

# Looking Ahead: Pennsylvania Population Projections 2010 to 2040

March 2014

To provide insights into the upcoming changes to Pennsylvania's population, the Center for Rural Pennsylvania examined population data and projections\* over two, 30-year periods.

According to the analysis, rural Pennsylvania counties are projected to have a 4 percent population increase and urban Pennsylvania counties are projected to have a 14 percent population increase from 2010 to 2040.

Pennsylvania's rural population is likely to grow slowly, and the age of its residents will continue to increase. However, in-migration is projected to play a larger role in spurring population growth in the years ahead.

## Methods

To conduct the population analysis, the Center looked at two, 30-year time periods of 1980 to 2010 and 2010 to 2040, and used the following data sources:

U.S. Census Bureau: National and county-level population data from 1980 to 2010 and national population projections for 2010 to 2040. The U.S. Census Bureau does not have current state-level population projections for all 50 states.

Pennsylvania State Data Center: County-level population and age cohort projections from 2010 to 2040, which are based on a cohort-component, demographic-projection model that accounts for the components of population change. The model includes natural increase (births minus deaths) and net migration (in-migration minus out-migration). More information on this model and its limitations is available on the Center for Rural Pennsylvania website at [www.rural.palegislature.us](http://www.rural.palegislature.us).

Pennsylvania Department of Health: County-level data on the number of live births and deaths from 1980 to 2010.

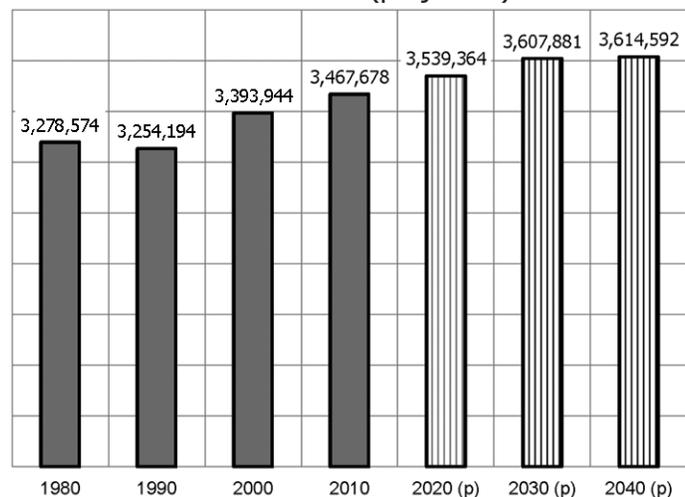
*\*Population projection data for individual counties by gender and age cohorts are available on the Center for Rural Pennsylvania's website at [www.rural.palegislature.us](http://www.rural.palegislature.us).*

## Findings

### Rural Population Change

From 1980 to 2010, rural Pennsylvania's population increased by 189,104, or 6 percent. From 2010 to 2040, Pennsylvania's rural population is projected to increase by 146,914, or 4 percent. From 1980 to 2010, 22 percent of Pennsylvania's total population growth occurred in rural counties. From 2010 to 2040, 10 percent of Pennsylvania's total population growth is projected to occur in rural counties.

Rural Pennsylvania Population, 1980 to 2040 (projected)



Data sources: U.S. Census Bureau and Pennsylvania State Data Center.

The Center for

*Rural Pennsylvania*

A Legislative Agency of the Pennsylvania General Assembly



## Definitions

### Rural and Urban

A county was considered rural when its population density (number of persons per square mile) was below the statewide average. A county with a population density at or above the statewide average was considered urban. In 2010, the statewide population density was 284 persons per square land mile. From 1980 to 2010, the number of rural and urban counties, 48 and 19, respectively, did not change. Projections indicated that the number of rural and urban counties will remain the same from 2010 to 2040.

### Natural Population Change

Natural population change is calculated by subtracting the number of live births from the number of deaths. It is possible to have either positive or negative natural population change.

