

***MARYLAND STATE DATA CENTER***  
**PUBLIC USE MICRODATA SAMPLE**  
**(PUMS) DATA USER CONFERENCE**

**WEDNESDAY , NOVEMBER 17, 2021**

**10:00 - 11:30 AM**

**Maryland Department of Planning**

**Planning Services**

# PUMS DATA USER CONFERENCE

Conference is being recorded

Asking questions during the conference

At the bottom right, click Chat

Enter your question

Click send

# PUMS DATA USER CONFERENCE

## AGENDA

10:00 - Logistics and Roll Call	Jesse Ash
10:05 - Welcome	Robert McCord, Secretary of Planning
10:10 - MSDC and Census Geographic Programs	Alfred Sundara
10:20 - ACS PUMS Overview	Jesse Ash
10:40 - Accessing PUMS Data	Krishna Akundi
10:50 - PUMA Delineation Considerations	Jesse Ash
11:05 - PUMA Technical Guidance	Christina James
11:10 - Resources and Discussion	Open

# AMERICAN COMMUNITY SURVEY AND PUBLIC USE MICRODATA SAMPLE OVERVIEW

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# ACS CONTENT

SOCIAL	Demographic	Economic	Housing
Ancestry	Age	Class of worker	Computer / Internet access
Citizenship	Hispanic origin	Commuting	Shelter costs
Citizen voting population	Race	Employment status	Heating fuel
Disability	Relationship	Food stamps (SNAP)	Home value
Educational attainment	Sex	Health insurance	Occupancy
Fertility		Hours/week, weeks /year	Plumbing facilities
Grandparents		Income	Structure type
Language		Industry	Tenure
Marital status		Occupation	Utilities
Migration			Vehicles
School enrollment			Year built/moved in
Veterans			Kitchen facilities

# AMERICAN COMMUNITY SURVEY DATA USES

Planning

Economic Development

Emergency Management

Forecasting and Modeling

# ACS FOR PLANNING

Establish priorities

Plan Development and Implementation

# ACS FOR ECONOMIC DEVELOPMENT

Business uses

Government uses



# ACS FOR EMERGENCY MANAGEMENT

Puts geographic areas in context for first responders

Evacuations - damage assessments - recovery

# ACS FOR LOCAL AND REGIONAL FORECASTS

Organizations work across jurisdictional boundaries

Identify specified issues

# PUBLIC USE MICRODATA SAMPLES OVERVIEW

- The U. S. Census Bureau's Public Use Microdata Sample (PUMS) files are a set of records from individual people or housing units.
- PUMS files incorporates disclosure protection so that individuals or housing units cannot be identified.
- There are two types of PUMS files, one for Person records and one for Housing Unit records.

# PUMS FILES ADVANTAGES

## Custom Tabulations

# DATA ARE AVAILABLE FOR SPECIFIED GEOGRAPHIES:

- **U. S. Regions**
- **U. S. Divisions**
- **States**
- **Public Use Microdata Areas (PUMAs)**

# PUBLIC USE MICRODATA AREAS

- PUMAs have a minimum population threshold of 100,000 persons
- PUMAs are the smallest geography for which PUMS data are available

# ACCESSING THE PUBLIC USE MICRODATA SAMPLE (PUMS)

Krishna M. Akundi

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Projections and State Data Center

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# HOW TO ACCESS MICRODATA

- Download through the FTP site

These non-tabulated individual anonymous records would need to be run through a statistical software package such as R, Stata, SPSS, or SAS

- Application Programming Interface (API)

Requires programming and another package for analysis. For more information on the microdata API See <https://www2.census.gov/data/api-documentation/microdata-api-user-guide.pdf>

- Microdata Access Tool\*

<https://data.census.gov/mdat/#/>

- DataFerrett

Web-based program discontinued but might remain accessible to some. Allows for data analysis and extraction of customized federal, state, and local data.



