

# 2020 Public Use Microdata Areas Program (2020 PUMA)

Training Webinar  
Geography Division  
U.S. Census Bureau

# Introduction

- Public Use Microdata Areas (PUMAs).
  - Non-overlapping, statistical geographic areas that partition each state or equivalent entity into geographic areas containing no fewer than 100,000 people each.
  - Cover the entirety of the United States, the Commonwealth of Puerto Rico, Guam, and the United States Virgin Islands.
  - Created using whole census tracts, counties (county-equivalents), or states (state-equivalents).
- 2020 Public Use Microdata Areas Program (2020 PUMA).
  - 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.
  - Valuable to state and local planning offices and other stakeholders for use in longitudinal research and planning.
  - 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).
  - Only SDCs can make the final submission.
  - One submission will be accepted for each state.
- Solicit Input from Others:
  - Tribal/State/Local planning offices.
  - Regional planning agencies or organizations.
  - 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

Minimum Required Population	Maximum Suggested Population
Must contain 100,000 persons or greater with the ability to maintain this population throughout the decade.	Should not contain more than 200,000 persons wherever possible, unless the PUMA is defined for an area where population decline is anticipated.

# 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

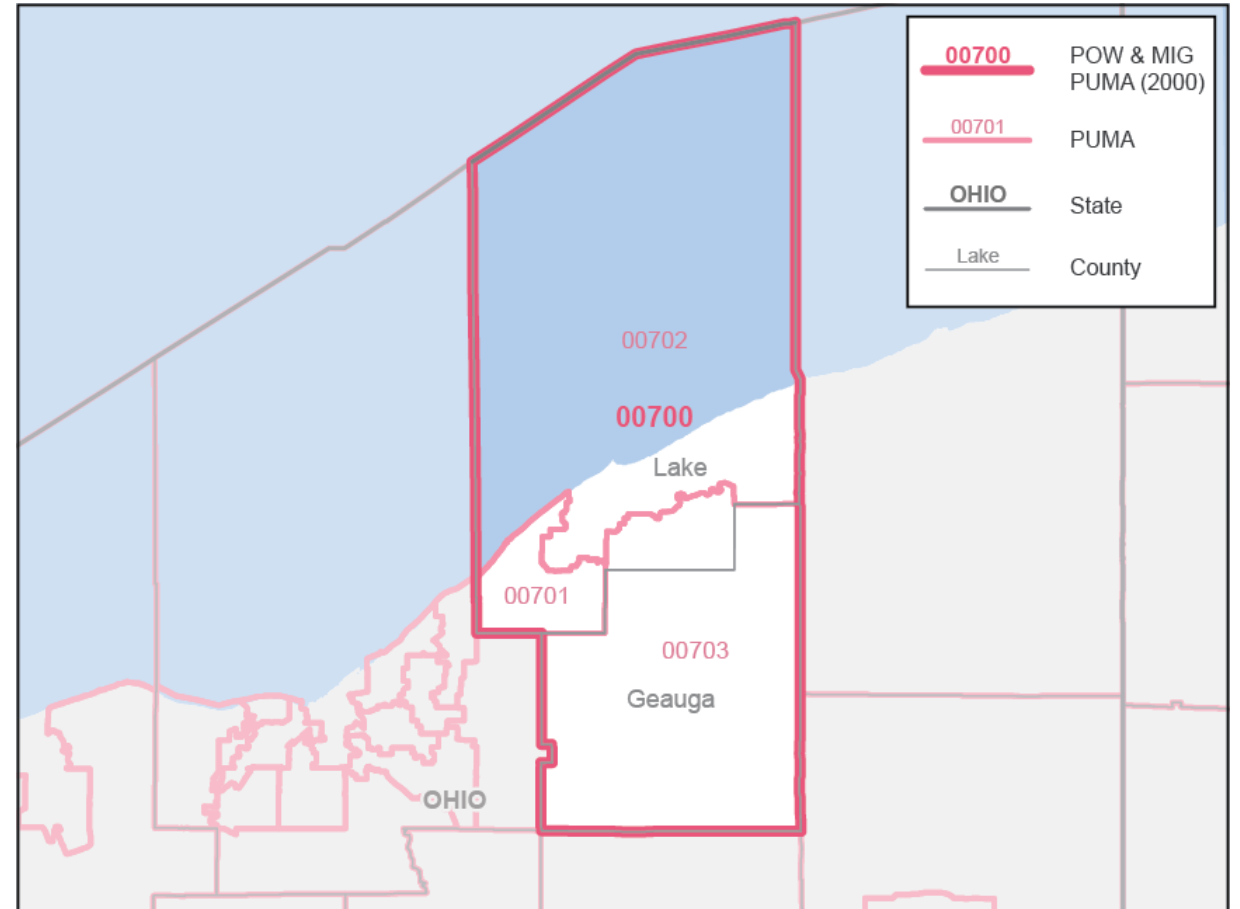
- To the greatest extent possible, each PUMA should encompass a single, geographically contiguous area.
- May be noncontiguous if the county, counties, or census tracts used to form the PUMA are noncontiguous.
- Use of noncontiguous building blocks is acceptable where it facilitates more demographically 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).

