

Summary of the U.S. Census Bureau's 2019 County-Level Population and Component Estimates for Massachusetts

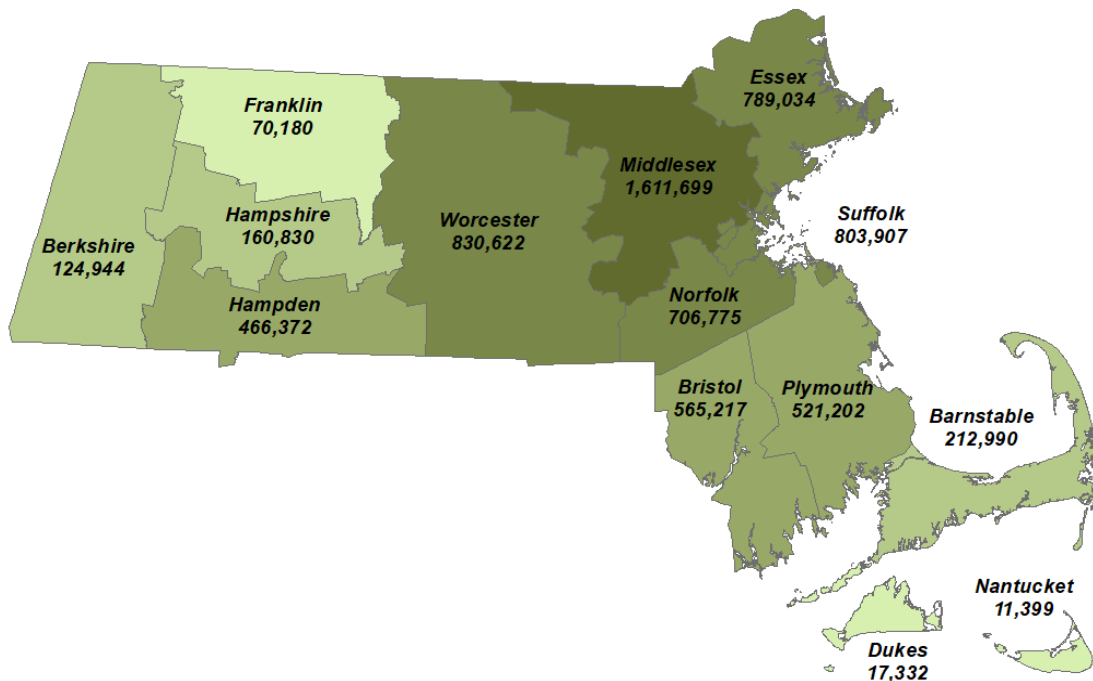
Prepared by:

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For Release: March 26, 2020

On March 26, 2020, the U.S. Census Bureau released population estimates for July 1, 2010 through July 1, 2019 for Massachusetts and U.S. counties. These estimates are based on the demographic *components of change* since Census 2010, including births and deaths, domestic and international migration, and the group quarters population for each county. To go directly to the U.S. Census estimates page, go to: <https://www.census.gov/programs-surveys/popest/data/data-sets.html>.

Figure 1: Estimated Population by Massachusetts County, July 1, 2019



UMass Donahue Institute. Source data: Annual Estimates of the Resident Population April 1, 2010 to July 1, 2019. U.S. Census Bureau, Population Division. March 26, 2020

County Population Change: Single-Year Change 2018-2019

According to the new county-level population estimates released by the U.S. Census Bureau, the greatest numerical increases in Massachusetts counties from July 1, 2018 to July 1, 2019 were seen in Norfolk County at 3,545 net persons gained; Middlesex at 3,229; and Plymouth at 2,780. Worcester County was the fourth fastest grower again this year with 1,568 persons added net. In terms of percentage change, the largest net gains were in Nantucket at 1.8% followed by Plymouth and Norfolk – both rounding to 0.5%, and then Middlesex, Bristol, and Worcester – each rounding to a 0.2% increase from 2018 to 2019. Note again that in the case of Nantucket, its small overall size leads to large changes percentage-wise.

Nantucket and Plymouth counties increased their populations through a combination of more births than deaths, and positive gains in both domestic migration and immigration. Norfolk County also experienced more births than deaths in the 2018-2019 year and, although its net domestic migration was in the negative, net immigration to the county offset this loss.