## Datasets Included in MDAT



Dataset	Vintage
ACS 1-Year Estimates - Public Use Microdata Sample	2004-2019
ACS 1-Year Estimates - Puerto Rico Public Use Microdata Sample	2005-2019
ACS 5-Year Estimates - Public Use Microdata Sample	2009-2019
ACS 5-Year Estimates - Puerto Rico Public Use Microdata Sample	2009-2019
CPS Annual Social and Economic (March) Supplement	2014-2021
CPS Basic Monthly	2021: January-September 1994-2020: January-December
CPS Arts Benchmarking Survey Supplement	2013-2016, 2018, 2020: February
CPS Disability Supplement	2012: May 2019: July
CPS Displaced Worker, Employee Tenure, and Occupational Mobility Supplement	2002, 2004, 2006, 2008, 2010, 2012, 2014, 2016, 2018, 2020: January 1996, 1998, 2000: February
CPS Fertility Supplement	1998, 2000, 2002, 2004, 2006, 2008, 2010, 2012, 2014, 2016, 2018, 2020: June

# USE PUMS DATA TO ANSWER QUESTIONS SUCH AS...

- How many Prince George's County residents speak a Language Other than English at home and what languages are spoken?
- How many individuals in Maryland and its jurisdictions are disabled, 60 years of age and older, and report incomes between \$10,000 and \$35,000.
- How many low-income households with high school age children have access to the internet

# Select a Dataset & Vintage

Select Dataset

ACS 5-Year Estimates 5-Year Estimates – Public Use Microdata Sample

ACSPUMS5Y

Select Vintage

2019

2019

# ACCESSING THE PUBLIC USE MICRODATA SAMPLE (PUMS)

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# PUMA DELINEATION

Due to the population threshold of 100,000 inhabitants required to create PUMAs, not all jurisdictions in Maryland may need or desire to participate in the PUMA Delineation Program.

- Population > 200,000 persons - Anne Arundel, Baltimore City, Baltimore County, Frederick, Harford, Howard, Montgomery, and Prince George's.
- Population > 100,00 adjacent to Population < 100,000 - St. Mary's; Washington; and Wicomico
- Population < 100,00 adjacent to Population > 100,000– Calvert; and Worcester

# PUMA DELINEATION

Establish a Plan

GUPS software required

# PUMA TECHNICAL GUIDANCE

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# GUPS INSTALLATION

The screenshot shows the Census Bureau website page for the 2020 Public Use Microdata Areas (PUMA) Program. The page title is "2020 Public Use Microdata Areas (PUMA) Program". The main content area includes a list of links under "On this page:" such as "2020 PUMA Overview", "2020 PUMA Participation", "2020 PUMA Participant Materials", "Schedule", and "Contact Information". Below this is a section titled "2020 PUMA Overview" which explains the purpose of the program and provides information on where to find more details.

The screenshot shows the "Geographic Update Partnership Software (GUPS)" page. It explains that GUPS is customized GIS software based on the open-source platform QGIS. It provides instructions on how to download and install GUPS, noting that many agencies/organizations require certain security privileges. A red circle highlights the "Download GUPS" link. Below the link are the instructions to download and install GUPS.

**Geographic Update Partnership Software (GUPS)**

GUPS is customized GIS software provided by the Census Bureau. It is based on the open-source platform QGIS. GUPS is tailored to meet the needs of participants without extensive GIS experience. For further information on the QGIS open-source platform, please visit their website at <http://www.qgis.org/en/site>.

Follow the steps below to download and install GUPS. Detailed instructions are located in both the summary guide and in the participant guide. Please note that many agencies/organizations require certain security privileges to download and install external software. Work with your local Information Technology (IT) staff person to acquire those privileges or ask for assistance with GUPS installation.

[Download GUPS](#)