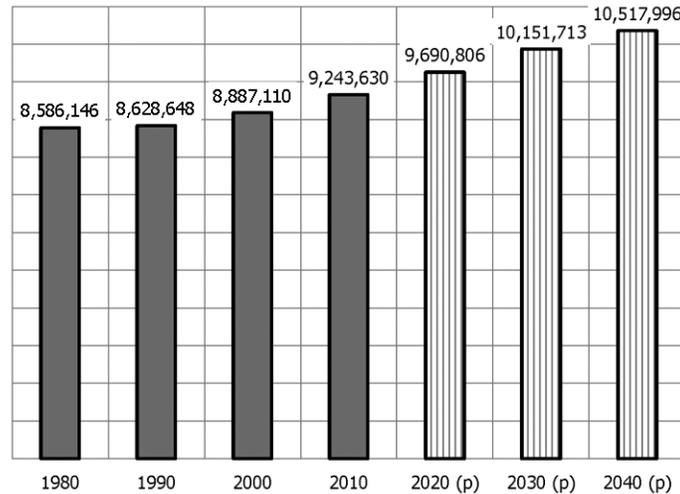
### Data Limitations

Population projections are just that—projections. Economic shifts, changes in immigration law, and many other factors could fundamentally change the projections. At the county level, the projections become even less reliable due to changes in housing development, and business growth and decline. Despite these limitations, the projections provide a useful window for examining Pennsylvania's future population changes.

## Urban Population Change

From 1980 to 2010, urban Pennsylvania's population increased by 657,484, or 8 percent. From 2010 to 2040, Pennsylvania's urban population is projected to increase by 1.27 million, or 14 percent. From 1980 to 2010, 78 percent of Pennsylvania's total population growth occurred in urban counties. From 2010 to 2040, 90 percent of the state's total population growth is projected to occur in urban counties.

Urban Pennsylvania Population, 1980 to 2040 (projected)

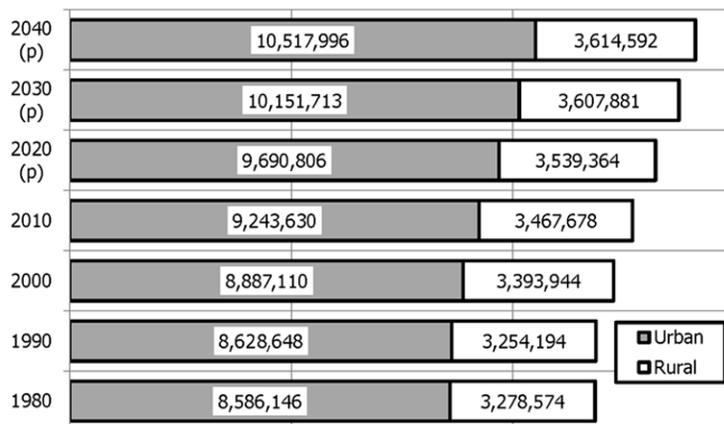


Data sources: U.S. Census Bureau and Pennsylvania State Data Center.

## Pennsylvania's Rural and Urban Mix

In 1980, Pennsylvania had a population of 11.86 million people. Twenty-eight percent of the population lived in a rural county and 72 percent lived in an urban county. Thirty years later in 2010, 27 percent of the state's 12.71 million people lived in a rural county and 73 percent lived in an urban county. By 2040, projections indicate that 26 percent of Pennsylvania's 14.13 million people will live in a rural county and 74 percent will live in an urban county.

