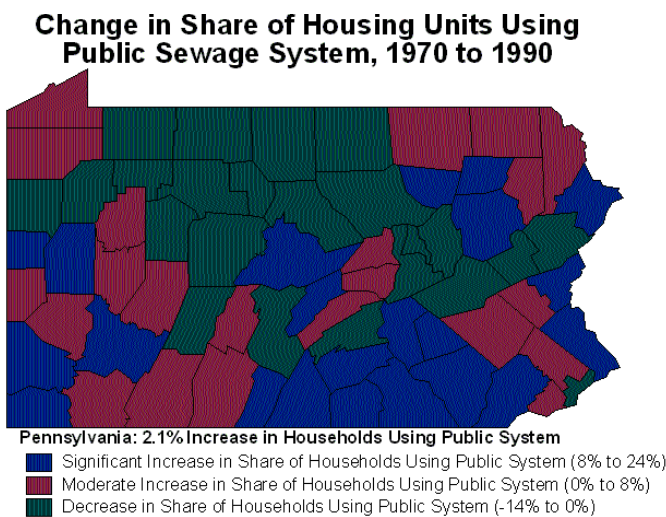
## Sewage Systems



Source: United States Census Bureau.

In addition to greater accessibility due to new roads and the expansion of water systems, the extension of public sewage systems is an important infrastructure component of land development. Sewage disposal occurs either through public systems or individual disposal systems such as on-lot septic tanks.

Approximately 3.7 million or 74% of Pennsylvania's housing units utilize public disposal systems. The remainder rely on private means of disposal. In Pennsylvania, a larger share of housing units in urbanized areas utilize public systems whereas housing units in rural counties are more dependent on private sewage systems. The share of housing units connected to public systems is growing at the fastest pace in counties surrounding major urban areas as well as areas close to the New Jersey, New York, and Maryland borders. The number of housing units connected to public systems in Franklin County, the fastest growing county, increased by 23% between 1970 and 1990. This trend will continue as residential development proceeds at a significant pace for suburban counties. In contrast, a smaller share of housing units is connected to public disposal systems in more rural areas of Northern and Central Pennsylvania. In these regions, the share using public sewage systems has decreased as the number of units relying on private disposal has increased more rapidly. ■



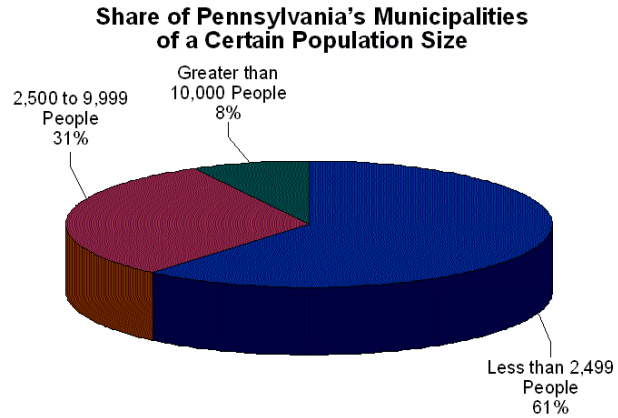
Source: United States Census Bureau

## Section 4: Land Use Management Techniques

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# Number and Size of Municipalities

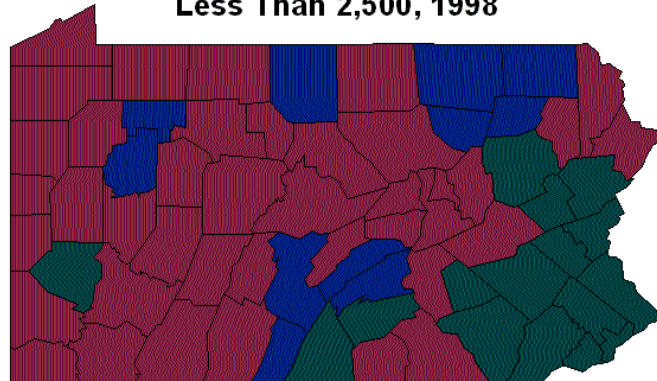


Note: This chart is based on 1998 data  
 Source: Governor's Center for Local Government Services, Department of Community and Economic Development

In Pennsylvania, the power and responsibility for land use planning and controls lies exclusively with county and local governments, as granted by the Pennsylvania Municipalities Planning Code and the respective municipal and county codes. Plumbing, electrical, fire safety or building codes are also enacted and enforced at the local level. Municipalities in Pennsylvania are self-governing and taxing units that consist of cities, boroughs, and townships.

