OCTOBER 2024

PENNSYLVANIA

DEMOGRAPHIC OUTLOOK

IFO Independent Fiscal Office

Independent Fiscal Office
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INDEPENDENT FISCAL OFFICE

October 24, 2024

The Honorable Members of the Pennsylvania General Assembly:

Section 604-B (a)(2) of the Administrative Code of 1929 specifies that the Independent Fiscal Office (IFO) shall "provide an assessment of the state's current fiscal condition and a projection of what the fiscal condition will be during the next five years. The assessment shall take into account the state of the economy, demographics, revenues and expenditures." In fulfillment of the demographics obligation, the IFO submits this report to the residents of the Commonwealth and members of the General Assembly. In accordance with the office's mission, this report does not make any policy recommendations.

Demographic projections presented in this report are from the IFO based on data from the vintage 2020 and 2023 Population Estimates by the U.S. Census Bureau. Various other Census products, data from the U.S. Centers for Disease Control and Prevention and data from the Pennsylvania Department of Health were also used. Other data sources are noted in the relevant sections of this report.

Questions and comments can be submitted to contact@ifo.state.pa.us.

Sincerely,

Matthew J. Knittel
Director

Contents

Introduction and Methodology

Section 604-B (a)(2) of the Administrative Code of 1929 specifies that the Independent Fiscal Office (IFO) shall "provide an assessment of the state's current fiscal condition and a projection of what the fiscal condition will be during the next five years. The assessment shall take into account the state of the economy, demographics, revenues and expenditures." This report fulfills the demographics obligation for the IFO's release of the *Economic and Budget Outlook for Fiscal Year 2024-25 to 2029-30*.

Demographics are a critical factor that motivate long-term economic, revenue and expenditure trends. Demographics determine key populations, such as the potential labor force that affects economic growth, elementary and secondary students who require educational services and older residents who may require long-term care. All population projections contained in this report were made by the IFO based on data from the U.S. Census Bureau, U.S. Centers for Disease Control and Prevention (CDC) and the Pennsylvania Department of Health (DOH). Other data sources are noted in table footnotes.

The IFO demographics forecast uses a cohort-component model in which birth, death and migration rates are projected separately for males and females. Projections are made by single-year ages using data from the U.S. CDC and the U.S. Census Bureau. The base population is as of July 2023 and the forecast is constructed using age group data from the U.S. Census Vintage 2023 Population Estimates.[1] From the base year, the IFO projects birth, death and net migration rates for Pennsylvania residents.[2] The impacts of the COVID-19 pandemic are detailed in the births, deaths and migration subsections that follow.

Births

For 2023, births are based on CDC preliminary data. For 2024, births are informed by preliminary data from DOH and the CDC for trends following the peak of COVID-19. The provisional number of births for the United States was 3.59 million in 2023, down 2% from 3.67 million in 2022.[3] This result extends the trend decline (2% per annum) in the number of births from 2015 to 2020. For 2025 and beyond, projections are based on historical birth rates by age group. The projections apply average birth rates to seven groups of females: age 13 to 18, age 19 to 22, age 23 to 29, age 30 to 34, age 35 to 39, age 40 to 44 and age 45 and over. The birth rate forecast assumptions are as follows:

- Age groups 34 years or younger decline slightly, then gradually flatline in the long term.
- Age group 35 to 39 increases slightly over several years, then flatlines in the long term.
- Age groups 40 and older increase in the next few years based on recent trends and then moderate over the forecast period.

[1] The U.S. Census population estimates for states only provide single-year age allocations to age 84. However, the U.S. estimates provide single-year allocations to age 99. Therefore, estimates of the Pennsylvania distribution of age 85+ residents were approximated using the U.S. distribution from age 85 to 100+.
[2] Throughout this report, births, deaths and migration are projected on a fiscal year basis to match the U.S. Census Bureau's convention of releasing population estimates as of July 1st each year. For display purposes, data represent the year the fiscal year begins (i.e., estimated births for 2023 are estimated births for FY 2023-24).
[3] See: "Births Provisional Data for 2023," U.S. CDC Vital Statistics Rapid Release (April 2024).

All birth rate projections across various age groups are consistent with the longer-term trend of females having children in later life stages.

Deaths

For 2023, deaths are estimated using preliminary data from the U.S. CDC. Due to the COVID-19 pandemic, the number of deaths was unusually high in CY 2020 and CY 2021, and the IFO estimates that the pandemic caused 19,800 excess deaths in CY 2020 and 18,900 in CY 2021.[4] For 2024, estimated U.S. deaths dropped after reaching a pandemic-high rate of 880 per 100,000 people in CY 2021, and provisional data suggest that the current death rate remains above pre-pandemic levels.[5] Consequently, death rates for 2025 and beyond are assumed to remain elevated, and those rates are applied to the forecasted population by relevant age group.

Migration

For 2020 and 2021, the U.S. Census Bureau estimates that the COVID-19 pandemic significantly disrupted international migration flows to and from the United States, resulting in some of the lowest levels of international migration in decades.[6] Since then, estimated migrant flows have not returned to historical norms in the published data. For 2023, total net migration (domestic and international) by individual age is calculated using a four-year average migration rate to reduce the impact of the unusual migrant flows during COVID-19.[7] Using historical averages, total model net migration is distributed proportionally between males and females. The long-term net migration projections are based on recent, post-pandemic trends.

It is noted that Census migration estimates do not reflect what the Congressional Budget Office (CBO) refers to as the recent "Immigration Surge," which the agency estimates is 8.7 million individuals nationwide for 2021 through 2026.[8] The agency estimates that one-half of the surge occurred during 2021 to 2023. Per the CBO, that estimate includes "people who entered the United States illegally, people who entered legally in a temporary status and then remained after that legal status expired, and people who were permitted to enter despite not being admissible as an LPR [Lawful Permanent Resident], asylee, refugee, or nonimmigrant—which typically occurs through the use of parole authority." If the Pennsylvania share of the surge is 3%, then population estimates would be undercounted by 131,000 individuals in 2023 (8.7 million * 50% * 3%). The undocumented migration surge is also not reflected in projected migration rates for 2024 to 2026.

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[4] See: "COVID-19 Impact on Pennsylvania Deaths," IFO (February 2022).
[5] See: "Mortality in the United States — Provisional Data, 2023," U.S. CDC (August 8, 2024) and "NCHS Data Brief, Number 456, December 2022 (cdc.gov)," (December 2022).
[6] See: "New Population Estimates Show COVID-19 Pandemic Significantly Disrupted Migration Across Borders," U.S. Census Bureau (December 21, 2021).
[7] Published data for 2010 through 2019 are based on U.S. Census population estimates, vintage 2020, which do not incorporate the 2020 Decennial Census. As a result, there is a disconnect moving from 2019 to 2020. The analysis used 2020 data from the 2020 Decennial Census to smooth population trends from 2010 through 2019 and computed historical migration trends as the residual population change after deducting actual birth and death data from the U.S. CDC.
[8] See: "Effects of the Immigration Surge on the Federal Budget and the Economy," CBO (July 2024) and "The Demographic Outlook: 2024 to 2054," CBO (January 2024). Figure A-4 in the second document compares CBO projections to the U.S. Census Bureau.