**Instructions to Download and Install GUPS**

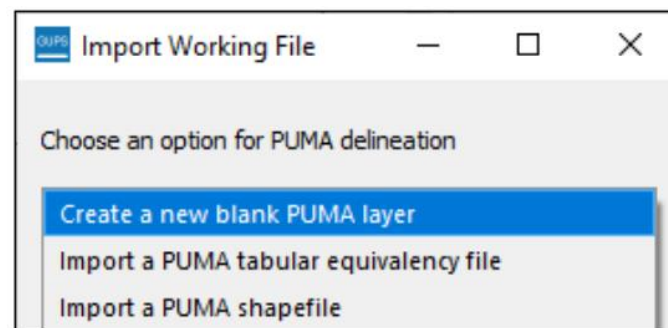
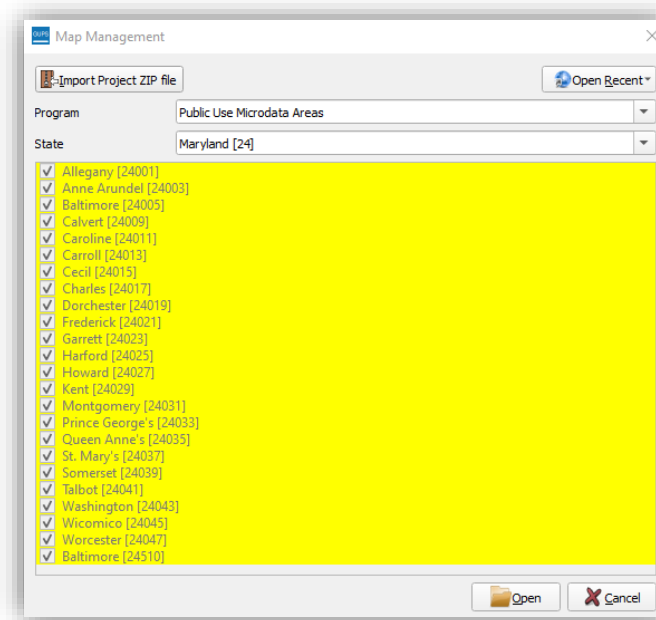
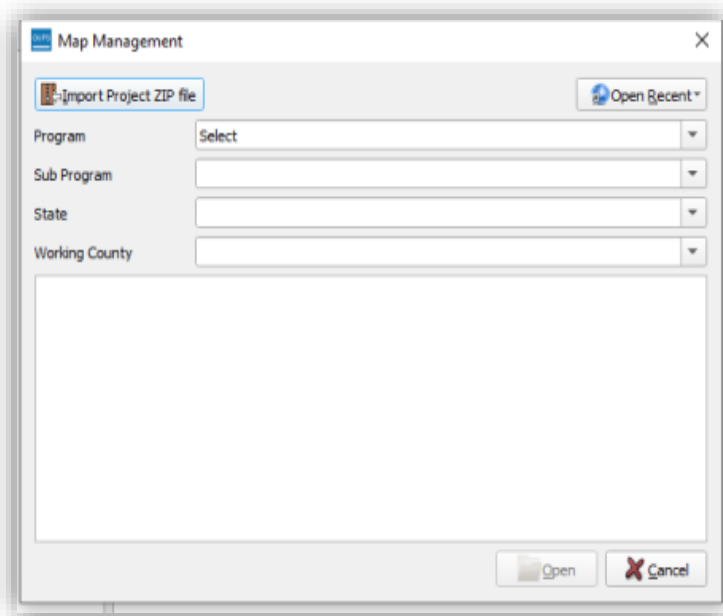
1. Download GUPS to the computer by choosing the **Download GUPS** link.
2. Unzip the file and extract all contents of the unzipped package to a folder on the computer.