There are 67 counties and 2,568 municipalities in Pennsylvania. The median population of a municipality is 1,800. When broken down further, roughly 61% or 1,566 municipalities have a population of less than 2,500 people, 31% or 799 municipalities have a population between 2,500 and 9,999 people, and the remaining 203 municipalities have a population greater than 10,000. The four largest municipalities are the cities of Philadelphia, Pittsburgh, Erie, and Allentown. Fifty-one or 76% of Pennsylvania's counties have more than 50% of their municipalities with populations of less than 2,500. These are primarily non-eastern counties. All of the municipalities in Forest, Fulton, Sullivan, and Susquehanna Counties have populations of less than 2,500 people. ■

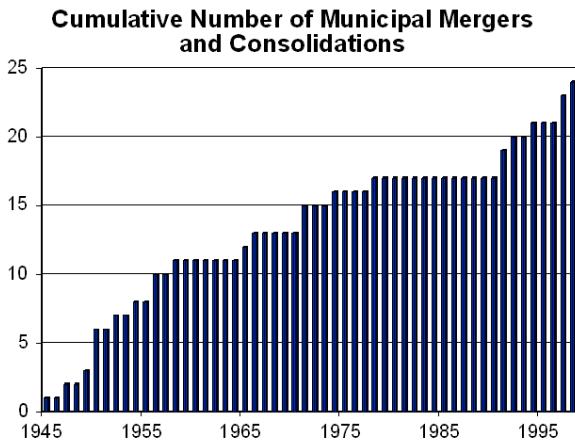
## Share of Municipalities with Population of Less Than 2,500, 1998



- 90% to 100% of Municipalities with Populations of Less Than 2,500
- 50% to 90% of Municipalities with Populations of Less Than 2,500
- Less Than 50% of Municipalities with Populations of Less Than 2,500

Source: Governor's Center for Local Government Services, Department of Community and Economic

# Municipal Mergers and Consolidations

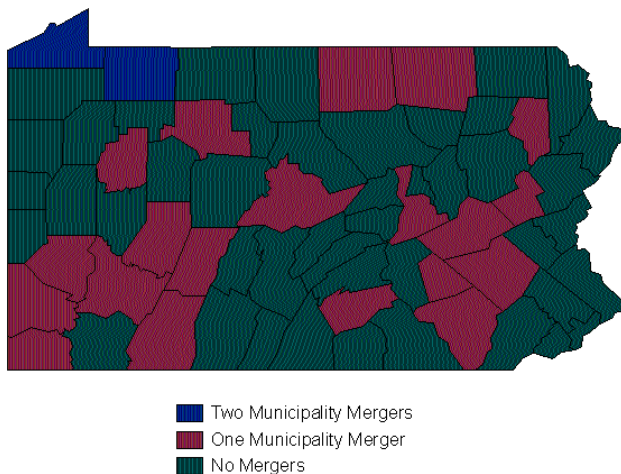


Source: Governor's Center for Local Government Services, Department of Community and Economic Development

Increasing attention towards quality of life issues such as public health, safety, and land use is placing a greater burden on Pennsylvania's large number of very small municipalities. In response, a number of small municipalities have merged or consolidated. A merger is a boundary change where one unit goes out of existence and is absorbed by another, usually larger unit. Consolidation is a boundary change action where the corporate lives of two or more units terminate upon their combination to create a new and different municipal corporate entity. Enacted in 1994, the Municipal Consolidation or Merger Act provides the first uniform statutory process for combining municipalities.

Since 1945, twenty-four of Pennsylvania's municipalities have merged or consolidated with another municipality. Seven or approximately 30% of these boundary changes occurred in the 1990s. At least one merger or consolidation has occurred in 22 out of Pennsylvania's 67 counties. Erie and Warren Counties have experienced the most merger activity with two mergers in each county since 1945. Most of the other mergers and consolidations occurred in the Southeast and Southwest, accounting for six and seven municipality boundary changes, respectively. ■

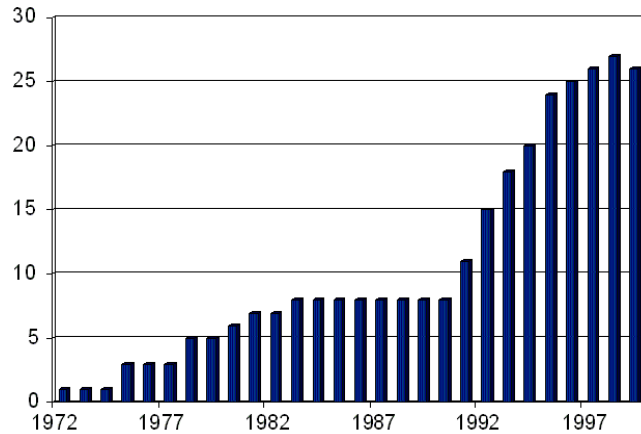
Numbers of Mergers, 1945 to 1998



Source: Governor's Center for Local Government Services, Department of Community and Economic Development