Demographic Trends by Age Group

Table 2.1 (next page) presents data and total growth rates for various age cohorts for three 5-year time periods: historical (2015 to 2020); near term (2020 to 2025) and long term (2025 to 2030). Towards the end of the near term, birth, death and migration rates will likely revert to pre-pandemic trends. However, long-term birth, death or migration rates could change substantially due to changing economic conditions, immigration policies, domestic migration incentives and health care.

Table 2.1 reveals the following trends for the three time periods:

- Total population grew 0.8% from 2015 to 2020 and is projected to decrease slightly in the near term (-0.3%) and during the long term (-0.5%).
- The school age cohort (age 0 to 19) declined 1.7% from 2015 to 2020 and is projected to decline 4.2% in the near term and then decline 4.7% during the long term.
- The working-age cohort (age 20 to 64) declined 1.1% from 2015 to 2020 and is projected to continue to contract by 2.8% in the near term and then decline by 2.1% during the long term. In 2025, this group includes mostly Generation X (born 1965 to 1980), Millennials (born 1981 to 1997) and a portion of Generation Z (born 1998 to 2015).
- The retiree cohort (age 65 to 79) increased 18.0% from 2015 to 2020 and is projected to expand 14.1% in the near term and then 4.7% during the long term. In 2025, this group includes most of the Baby Boomer Generation (born 1946 to 1964).
- The advanced age cohort (age 80+) decreased 5.8% from 2015 to 2020 and is projected to expand 7.4% in the near term and then 20.3% during the long term. In 2025, this group mostly includes the Silent Generation (born 1926 to 1945) and a small number from the Greatest Generation (born 1905 to 1925).

The subsections that follow discuss demographic trends in the near and long term. The Appendix provides single-year demographic detail through 2030.

Table 2.1
Pennsylvania Demographic Trends and Projections

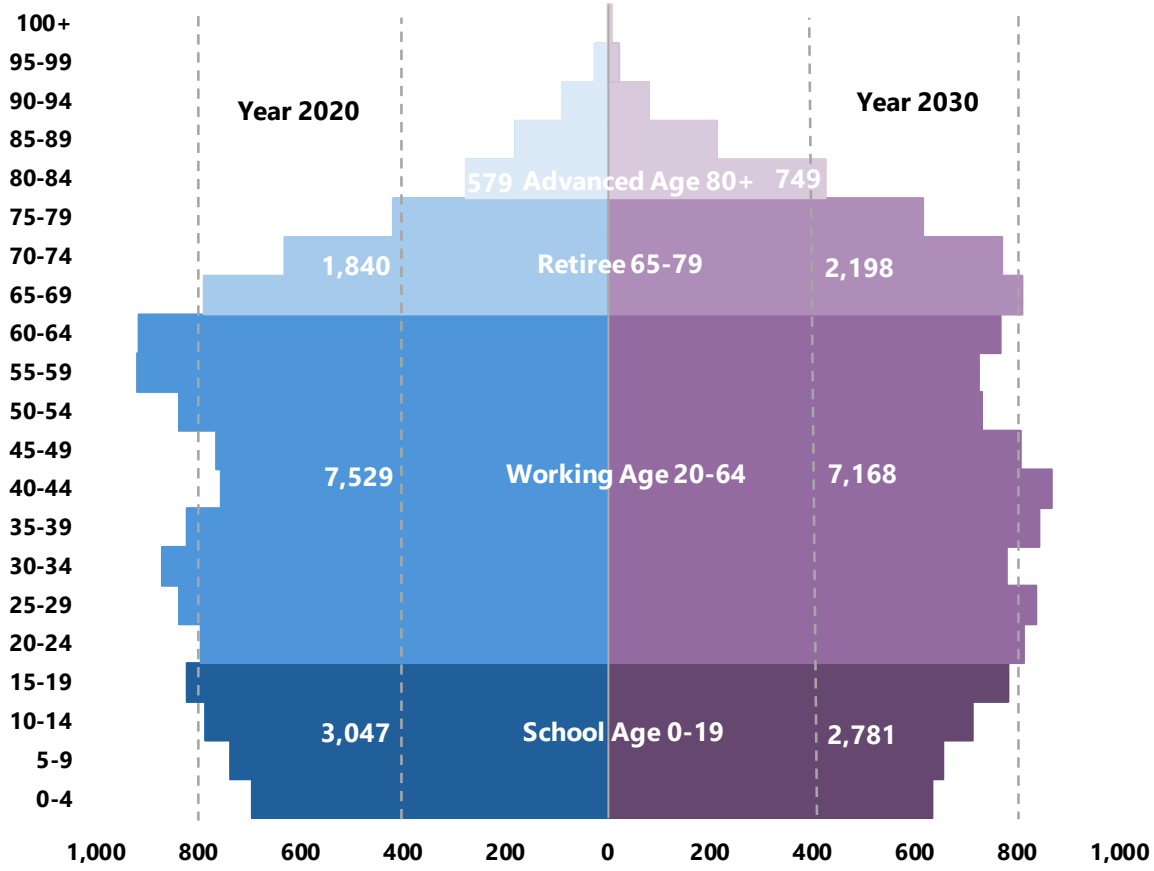
Age Cohort	Number of Residents (000s)				Total Growth		
	2015	2020	2025	2030	2015-20	2020-25	2025-30
0-4	714	697	648	634	-2.4%	-7.0%	-2.2%
5-9	752	738	707	655	-1.9	-4.2	-7.4
10-14	785	788	743	711	0.3	-5.7	-4.3
15-19	849	824	821	781	-2.9	-0.4	-4.9
20-24	863	796	839	813	-7.7	5.4	-3.1
25-29	858	838	775	838	-2.4	-7.5	8.2
30-34	802	872	844	778	8.8	-3.3	-7.8
35-39	745	822	872	843	10.3	6.1	-3.4
40-44	763	757	817	867	-0.8	8.0	6.1
45-49	848	767	747	807	-9.6	-2.6	8.0
50-54	942	839	749	732	-10.9	-10.8	-2.3
55-59	954	921	807	724	-3.5	-12.3	-10.3
60-64	841	918	870	767	9.2	-5.3	-11.8
65-69	697	790	848	811	13.3	7.3	-4.4
70-74	496	631	711	771	27.0	12.8	8.4
75-79	365	420	540	616	14.9	28.6	14.0
80-84	285	279	327	426	-2.2	17.4	30.1
85-89	203	182	182	213	-10.5	0.1	17.4
90-94	98	89	82	81	-9.3	-8.2	-0.9
95-99	25	26	26	22	5.5	-2.1	-15.9
100+	4	4	6	7	-8.4	58.5	21.3
Total	**12,891**	**12,995**	**12,960**	**12,895**	**0.8**	**-0.3**	**-0.5**
Age Cohort Summary							
0-19	3,101	3,047	2,919	2,781	-1.7%	-4.2%	-4.7%
20-64	7,616	7,529	7,319	7,168	-1.1	-2.8	-2.1
65-79	1,559	1,840	2,099	2,198	18.0	14.1	4.7
80+	615	579	622	749	-5.8	7.4	20.3
Total	**12,891**	**12,995**	**12,960**	**12,895**	**0.8**	**-0.3**	**-0.5**

Note: Detail may not sum to total due to rounding.
Sources: The 2015 data are estimates by the IFO based on the U.S. Census Bureau Vintage 2020 and 2023 Population Estimates. The 2020 data are from the U.S. Census Bureau Vintage 2023 Population Estimates with estimations by the IFO for the distribution of the age groups above 85 years. 2025 and 2030 are projections by the IFO using data from the U.S. Census Bureau and U.S. CDC.