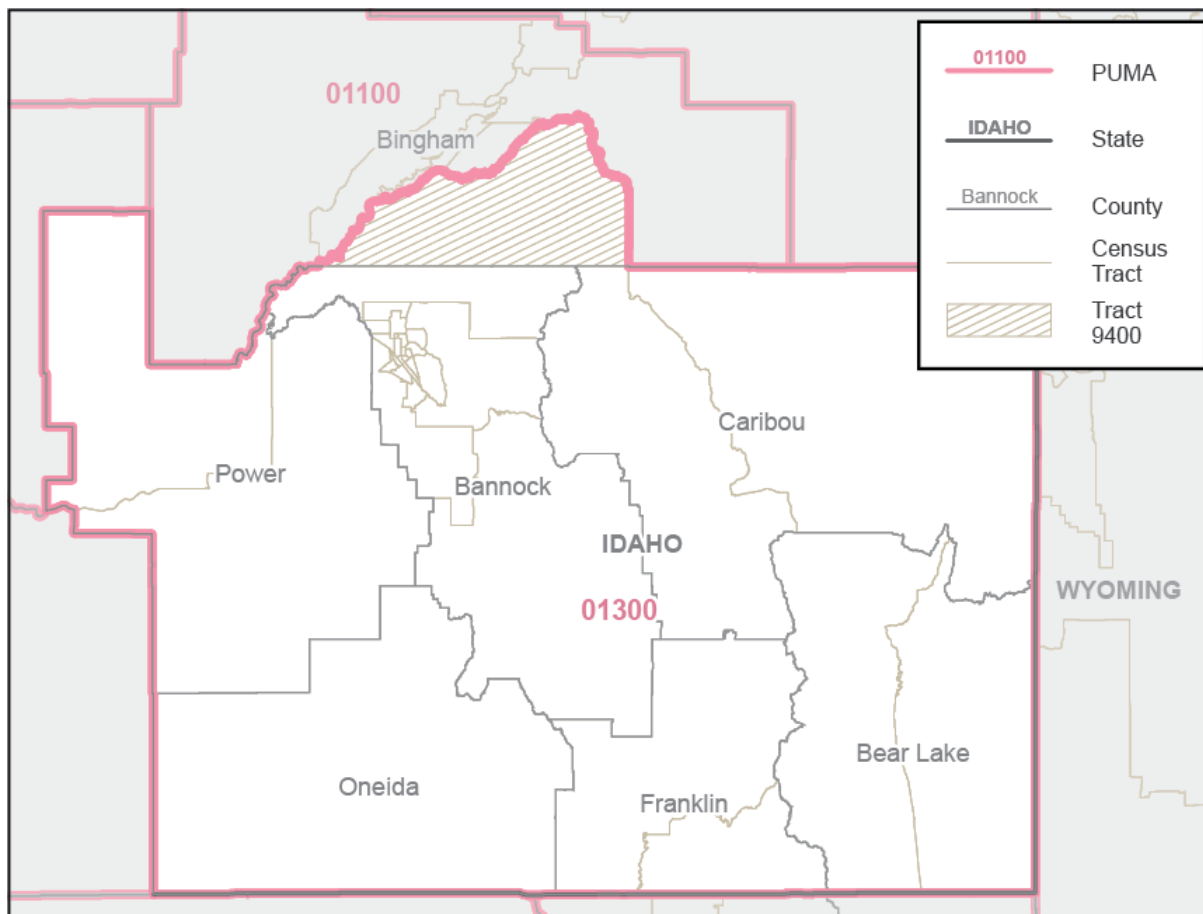
# Place of Work and Migration (POW/MIG) PUMAs

