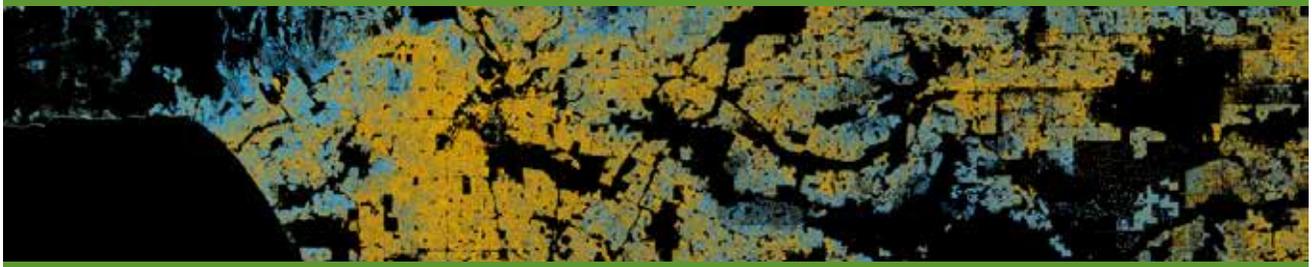


U.S. Synthetic Household Population™ Database



RTI International's 2010 U.S. Synthetic Household Population™ provides an accurate representation of the complete household and person population throughout the United States. The database includes locations and descriptive socio-demographic attributes that is derived from completely public data sources, statistically matches the real household population, and contains no personally identifiable information.

Overview

Imagine having a database of every household and person in the United States. Now imagine what you could do with such a database—plan for emergency response, assess environmental exposures, simulate infectious disease transmission, calculate the effects of public health interventions, or optimize the distribution of resources across space. RTI's 2010 U.S. Synthetic Population allows users to view population data by householder age, householder race, household size, and household income by matching high-resolution population distributions with the correct mix of households in each census block group. Users can explore the data and examine the rich complexity of the U.S. population by visiting the Synthetic Household Population viewer at synthpopviewer.rti.org.

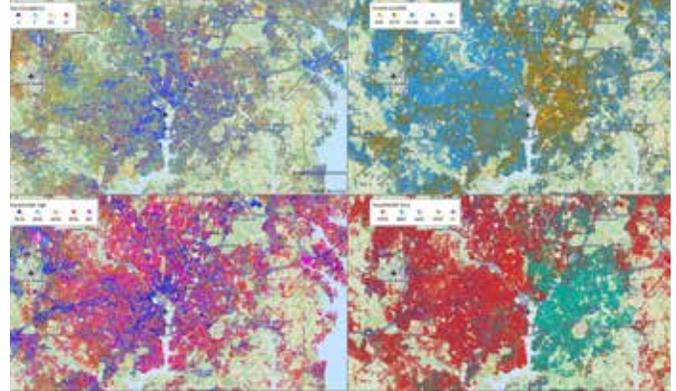
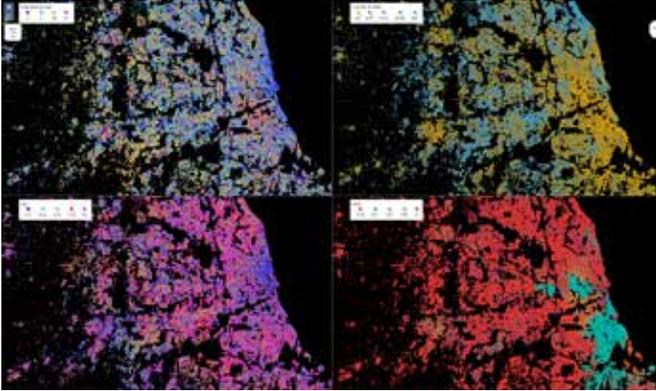
The Power of Points

Unlike typical socio-demographic data that is aggregated to administrative units (census tracts, ZIP codes, census block groups), the Synthetic Household Population represents households and persons as dots on a map. This simple data structure enables powerful clustering, optimization, and spatial statistical analysis without sacrificing any accuracy. In some ways, the Synthetic Household Population is more accurate than census data because the distribution of households in this database varies within census block

group boundaries, whereas typical socio-demographic maps presume that households are evenly distributed within each boundary.

Features and Benefits

- 116,000,000 records to represent each household
- 300,000,000 records to represent each person living in households
- Attributes such as age, sex, race, income, educational attainment for each person
- Attributes such as household size, household income, householder race, and householder age for each household
- Representations of persons who live in group quarters by age and gender for nursing homes, college dorms, prisons, and military barracks
- Estimated location of workplaces for each working adult
- Estimated location of schools for each student attending primary or secondary school
- Explicitly geospatial data structure
- No personally identifiable information
- Reduced effects of arbitrary boundaries on spatial analyses (the Modifiable Area Unit Problem)



Applications

- Agent-based modeling to simulate changes in behavior over time
- Infectious disease modeling
- Identifying populations that are potentially exposed to environmental contaminants
- Optimizing the distribution of resources to best serve the population
- Expanding statistical survey data by assigning survey-based characteristics to the entire population
- Finding socio-demographic patterns—identifying the spatial extent of communities of interest
- Planning for and responding to disasters with detailed spatio-demographic maps
- Works with RTI's FPOP™ microsimulation model to age baseline populations into the future

More Information

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