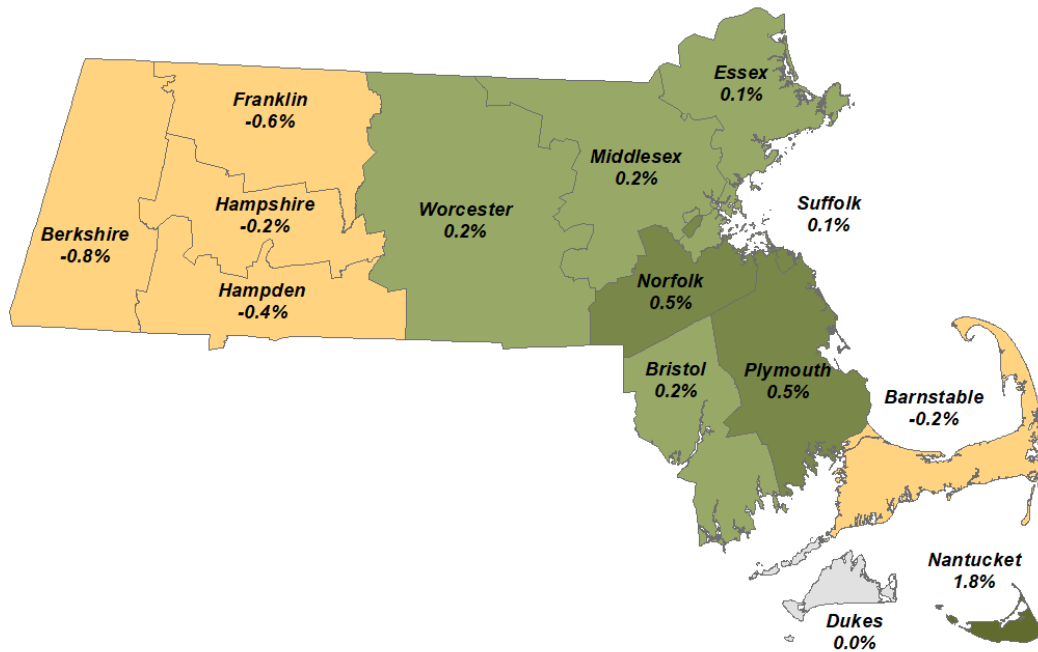
The slowest growing counties in the 2018-2019 period were Berkshire, with population change of -0.8%, or an estimated 957-person net loss; Franklin, with a 431-person net loss (-0.6% change); and Hampden, with an estimated loss of 2,016 persons, or -0.4%. Berkshire and Franklin counties, both with older age profiles than the state average, experienced a greater number of deaths over births in 2018-2019 year, while Hampden county lost population due to net domestic out-migration.

Table 1 below shows county population estimates, change, and rankings for the July 1, 2018 and July 1, 2019 estimates years, while the following map (Figure 2) displays the annual percent change.

Geography	July 1 Population Estimate		Change 2018 to 2019		Rank Change 2018 to 2019	
	2018	2019	Number	Percent	Number	Percent
Massachusetts	6,882,635	6,892,503	9,868	0.1%	(X)	(X)
Barnstable	213,471	212,990	-481	-0.2%	12	11
Berkshire	125,901	124,944	-957	-0.8%	13	14
Bristol	564,092	565,217	1,125	0.2%	5	5
Dukes	17,329	17,332	3	0.0%	9	9
Essex	788,183	789,034	851	0.1%	6	7
Franklin	70,611	70,180	-431	-0.6%	11	13
Hampden	468,388	466,372	-2,016	-0.4%	14	12
Hampshire	161,139	160,830	-309	-0.2%	10	10
Middlesex	1,608,470	1,611,699	3,229	0.2%	2	4
Nantucket	11,198	11,399	201	1.8%	8	1
Norfolk	703,230	706,775	3,545	0.5%	1	3
Plymouth	518,422	521,202	2,780	0.5%	3	2
Suffolk	803,147	803,907	760	0.1%	7	8
Worcester	829,054	830,622	1,568	0.2%	4	6

UMass Donahue Institute. Source: Annual Estimates of the Resident Population: April 1, 2010 to July 1, 2019 (CO-EST2019-ANNCHG-25), U.S. Census Bureau, Population Division, March 26, 2020.

