UMassAmherst

Donahue Institute

Economic and Public Policy Research

December 20. 2023

Massachusetts Brief Summary of U.S. Census Bureau Vintage 2023 Population Estimates

On December 19, 2023, the U.S. Census Bureau released annual population estimates for U.S. States and Puerto Rico for July 1, 2023. According to the release, "population trends are returning to pre-pandemic norms as the number of annual deaths (in the U.S.) decreased last year and migration reverted to patterns not seen since before 2020."

National Overview

According to the new <u>Vintage 2023 population estimates</u> released by the U.S. Census Bureau: "more states experienced population growth in 2023 than in any year since the start of the pandemic. This year's national population growth (0.5%) is still historically low but is a slight uptick from the 0.4% increase in 2022 and the 0.2% increase in 2021. U.S. migration returning to pre-pandemic levels and a drop in deaths are driving the nation's growth.... Although births declined, this was tempered by the near 9% decrease in deaths. Ultimately, fewer deaths paired with rebounding immigration resulted in the nation experiencing its largest population gain since 2018."

Massachusetts Overview

Massachusetts also gained in population from July 1 2022 to 2023, reversing a pattern of population loss that had been observed since the 2020 Census count and restoring the state population to over 7 million for the first time since 2020. The state population increased by 18,659 over the year, from 6,982,740 to 7,001,399, for a percentage increase of 0.27%.

The turnaround in the Massachusetts population trend reflects the cumulative effects of births, deaths, migration, and immigration returning to or starting to return to pre-pandemic levels. While in 2020 births hit a low point and deaths were exacerbated due to the pandemic, both components started to rebound in 2021 and have been holding fairly steady since. In 2023, Massachusetts saw more births than deaths, contributing 6,983, on net, to the population growth in Massachusetts. And while the state continued to lose population through domestic migration (to other parts of the U.S.), the number of people moving out on net was reduced; 39,149 net persons moved out from 2022 to 2023 compared to 56, 813 the year before. Finally,

¹ U.S. Population Trends Return to Pre-Pandemic Norms as More States Gain Population, Press Release Number CB23-217, U.S. Census Bureau, December 19, 2023

immigration to Massachusetts rebounded to levels not seen since 2017, with 50,647 net international migrants joining the state population and offsetting the domestic loss, for a net positive of 11,498 in total net migration.

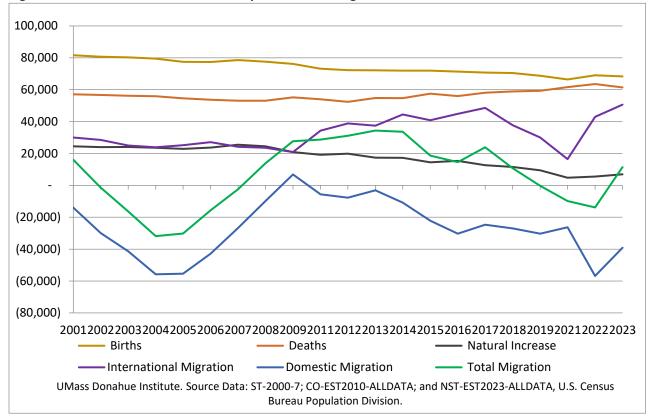


Figure 1. Massachusetts Estimated Components of Change 2021-2023*

Regional Comparisons

While Massachusetts' annual growth from 2022 to 2023 of 0.27% was slower than the U.S. average of 0.49%, the state grew more rapidly than the Northeast average (-0.08%), New England (0.26%), and the Midwest and Western regions of the U.S. (0.18% and 0.17%, respectively.) The state ranked 22nd in total population change and 31st in percent population change from July 1, 2022 to July 1, 2023, and 43rd in cumulative percent population change since the 2020 Census. It maintained its rank as the 16th most populous state in the U.S. (out of 50 states plus District of Columbia).

The tables and figures below show the estimated Massachusetts percent population change, for the single year 2022 to 2023 (Figure 2) and cumulatively since the 2020 Census count, along with other U.S. states and regions.

^{*}Note that the Census Bureau provides only 3 months of component estimates for years 2010 and 2020. These years are excluded from the time-series chart above.