Pennsylvania's Rural Population as Percent of State's Total Population, 1980 to 2040

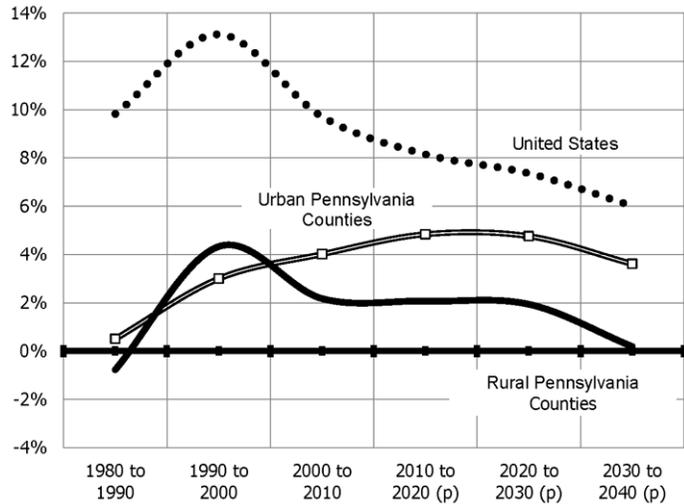


Data sources: U.S. Census Bureau and Pennsylvania State Data Center.

### Rate of Population Change

From 2010 to 2040, rural counties are projected to have an annual increase of 4,897 people per year, or a 0.1 percent increase. Urban counties are projected to have an annual increase of 42,479 people per year, or a 0.5 percent increase. During the same period, the U.S. population is projected to have an increase of 2.37 million people per year, or a 0.8 percent increase. Over the next 30 years, the population growth rate is projected to decrease in rural and urban Pennsylvania and the U.S.

Percent Change in Population in United States and Rural and Urban Pennsylvania Counties, 1980 to 2040 (projected)

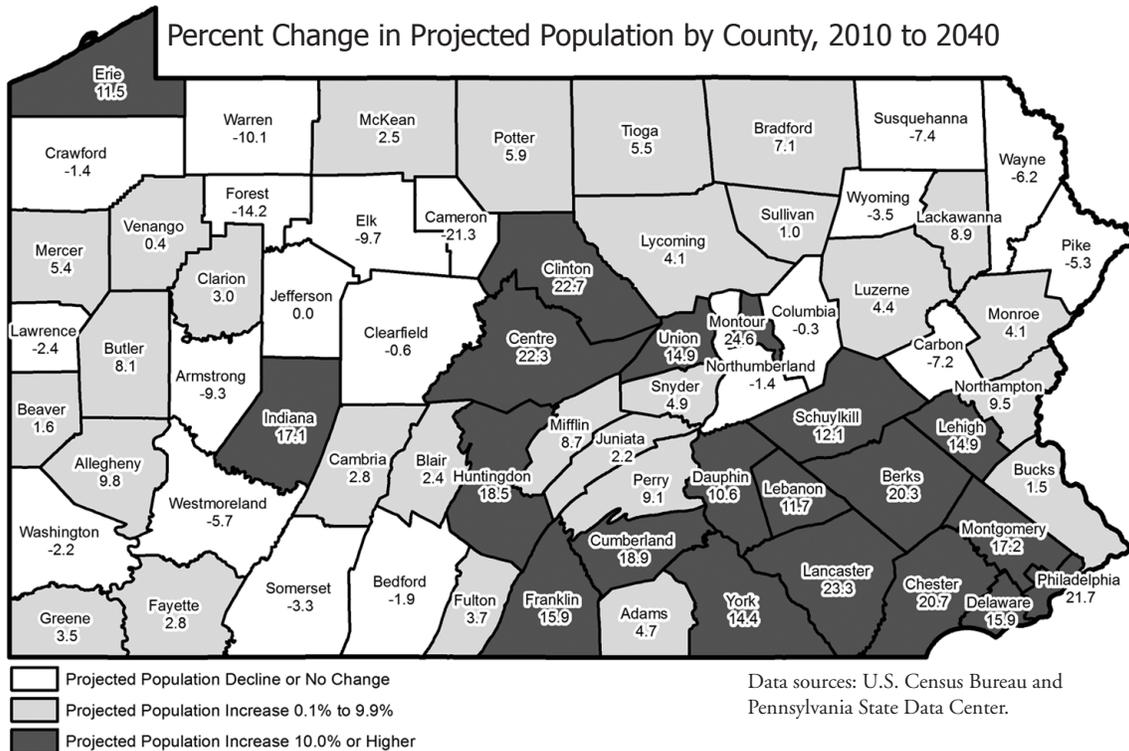


Data sources: U.S. Census Bureau and Pennsylvania State Data Center.