Figure 2.1 displays the Pennsylvania population distribution for 2020 and 2030 (projected) by age group. By 2030, the School Age 0-19 and Working Age 20-54 cohorts are projected to contract, while the Retiree 65-79 and Advanced Age 80+ cohorts expand.

Figure 2.1

Pennsylvania Population Distribution by Age Group



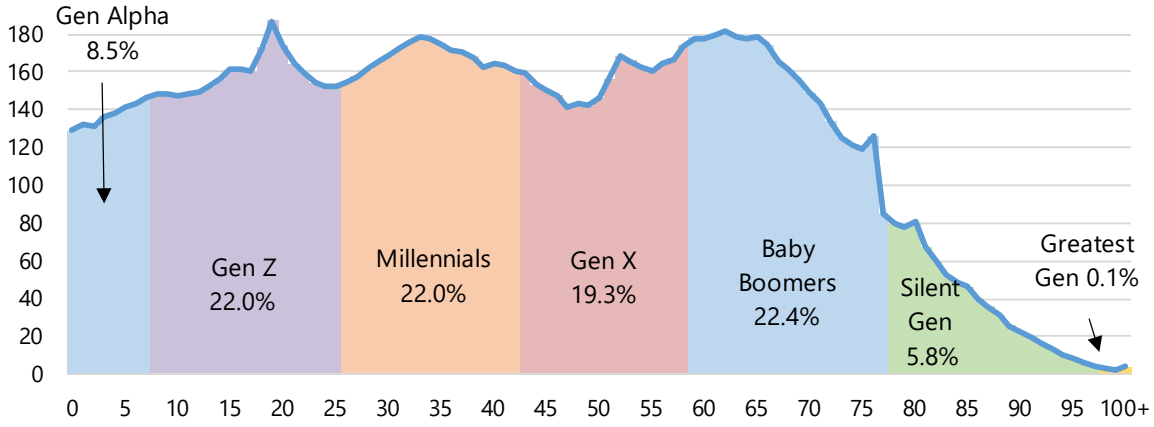
Note: Thousands of residents.

Sources: The 2020 data are from the U.S. Census Bureau Vintage 2023 Population Estimates with estimations by the IFO for the distribution of the age groups above 85 years. The 2030 figures are projections by the IFO using data from the U.S. Census Bureau and U.S. CDC.

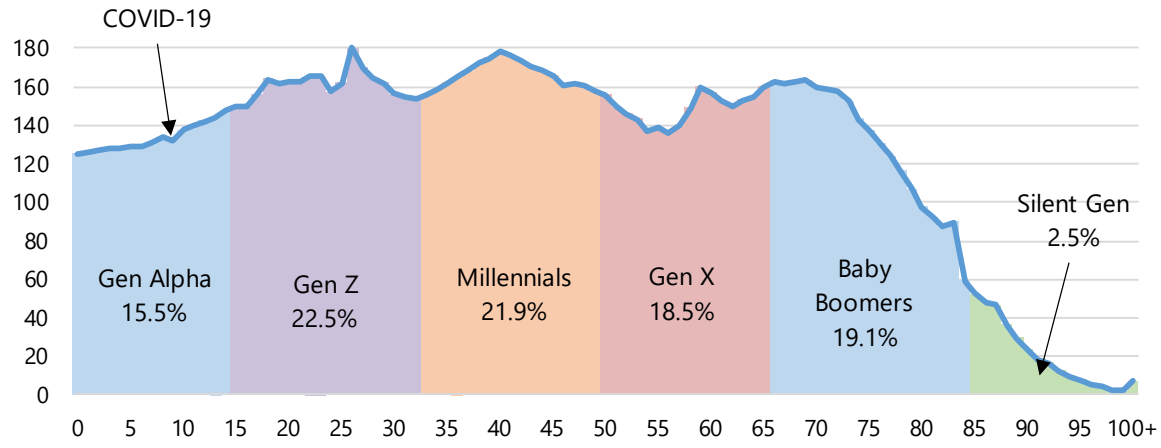
Pennsylvania Population Distribution

Figure 2.2 displays the Pennsylvania population distribution for 2023 and 2030 by generation. The 2023 distribution is shaped by the three largest generations: Baby Boomers (age 59 to 77, 22.4% of total population), Generation Z (age 8 to 25, 22.0%) and Millennials (age 26 to 42, 22.0%). By 2030, Generation Z (22.5%) and Millennials (21.9%) become the largest two generations, while the Baby Boomer share of total state population declines to 19.1%.

Figure 2.2
2023 Pennsylvania Population Distribution



2030 Pennsylvania Population Distribution



Note: Thousands of residents. The birth years for the various generations are as follows: Generation Alpha (2016 to present); Generation Z (1998 to 2015); Millennials (1981 to 1997); Generation X (1965 to 1980); Baby Boomers (1946 to 1964); Silent Generation (1926 to 1945); and Greatest Generation (1905 to 1925).

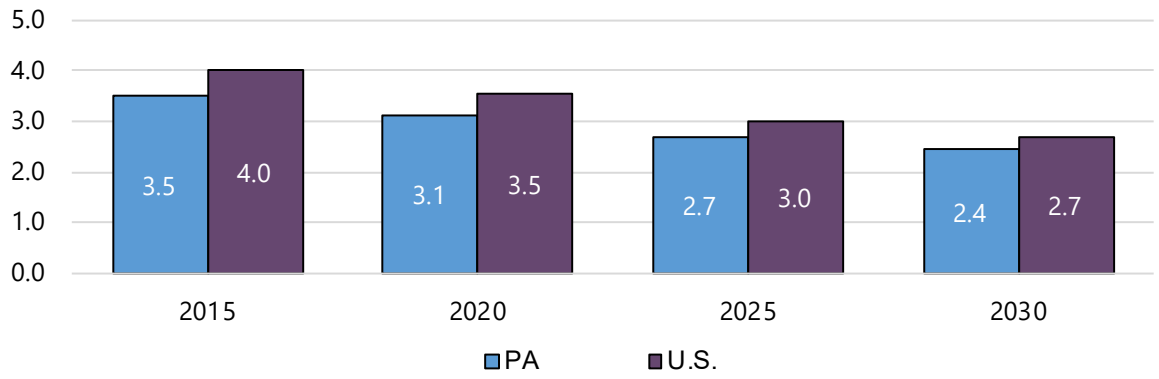
Sources: The 2023 data are from the U.S. Census Bureau Vintage 2023 Population Estimates with estimations by the IFO for the distribution of the age groups above 85 years. The 2030 figures are projections by the IFO using data from the U.S. Census Bureau and U.S. CDC.