- 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](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 \(census.gov\)](#)
  - 2020 PUMA Final Criteria.
  - 2020 PUMA Summary Guide.
  - 2020 PUMA Participant Guide.
  - 2020 PUMA Coding Guidelines.
  - 2020 PUMA Naming Guidelines.
  - 2020 PUMA Frequently Asked Questions (FAQs).
- [Public Use Microdata Areas \(census.gov\)](#)
  - Reference Information – 2010 PUMA Names File.
  - 2010 PUMA Equivalency Files.
  - 2010 Census Tract to 2020 PUMA Relationship File.
  - 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

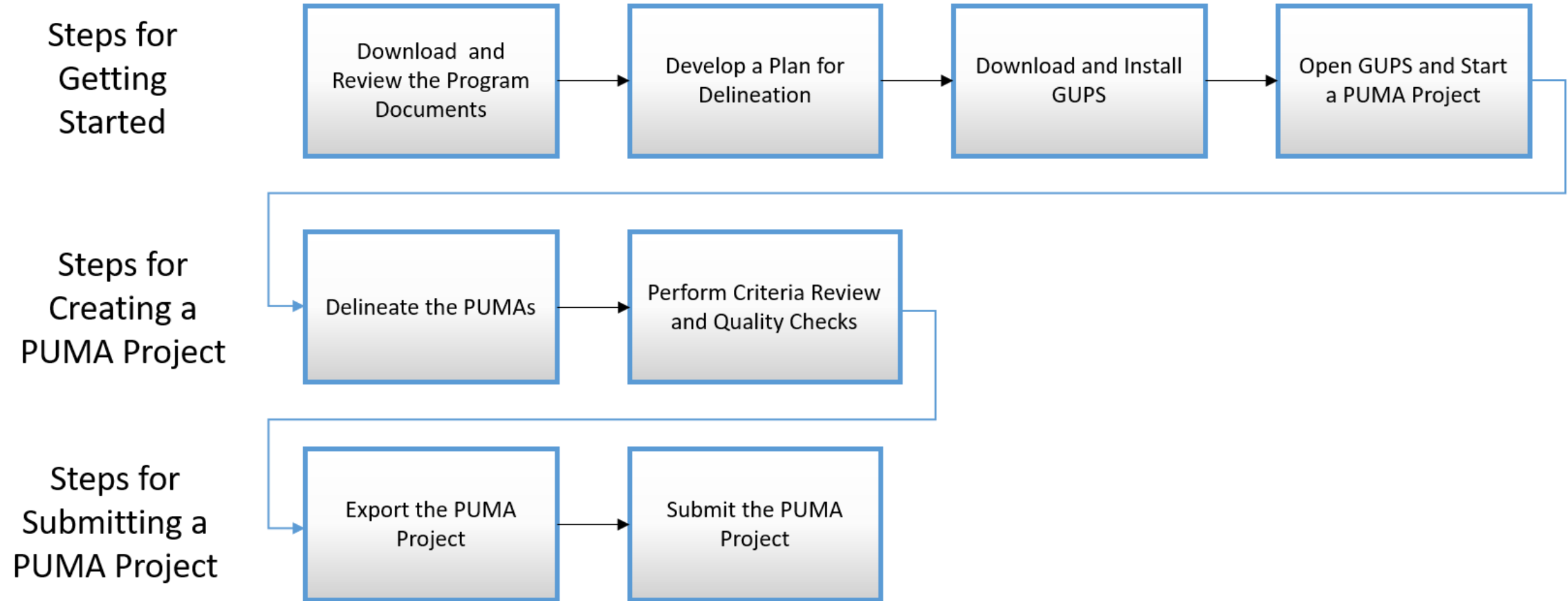
- Consider how to conduct the work.
  - Is work performed by other interested data users or only by SDC?
- Determine the delineation manner that works for the state or situation.
- Communicate with others how they want the work completed.
- If others are involved, the SDC must import work they receive 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.



# PUMA Workflow



# Questions

- Please email any questions to <[geo.puma@census.gov](mailto:geo.puma@census.gov)>.
- Important web pages include:
  - [2020 Public Use Microdata Areas Program \(2020 PUMA\) \(census.gov\)](https://www.census.gov/pums/2020-puma).
  - [Public Use Microdata Areas \(PUMAs\) \(census.gov\)](https://www.census.gov/pums/pumas).
  - [Public Use Microdata Samples \(PUMS\)](https://www.census.gov/pums/pums).
  - [Geography Program \(census.gov\)](https://www.census.gov/pums/geography).

# Thank you!

# Questions