### Distribution of Population Change

From 1980 to 2010, 31 of Pennsylvania's 67 counties lost population and 36 counties gained population. The counties that lost population were located primarily in western Pennsylvania.

From 2010 to 2040, however, 19 counties are projected to lose population and 48 are projected to gain population. Among the 19 counties that are projected to lose population, only one is urban (Westmoreland). The counties that are projected to lose population over this 30-year time frame are a mix of eastern and western counties.

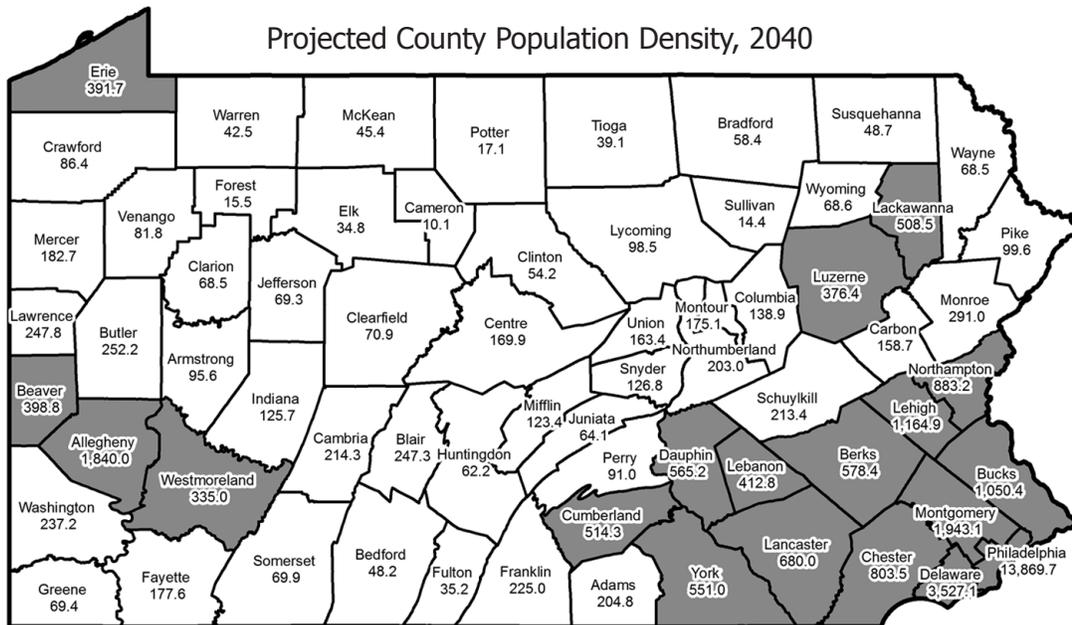


## Changes in the Number of Rural and Urban Counties

Projections indicate that the number of rural and urban Pennsylvania counties will not change over the next 30 years. In 2010, Pennsylvania's statewide population density was 284 persons per square mile. Of the state's 67 counties, 48 had population densities below this level and 19 had densities at or above this level.

In 2040, Pennsylvania is projected to have a population density of about 316 persons per square mile. The same 48 counties that had population densities below the statewide average in 2010 are projected to have population

densities below the statewide average in 2040. The same goes for the 19 counties with population densities at or above the statewide average in 2010.



Projected Statewide Population Density in 2040 = 315.9 Persons Per Square Land Mile

□ Rural Counties: Below Statewide Density  
 ■ Urban Counties: At or Above Statewide Density

Data source: Pennsylvania State Data Center.