Dependency Ratios

Working-age residents remit the majority of state tax revenues that support dependents who attend school and advanced-age residents who require dedicated healthcare services. Demographers use two metrics known as dependency ratios to illustrate the relationships between these three groups. The two ratios are the working-age (age 20-64) to youth (age <20) and working-age to retiree (65+) populations. From 2015 to 2030, the working-age-to-youth ratio is projected to remain stable at roughly 2.5 for Pennsylvania and 2.3 to 2.4 for the U.S. For Pennsylvania, this implies that there are approximately 2.5 working-age adults per youth.

Unlike the working-age-to-youth ratio, the working-age-to-retiree ratio is trending downward for both Pennsylvania and the U.S. **Figure 2.3** displays this ratio for Pennsylvania (blue) and the U.S. (purple) for 2015, 2020, 2025 (projected) and 2030 (projected). In 2015, there were 3.5 working-age residents per retiree in Pennsylvania and 4.0 for the U.S. Both ratios declined by 2020 (3.1 for Pennsylvania, 3.5 for the U.S.) and are projected to decline further through 2030 (2.4 for Pennsylvania, 2.7 for the U.S.). The downward trend directly corresponds to the retirement of Baby Boomers and the resulting contraction of the working-age population.

Figure 2.3
Pennsylvania and U.S. Working-Age (20-64) to Retiree (65+) Ratios



Sources: Pennsylvania data for 2015 and 2020 are from U.S. Census Bureau various Population Estimates with adjustments by the IFO for 2015. Data for 2025 and 2030 are projections by the IFO. U.S. data are from the U.S. Census Bureau. International Database (last accessed on September 11, 2024).

Figure 2.3 illustrates the challenges that policymakers will encounter during the next decade. Over time, there will be relatively fewer working-age residents to support the needs of rapidly expanding retiree and advanced-age populations. Stated differently, the burden of support will fall on a smaller group of taxpayers. The contraction of the working-age cohort implies that real per capita tax levels for that age group must increase to keep pace with the anticipated increase in demand for healthcare and other services.

Components of Population Change

Table 3.1 decomposes the change in state population from 2015 to 2030 to illustrate two factors that motivate low population growth rates during the 15-year period:

- The number of births contracts while the number of deaths increases. From 2015 to 2020, births outnumbered deaths (organic growth) by 7,000. However, deaths are projected to outnumber births by 90,000 from 2020 to 2025 and 126,000 from 2025 to 2030.
- From 2015 to 2020, estimated net migration was 98,000. For 2020 to 2025, the projections assume a reduction to 55,000, which is based on preliminary Census state migration data for 2020 to 2023. As noted in the prior section, those data do not include the impact from the estimated CBO Immigration Surge of 8.7 million individuals nationwide (2021 to 2026) who are not included in published Census data or projections. The undocumented surge likely results in a material (but unknown) undercount of the current population. For 2025 to 2030, net migration is projected to be 61,000 as it begins to revert towards pre-COVID rates.

Table 3.1
Components of Pennsylvania Population Change

	Time Period		
	2015-20	2020-25	2025-30
Start of Period	**12,891**	**12,995**	**12,960**
Natural Increase	**7**	**-90**	**-126**
Births	684	645	629
Deaths	-677	-735	-754
Net Migration	**98**	**55**	**61**
Age 0 to 17	133	89	63
Age 18 to 24	-79	-38	-15
Age 25 to 64	71	8	14
Age 65 to 79	-24	-15	-9
Age 80+	-2	11	8
End of Period	**12,995**	**12,960**	**12,895**
Total Population Gain	**105**	**-35**	**-64**

Note: Thousands of residents.

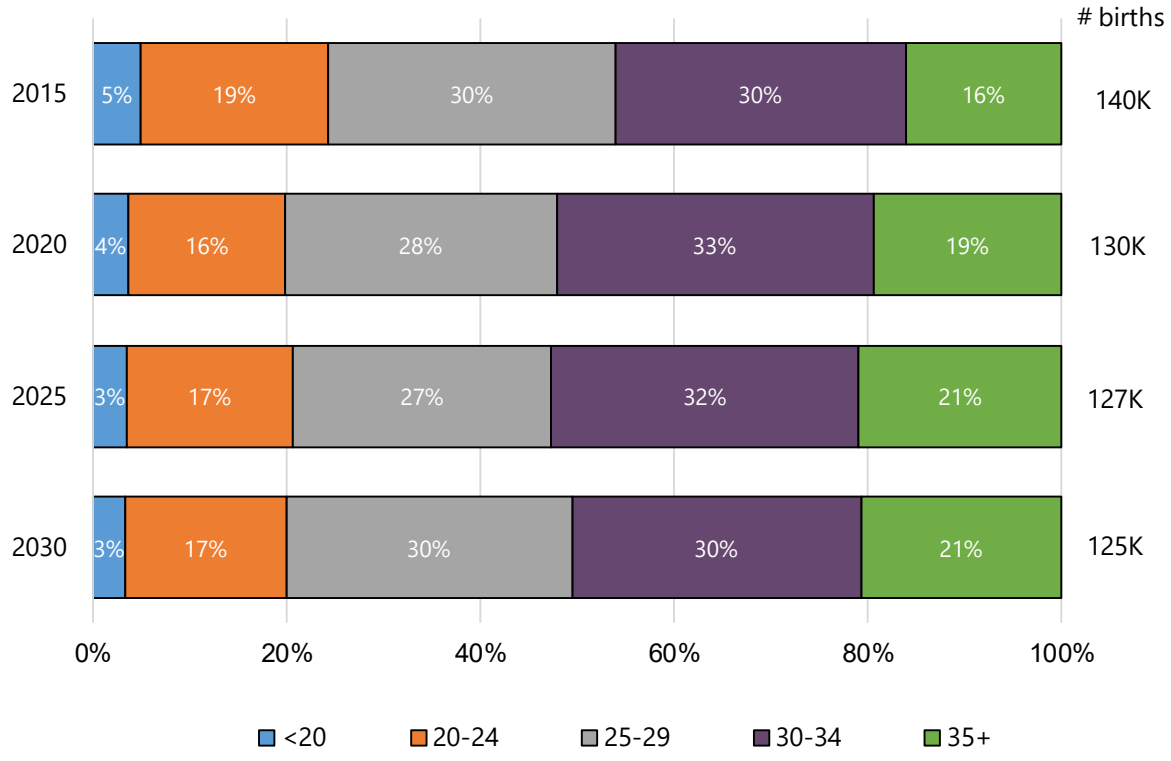
Sources: The 2015 through 2019 data are from the U.S. Census Bureau Vintage 2020 Population Estimates and U.S. CDC with adjustments by the IFO. 2020 through 2023 data are from the U.S. Census Bureau Vintage 2022 Population Projections. 2023 through 2030 data are projections by the IFO using data from the U.S. Census Bureau and U.S. CDC. Calculations by the IFO.

