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Demographic Impacts of Zero Migration in Utah – A Projection Scenario

Net migration has become a more dependable contributor to population growth in Utah. A simulation of no migration highlights what those contributions are—with Utah's projected population being 1.4 million less, or 23% smaller, than the 2021 Vintage baseline projected population in 2060. Positive net migration not only brings new people into the state but indirectly increases births and deaths, further increasing the overall population size.

This report simulates and explores the effects of zero migration using alternative population projections benchmarked off the Vintage 2021 Utah Long-Term Planning Projections.¹ It builds upon a previous 2016 report using updated projections and methods.² Although these hypothetical scenarios are unlikely to occur, they are important because they illustrate the cumulative impacts of net migration over time.³

What Would the Projected Population Look Like if Utah No **Longer Experienced Net Migration?**

Population

In the most likely scenario, Utah's total projected population in 2060 is over 5.4 million. Without net migration from 2020-2060, the total population would be just over 4 million; this





Source: Utah Population Committee, 2010-2019; Kem C. Gardner Policy Institute, 2020-2060 Projections

Figure 2. Utah Projected Total Population by Net Migration Scenario, 2020-2060



Source: Kem C. Gardner Policy Institute, 2020-2060 Projections

Figure 3. Utah Population Pyramid by Net Migration Scenario, 2060



Source: Kem C. Gardner Policy Institute, 2020–2060 Projections

is 1.4 million fewer residents, or 23% smaller, than the 2021 Vintage baseline projected population in 2060. The average annual percentage growth rate would be 0.5% instead of 1.3%. Neither scenario projects population decline.

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Components of Change

Utah's total population changes every year through births, deaths, and net migration. Demographic reports commonly separate these three components to simplify the results, but they are interrelated. In particular, the simple accounting obscures that births and deaths to migrants from previous years impact natural increase for any given year. Instead of net migration contributing 58% of Utah's projected population growth, this simulation shows an accumulated effect of 67% of population growth.

Removing the net migration component alone removes over 1.2 million net migrants during the 40-year projection period, but the impacts of net migration are not limited to movers themselves. Births, deaths, and therefore, natural increase are all impacted by removing net migration as a component of Utah's population change. This impact on natural increase occurs in the simulation because there are fewer people who can give birth and fewer people who can die. Over the 40-year

Figure 4. Utah Projected Births, Deaths, and Natural Increase by Net Migration Scenario, 2020-2060



Table 1. Utah Cumulative Components of Change by NetMigration Scenario, 2020-2060

Variable	Baseline	Zero Migration	Cumulative Difference	Cumulative % Difference
Births	2,225	1,830	-395	-17.7%
Deaths	1,312	1,107	-204	-15.6%
Natural Increase	914	723	-190	-20.8%
Net Migration	1,252	0	-1,252	

Source: Kem C. Gardner Policy Institute, 2020–2060 Projections

projection period, the removal of migrants reduces cumulative births by 400,000 or 17.7% and cumulative deaths by 200,000 or 15.6%. When births and deaths are combined, these result in a cumulative decline in natural increase by 20.8%.

Age Structure

Net migration impacts Utah's age structure. Rates are highest in early adulthood as people move for education and employment opportunities.⁴ Positive net in-migration in this age group produces more births because these are also the primary ages for people to have children. Those newborns will age into young adults, reaching primary childbearing ages in a few decades, which can produce an echo of births. The result is that positive net migration tends to keep Utah's median age lower than in the zero migration simulation.

In the zero migration simulation, the median age of the population becomes older than the original 2021 vintage projections by two years, increasing from 42.1 to 44.1 in 2060. The overall older population is apparent in the dependency ratios for 2060. The total dependency ratio is 1 per 100 higher than the original vintage 2021 baseline projections. However, the youth dependency is 2 per 100 people lower, and the retirement dependency ratio is 2 per 100 people higher, confirming an older population when there is zero net migration.

45 44 43 42 42.1 41 40 Baseline Zero Migration

Figure 5. Utah Median Age by Net Migration Scenario,

Source: Kem C. Gardner Policy Institute, 2020–2060 Projections

Source: Kem C. Gardner Policy Institute, 2020-2060 Projections

2060

Figure 6. Utah Dependency Ratios by Net Migration Scenario, 2020 and 2060



Note: The dependency ratio is the population ages 0-17 (Youth) or 65+ (Retirement) per the population ages 18-64, or their sum (Total). Source: Kem C. Gardner Policy Institute, 2020–2060 Projections

All age groups from the zero net migration simulation are smaller, but the degree of the differences varies. The younger age groups, particularly the 18–24-year age group, have the largest percentage differences. The 18-24 age group is 35% smaller in the zero-migration simulation, followed by the 5-17 age group (30%) and 0-4 age group (29%).

Methodology

This analysis used a simple method that applies to any set of already-produced population projections, including births, deaths, and population by single year of age and sex for each calendar year. The method calculates the age-sex-specific birth and death rates from the published data and estimates net migration (and rates) as a residual. It then performs a standard cohort component projection with the same birth and death rates, but all net migration rates are set to zero.⁵

Figure 7. Utah Total Population by Age Group and by Net Migration Scenario, 2060



Source: Kem C. Gardner Policy Institute, 2020–2060 Projections

Figure 8. Utah Absolute and Percent Difference between Net Migration Scenarios by Age Group, 2060



Source: Kem C. Gardner Policy Institute, 2020–2060 Projections

Endnotes

- Hollingshaus, M., Hogue, M., Harris, E., Bateman, M., Backlund, M., Albers, E. (2022). Utah Long-Term Planning Projections: A Baseline Scenario of Population and Employment Change in Utah and its Counties. Kem C. Gardner Policy Institute. Accessed at: <u>https://gardner.utah.edu/wp-content/uploads/LongTerm-Proj-Jan2022.pdf?x71849&x71849</u>
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- 5. Hollingshaus, M. (2023). Methodology Zero Net Migration Simulation Using Cohort Change Ratios. Kem C. Gardner Policy Institute.

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(DE) DemogImpacts-Mig FS Sep2023