Figure 2: Estimated Annual Percent Change in Population by Massachusetts County, July 1, 2018 to July 1, 2019



UMass Donahue Institute. Source data: Annual Estimates of the Resident Population April 1, 2010 to July 1, 2019. U.S. Census Bureau, Population Division. March 26, 2020

County Population Change: Cumulative Change 2010-2019

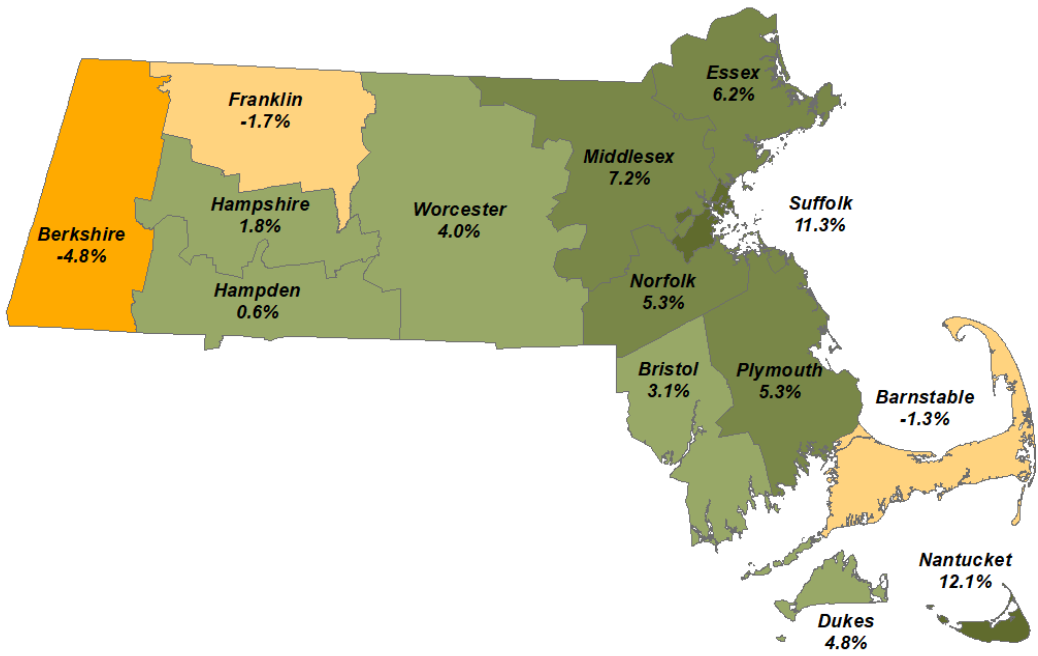
While “single-year change” refers to estimated growth or decline between July 1 of one estimates year to July 1 of the next, “cumulative change” measures the total net change since the last Census count date of April 1, 2010.

Table 2, below, shows county population estimates, cumulative change, and rankings from the April 1, 2010 base to the July 1, 2019 estimate, while the map (Figure 3) displays the cumulative percentage change for each county from Census 2010 to the July 1, 2019 estimate. According to these estimates, Nantucket County has been growing the fastest, in terms of percentage growth, since the last Census at 12.1%, followed by Suffolk at 11.3% and Middlesex at 7.2%. By number of people, Middlesex County leads the state, growing by 108,566 since 2010, followed by Suffolk at 81,724 and Essex at 45,952. Note again that in the case of Nantucket, its small overall size leads to large changes percentage-wise.

Table 2. Cumulative Estimates of Resident Population Change and Rankings for Massachusetts Counties April 1, 2010 to July 1, 2019						
Geography	Population Estimates		Change, 2010 to 2019		Rank Change	
	April 1, 2010	July 1, 2019	Number	Percent	By Number	By Percent
Massachusetts	6,547,785	6,892,503	344,718	5.3%	(X)	(X)
Barnstable	215,880	212,990	-2,890	-1.3%	13	12
Berkshire	131,274	124,944	-6,330	-4.8%	14	14
Bristol	548,242	565,217	16,975	3.1%	7	9
Dukes	16,535	17,332	797	4.8%	11	7
Essex	743,082	789,034	45,952	6.2%	3	4
Franklin	71,381	70,180	-1,201	-1.7%	12	13
Hampden	463,615	466,372	2,757	0.6%	9	11
Hampshire	158,063	160,830	2,767	1.8%	8	10
Middlesex	1,503,133	1,611,699	108,566	7.2%	1	3
Nantucket	10,172	11,399	1,227	12.1%	10	1
Norfolk	670,910	706,775	35,865	5.3%	4	5
Plymouth	494,932	521,202	26,270	5.3%	6	6
Suffolk	722,183	803,907	81,724	11.3%	2	2
Worcester	798,383	830,622	32,239	4.0%	5	8

UMass Donahue Institute. Source: Annual Estimates of the Resident Population: April 1, 2010 to July 1, 2019 (CO-EST2019-CUMCHG-25), U.S. Census Bureau, Population Division, March 26, 2020.