# Regional Police

**Number of Regional Police Departments**

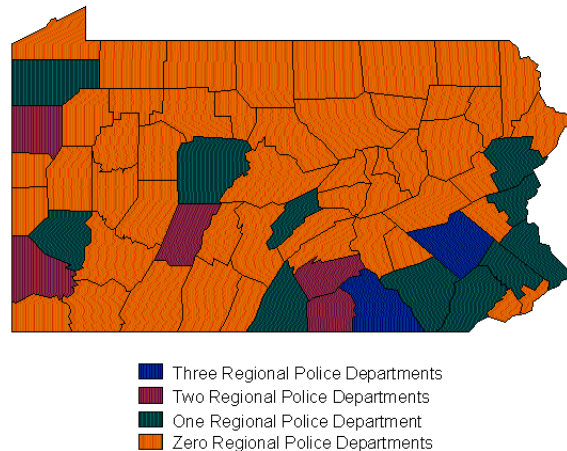


Source: Governor's Center for Local Government Services, Department of Community and Economic Development

While some municipalities are responding to increasing responsibilities by merging, others are consolidating services, such as police services. Local police forces are consolidating in response to the increasing burden of safeguarding the general welfare of the population. Regional cooperation is advantageous, since small municipalities are better able to deal with the impact of a growing population and infrastructure as a combined unit than as separate entities. Larger police departments are more effective in terms of the cost of maintaining a certain level of public safety. A regional police force has jurisdiction over two or more municipalities.

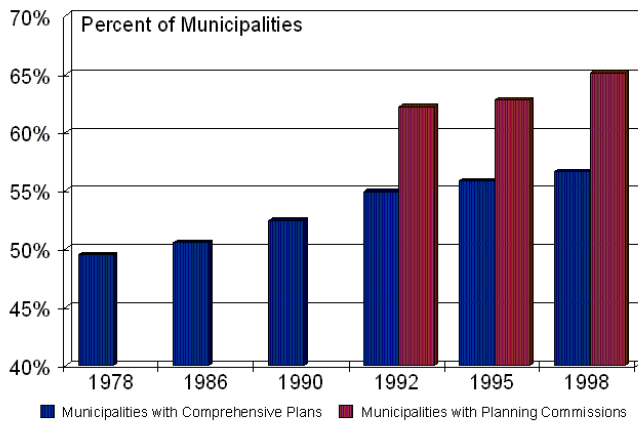
As of January 1, 1999, the number of regional police departments went from 27 to 26, because one merger was dissolved. Nevertheless, this number has more than tripled since 1990. Most of the consolidations between police forces (17 out of 26) are occurring in Southeastern and Southcentral Pennsylvania. These are the most rapidly growing areas in the Commonwealth. All but five of the 18 consolidations since 1990 have occurred in these areas. The remaining five police department consolidations occurred in Western Pennsylvania in Washington, Crawford, and Mercer counties. ■

**Number of Regional Police Departments, 1999**



Source: Governor's Center for Local Government Services, Department of Community and Economic Development

## Municipal Planning

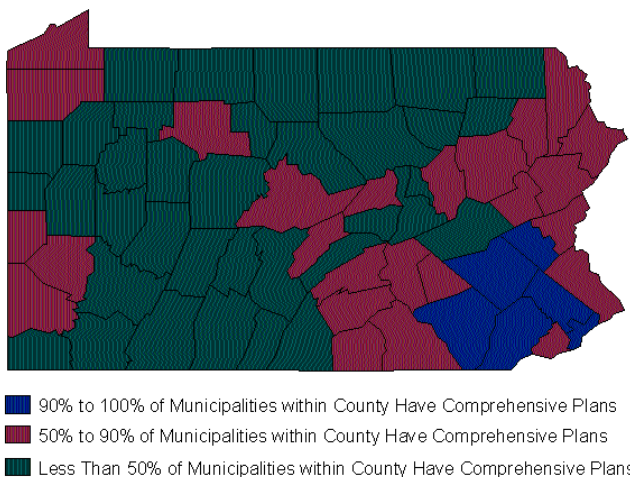


Source: Governor's Center for Local Government Services, Department of Community and Economic Development

The responsibility for land use planning in Pennsylvania resides primarily with municipal governments. Not all municipalities have planning commissions, and not all municipalities with planning commissions have prepared and adopted comprehensive plans. The creation of a planning commission, however, is an important step for municipalities to take toward the development of a comprehensive plan.