Birth Trends

Figure 3.1 illustrates the gradual decline in the annual number of Pennsylvania births from 2015 (140,000) through 2030 (125,000). The decline in births is due to a contraction in younger females of child-bearing age and declining fertility rates among those females. The decline in female fertility rates is not unique to Pennsylvania. For 2023, the CDC found that U.S. fertility rates decreased by 3% from 2022 to reach a new historic low.[9] That outcome is a continuation of the long-term trend as the fertility rate contracted by 2% per annum from 2014 to 2020. A 2024 Pew Research Center survey found that a growing share of U.S. adults under age 50 without children say they are unlikely to ever have kids.[10] The top reasons cited for this response include: (1) don't want to have children, (2) want to focus on other things, such as careers or interests, (3) have concerns about the state of the world and (4) cannot afford to raise a child.

Figure 3.1 displays births based on maternal age group at birth. The gradual increase in births for women age 30 or older (purple and green) and the decline in births for women under age 30 (blue, orange and dark gray) assume current trends continue into the future. The projections also assume that the number of 2024 births will be similar to births in 2023.

Figure 3.1
Pennsylvania Share of Births by Maternal Age and Year



Note: Birth data from July 1st shown as calendar year (e.g., 2015-16 = 2015).

Source: The 2015 and 2020 data are from the U.S. CDC. The 2025 and 2030 data are IFO projections.

[9] See: "U.S. Fertility Rate Drops to Another Historic Low," U.S. CDC (April 25, 2024).
[10] See: "The Experiences of U.S. Adults Who Don't Have Children," Pew Research Center (July 25, 2024).

Table 3.2 displays the share of females by age group giving birth for the same five-year increments as Figure 3.1. For example, in 2015, 9.9% of all Pennsylvania females age 25 to 29 gave birth to a child. From 2015 to 2020, the average maternal age at birth increased from 28.8 to 29.6.

Table 3.2
Share of Females Giving Birth by Age Group and Year

	2015	2020	2025	2030
Age 13-19	1.2%	0.9%	0.8%	0.8%
Age 20-24	6.4	5.3	5.2	5.2
Age 25-29	9.9	8.9	8.9	8.9
Age 30-34	10.6	9.9	9.7	9.7
Age 35-50	1.8	2.0	2.1	2.0
Total[1]	**4.6**	**4.3**	**4.2**	**4.1**
Average Maternal Age	**28.8**	**29.6**	**29.6**	**29.6**

Note: Birth data from July 1st shown as calendar year (e.g., 2015-16 = 2015).

1 The total is the share of females age 13 to 50 giving birth in a given year.

Source: The 2015 and 2020 data are from the U.S. CDC. The 2025 and 2030 data are IFO projections.

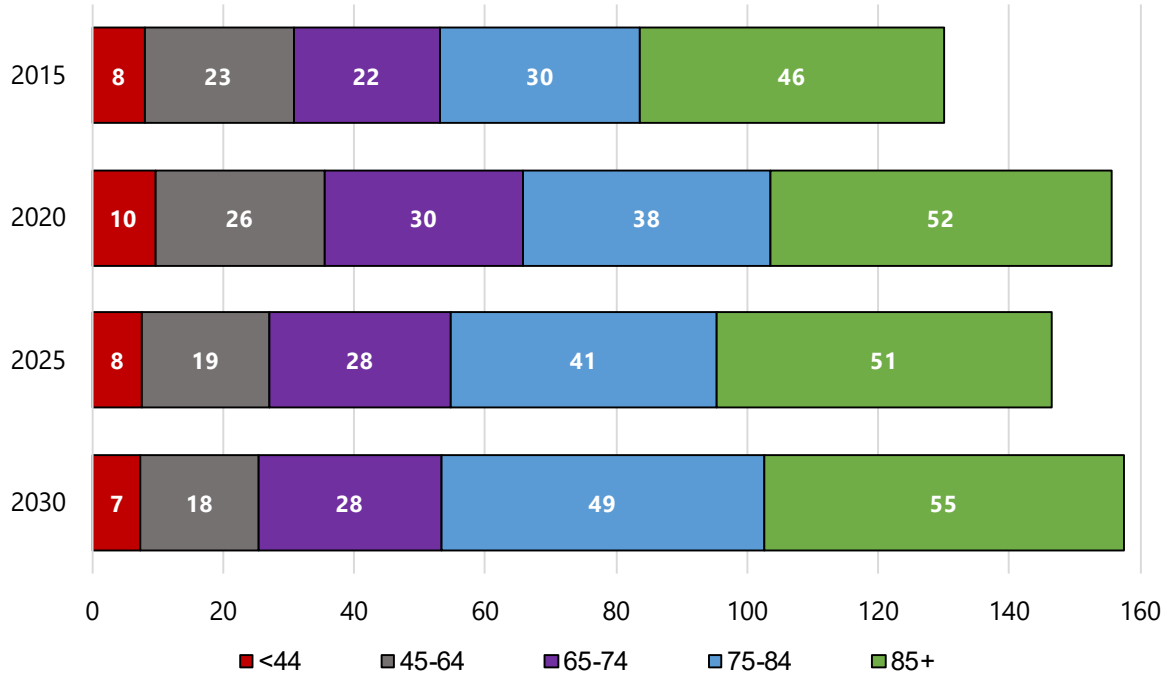
Decedent Trends

Figure 3.2 (next page) illustrates the increase in the number of decedents (deaths) by age group from 2015 (130,100) through 2030 (157,500) in Pennsylvania, with a spike in 2020 due to the COVID-19 pandemic. The number of decedents in the age 75 and older age groups increases significantly from 2025 to 2030 (15%) due to the aging of the large Baby Boomer cohort, as opposed to higher death rates.

Table 3.3 (next page) displays each age group's decedent rate for the same five-year increments as Figure 3.2. For example, in 2015, 4.7% of all state residents age 75 to 84 passed away. While the overall decedent rate is projected to increase slightly over time, that outcome is mostly due to the general aging of the population. Table 3.3 shows a significant reduction in the share of decedents for residents age 85 and older. The reduction is partially due to the large influx of Baby Boomers during the forecast period which reduces the median age and decedent rate for that age group.

Figure 3.2

Pennsylvania Number of Decedents (000s) by Age and Year



Note: Decedent counts from July 1st shown as calendar year (e.g., 2015-16 = 2015).
Source: The 2015 and 2020 data are from the U.S. CDC. The 2025 and 2030 data are IFO projections.

Table 3.3

Decedents as a Share of Population by Age Group and Year

	2015	2020	2025	2030
Age 0-44	0.1%	0.1%	0.1%	0.1%
Age 45-64	0.6	0.8	0.6	0.6
Age 65-74	1.9	2.1	1.8	1.8
Age 75-84	4.7	5.4	4.7	4.7
Age 85+	14.1	17.3	17.4	16.9
Total	**1.0**	**1.2**	**1.1**	**1.2**

Note: Decedent counts from July 1st shown as calendar year (e.g., 2015-16 = 2015).
Sources: The 2015 and 2020 data are from the U.S. CDC with calculations by the IFO. The 2025 and 2030 data are projections by the IFO.