0.4% 0.6% 0.9% 0.4% 0.1% 0.5% 0.3% 1.0% 0.2% 0.4% 0.5% -0.1% 0.4% 0.5% 0.6% 0.1% 0.3% 0.4% 0.9% 0.9% 0.0% 0.0% 0.7% 1.1% District of Columbia 1.6% Percent Change July 1, 2022 - July 1, 2023 1.0% - 1.99% < 0.0% 0.0% 0.0% - 0.49% >= 2.0% -0.3% 0.5% - 0.99% United States: 0.49% growth

Figure 2. Annual Percent Change in Population, July 1, 2022 to July 1, 2023

UMass Donahue Institute. Source data: NST-EST2023-POPCHG2020-2023. U.S. Census Bureau Population Division. December. 19, 2023.

Table 1. Population for United States, U.S. Regions, and Northeast States, April 1, 2020 to July 1, 2023

Geography	Estimates Base April 1, 2020	Estimate July 1, 2020	Estimate July 1, 2021	Estimate July 1, 2022	Estimate July 1, 2023	National Rank Population 2023
United States	331,464,948	331,526,933	332,048,977	333,271,411	334,914,895	X
Northeast Region	57,614,141	57,430,477	57,243,423	57,026,847	56,983,517	4
Midwest Region	68,987,296	68,969,794	68,850,246	68,783,028	68,909,283	3
South Region	126,268,529	126,465,281	127,353,282	128,702,030	130,125,290	1
West Region	78,594,982	78,661,381	78,602,026	78,759,506	78,896,805	2
Connecticut	3,605,912	3,577,586	3,603,691	3,608,706	3,617,176	29
Maine	1,363,177	1,364,517	1,378,787	1,389,338	1,395,722	42
Massachusetts	7,032,933	6,997,713	6,991,951	6,982,740	7,001,399	16
New Hampshire	1,377,524	1,378,702	1,387,494	1,399,003	1,402,054	41
New Jersey	9,289,039	9,272,392	9,269,175	9,260,817	9,290,841	11
New York	20,202,320	20,104,710	19,854,526	19,673,200	19,571,216	4
Pennsylvania	13,002,788	12,995,477	13,013,614	12,972,091	12,961,683	5
Rhode Island	1,097,371	1,096,444	1,097,092	1,093,842	1,095,962	44
Vermont	643,077	642,936	647,093	647,110	647,464	50

UMass Donahue Institute. Source data: NST-EST2023-POPCHG2020-2023. U.S. Census Bureau Population Division. December. 19, 2023.

Table 2. Population Change for United States, U.S. Regions, and Northeast States: Single Year July 1, 2022 to July 1, 2023 and Cumulative April 1, 2020 to July 1, 2023

Geography	Single Year Population Change July 1, 2022 to July 1, 2023	Rank Single Year Population Change July 1, 2022 to July 1, 2023	Cumulative Population Change April 1, 2020 to July 1, 2023	Rank Cumulative Population Change April 1, 2020 to July 1, 2023
United States	1,643,484	Χ	3,449,947	Х
Northeast Region	(43,330)	4	(630,624)	4
Midwest Region	126,255	3	(78,013)	3
South Region	1,423,260	1	3,856,761	1
West Region	137,299	2	301,823	2
Connecticut	8,470	30	11,264	29
Maine	6,384	33	32,545	22
Massachusetts	18,659	22	(31,534)	45
New Hampshire	3,051	37	24,530	24
New Jersey	30,024	13	1,802	35
New York	(101,984)	51	(631,104)	51
Pennsylvania	(10,408)	47	(41,105)	47
Rhode Island	2,120	39	(1,409)	37
Vermont	354	42	4,387	32

UMass Donahue Institute. Source data: NST-EST2023-POPCHG2020-2023. U.S. Census Bureau Population Division. December. 19, 2023.