The number of municipalities with planning commissions is steadily rising, although nearly one-third of Pennsylvania's municipalities still do not have planning commissions. Currently, 65% have commissions, up from 62% in 1992, the earliest data available. The number of municipalities with comprehensive plans is also rising, yet only 57% currently have such plans. Based on the 1999 Municipal Survey, the average age of municipal plans is 13 years. Most of these plans were created or revised since 1990, however 211 date from the 1970s. Based on the 1999 County Survey, a greater share of municipalities in the East has comprehensive plans. Counties where more than 90% of their municipalities have plans are concentrated in the Southeast. In contrast, less than 50% of municipalities in the Northwest, Northcentral, Southwest, and Southern Alleghenies counties have adopted comprehensive plans. ■

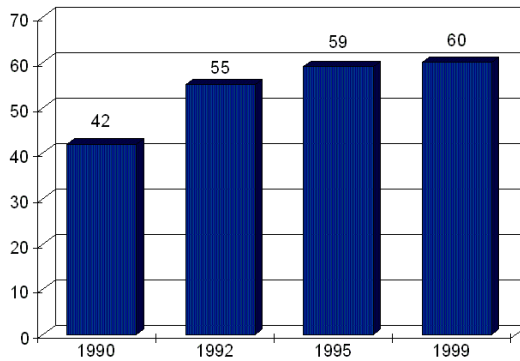
### Share of Municipalities with Comprehensive Plans, 1998



Source: Governor's Center for Local Government Services, Department of Community and Economic Development

# County Planning

**Number of Counties with Comprehensive Plans**

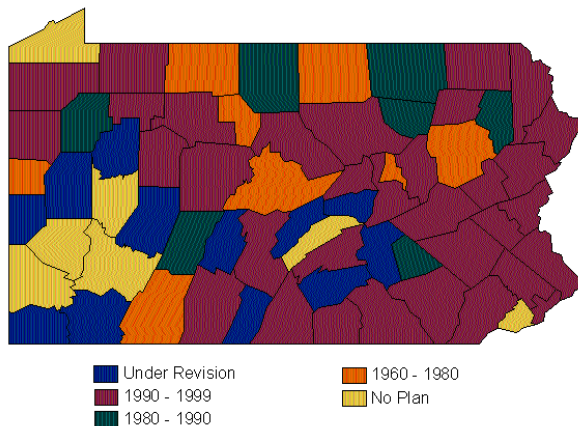


Source: Governor's Center for Local Government Services, Department of Community and Economic Development

A county comprehensive plan is an overall policy document that may be used as a guide for short and long-term physical development in a county. It outlines the general goals and objectives for community development and provides a general pattern for future land use, transportation, housing and community facilities. A comprehensive plan can provide a tool for ensuring consistency between all policies and regulations regarding land use and community development.

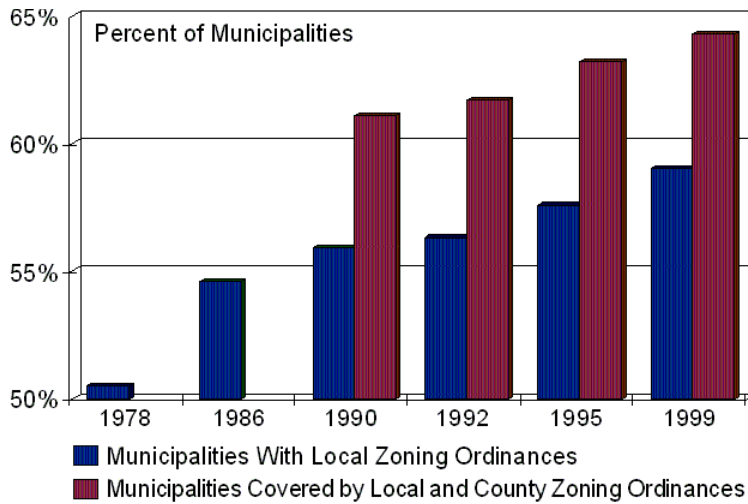
Sixty of Pennsylvania's 67 counties have comprehensive plans. Those without plans are concentrated in the Southwest. The average age of a county comprehensive plan is eight years. Of the 60 county plans, 33 were created or revised since 1990 and 12 are due to be revised in 2000. Fifteen were adopted in the 1980s and eight date from the 1970s or earlier. Given the often-lengthy process of achieving consensus on a comprehensive plan, it is remarkable at how current most county plans are. Within the comprehensive plan, 40 counties have linked the transportation element to the long-range transportation plan in their region and 33 counties have integrated Act 537 sewage facilities plans into their plans. Sixteen counties have adopted growth areas as a technique to manage growth. In most of these counties, the county encourages municipalities to direct development to areas where infrastructure exists or is planned. In addition, twenty-eight counties have a park, recreation, and open space plan and 24 counties have adopted a greenways plan to ensure open space for public use. ■

