

# Non-Resident Population



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**Introduction** Overnight tourism is a significant component of the economy of many areas across the country, and on any given night, over 9 million people stay overnight away from home while travelling. Over 3 million hotel rooms are occupied nationwide, and leisure travelers in large numbers stay with friends and family, at their own or rented vacation homes, or at campgrounds or in a recreational vehicle.

These non-residents often contribute substantially to local economies and have mostly been either missed in site location work or given minimal attention. Further complicating matters is that tourism in many locations is highly seasonal.

The AGS non-resident population estimates are the first of their kind, utilizing a wide range of data sources to model the factors which drive tourists to particular locations, and to match that demand with the supply of available accommodations. The result is a detailed set of estimates, for each calendar quarter and annual average for:

- Total Non-Resident Population
  - Business Travelers
    - Domestic
    - Foreign
    - Migrant Workers
  - Leisure/Personal Travelers
    - At Hotels
    - Staying with Friends/Family
    - Staying at own or rented vacation property
    - Camping
    - Recreational Vehicles

Each estimate is derived by first estimating demand for each travel type at the block group level using a set of 39 factors. Demand is allocated to available supply at the block group level using a distance-decay based location-allocation model, with particular concern for ensuring that actual capacity is not exceeded.

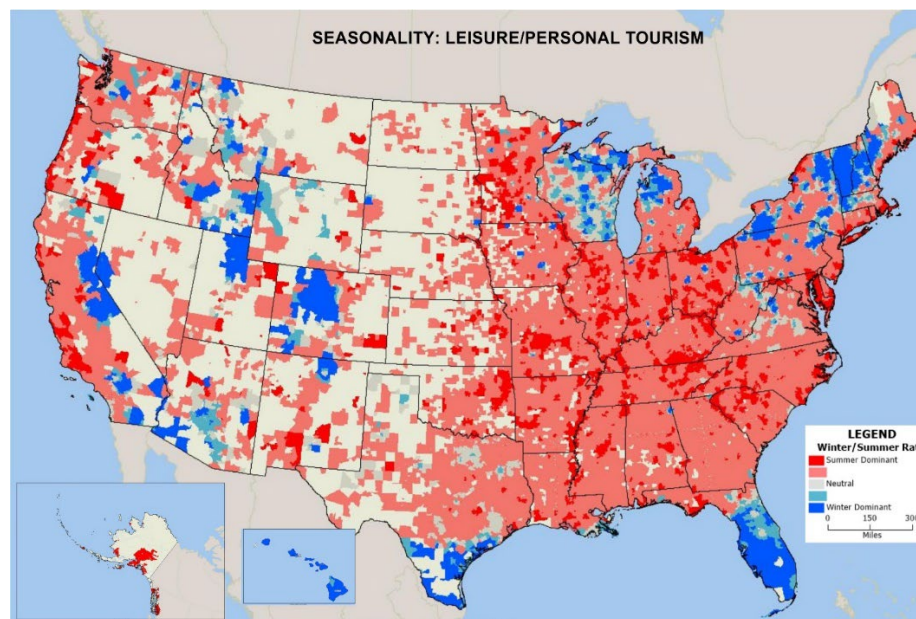
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## Methodology

The non-resident population (NRP) model is primarily a demand based model which uses a wide range of diverse parameters that drive tourists to any particular location. For each factor, the attractiveness of each block group is computed using a distance decay function – typically constrained to a maximum distance at which an attractor will be relevant. Facilities are weighted usually by either employee counts at each establishment (e.g. as a surrogate for visitors) or visitors (e.g. national parks). For each of over thirty factors, block group attractiveness was computed. Each factor was then weighted in importance and an overall block group attractiveness score computed. Separate scores were produced for each non-resident type, as clearly business travelers and campers choose destinations for different reasons.

Further, each of these factors has seasonal variations which differ significantly even by type of accommodation. The importance of seasonal weighting by demand type is critical, as shown by the map below:



While many areas are “summer dominant”, there are clear areas of the country where winter is the dominant season for tourism – ski resorts, Palm Springs and southern Arizona, south Texas, Hawaii, and Florida.