Table 3. Percent Population Change for United States, U.S. Regions, and Northeast States: Single Year July 1, 2022 to July 1, 2023 and Cumulative April 1, 2020 to July 1, 2023

Geography	Single Year Percent Population Change July 1, 2022 to July 1, 2023	Rank Single Year Percent Population Change July 1, 2022 to July 1, 2023	Cumulative Percent Population Change April 1, 2020 to July 1, 2023	Rank Cumulative Percent Population Change April 1, 2020 to July 1, 2023
United States	0.49%	Х	1.04%	Х
Northeast Region	-0.08%	4	-1.09%	4
Midwest Region	0.18%	2	-0.11%	3
South Region	1.11%	1	3.05%	1
West Region	0.17%	3	0.38%	2
Connecticut	0.23%	33	0.31%	31
Maine	0.46%	21	2.39%	14
Massachusetts	0.27%	31	-0.45%	43
New Hampshire	0.22%	36	1.78%	18
New Jersey	0.32%	28	0.02%	35
New York	-0.52%	51	-3.12%	51
Pennsylvania	-0.08%	44	-0.32%	41
Rhode Island	0.19%	37	-0.13%	39
Vermont	0.05%	39	0.68%	25

UMass Donahue Institute. Source data: NST-EST2023-POPCHG2020-2023. U.S. Census Bureau Population Division. December. 19, 2023.

Cumulative Change

Population in the U.S. increased overall from 2022 to 2023, and Massachusetts was among the seven out of nine Northeast states that gained population over the last year. However, cumulatively since the 2020 Census, Massachusetts has lost population along with three other Northeast States, including New York, Pennsylvania, and Rhode Island. According to the latest estimates, while the Massachusetts population increased by 18,659, or 0.27% over the year, since the last Census count on April 1, 2020, the state population decreased by 31,534, down from 7,032,933. This 0.45% cumulative decrease is more substantial than most other Northeast states except New York, which decreased by 3.12% over the same period (Tables 1-3).

The Northeast Region decreased by 1.09% since the 2020 Census count, compared to the 0.45% decrease estimated in Massachusetts. States in the Northeast with estimated increased population since the 2020 Census include Connecticut, Maine, New Hampshire, New Jersey, and Vermont, each increasing by less than 2.5% cumulatively. These estimates reflect a shift in domestic migration observed in the early years following the pandemic in 2020, with more rural places generally experiencing increased domestic in-migration and more urban areas generally experiencing more domestic out-migration coupled with decreasing net international migration. Meanwhile, the South and the West increased in population since 2020, as has been the trend for many years, as the U.S. population gradually moves south and west over time.

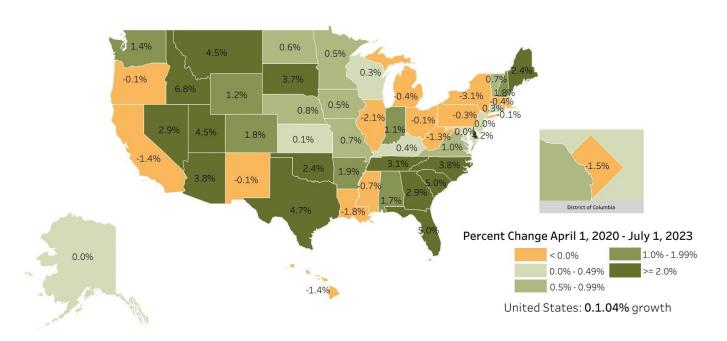


Figure 3. Cumulative Percent Change in Population, April 1, 2020 to July 1, 2023 by State

UMass Donahue Institute. Source data: NST-EST2023-POPCHG2020-2023. U.S. Census Bureau Population Division. December 19, 2023.

While Massachusetts lost population cumulatively since 2020, the last *10-year*, or Census-to-Census, decrease seen in Massachusetts was recorded between 1810 and 1820. The state has continued to grow from Census to Census ever since and has grown cumulatively since the 2010 Census. Figure 4, below, shows the estimated Massachusetts population from 2000 through 2023.

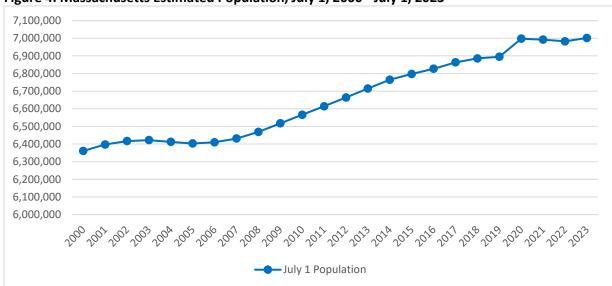


Figure 4. Massachusetts Estimated Population, July 1, 2000 - July 1, 2023

UMass Donahue Institute. Source data: ST-EST00INT-01 and NST-EST2023-ALLDATA. U.S. Census Bureau, Population Division. Release dates: September 2011 and December 2023.