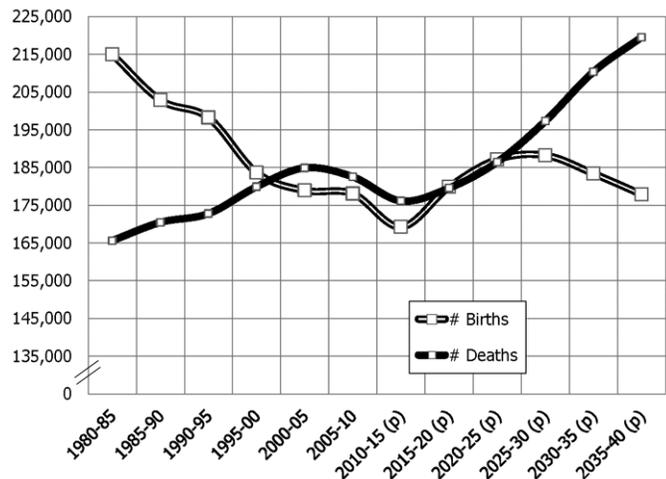
## Natural Change: Births/Deaths

From 1980 to 2010, the number of births in rural Pennsylvania declined 17 percent. This decline may be partially attributed to a 13 percent decrease in the number of women of childbearing age (15 to 44). During this same period, urban counties had a 4 percent decline in the number of births and a 6 percent decline in the number of women of childbearing age.

From 2010 to 2040, the number of rural and urban births is projected to increase (5 percent and 6 percent, respectively), as well as the number of rural and urban women of childbearing age (4 percent and 9 percent, respectively).

From 1980 to 2010, the number of deaths in rural Pennsylvania increased 10 percent, and from 2010 to 2040, the number of deaths is projected to increase 25 percent. One possible reason for this increase is the rapid increase in the number of people who are 85 years old and older. In rural counties, projections show a 104 percent increase in persons 85 years old and older, and in urban counties, projections show a 96 percent increase.

## Percent Change in Projected County Births and Deaths, 2010 to 2040



Data source: Pennsylvania Department of Health and Pennsylvania State Data Center

## Changes in Migration

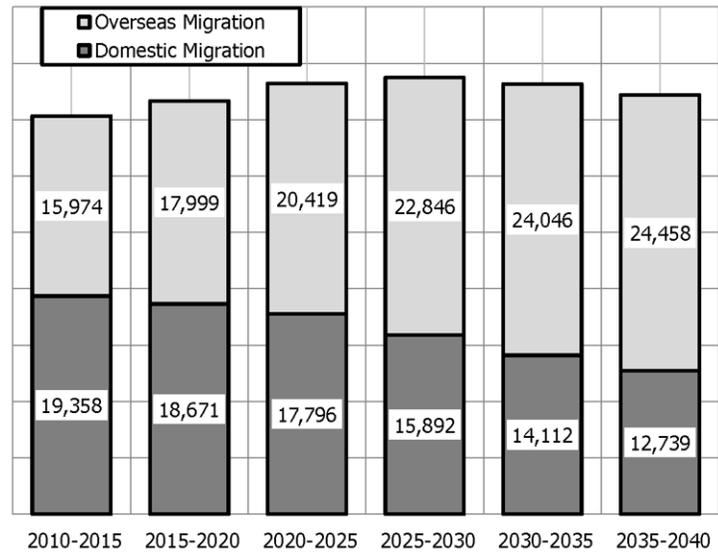
The population growth in Pennsylvania from 2010 to 2040 is projected to come from in-migration.

Rural counties are projected to gain 224,310 persons from in-migration, the majority of whom (56 percent) will be from overseas. Forty-four percent are projected to come from elsewhere in Pennsylvania and the U.S.

From 2010 to 2040, total rural in-migration is projected to increase 5 percent. While domestic in-migration during this period is expected to decline 34 percent, overseas in-migration is expected to increase 53 percent.