Figure 3: Estimated Cumulative Percent Change in Population by Massachusetts County, July 1, 2018 -2019



UMass Donahue Institute. Source data: Annual Estimates of the Resident Population April 1, 2010 to July 1, 2019. U.S. Census Bureau, Population Division. March 26, 2020

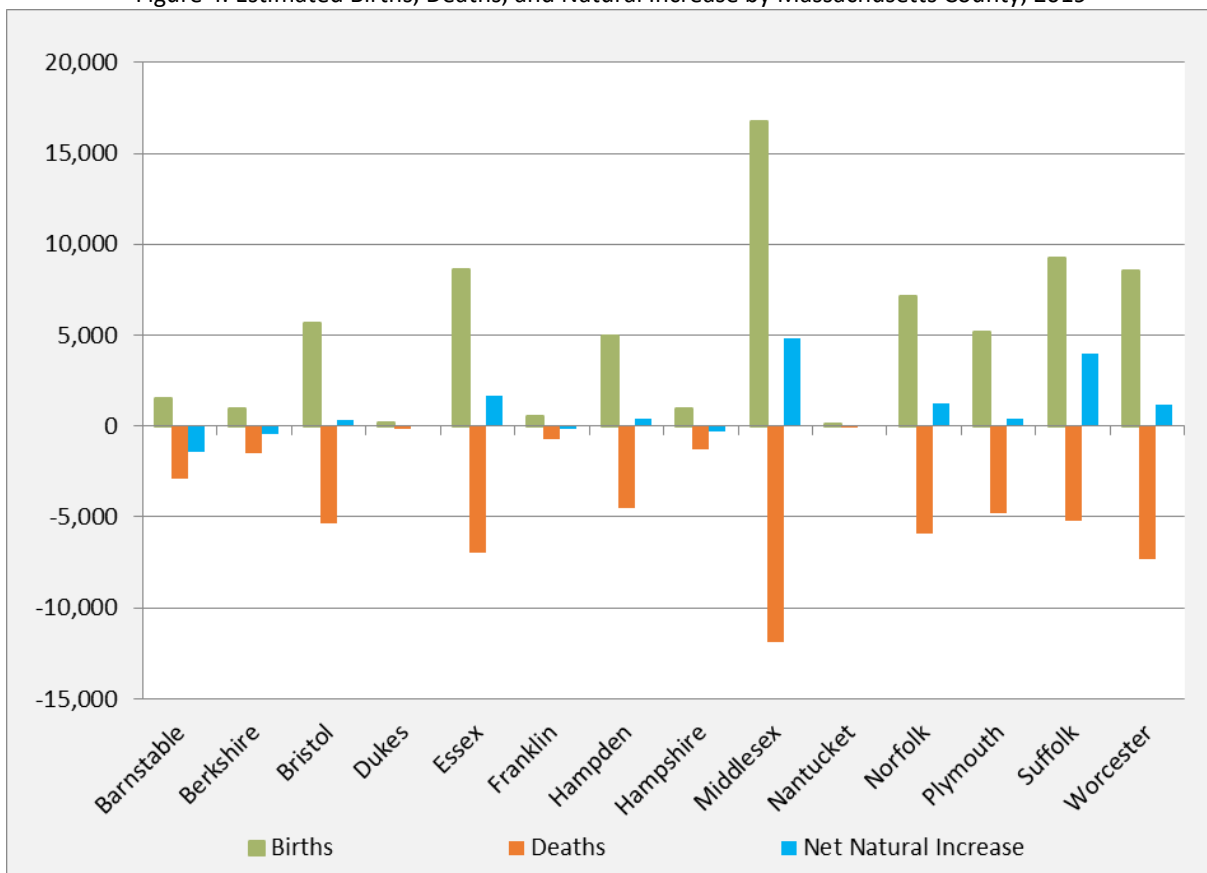
Components of Change

County-level estimates are produced by the U.S. Census Bureau using the latest data available for the various components of change, which include births and deaths, domestic migration (within the United States) and international migration, and the group quarters population for each county. The following section describes changes in the Massachusetts county-level population estimates due to births, deaths, and migration.

Natural Increase

Natural increase is the net change in population after births and deaths are added together. The following chart (Figure 4) shows the estimated number of births, deaths, and the resulting net natural increase in each county for the period of July 1, 2018 to July 1, 2019. Note that in counties with a greater number of births compared to deaths, such as Middlesex and Suffolk, we see a positive net natural increase and stronger population growth. In counties where the number of deaths outweighs the number of births, such as Barnstable and Berkshire, we see negative values for net natural increase and either very minimal population growth or decline.