Long-Term Trends

While the Massachusetts population estimates show loss for each year following the Census 2020 count except for the current 2023 population estimate, the 2021 population estimate marked the first single-year decrease in the state population since the years 2004 and 2005, when the population in the state decreased by 0.16% and 0.14%, respectively, before rebounding again in 2006. From 2001 to 2004, Massachusetts' growth rates, along with the Northeast rates, were declining, and only turned around after 2005, due in part to a reversal of domestic out-migration. Starting in 2007, the Massachusetts annual growth rate overtook the Northeast rate, at 0.5% for Massachusetts compared to 0.3% for the Northeast for that year. Massachusetts' annual percentage growth remains higher than the Northeast average in the 2021, 2022, and 2023 vintage estimates (Figure 4).

In the decade from 2000 to 2010, the average growth for Massachusetts was about 0.31% per year, with an average population increase of about 19,827 per year. From Census 2010 to 2020, Massachusetts increased its population by an average of about 0.74% per year, or 48,229 persons per year. Cumulatively from Census 2010 to July 1, 2023, the Massachusetts population increased by an estimated average of 34,247 per year, or 0.52% per year according to the V2023 estimates.

Figure 5 below shows the estimated annual percent change in population for the United States, U.S. Regions, and Massachusetts from 2010 through 2023. The graph shows that before the 2020 count, growth in the U.S., both on average and in each of its regions, was gradually slowing. Reasons for this include both an overall aging population -- resulting in increasing deaths and decreasing births -- and decreasing international immigration. However, 2020 saw peaks in growth for the Northeast, Midwest, and U.S. before those peaks plummeted and returned to the previous pattern of declining growth rates. Only the Southern region of the U.S. experienced a growth rate that was higher in 2021, 2022, and 2023 than it was in 2020.

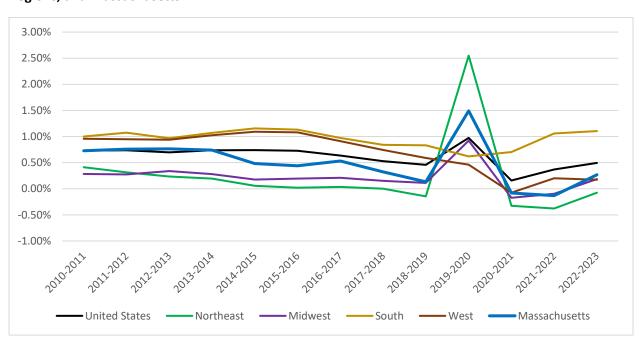


Figure 5. Estimated Annual Percent Change in Population 2010-2023 for the United States, U.S. Regions, and Massachusetts

UMass Donahue Institute. Source data: NST-EST2020 and NST-EST2023-ALLDATA. U.S. Census Bureau, Population Division. Release dates: December 2020 and December 2023.

Components of Change

The U.S. Census Bureau produces revised population estimates each year by adding updated components of change to the Census 2020 base. These components include both births and deaths, which together constitute the natural increase. They also include net domestic migration (migration to and from other states within the U.S.) and net international migration (migration to and from other countries) which sum to the total net migration. A fifth component, the group quarters population, is factored into the estimates base for the previous year but is not broken out as a separate number in the Bureau's published release.

The Vintage 2023 estimates are significant for Massachusetts in that they show the highest levels of immigration seen since at least the year 2000, deaths returning to pre-pandemic

trends, and births remaining steady. According to the U.S. Census estimates, from July 1, 2022 to July 1, 2023, Massachusetts experienced 68,387 births and 61,404 deaths, for a *net natural increase* of 6,983. At the same time, Massachusetts experienced a net outflow of 39,149 persons to other states in the U.S. and a net inflow of 50,647 persons from other countries, for net positive *total migration* of 11,498 persons. Figure 6 displays the extent to which the net gain in total migration combined with the net gain in natural increase, resulting in net population gain in Massachusetts during this period.