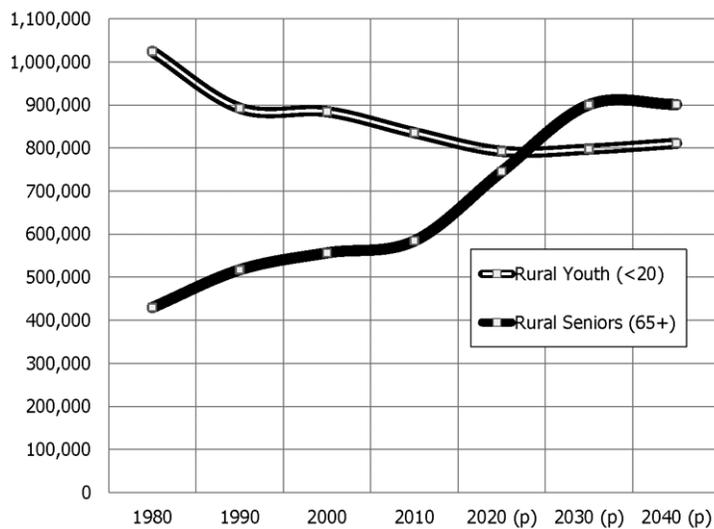
Urban counties are also expected to see an increase in in-migration. From 2010 to 2040, urban counties are projected to see a 58 percent increase from in-migration, nearly all of whom (94 percent) will come from overseas. Domestic in-migration will account for 6 percent of the total in-migration.

Projected Domestic and Overseas In-Migration in Rural Pennsylvania, 2010 to 2040



Data source: Pennsylvania State Data Center.

Number of Rural Youth and Senior Citizens, 1980 to 2040 (projected)



Data sources: U.S. Census Bureau and Pennsylvania State Data Center.

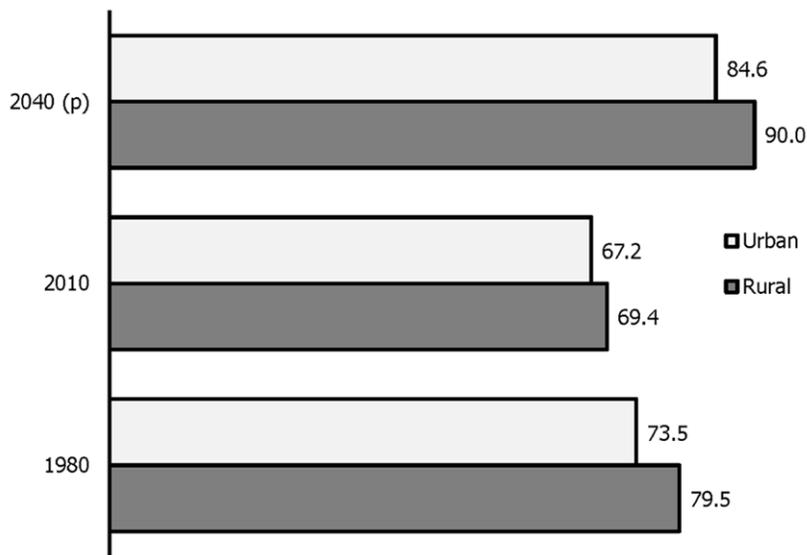
## Age Cohorts

Projections show that, in 2040, rural counties will have more senior citizens (65 years old and older) than youth (under 20 years old). Senior citizens will increase from 17 percent of the total population in 2010 to a projected 25 percent in 2040. The number of senior citizens during this period will increase 54 percent. Youth are projected to decrease from 24 percent of the total population in 2010 to a projected 22 percent in 2040. The number of rural youth is projected to decline 3 percent.

In urban counties, projections indicate an increase in seniors and youth. Urban senior citizens are projected to go from 15 percent of the population in 2010 to 22 percent in 2040. The overall number of urban seniors is projected to increase 72 percent. Urban youth are projected to go from 25 percent of the total population in 2010 to 23 percent of the population in 2040. However, the overall number of urban youth is projected to increase 5 percent from 2010 to 2040.