Figure 4. Estimated Births, Deaths, and Natural Increase by Massachusetts County, 2019



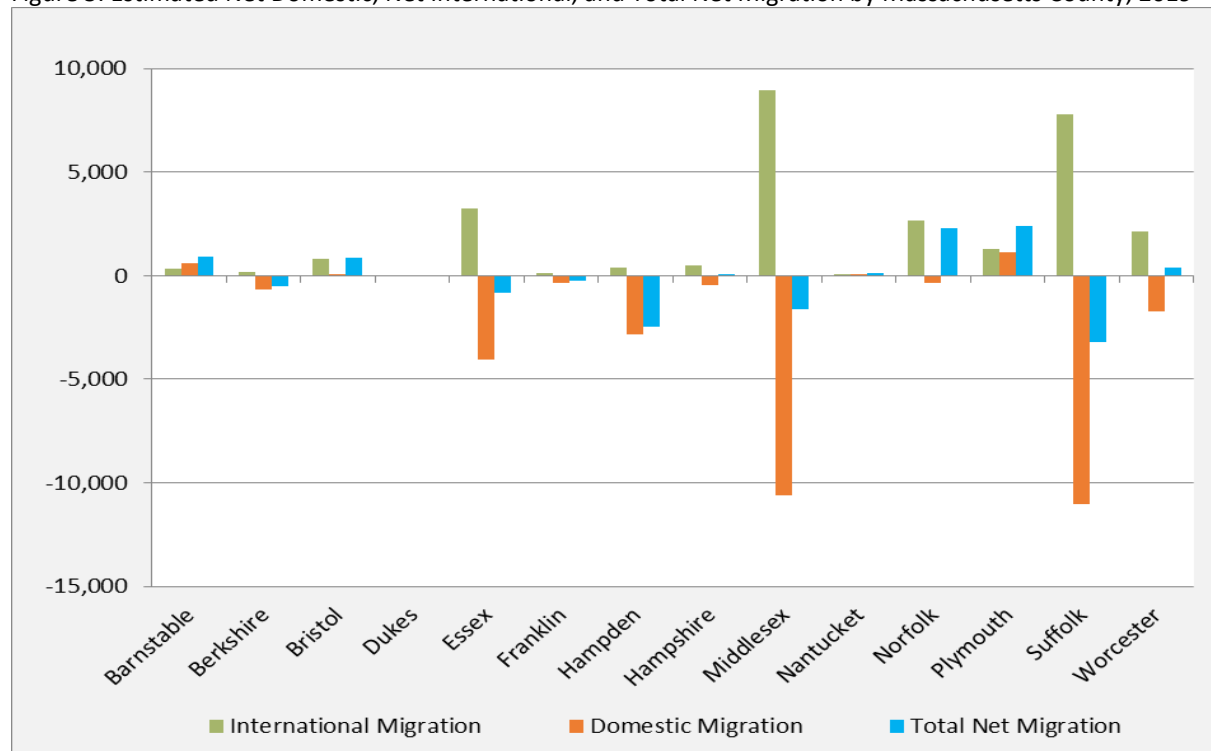
UMass Donahue Institute. Source: Estimates of the Components of Resident Population Change: April 1, 2010 to July 1, 2019 (CO-EST2019-ALLDATA) U.S. Census Bureau, Population Division, March 26, 2020.

Migration

In the estimates process, *net international migration* measures in- and out-migration between a county and places outside the U.S. These numbers represent estimates produced by the U.S. Census Bureau’s analysis of American Community Survey data on the foreign-born population and other data sources. *Domestic migration*, sometimes called *internal migration*, measures movement from one county to another within the U.S. To estimate this component, the U.S. Census Bureau uses a combination of IRS data on tax filers and Medicare enrollment data. The sum of these two types of migration, international and domestic, equals the *total net migration*.

The following chart (Figure 5) shows the international, domestic, and total net migration estimates for each Massachusetts county for the period of July 1, 2018 to July 1, 2019. Note that most Massachusetts counties—10 out of 14—show negative domestic migration, meaning populations have moved from these counties to other counties within the U.S. In several counties, however, the negative domestic migration is somewhat offset by international immigration. Norfolk County’s negative domestic migration is offset completely for a positive net migration, while Middlesex, Suffolk, and Essex counties have significant international immigration, but not enough to entirely offset the negative domestic immigration. Plymouth County has both a positive domestic and international migration, as well as a positive natural increase. As a result, it is one of the faster growing counties over the past year. Norfolk County gained the most population in 2019, which can be attributed to its minimal domestic outmigration and large positive international migration and positive natural increase. Middlesex has a significant international migration component partially off-setting domestic outmigration in combination with a relatively large number of births over deaths, and gained the second most population.