Recent Migration Trends

Table 3.4
July 1, 2020 to July 1, 2023 Net Migration by State (000s)

	State	Dom.	Int'l.	Total		State	Dom.	Int'l.	Total
1	Florida	757.0	346.5	**1,103.5**	27	South Dakota	19.2	5.7	**24.9**
2	Texas	603.3	289.2	**892.5**	28	Wisconsin	-6.3	24.7	**18.5**
3	North Carolina	297.7	65.6	**363.2**	29	West Virginia	6.9	3.6	**10.5**
4	South Carolina	233.3	23.8	**257.1**	30	Iowa	-9.8	20.2	**10.4**
5	Georgia	174.1	67.3	**241.4**	31	Vermont	6.8	2.7	**9.5**
6	Arizona	188.3	51.9	**240.2**	32	Wyoming	6.3	0.8	**7.1**
7	Tennessee	192.5	24.2	**216.6**	33	New Mexico	-6.8	11.7	**5.0**
8	Idaho	95.5	7.1	**102.6**	34	Rhode Island	-7.7	9.5	**1.8**
9	Alabama	86.9	11.6	**98.5**	35	Oregon	-13.4	14.1	**0.8**
10	Oklahoma	76.2	16.2	**92.5**	36	Washington D.C.	-13.0	13.2	**0.3**
11	Nevada	54.6	18.1	**72.6**	37	Nebraska	-11.2	11.1	**-0.2**
12	Indiana	25.7	39.4	**65.2**	38	North Dakota	-6.7	4.0	**-2.7**
13	Arkansas	54.8	8.7	**63.4**	39	Mississippi	-11.8	7.0	**-4.8**
14	Utah	44.8	17.8	**62.6**	40	Michigan	-53.5	48.6	**-4.9**
15	Missouri	32.6	21.8	**54.4**	41	Kansas	-16.6	11.5	**-5.0**
16	Montana	45.7	3.1	**48.8**	42	Minnesota	-44.5	34.3	**-10.1**
17	Maine	41.0	5.7	**46.7**	43	Alaska	-15.7	5.2	**-10.5**
18	Colorado	19.4	26.3	**45.7**	44	Massachusetts	-122.2	110.1	**-12.2**
19	Washington	-35.4	80.2	**44.9**	45	Hawaii	-36.8	12.6	**-24.3**
20	Virginia	-37.4	79.9	**42.5**	46	Maryland	-94.3	65.6	**-28.8**
21	Delaware	36.3	5.6	**41.9**	47	New Jersey	-143.8	102.7	**-41.2**
22	Connecticut	-0.1	37.0	**37.0**	48	Louisiana	-105.6	20.7	**-84.9**
23	Kentucky	21.6	13.8	**35.4**	49	Illinois	-341.9	83.2	**-258.7**
24	Ohio	-31.8	61.1	**29.2**	50	New York	-810.3	179.9	**-630.4**
25	New Hampshire	22.9	6.2	**29.1**	51	California	-1,130.0	321.6	**-808.4**
26	Pennsylvania	-36.8	61.7	**24.9**	--	**United States**	--	**2,514.3**	**2,514.3**

Note: Dom stands for domestic. Int'l stands for international. Rank based on total net migration from July 1, 2020 through July 1, 2023.
Source: U.S. Census Bureau. Vintage 2023 Pop. Estimates. Estimated Components of Resident Pop. Change.

Table 3.4 displays the U.S. Census Bureau's estimates of net migration by state from July 2020 to July 2023. The data are shown separately for net domestic (i.e., state to state) and international migration. The U.S. Census estimates that Pennsylvania lost 36,800 residents in net domestic migration, which was more than offset by a net 61,700 international migrants flowing into the state. The total net migration for Pennsylvania over the three years was an in-flow of roughly 24,900 residents, which ranks the Commonwealth 26th across all states. As noted in the prior section, the published Census migration estimates do not reflect the estimated influx of 8.7 million individuals nationwide from the CBO Immigration Surge.

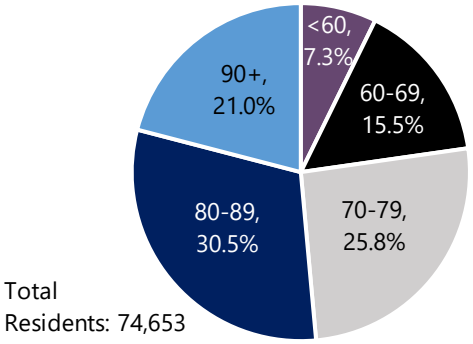
The shaded states are border states and show that Pennsylvania recorded a larger net in-migration than all border states except Delaware and Ohio. Southern states of Florida, Texas, North Carolina, South Carolina and Arizona recorded the largest net migration gains during the three-year period, bolstered by very strong net domestic migration and solid net international migration. Nationwide, the data show continued migration to southern states, likely the result of individuals moving to states with warmer climates and lower cost of living. The general domestic migration trends throughout the country showed movement from northern states to southern and western states.[11]

[11] Historical migration data are not shown because Census data for 2010 to 2019 are based on 2010 Decennial Census figures, while data from 2020 to 2023 are based on 2020 Decennial Census figures. As a result, the migration rates are not directly comparable.

Special Focus: Nursing Home Trends and Projections

The projected rapid rise in Pennsylvania's older adult population, particularly residents age 70 and above, will place additional stress on elderly care services and increase costs, as a significant share of the population generally requires some level of day-to-day living assistance. The assistance required ranges from minor personal care in the resident's home to placement in a skilled nursing home facility (referred to as a nursing home (NH) for this subsection). The Pennsylvania Department of Health (DOH) compiles and publishes annual data of Pennsylvania NH residents by age group. The latest published data from June 2023 show that over half (51.5% or 38,400) of NH residents are age 80 or above, and over three-quarters (77.3% or 57,700) are age 70 or above. (See **Figure 4.1**.)

Figure 4.1
Pennsylvania Nursing Home Residents by Age Group (June 2023)



Source: PA DOH, Division of Health Informatics, Long Term Care Facilities Questionnaire. Report 5. FY 2022-23.

Table 4.1
PA Nursing Home (NH) Residents Population Share

Age Group	Share in NH			Annual PPT Change		2023-30 Pop. Total Growth
	2016	2019	2023	'16-'19	'19-'23	
60-64	0.5%	0.5%	0.5%	0.00%	0.01%	-14.2%
65-69	0.8	0.8	0.8	0.01	0.01	-2.9
70-74	1.3	1.2	1.3	-0.02	0.02	14.7
75-79	2.3	2.2	2.1	-0.04	-0.02	26.2
80-84	4.2	3.9	3.7	-0.10	-0.05	38.2
85-89	7.7	7.0	6.4	-0.22	-0.16	19.1
90-94	13.3	12.2	11.3	-0.36	-0.23	-3.1
95+	21.9	20.5	20.9	-0.48	0.12	-3.1

Note: PPT is percentage point.

Source: NH data: PA DOH, Division of Health Informatics, Long Term Care Facilities Questionnaire. Report 5. Various Years. State population data: Based on the 2020 and 2023 U.S. Census Population Estimates with adjustments by the IFO; Projections are by the IFO.