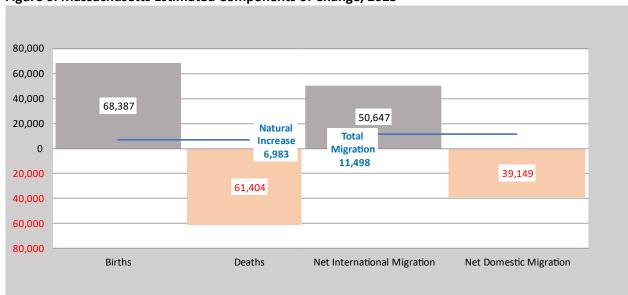


Figure 6. Massachusetts Estimated Components of Change, 2023

UMass Donahue Institute. Source: U.S. Census Bureau, Population Division, NST-EST2023-ALLDATA, December 19, 2023.

Components of Change: Trends 2000-2023

Massachusetts has long experienced, to varying degrees, component patterns similar to those seen above. Figure 7 below shows the trends in these components from 2000 through 2023. Note that years 2010 and 2020 are excluded from this graph for display purposes, as the Census Bureau provides only 3-months of component estimates for those years (from April 1 to July 1.)

A greater number of births over deaths and positive international migration offsetting negative domestic migration all contributed to an overall increase in population in most years in the 2001-2020 period. Domestic out-migration from Massachusetts peaked in the middle of the aughts with an estimated net outflow of 55,788 persons leaving Massachusetts for other parts of the United States in 2004. This outflow was reduced significantly in 2007 (by 52%) and again in 2008 (by 63%), and then finally reversed to a positive in-flow in 2009, with an estimated 6,843 net persons moving into Massachusetts from other U.S. states.

In the years since 2010, domestic migration reverted to a negative value again. The domestic outflow surpassed the 2004 peak in 2022 at an estimated 56,813 persons net but that number has been reduced to 39,149 in 2023. At the same time, estimated international immigration into the state fell off sharply between 2017, when it peaked at 48,583, and 2021, when it hit a

low point of just 16,476. Notably, 2019 marked the first year since 2007 when international immigration was not great enough to offset all domestic outmigration, such that total migration summed to a net outflow of 316 persons. This trend continued through 2022 before reversing to positive net migration in 2023. Net international migration in Massachusetts reached a new peak in 2023 at 50,647 international migrants, offsetting the domestic outmigration for the year. Together, the domestic and international migration components sum to a total net inflow of 11,498 persons.

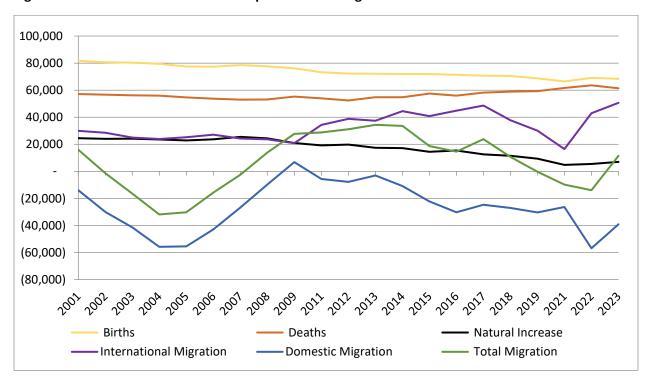


Figure 7. Massachusetts Estimated Components of Change 2001-2023

UMass Donahue Institute. Source Data: ST-2000-7; CO-EST2010-ALLDATA; and NST-EST2023-ALLDATA, U.S. Census Bureau Population Division.

Components of Change: Regional and State Comparisons

An examination of the components-of-change data begins to answer the question of why some states or regions are racing ahead in growth while others lag behind. The 2023 estimated components data, as shown below in Table 4, suggests that Massachusetts and most other Northeastern states (all but New York) saw positive *total migration* with positive international migration offsetting domestic out-migration in five of those states, including Massachusetts. In the Southern Region of the U.S. both births and domestic in-migration lead to stronger population growth and in the West Region, the natural increase of births over deaths outweighed a small decrease in total migration for a positive population increase. The Midwest region saw a population increase as a result of both positive natural increase and strong international migration numbers that outweighed its domestic out-migration.