Figure 5. Estimated Net Domestic, Net International, and Total Net Migration by Massachusetts County, 2019



UMass Donahue Institute. Source: Estimates of the Components of Resident Population Change: April 1, 2010 to July 1, 2019 (CO-EST2019-ALLDATA) U.S. Census Bureau, Population Division, March 26, 2020.

Detailed Components-of-Change Estimates and Rates

As described above, component data on births, deaths, domestic migration, and international migration combine together (along with group quarters updates and a “residual” component, not shown) to factor into population change for each county. The following tables outline the numerical change in each of these components for each county. Table 3 shows single-year change from July 1, 2018 to July 1, 2019, while Table 4 shows the cumulative change from the April 1, 2010 Census base to July 1, 2019.

Massachusetts County	Total Population Change [1]	Vital Events			Net Migration		
		Natural Increase	Births	Deaths	Total	International [2]	Domestic
Barnstable	(481)	(1,393)	1,524	2,917	933	317	616
Berkshire	(957)	(467)	993	1,460	(487)	175	(662)
Bristol	1,125	314	5,701	5,387	840	810	30
Dukes	3	25	171	146	(20)	(1)	(19)
Essex	851	1,659	8,605	6,946	(811)	3,236	(4,047)
Franklin	(431)	(177)	526	703	(253)	102	(355)
Hampden	(2,016)	436	4,972	4,536	(2,453)	367	(2,820)
Hampshire	(309)	(330)	976	1,306	21	490	(469)
Middlesex	3,229	4,844	16,755	11,911	(1,632)	8,965	(10,597)
Nantucket	201	84	141	57	117	60	57
Norfolk	3,545	1,265	7,148	5,883	2,309	2,645	(336)
Plymouth	2,780	416	5,173	4,757	2,405	1,300	1,105
Suffolk	760	4,009	9,219	5,210	(3,229)	7,805	(11,034)
Worcester	1,568	1,170	8,515	7,345	412	2,155	(1,743)

[1] Total population change includes a residual. This residual represents the change in population that cannot be attributed to any specific demographic component. See Population Estimates Terms and Definitions at <http://www.census.gov/popest/about/terms.html>. [2] Net international migration (except for Puerto Rico) includes the international migration of both native and foreign-born populations. For population estimates methodology statements, see <http://www.census.gov/popest/methodology/index.html>.

UMass Donahue Institute. Source data: U.S. Census Bureau CO-EST2019_ALLDATA. Release date: March, 2020.

Massachusetts County	Total Population Change [1]	Vital Events			Net Migration		
		Natural Increase	Births	Deaths	Total	International [2]	Domestic
Barnstable	(2,890)	(12,324)	14,442	26,766	9,657	3,193	6,464
Berkshire	(6,330)	(3,812)	9,885	13,697	(2,447)	2,422	(4,869)
Bristol	16,975	4,119	52,700	48,581	13,389	12,102	1,287
Dukes	797	184	1,510	1,326	615	2	613
Essex	45,952	17,574	78,550	60,976	28,976	40,610	(11,634)
Franklin	(1,201)	(907)	5,507	6,414	(247)	1,399	(1,646)
Hampden	2,757	7,070	48,103	41,033	(4,251)	22,690	(26,941)
Hampshire	2,767	(1,715)	9,775	11,490	4,413	6,245	(1,832)
Middlesex	108,566	56,112	160,240	104,128	53,598	106,529	(52,931)
Nantucket	1,227	747	1,341	594	468	659	(191)
Norfolk	35,865	13,895	66,827	52,932	22,506	30,236	(7,730)

Plymouth	26,270	6,404	47,626	41,222	20,362	13,292	7,070
Suffolk	81,724	43,308	86,974	43,666	38,688	88,969	(50,281)
Worcester	32,239	15,419	79,890	64,471	17,265	33,422	(16,157)

[1] Total population change includes a residual. This residual represents the change in population that cannot be attributed to any specific demographic component. See Population Estimates Terms and Definitions at <http://www.census.gov/popest/about/terms.html>. [2] Net international migration (except for Puerto Rico) includes the international migration of both native and foreign-born populations. For population estimates methodology statements, see <http://www.census.gov/popest/methodology/index.html>.

UMass Donahue Institute. Source data: U.S. Census Bureau CO-EST2019_ALLDATA. Release date: March 2020.

Below are tables displaying these same components of change as average rates per 1,000 persons. These rates are useful when comparing one county to another. Table 5 includes rates for component changes over one year from July 1, 2018 through July 1, 2019, while Table 6 shows average annual rates for the period from the July 1, 2010 Census through July 1, 2019.

