



AN ESRI
TECHNICAL PAPER

AUGUST 2022

Migrating from Esri Updated Demographics 2021/2026 to 2022/2027: Expected Change

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Migrating from Esri Updated Demographics 2021/2026 to 2022/2027: Expect Change

Introduction This methodology statement explains reasons why data users may experience large changes when transitioning from 2021/2026 Esri Updated Demographics to 2022/2027. These large differences stem from a rebasing of Esri's population, housing, and geography based on the latest decennial census information. The 2021/2026 estimates and projections were derived from Census 2010 demographic data and geography, thus making the 2021 estimate an 11.25-year forecast horizon and the 2026 projection a 16.25-year forecast horizon. However, [Esri's 2022/2027 Updated Demographics](#) are built from Census 2020 data and geography. Therefore, the 2022 data represents a 2.25-year forecast horizon and the 2027 data a 7.25-year projection from the 2020 base. Census Bureau procedural and processing changes can also produce unexpected change in some variables. Additional changes can come from apportioning data to user-defined boundaries based on new sub-block group information.

Data vintages Esri strongly encourages all users to migrate to the most current vintage of Esri Updated Demographics. Current vintage data leverages the most relevant input data, universe bases, geography, and apportionment weights. Esri Updated Demographics represent a July 1 point-in-time estimate of current population, housing, and characteristics. Updated Demographics are released for the current-year and five-year projection only and not as a time series that smooths change out over an estimate horizon. Continuous improvements to methodologies and input data preclude comparisons to prior vintages of Esri Updated Demographics. Users that are interested in year-over-year change should refer to [Esri Vintage 2022 Time Series Totals](#). This data is designed to show temporal change from the estimate base to the current vintage for total population, households, and housing units.

The migration to 2020-based data and geography can take time. For users with workflows that require the use of 2010-based data and geography, Esri has provided a once-a-decade option to use either 2021 data and geography or 2022 data and geography in the [ArcGIS Business Analyst Web App](#), [ArcGIS Community Analyst](#), [ArcGIS Pro](#), and the [GeoEnrichment API](#). Although the option to use 2021 data and geography is available, current vintage Esri Updated Demographics will provide the most timely and accurate estimates and projections for all use cases.

New population and housing base

Updated Demographics estimates build off decennial US Census counts. The US Census count, costing more than \$14 billion represents, the best snapshot of data on American population and housing. This base is used to reset the universes of population and housing that Esri will build on for the following decade. The detailed Census 2020 data was released in August 2021. Census 2020 data showed an unprecedented stagnation of population growth. The period from 2010 to 2020 was the second-lowest period of population growth in our nation's history. Only the 1930s experienced slower growth.¹ These trends are attributable to our aging society. Continual declines in the total fertility rate as well as deaths from COVID-19 are contributing to new records for slow population growth. Census 2020 counts and growth rates are factored into Esri current estimates and projections.

New base geography

Another important source of change is geography. Decennial census geographies are redrawn every ten years. Sub-county geographies such as blocks, block groups, and tracts are redrawn to reflect changes in the topography as well as meeting Census thresholds for capturing ideal sizes of population in each census polygon. For example, Census 2020 block groups are intended to have between 240 and 1,200 housing units. If there has been significant housing construction or demolition over the decade, block group boundaries are redrawn for 2020 to meet these thresholds for housing units per block group. Housing counts from 2010 to 2020 change significantly over the decade due to new developments, demolished housing, and household occupancy changes. Births, deaths, and migration drive demographic change. Changes to census geography confound demographic and housing change when boundaries are redrawn, aggregated, or split. The switch to Census 2020-based boundaries will impact analysis that uses data from Esri Updated Demographics 2022/2027, as well as Census 2020 and [ACS 2016-2020](#).

New data apportionment weights

When decennial census geography changes from 2010 to 2020, so does the underlying data used in [Esri's apportionment process](#) for the US. Data apportionment is used when a user-defined area splits census geography into multiple parts. Data apportionment relies on sub-block group geography to best allocate data. The total number of blocks and block weights has markedly changed between TIGER 2010 and 2020. The 2010-based data in the Esri 2021 dataset rely on the TIGER 2010 block inventory that contains more than 11 million points, while the Esri 2022 dataset uses the TIGER 2020 block inventory that contains three million fewer records. Moreover, the population, household, housing unit, and business weights differ between the datasets because the Esri 2022 dataset reflects new and updated values. This may lead to the estimation of starkly different demographic profiles of the same data for the same trade area.

¹ US Census 2020 Press Release: <https://www.census.gov/library/stories/2021/08/more-than-half-of-united-states-counties-were-smaller-in-2020-than-in-2010.html>

Accuracy matters Data accuracy is paramount to Esri Updated Demographics. All demographers who develop population estimates use the decennial census as a once-a-decade check on current estimate methodologies. All demographers expect some temporal discontinuity in estimates as the transition from one decennial census to the next occurs. Esri's vintage 2020 estimates were built from a 2010 base and released in June 2020. Esri's vintage 2020 estimates overestimated the US population by 1.7 million, or 0.5 percent.¹ Esri's 2020 total population estimates were closely aligned with the Census Bureau's expected 2020 count based on their Demographic Analysis estimation.² Additionally, the Census Bureau's Population Estimates Program released their own 2020 estimates of the population independent of the Census 2020 results³. These estimates were an underestimate of 2 million people, or -0.6 percent. While Esri overestimated, our estimate was more accurate than the US Census Bureau's own estimates when benchmarking to Census 2020. The acknowledged undercount of the Census 2020 population further increases the accuracy of Esri's 2020 estimates. Using vital statistics and a Post Enumeration Survey, the Census Bureau confirmed a net undercount of around 780,000 Americans in the official Census 2020 population count.⁴

Esri's data development team

Led by chief demographer Kyle R. Cassal, Esri's data development team has more than 40 years of experience in market intelligence. The team's economists, statisticians, demographers, geographers, and analysts produce independent small-area demographic and socioeconomic estimates and forecasts for the United States. The team develops exclusive demographic models and methodologies to create market-proven datasets, many of which are now industry benchmarks, such as Tapestry™ Segmentation, Consumer Spending, Market Potential, and annual Updated Demographics. Esri® demographics power ArcGIS® through dynamic web maps, data enrichment, reports, and infographics.

¹ These figures represent Esri's vintage 2020 estimates converted to an April 1 point-in-time for direct comparison to April 1 Census 2020 counts.

² US Census 2020 Demographic Analysis: <https://www.census.gov/programs-surveys/decennial-census/about/coverage-measurement/da.html>

³ Vintage 2020 Population Estimates: <https://www.census.gov/programs-surveys/popest/technical-documentation/research/evaluation-estimates/2020-evaluation-estimates.html>

⁴ Detailed Coverage Estimates for the 2020 Census Released Today: <https://www.census.gov/library/stories/2022/03/who-was-undercounted-overcounted-in-2020-census.html>



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