Table 4. Estimated Components of Change for the United States, U.S. Regions, and Northeast States, 2023

		Vital Events		Migration		
Geography	Births	Deaths	Natural	International	Domestic	Total Net
			Increase	Migration	Migration	Migration
United States	3,653,356	3,148,861	504,495	1,138,989	(X)	1,138,989
Northeast Region	581,516	525,863	55,653	225,009	-323,300	-98,291
Midwest Region	746,365	700,527	45,838	165,910	-85,729	80,181
South Region	1,485,069	1,267,727	217,342	499,880	706,266	1,206,146
West Region	840,406	654,744	185,662	248,190	-297,237	-49,047
Connecticut	34,957	32,842	2,115	15,264	-9,016	6,248
Maine	11,945	16,998	-5,053	2,209	9,216	11,425
Massachusetts	68,387	61,404	6,983	50,647	-39,149	11,498
New Hampshire	12,155	14,264	-2,109	859	4,298	5,157
New Jersey	102,055	76,563	25,492	49,298	-44,666	4,632
New York	207,450	165,914	41,536	73,867	-216,778	-142,911
Pennsylvania	129,489	140,568	-11,079	25,776	-24,825	951
Rhode Island	10,006	10,434	-428	5,777	-3,224	2,553
Vermont	5,072	6,876	-1,804	1,312	844	2,156

UMass Donahue Institute. Source U.S. Census Bureau Population Division NST_EST2023_ALLDATA. Release Date December 19, 2023.

Massachusetts was one of seven out of nine Northeast states that gained population during the period from July 1, 2022 to July 1, 2023. Other than Massachusetts, Connecticut, New York and New Jersey, the number of deaths exceeded births in all Northeastern states during this time. According to the Census Bureau release, Massachusetts was one of 32 states in total that experienced a greater number of births over deaths in the 2023 period.

In terms of migration, Massachusetts has a long history of positive and robust international migration offsetting loss from domestic out-migration (people moving from Massachusetts to other U.S. States). While international migration had started to fall off dramatically after 2017 (see Figure 7), the biggest factor in population loss in the 2021 and 2022 components was the massive effect of domestic out-migration. However, 2023 has seen a reversal of this trend and net international migration has overtaken domestic out-migration for the first time since 2018, leading to a positive total migration of 11,498. The Census Bureau reports that international immigration also increased at the national level and that the Southern Region of the U.S. experienced positive net domestic migration, while the Northeast, Midwest, and West lost population on the domestic front.

Components-of-Change Rates: Regional and State Comparisons

Another way to compare this data over different geographies is to first convert it to a rate –so that larger and smaller geographies can be evaluated together. Table 5 below shows the rate

per 1,000 persons of each change component for the United States, U.S. Regions, and the Northeast States, including Massachusetts.

Table 5. Estimated Components of Change Rates for the United States, U.S. Regions, and Northeast States, 2023

	Vital Events Migration					
Geography	Births	Deaths	Natural Increase	International Migration	Domestic Migration	Total Net Migration
United States	10.9	9.4	1.5	3.4	(X)	3.4
Northeast Region	10.2	9.2	1.0	3.9	(5.7)	(1.7)
Midwest Region	10.8	10.2	0.7	2.4	(1.2)	1.2
South Region	11.5	9.8	1.7	3.9	5.5	9.3
West Region	10.7	8.3	2.4	3.1	(3.8)	(0.6)
Connecticut	9.7	9.1	0.6	4.2	(2.5)	1.7
Maine	8.6	12.2	(3.6)	1.6	6.6	8.2
Massachusetts	9.8	8.8	1.0	7.2	(5.6)	1.6
New Hampshire	8.7	10.2	(1.5)	0.6	3.1	3.7
New Jersey	11.0	8.3	2.7	5.3	(4.8)	0.5
New York	10.6	8.5	2.1	3.8	(11.0)	(7.3)
Pennsylvania	10.0	10.8	(0.9)	2.0	(1.9)	0.1
Rhode Island	9.1	9.5	(0.4)	5.3	(2.9)	2.3
Vermont	7.8	10.6	(2.8)	2.0	1.3	3.3

UMass Donahue Institute. Source U.S. Census Bureau Population Division NST_EST2023_ALLDATA. Release Date December 19, 2023. Rates per 1,000 average population.