The demand factors used in these models are:

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## Business Demand

- Daytime employment
- Daytime employment at large establishments
- Daytime employment at headquarters establishments
- Convention/conference centers
- Major convention centers (top 25 annual visitors)

## Migrant Worker Demand

- Daytime employment (agriculture)
- Daytime employment (mining / oil exploration)
- Major oilfield locations (active drilling)

## Leisure/Personal Demand

- Beaches – annual, summer
- Ski resorts
- Golf courses – summer, annual, winter dominant
- Boating/Marine – establishments
- Tours/Charters – establishments
- National parks
- State parks
- Casinos
- Theme Parks – annual, summer
- Museums
- Historical sites
- Zoos and nature preserves
- Performing arts facilities
- Sports facilities (excluding fitness centers)
- Stadiums and Arenas (including all major league and NCAA Division 1 facilities)
- Independent artists and musicians
- Wineries
- Breweries (excluding large commercial)
- Distilleries (excluding large commercial)
- Shopping (non-durable retail employment)
- Antiques, Galleries, and Gift shops
- Correctional facilities
- Universities
- City attractiveness (population based)
- Households (family/friends)

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- Climate (“Snowbird” desirability)
- Scenic highways and byways

Additional climate-based seasonality factors were used to account explicitly for the extremely short Alaskan tourist season.

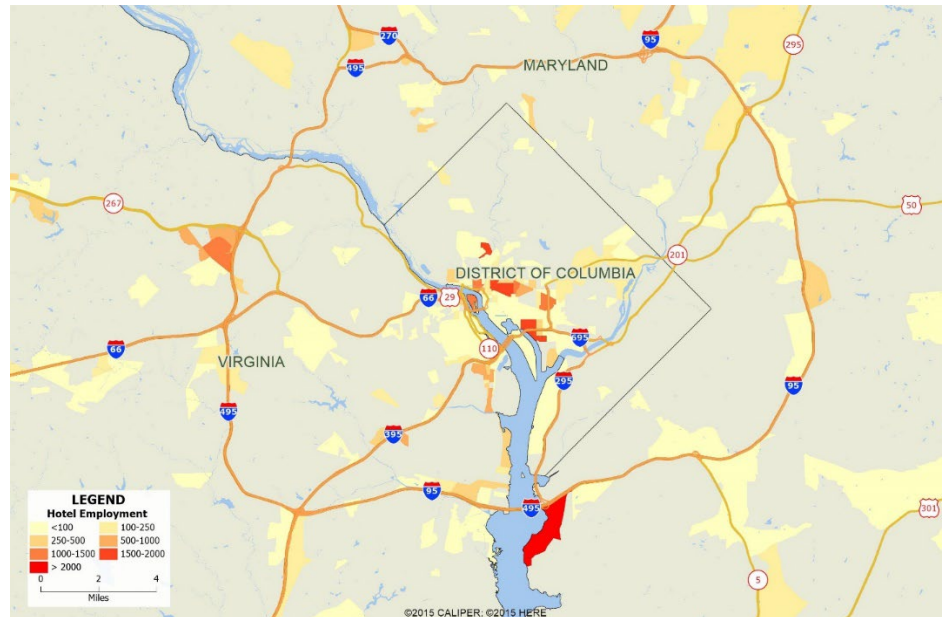
In some cases, such as national parks, usage statistics by season are readily available and used as the demand factors. In other cases, we have used establishment or employee counts for specific NAICS codes, adjusted as necessary. Where possible, we have used actual visitation statistics (e.g. ski resorts by visitor counts) or the ubiquitous “top 25” lists to provide a relative ranking of locations.

The resulting table of block group attractiveness (8 accommodation types by 4 seasons) is scaled to the total number of expected overnight resident totals by accommodation type. The totals are derived from a wide range of national and state tourism statistics for 2019.

The block group demand is allocated, using a distance decay location-allocation model, to each of eight supply types. Constraints are applied to ensure that block group capacity is not exceeded.

As an example of the allocation process, the map below shows the total number of tourists (business and leisure) staying at hotels in the Washington, DC. area. Note the distinct pattern of hotel locations which the model must respect – the concentration downtown and then at key interchanges on the I-495 beltway.

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## Special Issues

As a result of the COVID-19 stay-at-home orders, two versions of the database have been produced. The first represents the expected tourist levels under normal circumstances. These are labeled as NRPLY and will be used for future releases. The second utilizes a set of multipliers by quarter for 2020 which use published estimates of travel, especially during the 2<sup>nd</sup> quarter. For the third and fourth quarters, we used 40% and 60% of normal travel expectations. These variables are labeled as NRPCY.

For 2023, we have retained the 2019 (BY) baseline estimates. For users interested in longer term patterns, we recommend the BY series for analysis over the CY, which we expect will be short term effects of the pandemic. The 2023 estimates remain slightly below pre-COVID19 levels, but are higher than the 2021 and 2022 estimates.

## Variables

Only the CY series variables are listed here, using the standard AGS naming conventions. The variable suffix (e.g. TTOT in NRPCYTTOT) is consistent between the BY and CY series.

