2020 Public Use Microdata Areas Program (2020 PUMA)

Training Webinar
Geography Division
U.S. Census Bureau
Introduction

• Public Use Microdata Areas (PUMAs).
  o Non-overlapping, statistical geographic areas that partition each state or equivalent entity into geographic areas containing no fewer than 100,000 people each.
  o Cover the entirety of the United States, the Commonwealth of Puerto Rico, Guam, and the United States Virgin Islands.
  o Created using whole census tracts, counties (county-equivalents), or states (state-equivalents).

• 2020 Public Use Microdata Areas Program (2020 PUMA).
  o Provides State Data Centers (SDCs) the opportunity to delineate PUMAs for the next decade.
Why we define PUMAs

• Defined for the tabulation and dissemination of decennial census and American Community Survey (ACS) Public Use Microdata Sample (PUMS) data.

• PUMS Estimates.
  o Valuable to state and local planning offices and other stakeholders for use in longitudinal research and planning.
  o Allow data users to create custom tables and statistics not available through pre-tabulated (or summary) products on census.gov.
Who Can Participate?

• State Data Centers (official participant).
  o Only SDCs can make the final submission.
  o One submission will be accepted for each state.

• Solicit Input from Others:
  o Tribal/State/Local planning offices.
  o Regional planning agencies or organizations.
  o Transportation agencies.
Final Criteria

Final Criteria for the Public Use Microdata Areas for the 2020 Census and the American Community Survey

• Population Thresholds.
• Relationships with Other Geographic Areas.
• Geographic Entities Used to Define.
• Contiguity and Noncontiguity Guidelines.
• Place of work (POW) and Migration (MIG) PUMAs.
## Final Criteria – Population Thresholds

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<thead>
<tr>
<th>Minimum Required Population</th>
<th>Maximum Suggested Population</th>
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<tr>
<td>Must contain 100,000 persons or greater with the ability to maintain this population throughout the decade.</td>
<td>Should not contain more than 200,000 persons wherever possible, unless the PUMA is defined for an area where population decline is anticipated.</td>
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Final Criteria – Relationships with Other Geographic Areas

• Must not cross state boundaries. This criterion will be strictly enforced.

• Should comprise an area that is either entirely inside or entirely outside a core based statistical area (CBSA) where possible.

• Recommend using 2020 place definitions, 2010 urban/rural definitions, and local knowledge to inform 2020 PUMA delineations.

• Should avoid splitting Census Bureau urban areas.

• Should avoid splitting governmental minor civil divisions (MCDs).

• Should avoid splitting American Indian reservations and/or off-reservation trust lands (AIRs/ORTLs), particularly if the population is included within all parts of the split AIR/ORTL.
Final Criteria – Geographic Entities Used to Define

- Must use counties, county equivalent entities, and census tracts to delineate. This will be strictly enforced.

- A single county may be a PUMA if it meets the 100,000 minimum population threshold.

- Two or more counties may be combined to form a PUMA that meets the 100,000 minimum population threshold.

- Divide counties with more than 200,000 population using census tracts.

- Census tract-based PUMAs may cross county boundaries, provided each PUMA-county part meets a minimum population threshold of 10,000.
Final Criteria – Contiguity and Noncontiguity Guidelines

• To the greatest extent possible, each PUMA should encompass a single, geographically contiguous area.

• May be noncontiguous if the county, counties, or census tracts used to form the PUMA are noncontiguous.

• Use of noncontiguous building blocks is acceptable where it facilitates more demographically homogenous areas. However, this is not intended to create highly fragmented PUMAs.

• All noncontiguous PUMAs are subject to Census Bureau final review and approval.
Final Criteria – POW and MIGPUMAs

• Standard PUMAs are used to create POWPUMAs and MIGPUMAs. Therefore, carefully consider standard PUMA relationships with other geographic areas when forming the standard PUMAs.

• Can consist of a single PUMA or combination of PUMAs (county-based or census tract-based).
Place of Work and Migration (POW/MIG) PUMAs

• Things to consider

• POW/MIG PUMAs are county based and use standard PUMAs as building blocks in an automated process.

• POW/MIG PUMAs must consist of complete counties and standard PUMAs (one or many).

• If necessary, PUMAs are aggregated with adjacent PUMAs until the aggregation consists of complete counties.

• POW/MIG PUMAs will always offer equivalent or less geographic detail than their standard PUMA counterparts, but never more detail.
PUMA-County-part threshold update

• Each new unique PUMA-county relationship must contain at least 10,000 population.

• The 2,400 threshold can be maintained for comparability if requested and if the given PUMA is unchanged from the 2010 Census.

• Aligns with proposed Urban Area thresholds.

• Intended to take into consideration the new Disclosure Avoidance System (DAS) and differential privacy techniques:
  https://www.census.gov/newsroom/blogs/research-matters/2020/02/census_bureau_works.html
Download and Review the Program Documents

• **2020 Public Use Microdata Areas Program (census.gov)**
  o 2020 PUMA Final Criteria.
  o 2020 PUMA Summary Guide.
  o 2020 PUMA Participant Guide.
  o 2020 PUMA Coding Guidelines.
  o 2020 PUMA Naming Guidelines.
  o 2020 PUMA Frequently Asked Questions (FAQs).

• **Public Use Microdata Areas (census.gov)**
  o Reference Information – 2010 PUMA Names File.
  o 2010 PUMA Equivalency Files.
  o 2010 Census Tract to 2020 PUMA Relationship File.
  o Tools to Learn More.
Getting Started Checklist

☐ Download and review the PUMA documentation from the 2020 PUMA website to understand the program and expectations for participation.

☐ Develop a plan and communicate.
  ☐ With other interested data users and stakeholders.
    ☐ Share information regarding program materials, software, and trainings with other interested data users.
    ☐ Establish and maintain contact with other interested data users throughout the program.
  ☐ With the Census Bureau.

☐ Download and install the Geographic Update Partnership Software (GUPS).
Develop a Plan for Delineation

• Consider how to conduct the work.
  o Is work performed by other interested data users or only by SDC?
• Determine the delineation manner that works for the state or situation.
• Communicate with others how they want the work completed.
• If others are involved, the SDC must import work they receive from others into their PUMA project or load it into their project for reference and review.
Geographic Update Partnership Software

• Download from the 2020 PUMA web page.
• Must use GUPS for 2020 PUMA.
• A self-contained, customized geographic information system (GIS) software application provided to participants by the Census Bureau for use in completing many of their geographic programs and operations.
• Allows for the sharing of work performed by multiple participants to facilitate a collaborative delineation effort and to prepare standardized output files of the delineated PUMAs for submission to the Census Bureau.
Questions

• Please email any questions to <geo.puma@census.gov>.

• Important web pages include:
  o 2020 Public Use Microdata Areas Program (2020 PUMA) (census.gov).
  o Public Use Microdata Areas (PUMAs) (census.gov).
  o Public Use Microdata Samples (PUMS).
  o Geography Program (census.gov).

Thank you!
Questions