Table 4.1 provides a historical view of the share of Pennsylvania residents by age group who reside in NHs (first three data columns) and the annual percentage point (PPT) change in those shares from 2016 to 2019 (fourth column) and 2019 to 2023 (fifth column). The final column displays the projected cumulative growth of each age group for 2023 to 2030.

From 2016 to 2019 (fourth column, unaffected by COVID) and 2019 to 2023 (fifth column, affected by COVID), the share of residents living in a NH declined annually for most age groups. However, as shown in the final column, the number of residents in age groups 70 to 89 (shaded areas) are projected to increase through 2030. Figure 4.1 illustrates that in 2023, over half (56.3%) of NH residents were ages 70 to 89. Even if current lower NH utilization rates hold, the expansion of older population cohorts could motivate increased demand for NH care. While the

reasons for the recent decline in NH utilization rates are unclear, reduced demand and supply are possible factors. For example, many older adults prefer to remain in their homes as long as possible, and in response, the state increased funding to expand home and community-based services over the past decade. This increased support allowed a larger share of residents to age in place and avoid more costly NH care. At the same time, a tight labor market post-COVID and recently increased Pennsylvania minimums for staff-to-patient ratios and direct care hours per resident per day (HPRD) likely make it difficult to staff some NH facilities at required levels.[12] Facilities unable to meet new staff ratios or HPRD regulations due to staffing shortages may have reduced available beds.

Figure 4.2 (next page) combines scenarios for the projected share of residents by age group who reside in a NH with population projections to create two forecasts of NH residents. The 2024 NH population is first estimated using the U.S. Centers for Medicare and Medicaid Services average daily NH resident growth rate between July 2023 and July 2024. Then, the following two scenarios are used to create projections through 2030:

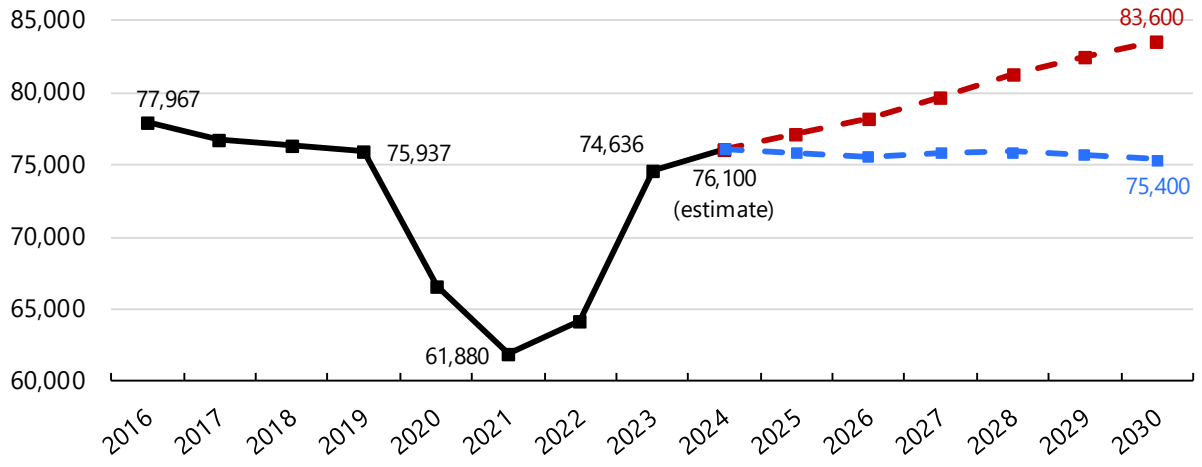
(1) Steady Share (red line): Assumes that the 2023 share of NH residents by age group applies to 2025 through 2030. Under this scenario, the number of NH residents would increase 7,500 (+9.9%) from 2024 to 2030 due to the projected rapid expansion of older adults. Due to recent supply and demand pressures that reduced the share of residents who reside in a NH (noted above), this forecast represents an upper bound.

(2) Pre-COVID Trend (blue line): Assumes that the share of residents who reside in a NH by age group mirrors the trend prior to COVID (2017 to 2019).[13,14] If this scenario holds, the number of NH residents would contract by 700 (-0.9%) from 2024 to 2030 due to lower NH utilization rates in the 70+ age groups, which more than offsets the rapid expansion of the older adult population. Over the long term, this trend would be difficult to maintain and could be viewed as a lower bound of NH residents by 2030 due to limitations on program funds.

Any potential increase in the number of NH residents would be costly. The average NH facility daily reimbursement rate in FY 22-23 was $258/day for Medicaid, $376/day for a semi-private room (private pay) and $411/day for a private room (private pay).[15] Many Pennsylvania residents do not have adequate resources to cover that level of care and ultimately end up on Medicaid, with costs split between the state (current share: 44.91%) and federal (55.09%) governments.[16] The funds required to cover the rising costs of caring for the aging population will be a significant policy challenge for the remainder of the decade.

[12] Pennsylvania Bulletin. Vol. 52. Number 52. December 24, 2022. Pg. 8162.
[13] Due to limited information for residents under age 60 living in a NH, the pre-COVID population trend keeps the share of residents <60 and living in a NH at the 2023 levels. These age groups only account for around 7% of all NH residents. Therefore, this assumption does not have a material impact on the forecast.
[14] The unusually large decline in the share of residents residing in NHs from 2016 to 2017 was not representative of later trends. Therefore, the pre-COVID trend was calculated from 2017 to 2019.
[15] Based on the Pennsylvania DOH, Division of Health Informatics, Long Term Facilities Questionnaire, FY 2022-23, Report 2. Figures represent the approximate unweighted averages of 674 NHs within Pennsylvania (excludes outliers), and facility rates vary widely. The average Medicare reimbursement rate in FY 22-23 was $558/day (also varies widely based on facility), but generally only covers stays of up to 100 days per year and with restrictions.
[16] Neither Medicare (see prior footnote) nor private health insurance typically cover NH room and board costs beyond short-term stays needed to recover from physical injury or illness. Long-term care insurance can cover longer stays, but few people carry that coverage. The Medicaid state/federal shares are as of October 2024.

Figure 4.2
Scenarios of Nursing Home (NH) Residents



Notes: Black line is actual NH residents. (Covid impacted counts from 2020 to 2022.) Red line applies the 2023 population share by projected age group. Blue line applies the pre-Covid population share trend by projected age group.

Source: NH data: PA DOH, Division of Health Informatics, Long Term Care Facilities Questionnaire. Report 5. Various Years. 2024 data estimated by IFO. Forecasts of NH residents by the IFO.