**Age of County Plan**



Source: Governor's Center for Local Government Services, Department of Community and Economic Development

# Zoning

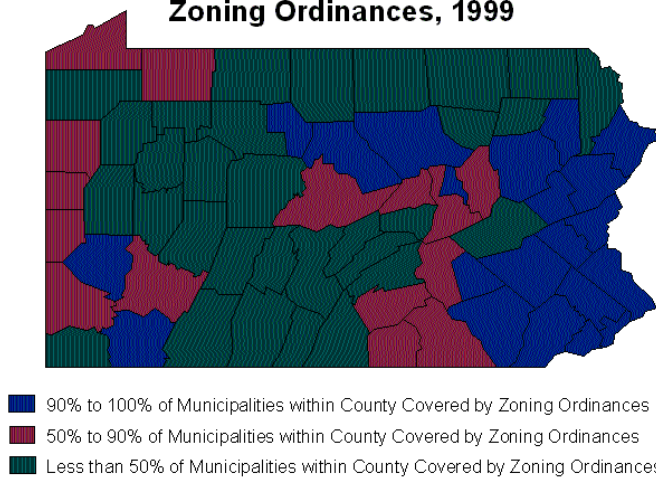


Source: Governor's Center for Local Government Services, Department of Community and Economic Development

Zoning ordinances describe what land uses are permissible on a plot of land and to what density the land may be developed. If there is no local zoning ordinance, a county zoning ordinance may apply within a municipality. Thirteen counties have adopted zoning ordinances.

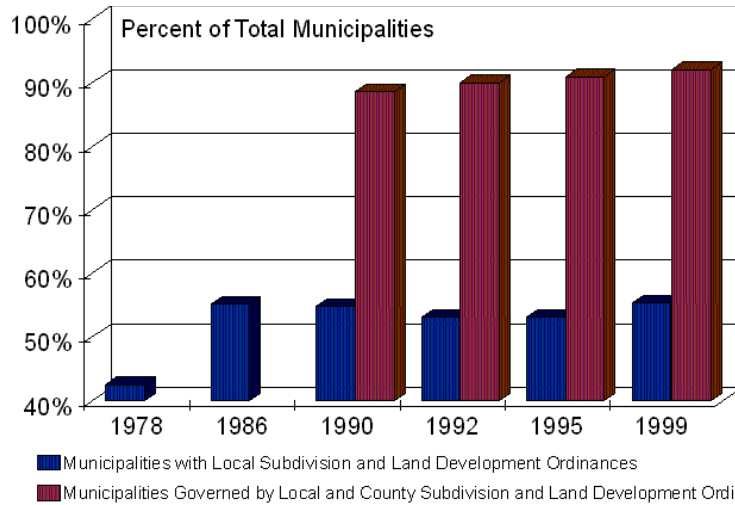
Approximately 64% or 1,650 municipalities are covered by a zoning ordinance and 1,516 of these municipalities have their own zoning ordinance. Based on the 1999 Municipal Survey, the average age of a municipal zoning ordinance is eight years. According to the 1999 County Survey, natural resources and open space are protected in approximately 22% of the municipalities in Pennsylvania by techniques, such as clustering and/or environmental performance zoning, which preserve environmentally important parts of property, usually in exchange for higher density development elsewhere on the property. The greatest share of municipalities covered by zoning ordinances is in the east. All of these eastern counties have 100% of their municipalities covered by zoning ordinances except Berks, Lackawanna, Northampton, Monroe, and Pike. ■

Share of Municipalities Covered by Zoning Ordinances, 1999



Source: Governor's Center for Local Government Services, Department of Community and Economic Development

## Subdivision and Land Development

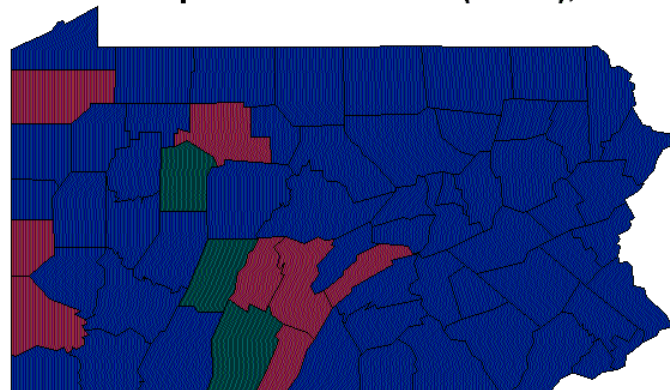


Source: Governor's Center for Local Government Services, Department of Community and Economic Development

Subdivision and land development ordinances are the basic laws that establish the standards to be followed in creating subdivisions and other land developments. They set design standards that must be met before permission is granted and building permits issued. If there is no local subdivision and local development ordinance, a county ordinance may apply within a municipality. Forty-nine counties have adopted subdivision and land development ordinances.