## Age Dependency Ratio in Rural and Urban Pennsylvania, 1980 to 2040 (projected)

(Population <20 plus Population 65+ divided by population 20 to 64)



Data sources: U.S. Census Bureau and Pennsylvania State Data Center.

## Dependency Ratio

The dependency ratio is a measure of the number of persons in the working age group (20 to 64 years old) compared to the number of persons who are dependent on the working age group (children under 20 and adults 65 years old and older).

In 1980, approximately 80 percent of rural Pennsylvania's population was dependent on the working age population. In 2010, the rural age dependency ratio dropped to 69 percent. For 2040, the projections indicate that the age dependency ratio will increase to 90 percent.

In urban counties, the age dependency ratios were about 74 percent in 1980 and 67 percent in 2010. Projections indicate that the urban county ratio will increase to about 85 percent in 2040.

## Summary

From 2010 to 2040, Pennsylvania is projected to gain 1.42 million people. Ninety percent of these new residents are projected to live in urban counties and 10 percent in rural counties.

While rural Pennsylvania is projected to have a 4 percent increase in population, urban counties are projected to have a 14 percent increase and the U.S. is projected to have a 23 percent increase.

Rural Pennsylvania's population will continue to grow slowly, and still somewhat unevenly, as 18 rural counties are projected to see population declines. However, 30 rural counties are projected to experience population increases.

The bulk of the population gains in rural counties will be attributed to in-migration rather than natural change, as the projections indicate that rural Pennsylvania counties will have more deaths than births from 2010 to 2040. The main driver of the negative natural change is the rapid increase in the number of deaths. From 2010 to 2040, the number of deaths in rural Pennsylvania is expected to increase 25 percent, which far outpace the expected number of births, which are projected to increase only 5 percent.

In-migration, on the other hand, is projected to trend

upward. Rural counties are projected to see a 5 percent increase in in-migration. The majority of these new rural residents will come from overseas.

Another continuing trend is the aging of rural Pennsylvania. This trend is being fueled, in part, by aging baby boomers (persons born between 1946 and 1964) and a slowly increasing birth rate. From 2010 to 2040, the number of rural senior citizens is projected to increase 54 percent while the number of youth is projected to decline 3 percent. Urban counties are projected to see a 5 percent increase in youth and a 72 percent increase in senior citizens.

## Discussion

The implications from these projections underscore the challenges of slow and somewhat uneven population growth and an aging population. They also highlight the opportunities of population growth through in-migration.

## Economic Development

A decline in the number of working age adults may prove challenging for some businesses, as there will be a smaller labor pool from which to draw.

To address the needs of an older population, the mix

of rural businesses may also need to change. For example, businesses that cater to children and young families may find fewer and fewer customers, while those that address the needs of the elderly may see an increase in clientele.

### Education

The projected decline in the number of rural youth will be felt most keenly by school districts. With fewer students, school districts will need to make difficult decisions on whether to keep school buildings open. In addition, some districts will see their fixed costs (transportation, teachers, etc.) remain the same or increase even though they have fewer and fewer students each year.

The decline in children and youth will also affect colleges and universities. Although the impact will not be as immediate as it is on school districts, colleges and universities will likely find their pool of traditional student applicants shrinking. However, higher educational institutions should not overlook opportunities in reaching out to non-traditional, out-of-state, and international students.

### Health Care

In the future, maternity wards may be far less busy than geriatric wards. This will likely cause a shift in the types of medical professionals needed. In rural counties, recruiting health care professionals may be more difficult as the demands for their services increase across the entire state and nation. Home health care may become increasingly important as families try to keep elderly relatives in their homes as long as possible.

