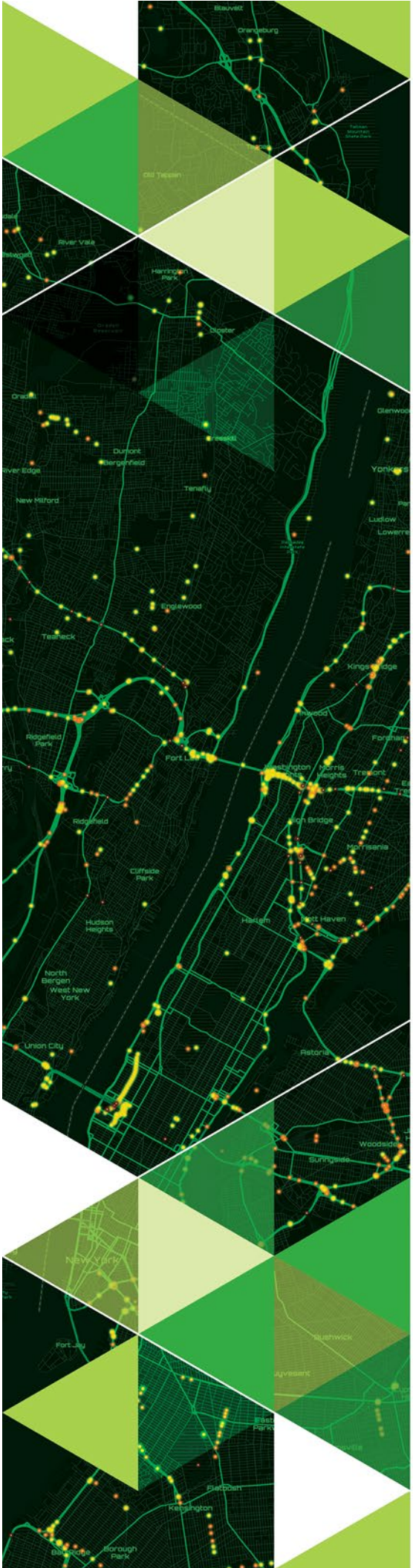

AN ESRI
TECHNICAL PAPER

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Methodology statement: 2025 Esri Daytime Population

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Introduction

Knowing an area's demographic landscape is essential in the decision-making process for many public and private entities. Whether it is a retailer searching for the most profitable location for expansion or first responders mapping vulnerable populations for disaster preparations, using a complete demographic profile is critical. Along with its comprehensive data catalog describing resident populations, Esri's 2025 daytime population data adds clarity when the day is a significant consideration in an analysis.

Data sources and model

A trade area can contain distinct day and night demographic profiles. Populated areas can be residential, commercial, industrial, administrative, or some combination of each. Vibrant city centers can contain substantially larger numbers of people during the typical workday than during evening hours. Esri's Daytime Population model provides invaluable insight into an area's daily population expansions and contractions.

The estimates are generated using a mix of inputs from Esri's U.S. Updated Demographics, the decennial census, the American Community Survey (ACS), and business data from Data Axle. Moreover, the modeling process incorporates the important methodological distinction between workers and persons employed. The former represents persons currently working throughout the workday, while the latter includes persons employed but absent from work for various reasons, such as illness, personal business, or vacation.

Further, the model accounts for the distinct populations in group quarters. The incarcerated adult population is considered out of scope and excluded from the estimates. The group quarters population in military installations is reconciled with the more broadly defined armed forces population that can cover personnel living off base as well.

The workday population is disaggregated into two primary groups: workers and residents.[1] The former is estimated using the geographic worker flow data from ACS and employment distributions from Data Axle to establish place-of-residence and place-of-work linkages. The result is an estimate of the total daytime population covering both residents and workers that can be used for a more detailed and complete demographic analysis for any neighborhood in the United States. Lastly, the model still explicitly accounts for post-pandemic elevated rates of remote work

[1] It is important to note the differences in definition between Esri's daytime estimates of workers and residents with respect to its current-year, resident-based estimates of total employment and total population. The latter two variables are a tabulation of persons based on where they live. The daytime estimates are not. Daytime workers estimates not only cover persons who live and work in the same area but also those who work in the area but live elsewhere (commuters). Armed forces personnel, living on and off base, are also classified as workers. Moreover, those employed but not at work are classified as a daytime resident. Daytime residents also include the population under 16 years of age and working-age persons who are unemployed or not in the labor force (including retirees, homemakers, college students, and miscellaneous noninstitutional and institutional group quarters populations in nursing homes, juvenile detention centers, homeless shelters, and so on).

arrangements using data from the ACS. While the share of persons working from home has tapered, rates remain elevated above historic pre-pandemic levels.

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