Fifty-seven percent of Pennsylvania's 2,568 municipalities have their own subdivision and land development ordinance. This is nearly as many as have zoning ordinances. Most municipalities without a subdivision ordinance, however, are governed by countywide ordinances. Over 93% of municipalities are subject either to local or county ordinances. Based on the 1999 Municipal Survey, the average age of a subdivision ordinance is 10 years. ■

### Share of Municipalities Covered by Subdivision and Land Development Ordinances (S&LD), 1999

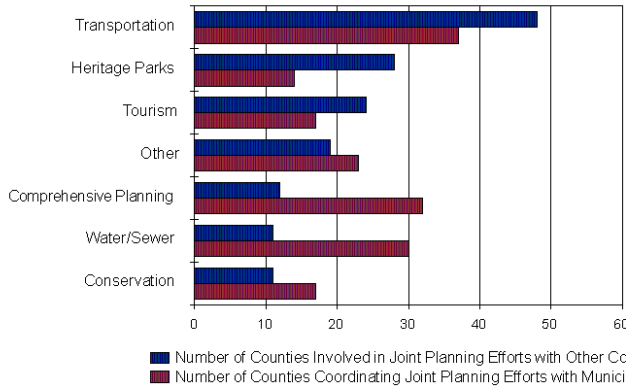


- 90% to 100% of Municipalities within County Covered by S&LD Ordinances
- 50% to 90% of Municipalities within County Covered by S&LD Ordinances
- Less Than 50% of Municipalities within County Covered by S&LD Ordinances

Source: Governor's Center for Local Services, Department of Community and Economic Development

# Joint Planning and Zoning

**County Cooperation and Coordination, 1999**

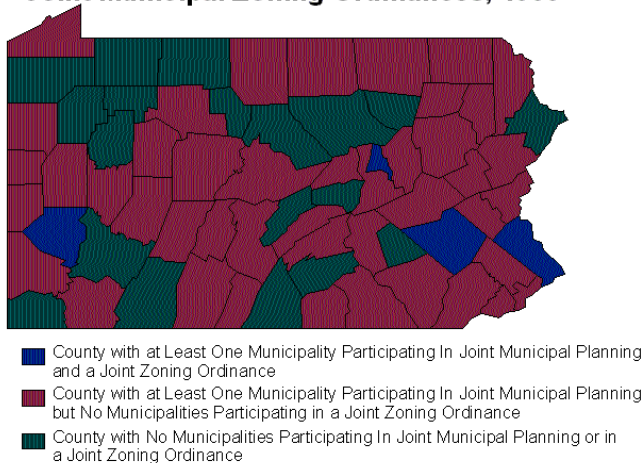


Source: Governor's Center for Local Government Services, Department of Community and Economic Development

The impact of development crosses county and municipal boundaries. Thus, coordination between counties and municipalities is an important tool for successful land management planning, especially for transportation corridors and natural resources.

Sixty-one counties are involved in some form of joint planning with other counties. Most of these joint efforts, as illustrated in the chart above, involve transportation planning, but other regional efforts include planning for heritage parks, tourism, conservation, and/or water or sewer, as well as comprehensive planning. In addition, counties frequently coordinate regional planning efforts within their municipalities, most often helping with transportation, comprehensive or water and sewer planning. Moreover, as illustrated in the map below, municipalities are engaged in joint planning efforts in 48 counties. In addition, there are four joint zoning ordinances in Pennsylvania: one in Allegheny County between Rosslyn Farms, Crafton, and Thornburgh Boroughs; one in Berks County between Centre Township and Center Port Borough; one in Bucks County between Newtown, Upper Makefield, and Wrightstown Townships; and one in Montour County between West Hemlock, Derry, and Limestone Townships. ■

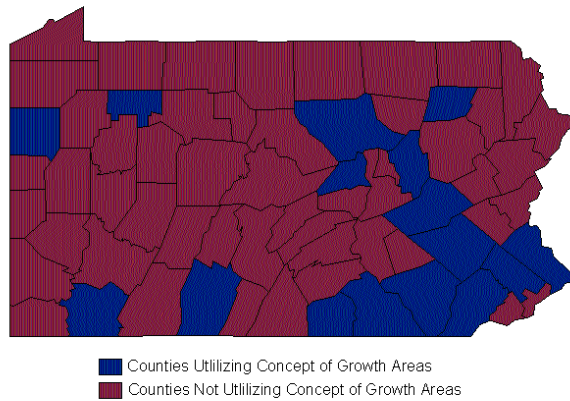
**Joint Municipal Planning and Joint Municipal Zoning Ordinances, 1999**