These estimated component rates indicate that Massachusetts births are occurring at a lower rate (9.8 per 1,000 average population) than in the United States as a whole (10.9) and each U.S. region on average (Table 5). Deaths in Massachusetts are also occurring at a lower rate (8.8) than the U.S. (9.4) and all other regions of the U.S. except the West (8.3). Taken together, these vital events lead to a natural increase rate (1.0) that is below that of the U.S. on average (1.5) and each of its regions, but above the Midwest (0.7) and on par with the Northeast average (1.0). Notably, Massachusetts has a higher natural increase rate than all other states in the Northeast except for New Jersey and New York.

As for migration, the Northeast, Midwest, and West regions all experienced net domestic outmigration (-5.7, -1.2, and -3.8 per 1,000 population, respectively) while the Southern region has positive domestic migration (5.5). The domestic migration rate of -5.6 in Massachusetts is slightly less than the Northeast regional average of -5.7 and indicates net domestic outmigration, most likely to Southern states. On the other hand, the international migration rate of 7.2 for Massachusetts is more than double that of the U.S. average (3.4). As of 2023, the Census estimates indicate that Massachusetts has the third highest rate of annual net international immigration per 1,000 population and trails only the District of Columbia and Florida (Table 6). In terms of the number of net immigrants, Massachusetts ranked fifth in the

2023 estimates (Table 7). In terms of domestic migration, however, Massachusetts ranked 46th. Only Louisiana, Illinois, Alaska, Hawaii, California, and New York lost more domestic migrants per 1,000 population than Massachusetts between July 1 2022 and July 1 2023.

Table 6. States With Highest Net International Immigration Rates, 2023

	Rate of Net	
State	International	Ranking
	Immigration	
District of Columbia	10.3	1
Florida	8.0	2
Massachusetts	7.2	3
Maryland	5.3	4
New Jersey	5.3	5
Rhode Island	5.3	6
Texas	4.2	7
Connecticut	4.2	8
California	3.9	9
New York	3.8	10
Washington	3.7	11
Virginia	3.2	12
Illinois	3.2	13
Hawaii	3.2	14
Utah	3.0	15

UMass Donahue Institute. Source U.S. Census Bureau Population Division NST_EST2023_ALLDATA. Release Date December 19, 2023. Rates per 1,000 average population. State rankings include District of Columbia.

Table 7. States With the Highest Net International Immigration, 2023

State	Net International Immigrants	Ranking
Florida	178,432	1
California	150,982	2
Texas	128,534	3
New York	73,867	4
Massachusetts	50,647	5
New Jersey	49,298	6
Illinois	40,492	7
Maryland	32,977	8
Georgia	30,119	9
North Carolina	29,448	10
Washington	28,919	11
Virginia	28,117	12
Ohio	28,081	13
Pennsylvania	25,776	14
Michigan	22,817	15

UMass Donahue Institute. Source U.S. Census Bureau Population Division NST_EST2023_ALLDATA. Release Date December 19, 2023. State rankings include District of Columbia.

Figure 8 demonstrates the magnitude of each of the components of population change, graphing component rates by U.S. region. Births represent the component with the greatest influence on population change for all four regions of the United States. Deaths are the second most influential component in all of the U.S. regions. International migration is weighted to the West, South, and Northeast, while domestic migration adds notably to the South, with losses in the Midwest, West, and especially the Northeast.

West Region

West Region

Midwest Region

Midwest Region

South Region

Births Deaths International Migration Domestic Migration ----- 0

UMass Donahue Institute. Source Data: U.S. Census Bureau, Population Division,

Figure 8. Rates of Estimated Components of Change by U.S. Region, 2023

Additional Information and estimates data can be found on the U.S. Census Bureau's website at https://www.census.gov/programs-surveys/popest.html

NST_EST2023_ALLDATA. Release Date December 19, 2023.

Additional UMass Donahue Institute Massachusetts summaries of U.S. Census Bureau releases can be accessed at http://www.donahue.umass.edu/business-groups/economic-public-policy-research/massachusetts-population-estimates-program/population-estimates-by-massachusetts-geography

Summary prepared by:

Susan Strate, Senior Manager, Population Estimates Program Denis McAuliffe, Research Analyst Chris Diaz, Research Analyst II