Table 5. Estimated Annual Rates* of the Components of Population Change for July 1, 2018 to July 1, 2019							
Massachusetts County	Total Population Change	Vital Events			Net Migration		
		Natural Increase	Births	Deaths	Total	International	Domestic
Barnstable	(2.2)	(6.5)	7.1	13.7	4.4	1.5	2.9
Berkshire	(7.6)	(3.7)	7.9	11.6	(3.9)	1.4	(5.3)
Bristol	2.0	0.6	10.1	9.5	1.5	1.4	0.1
Dukes	0.3	1.4	9.9	8.4	(1.2)	(0.1)	(1.1)
Essex	1.1	2.1	10.9	8.8	(1.0)	4.1	(5.1)
Franklin	(6.1)	(2.5)	7.5	10.0	(3.6)	1.4	(5.0)
Hampden	(4.3)	0.9	10.6	9.7	(5.2)	0.8	(6.0)
Hampshire	(1.9)	(2.0)	6.1	8.1	0.1	3.0	(2.9)
Middlesex	2.0	3.0	10.4	7.4	(1.0)	5.6	(6.6)
Nantucket	17.8	7.4	12.5	5.0	10.4	5.3	5.0
Norfolk	5.1	1.8	10.1	8.3	3.3	3.8	(0.5)
Plymouth	5.4	0.8	10.0	9.2	4.6	2.5	2.1
Suffolk	1.0	5.0	11.5	6.5	(4.0)	9.7	(13.7)
Worcester	1.9	1.4	10.3	8.9	0.5	2.6	(2.1)

*Rates per 1,000 average population.

UMass Donahue Institute. Source data: U.S. Census Bureau CO-EST2019_ALLDATA. Release date: March 2020.

Table 6. Average Estimated Annual Rates* of the Components of Population Change for July 1, 2010 to July 1, 2019							
Massachusetts County	Total Population Change	Vital Events			Net Migration		
		Natural Increase	Births	Deaths	Total	International	Domestic
Barnstable	(1.4)	(6.3)	7.3	13.5	4.9	1.6	3.3
Berkshire	(5.5)	(3.3)	8.3	11.6	(2.2)	2.1	(4.2)
Bristol	3.3	0.7	10.2	9.5	2.6	2.4	0.2
Dukes	5.0	1.0	9.5	8.5	3.9	(0.0)	3.9
Essex	6.4	2.4	11.0	8.6	4.0	5.7	(1.7)
Franklin	(1.8)	(1.4)	8.4	9.8	(0.4)	2.1	(2.5)
Hampden	0.5	1.6	11.1	9.5	(1.1)	5.3	(6.4)

Hampshire	1.1	(1.2)	6.5	7.8	2.3	4.2	(1.9)
Middlesex	7.5	3.8	11.0	7.2	3.7	7.3	(3.7)
Nantucket	12.6	7.3	13.4	6.0	5.3	6.6	(1.3)
Norfolk	5.5	2.1	10.4	8.3	3.4	4.7	(1.4)
Plymouth	5.6	1.3	10.1	8.8	4.3	2.8	1.5
Suffolk	11.4	6.1	12.2	6.1	5.4	12.5	(7.1)
Worcester	4.2	2.0	10.6	8.6	2.2	4.4	(2.3)
*Rates per 1,000 average population.							
UMass Donahue Institute. Source data: U.S. Census Bureau CO-EST2019_ALLDATA. Release date: March 2020.							

Shifting Trends

Of note in this year’s estimates release is that many of the counties that started the decade as the strongest growers in the state are now starting to see this growth slow. Table 7 below shows the shift in rank annual percent population change by county over the 2010-2019 period.