### Social Services

As rural Pennsylvania's population ages, many older residents may increase their dependency on public transportation and other shared transportation services to complete daily errands and

Pennsylvania Population by County, 2010 to 2040 (projected)

	Population, July 1, 2010	Population Projections, 2040	% Change, 2010-2040
<b>Pennsylvania</b>	<b>12,711,308</b>	<b>14,132,588</b>	<b>11.2%</b>
Adams	101,423	106,210	4.7%
Allegheny	1,223,840	1,343,354	9.8%
Armstrong	68,864	62,474	-9.3%
Beaver	170,595	173,365	1.6%
Bedford	49,737	48,779	-1.9%
Berks	411,791	495,416	20.3%
Blair	127,038	130,036	2.4%
Bradford	62,609	67,051	7.1%
Bucks	625,505	634,771	1.5%
Butler	184,053	198,873	8.1%
Cambria	143,484	147,507	2.8%
Cameron	5,070	3,988	-21.3%
Carbon	65,204	60,536	-7.2%
Centre	154,193	188,564	22.3%
Chester	499,739	603,068	20.7%
Clarion	39,934	41,142	3.0%
Clearfield	81,579	81,107	-0.6%
Clinton	39,245	48,164	22.7%
Columbia	67,311	67,091	-0.3%
Crawford	88,690	87,422	-1.4%
Cumberland	235,938	280,505	18.9%
Dauphin	268,281	296,766	10.6%
Delaware	559,373	648,439	15.9%
Elk	31,857	28,758	-9.7%
Erie	280,749	312,991	11.5%
Fayette	136,507	140,353	2.8%
Forest	7,699	6,608	-14.2%
Franklin	149,908	173,765	15.9%
Fulton	14,863	15,407	3.7%
Greene	38,623	39,990	3.5%
Huntingdon	45,903	54,399	18.5%
Indiana	88,818	103,997	17.1%
Jefferson	45,224	45,245	0.0%
Juniata	24,548	25,094	2.2%
Lackawanna	214,411	233,436	8.9%
Lancaster	520,344	641,815	23.3%
Lawrence	90,964	88,743	-2.4%
Lebanon	133,717	149,347	11.7%
Lehigh	350,093	402,087	14.9%
Luzerne	320,925	335,149	4.4%
Lycoming	116,159	120,969	4.1%
McKean	43,366	44,445	2.5%
Mercer	116,541	122,884	5.4%
Mifflin	46,660	50,709	8.7%
Monroe	169,981	177,000	4.1%
Montgomery	801,134	938,580	17.2%
Montour	18,301	22,807	24.6%
Northampton	298,065	326,487	9.5%
Northumberland	94,367	93,027	-1.4%
Perry	45,993	50,198	9.1%
Philadelphia	1,528,458	1,859,944	21.7%
Pike	57,311	54,257	-5.3%
Potter	17,476	18,504	5.9%
Schuylkill	148,199	166,154	12.1%
Snyder	39,741	41,678	4.9%
Somerset	77,706	75,132	-3.3%
Sullivan	6,416	6,482	1.0%
Susquehanna	43,348	40,133	-7.4%
Tioga	42,009	44,325	5.5%
Union	44,942	51,641	14.9%
Venango	54,940	55,157	0.4%
Warren	41,756	37,535	-10.1%
Washington	207,882	203,270	-2.2%
Wayne	52,975	49,713	-6.2%
Westmoreland	365,086	344,230	-5.7%
Wyoming	28,261	27,269	-3.5%
York	435,586	498,246	14.4%

Data source: Pennsylvania State Data Center.

keep appointments. In rural counties, these shared services may need to be increased to meet these demands.

### **Housing**

The demand for large homes, suitable for families with children, may decline as the population ages. In some counties, this shift could cause a short-term decline in housing prices as well as shortages in housing that is suitable for smaller families.

### **Taxes**

With fewer working age adults (20 to 64 year olds), school districts and municipalities that rely on earned income taxes may experience revenue declines. It is unclear whether property taxes can make up the difference.

### **Recreation**

With an aging population, recreational needs will likely change. Playgrounds and skateboard parks will likely see less use, while walking trails and horseshoe courts may become more popular.

### **Community Organizations**

Youth organizations, such as baseball leagues, soccer clubs, and scouts, may find it difficult to recruit members. The same is true for volunteer fire companies and other community service organizations.

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