NRPCYTTOT	Average Annual Non-Resident Population
NRPCYQ1TOT	Q1 Non-Resident Population
NRPCYQ2TOT	Q2 Non-Resident Population
NRPCYQ3TOT	Q3 Non-Resident Population

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NRPCYQ4TOT	Q4 Non-Resident Population
NRPCYTBUS	Average Annual Business Travelers
NRPCYQ1BUS	Q1 Business Travelers
NRPCYQ2BUS	Q2 Business Travelers
NRPCYQ3BUS	Q3 Business Travelers
NRPCYQ4BUS	Q4 Business Travelers
NRPCYTBUSD	Average Annual Domestic Business Travelers
NRPCYQ1BUSD	Q1 Domestic Business Travelers
NRPCYQ2BUSD	Q2 Domestic Business Travelers
NRPCYQ3BUSD	Q3 Domestic Business Travelers
NRPCYQ4BUSD	Q4 Domestic Business Travelers
NRPCYTBUSF	Average Annual Foreign Business Travelers
NRPCYQ1BUSF	Q1 Foreign Business Travelers
NRPCYQ2BUSF	Q2 Foreign Business Travelers
NRPCYQ3BUSF	Q3 Foreign Business Travelers
NRPCYQ4BUSF	Q4 Foreign Business Travelers
NRPCYTMIGR	Average Annual Migrant Workers
NRPCYQ1MIGR	Q1 Migrant Workers
NRPCYQ2MIGR	Q2 Migrant Workers
NRPCYQ3MIGR	Q3 Migrant Workers
NRPCYQ4MIGR	Q4 Migrant Workers
NRPCYTPER	Average Annual Leisure/Personal Travelers
NRPCYQ1PER	Q1 Leisure/Personal Travelers
NRPCYQ2PER	Q2 Leisure/Personal Travelers
NRPCYQ3PER	Q3 Leisure/Personal Travelers
NRPCYQ4PER	Q4 Leisure/Personal Travelers
NRPCYTPHOT	Average Annual Leisure Travelers Staying at Hotels
NRPCYQ1PHOT	Q1 Leisure Travelers Staying at Hotels
NRPCYQ2PHOT	Q2 Leisure Travelers Staying at Hotels
NRPCYQ3PHOT	Q3 Leisure Travelers Staying at Hotels
NRPCYQ4PHOT	Q4 Leisure Travelers Staying at Hotels
NRPCYTFMF	Average Annual Leisure Travelers Staying with Family/Friends
NRPCYQ1FMF	Q1 Leisure Travelers Staying with Family/Friends
NRPCYQ2FMF	Q2 Leisure Travelers Staying with Family/Friends
NRPCYQ3FMF	Q3 Leisure Travelers Staying with Family/Friends
NRPCYQ4FMF	Q4 Leisure Travelers Staying with Family/Friends
NRPCYTHM2	Average Annual Leisure Travelers Staying at 2nd Home/Rental
NRPCYQ1HM2	Q1 Leisure Travelers Staying at 2nd Home/Rental

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NRPCYQ2HM2	Q2 Leisure Travelers Staying at 2nd Home/Rental
NRPCYQ3HM2	Q3 Leisure Travelers Staying at 2nd Home/Rental
NRPCYQ4HM2	Q4 Leisure Travelers Staying at 2nd Home/Rental
NRPCYTCOMP	Average Annual Leisure Travelers Camping
NRPCYQ1CMP	Q1 Leisure Travelers Camping
NRPCYQ2CMP	Q2 Leisure Travelers Camping
NRPCYQ3CMP	Q3 Leisure Travelers Camping
NRPCYQ4CMP	Q4 Leisure Travelers Camping
NRPCYTRV	Average Annual Leisure Travelers in Recreational Vehicle
NRPCYQ1RV	Q1 Leisure Travelers in Recreational Vehicle
NRPCYQ2RV	Q2 Leisure Travelers in Recreational Vehicle
NRPCYQ3RV	Q3 Leisure Travelers in Recreational Vehicle
NRPCYQ4RV	Q4 Leisure Travelers in Recreational Vehicle
NRPCYHTL	Average Annual Non-Residents At Hotels
NRPCYQ1HTL	Q1 Non-Residents At Hotels
NRPCYQ2HTL	Q2 Non-Residents At Hotels
NRPCYQ3HTL	Q3 Non-Residents At Hotels
NRPCYQ4HTL	Q4 Non-Residents At Hotels

## Availability

The NRP database is available as a stand-alone database in CSV or dBase format, to channel partners via the SnapSite desktop application, and to subscription users of the Snapshot API.

## Further Information

Contact customer service at 877-944-4AGS or email [support@appliedgeographic.com](mailto:support@appliedgeographic.com).