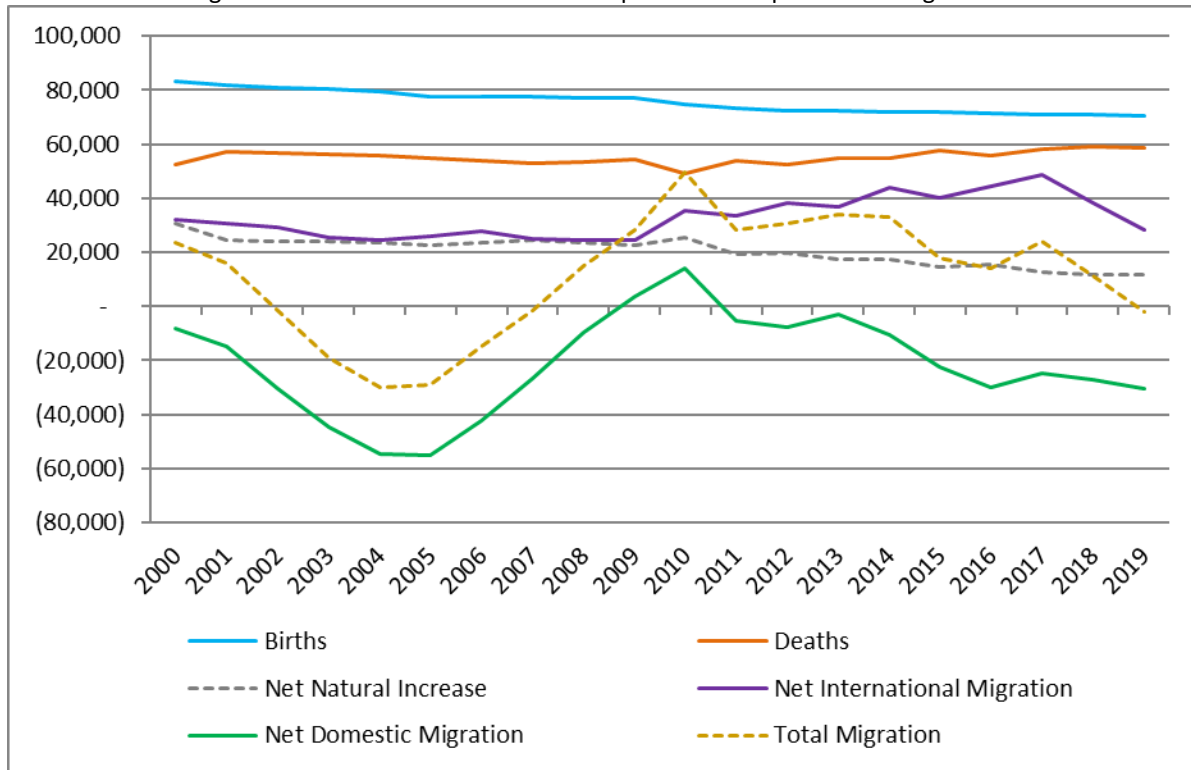
County	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19
Suffolk	1	1	3	2	1	2	1	6	8
Middlesex	2	3	4	3	4	4	6	7	4
Essex	3	5	5	4	3	6	5	3	7
Dukes	4	4	2	5	11	9	11	9	9
Norfolk	5	6	6	8	6	7	8	5	3
Hampshire	6	11	9	11	10	5	13	10	10
Worcester	7	7	8	7	8	8	3	4	6
Plymouth	8	9	7	6	5	3	4	1	2
Franklin	9	12	13	12	13	13	12	11	13
Hampden	10	10	11	10	9	12	10	8	12
Bristol	11	8	10	9	7	10	7	2	5
Barnstable	12	14	12	13	12	11	9	12	11
Nantucket	13	2	1	1	2	1	2	13	1
Berkshire	14	13	14	14	14	14	14	14	14

These shifting ranks may be explained by a combination of both changes in immigration and the aging population profile in Massachusetts. At the state and even the national level, net international immigration has started to slow over the past two years. Many of the counties that traditionally saw large gains or offsets to domestic out-migration are starting to see those gains diminishing. Meanwhile, net domestic migration in Massachusetts is also trending downward. Domestic migration into Massachusetts peaked in around 2010 – the same year that the large “Millennial” generation hit a median age of 18 in Massachusetts – but has been generally decreasing since that time, and is now a negative component in most Massachusetts counties. Because of these shifting trends, counties that typically attract younger, college-age students will tend to show more domestic loss, as the Millennials age up. Meanwhile, counties that tend to attract persons in their late twenties to early thirties may start

to see more domestic gains. Finally, as Massachusetts and the U.S. as a whole ages, in many areas the “natural increase” that occurs when births replace deaths also starts to decline in most places.

Figure 6, below, displays the statewide trends in components of population change over the long term, from 2000 through 2019. An appendix to this report shows these component trends from 2010-2019 by Massachusetts county.

Figure 6. Massachusetts Estimated Components of Population Change 2000-2019



UMass Donahue Institute. Sources: U.S. Census Bureau Population Division, CO-EST2009-04-25 and CO-EST2019-ALLDATA, Release dates March 2010 and March 2019.

For more information on the U.S. Census Bureau’s Vintage 2019 Population Estimates Release and to see national county data, see: <https://www.census.gov/programs-surveys/popest/data/data-sets.html>.

To see additional summary reports by the UMDI Population Estimates Program on U.S. Census Bureau estimates releases for Massachusetts, follow this link: <http://www.donahue.umassp.edu/business-groups/economic-public-policy-research/massachusetts-population-estimates-program/population-estimates-by-massachusetts-geography>

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