Regional and National Population Trends

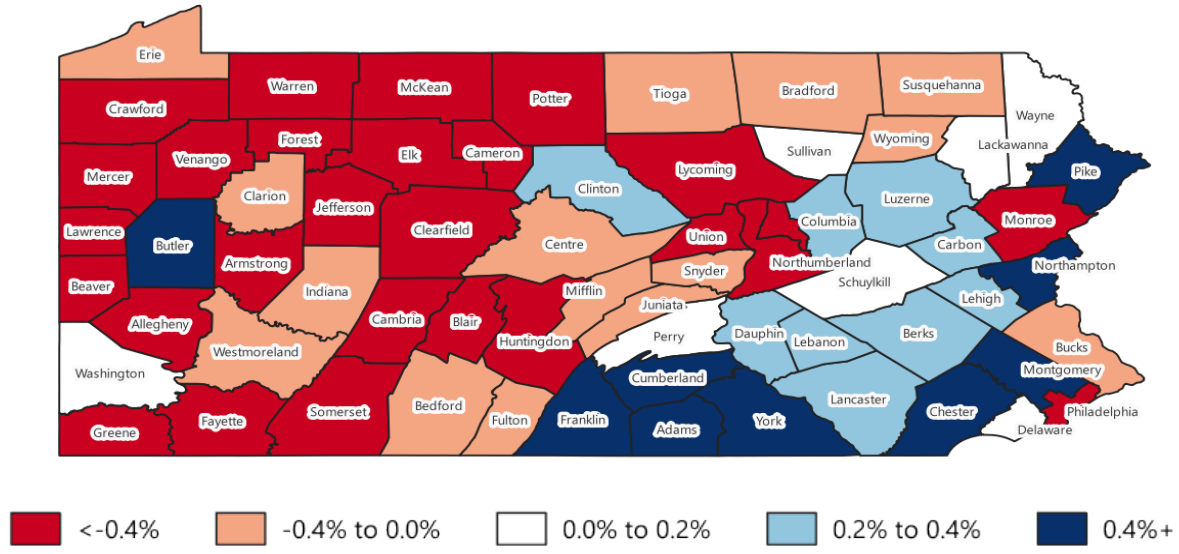
The following series of maps display notable, longer-term demographic trends at the county and national levels. Although state-level data are useful in the analysis of demographic trends, geographic detail provides policymakers context for these data and may assist in the development of policy solutions appropriate to certain regions of the state.

Pennsylvania County Population Growth

Figure 5.1 displays average annual population growth rates for all counties in Pennsylvania from the 2020 to 2023 U.S. Census Bureau population estimates. The following trends were observed:

- Less than half of Pennsylvania counties recorded population growth. Only two counties (Pike and Cumberland) recorded average annual population growth greater than 1.0%.
- The South Central (0.5% average growth per annum) region grew fastest, driven by Cumberland (1.3%), Adams (0.9%) and York (0.6%) counties.
- The Northern region recorded the lowest average annual growth (-0.6%), led by Forest (-2.5%) and Cameron (-1.1%) counties. Only one county in the region (Sullivan) recorded population growth.

Figure 5.1
Average Annual Population Growth: 2020 to 2023



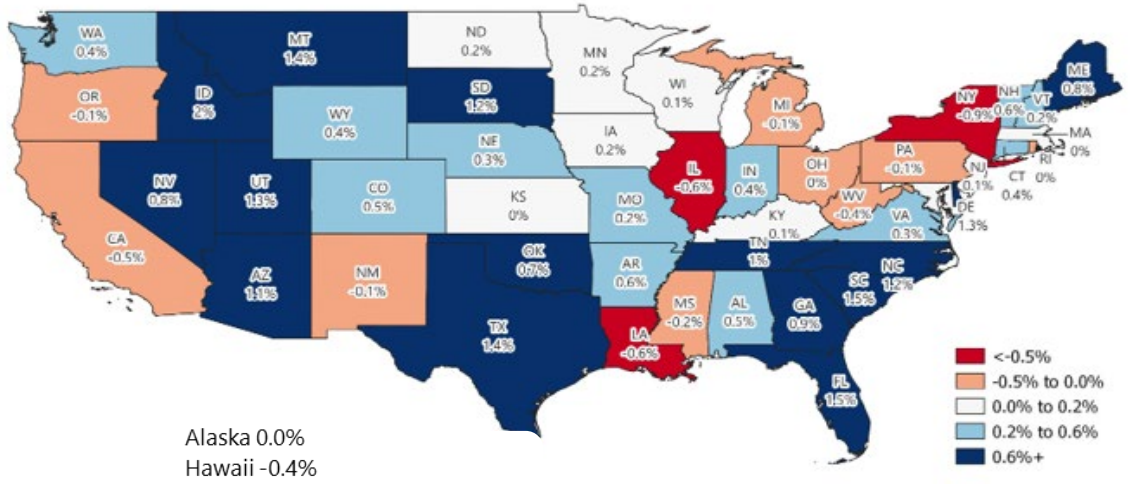
Source: U.S. Census Bureau, 2023 Vintage Population Estimates.

Population Growth Across States

Figure 5.2 displays average annual population growth across all states based on 2020 to 2023 population estimates. The following trends were observed:

- Pennsylvania (-0.1% per annum) and two border states contracted over the period: West Virginia (-0.4%) and New York (-0.9%).
- The Northeast region (-0.3% per annum) recorded the strongest contraction. The Midwest (-0.1%) region and 13 states (includes Pennsylvania) also contracted.
- The West recorded population growth (0.1% per annum) due to population growth in Idaho (2.0%), Montana (1.4%) and Utah (1.3%).
- Population growth in the Southeast region was primarily driven by strong gains in Florida (1.5%), South Carolina (1.5%) and North Carolina (1.2%).

Figure 5.2
Average Annual Population Growth: 2020 to 2023



Source: U.S. Census Bureau, Vintage 2023 Annual Estimates of the Resident Population.

Appendix

Pennsylvania Population Projections 2020 to 2030

Age	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
0-4	697	685	675	666	657	648	645	641	638	636	634
5-9	738	736	732	726	717	707	693	683	672	663	655
10-14	788	779	766	754	747	743	741	736	731	722	711
15-19	824	842	840	843	825	821	817	806	793	785	781
20-24	796	810	805	804	832	839	835	838	835	817	813
25-29	838	824	805	791	780	775	778	788	805	831	838
30-34	872	878	878	873	861	844	827	810	794	783	778
35-39	822	831	838	848	862	872	877	877	872	859	843
40-44	757	774	788	801	810	817	826	833	842	856	867
45-49	767	736	723	724	733	747	764	778	791	799	807
50-54	839	834	818	799	775	749	719	708	709	718	732
55-59	921	895	869	843	821	807	803	791	772	749	724
60-64	918	918	907	894	884	870	847	825	801	780	767
65-69	790	805	820	835	844	848	851	844	833	824	811
70-74	631	661	659	672	691	711	728	744	759	767	771
75-79	420	426	467	488	514	540	569	569	582	598	616
80-84	279	282	291	308	320	327	334	368	386	406	426
85-89	182	179	177	179	181	182	185	191	202	209	213
90-94	89	87	84	83	83	82	81	80	81	81	81
95-99	26	26	26	26	27	26	25	24	23	22	22
100+	4	4	4	4	5	6	7	7	7	7	7
Total	**12,995**	**13,014**	**12,972**	**12,962**	**12,965**	**12,960**	**12,951**	**12,941**	**12,929**	**12,914**	**12,895**

Note: Thousands of residents.

Source: Data from 2020 to 2023 from U.S. Census Bureau 2023 Vintage Population Estimates. 2024 through 2030 are projections by the IFO using data from the U.S. Census and U.S. CDC.