Source: Governor's Center for Local Government Services, Department of Community and Economic Development

# Growth Areas

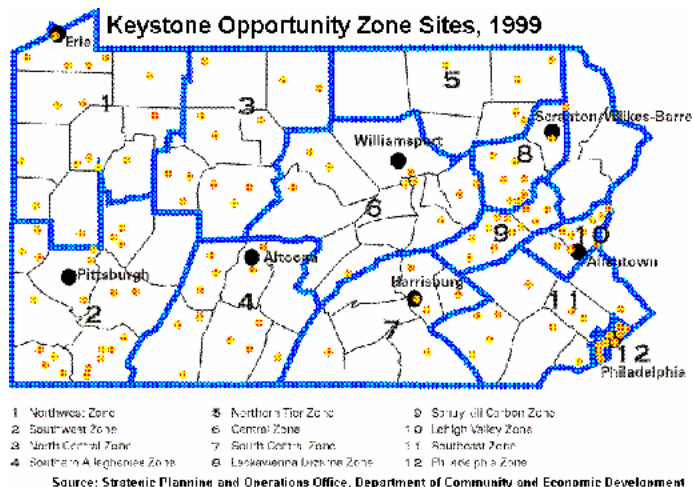
Growth Areas, 1999



Source: Governor's Center for Local Government Services, Department of Community and Economic Development

In an effort to better manage rapid growth while preserving the natural integrity of the area, Lancaster County, in the late 1980s, began working with municipalities on a regional basis to direct growth where infrastructure exists or where it is planned for in the future. Recognizing that counties are primarily advisory bodies, the county designated growth boundaries as a key growth management tool for municipalities. Twenty-three of Lancaster's 26 municipalities in the path of growth have adopted urban growth boundaries.

In addition to Lancaster County, 15 other counties have adopted or are in the process of adopting growth areas as a technique in managing growth. In most of these counties, the county encourages municipalities to direct development to areas where infrastructure exists or is planned. In Forest County, where there is an abundance of public land, the county has identified growth areas where it would like to promote economic development and an expanded tax base by preventing further government purchases of the land. Through the Commonwealth's Keystone Opportunity Zone (KOZ) Program, counties and local communities across the Commonwealth have identified areas where they want growth (indicated by the yellow dots on the map). This program uses tax abatement to foster private and residential investment in designated areas to regain the economic stability of these communities. ■



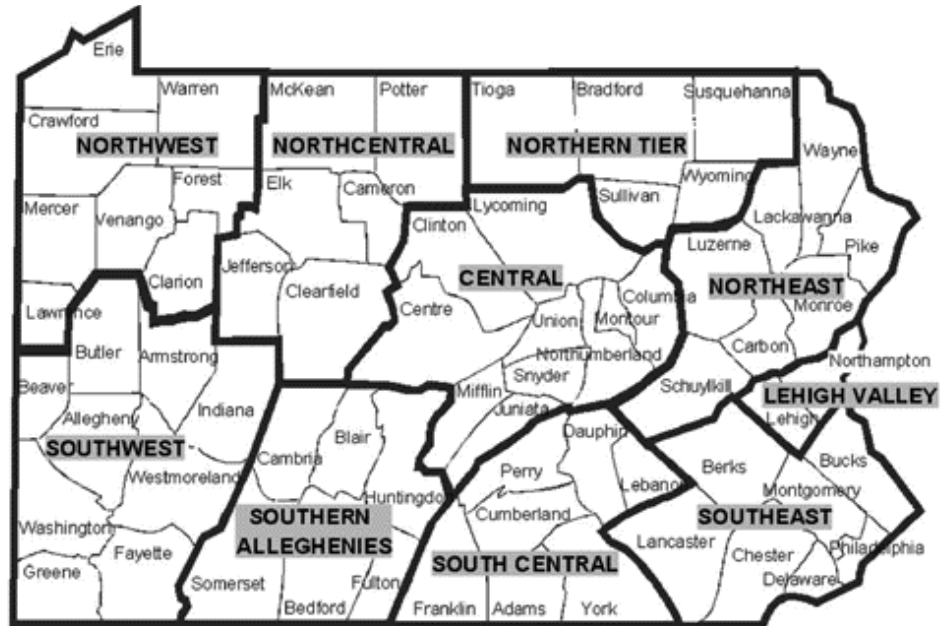


## Section 5: Appendix

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# Team Pennsylvania Marketing Regions





## Acknowledgements

The Center thankfully acknowledges the members of the Sound Land Use Advisory Committee, listed on the following pages, for their hard work and continued dedication to the task of developing the inventory. The Center looks forward to the continued positive relationship between the Committee and the Center as we venture forward with the new task: to disseminate and educate.

The Center also acknowledges the efforts of the Land Use Interagency Team, the agencies and the individual participants who provided much needed technical support and resources over the past year.

Department of Agriculture  
Department of Community & Economic Development  
Department of Conservation & Natural Resources  
Department of Education  
Department of Environmental Protection  
Department of Revenue  
Department of Transportation  
Pennsylvania Historical & Museum Commission  
Pennsylvania Housing Finance Agency  
Pennsylvania Infrastructure Investment Authority  
Pennsylvania Rural Development Council  
Governor's Policy Office  
Governor's Green Government Council  
Lieutenant Governor's Office  
Office of the Budget  
Office of General Counsel

McCormick, Taylor & Associates, Inc.  
RFA-Dismal Sciences, Inc.

And finally, the Center extends its thanks and gratitude to all the Pennsylvanians who participated in the Forums, providing the language and the emotion to help carry us toward completion of our tasks. ■



## The Sound Land Use Advisory Committee

The Sound Land Use Advisory Committee is comprised of the Governor's appointees representing legislators, local governments, builders, environmentalists, planners, farmers, architects, educators and others...

### Downtown Revitalization Sub-Committee:

**Chair:**  
**Honorable Timothy Fulkerson,**  
City of New Castle

**Raymond S. Angeli,** President,  
Lackawanna Junior College

**Louis J. Appell, Jr.,** President,  
Susquehanna Pfaltzgraff Company

**Donald M. Bernhard,** Manager,  
Economic Development and  
Community Affairs, PP&L, Inc.

**Barry Denk,** Executive Director,  
Center for Rural Pennsylvania

**Andrew McElwaine,** President,  
Pennsylvania Environmental Council

**Creigh Rahenkamp,** President,  
Creigh Rahenkamp & Associates,  
LLC

**Luis Vicente Rivera, AIA**  
SRK Architects, Board Member,  
Montgomery County Planning  
Commission

**Joseph Wagman,** President,  
Wagman Construction, Inc.

### Infrastructure Planning & Coordination Sub-Committee:

**Chair:**  
**Joanne Denworth,** President,  
10,000 Friends of Pennsylvania

**John Brosious,** Deputy Director,  
Pennsylvania Municipal Authorities  
Association

**Betty Conner,**  
League of Women Voters of  
Pennsylvania

**Cheryl Cook,** State Director,  
USDA/Rural Development

**Reed J. Dunn,** Director,  
York County Planning Commission

**Honorable Colin A. Hanna,**  
Chairman, Chester County Board  
of Commissioners

**S. Dale High,** President,  
High Industries, Inc.

**George Marcinko,** Manager,  
East Hempfield Township

**Honorable Donald W. Snyder,**  
Pennsylvania House of  
Representatives

**Margaret Taylor,** Executive  
Director, Fulton County Industrial  
Development Association

*(Acknowledgements, Cont'd)*

### Intergovernmental Cooperation Sub-Committee:

**Chair:**

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Executive Director,  
Pike County Department  
of Community Planning and  
Human Development

**John Benhart,** Chairman,  
Geography and Earth Sciences  
Department, Shippensburg  
University of Pennsylvania

**Honorable James W. Gerlach,**  
Senate of Pennsylvania

**George H. Willis, P.E.,**  
Pennsylvania Society of  
Professional Engineers/Consulting  
Engineers Council

### Preservation of Cultural Heritage and Natural Resources Sub-Committee:

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First Vice President,  
Pennsylvania Association of  
Conservation District Directors

**Gene Baker,**  
Carpenters of Western  
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**Roy E. Baldwin,**  
Pennsylvania State Association of  
Township Commissioners

**Tim Bowser,** Executive Director,  
Pennsylvania Association for  
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**Leonard E. Crooke,** Chairman,  
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**Caren Glotfelty,** Goddard Professor  
of Forestry, School of Forest  
Resources, The Pennsylvania State  
University

**Christine Kellett,** Professor of Law  
and Director, Agricultural Law  
Research and Education Center,  
The Dickinson School of Law,  
The Pennsylvania State University

**David L. Taylor,** President,  
Preservation Pennsylvania

*(Acknowledgements, Cont'd)*

**Specific Planning and Development  
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Natural Lands Trust

**Honorable Howard Brush,**  
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**John A. Haiko,** Supervisor,  
West Bradford Township

**Honorable Karen L. Martynick,**  
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**Daniel Santoro,** Director,  
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**Gregg Schwotzer,** President,  
Crossgates Inc.

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**Mjenzi K. Traylor,**  
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