## [2020 PUMA Main Page](#)

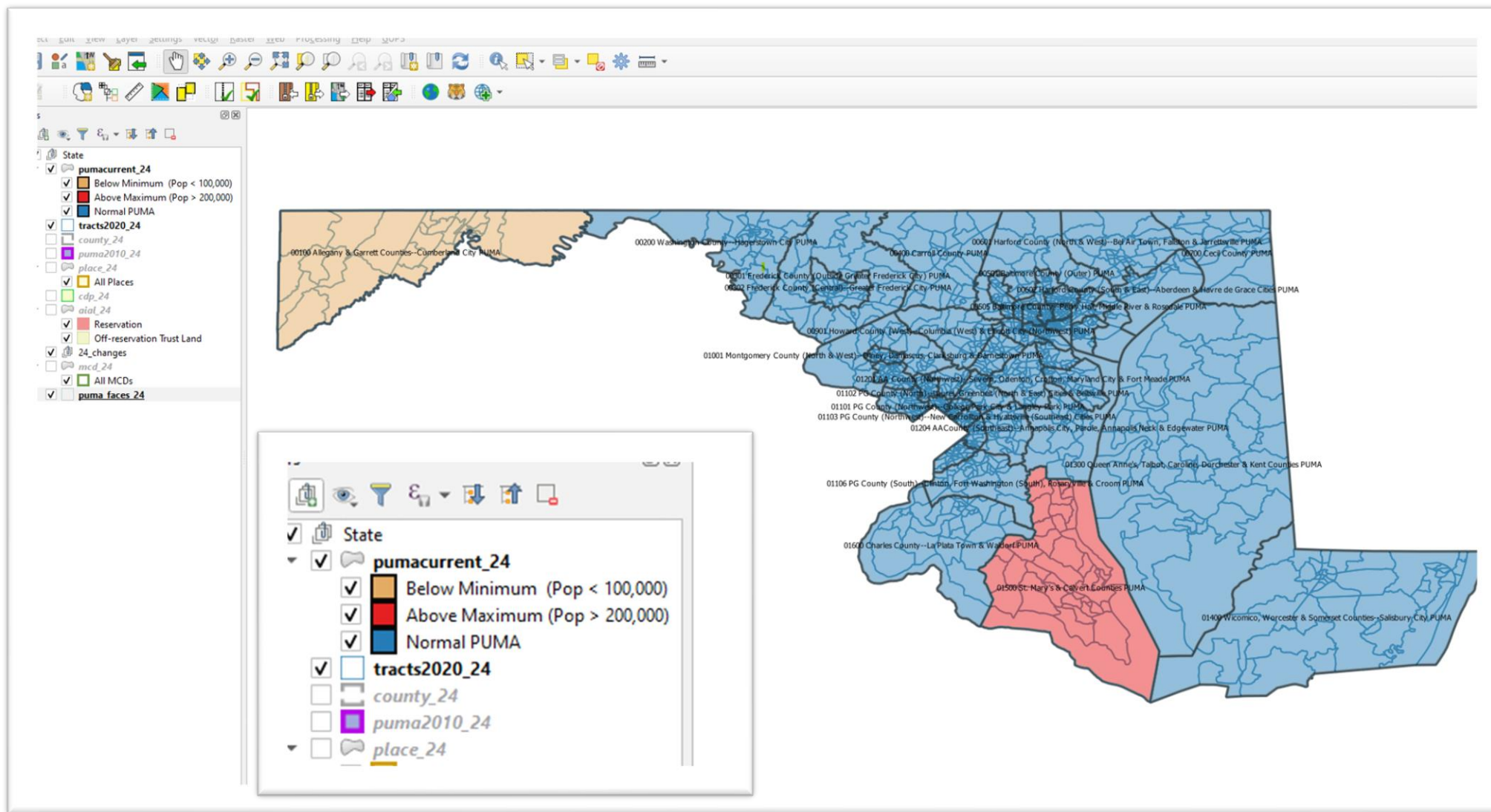
Contact the Census Bureau for support at [geo.puma@census.gov](mailto:geo.puma@census.gov).



# OPENING GUPS









# DELINEATION



# REFERENCES

## 2020 PUMA Participant Materials

This section includes the software and instructions for 2020 PUMA participation. Download these materials from the links below, as there are no plans for the Census Bureau to distribute materials by other means. SDCs should [contact us](#) if other arrangements are needed.

 2020 PUMA Final Criteria	[<1.0 MB]
 2020 PUMA Summary Guide	[1.5 MB]
 2020 PUMA Participant Guide	[6.8 MB]
 2020 PUMA Coding Guidelines	[<1.0 MB]
 2020 PUMA Naming Guidelines	[<1.0 MB]
 2020 PUMA Frequently Asked Questions (FAQs)	[<1.0 MB]

[2020 PUMA Participant Guide](#)

[2020 PUMA Training Webinar Slides](#)

[2020 PUMA Training Webinar Recording](#)

## Webinar Information

The Census Bureau will host 2020 PUMA training webinars on the following dates:

1. Wednesday, October 6, 2021 2:00pm – 4:30pm EST
2. Wednesday, October 27, 2021 2:00pm – 4:30pm EST
3. Wednesday, December 15, 2021 2:00pm – 4:30pm EST

Webinar invitation and log-in information was provided via email. Access the presentation slides and recording below.

 2020 PUMA Training Webinar Slides	[<1.0 MB]
 2020 PUMA Training Webinar Recording	

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# PUMA TECHNICAL GUIDANCE

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# PLANNING CONSIDERATIONS

Frequency

PUMA Components

Multi County PUMAs

Geographic Contiguity

# PUMA DELINEATION PRELIMINARY SCHEDULE

- **Fall 2021**

Census Bureau conducts final scheduled web - based training December 15, 2021.

- **November 2021 through January 2022**

The 90 - day review period for the State Data Center to delineate and submit PUMAs.

- **Summer 2022**

Final 2020 PUMAs and their associated data are available online.

# ACS, PUMS AND PUMA RESOURCES

- Understanding and Using American Community Survey Data: What All Data Users Need to Know
- <https://www.census.gov/programs-surveys/acs/guidance/handbooks/general.html>
- Understanding and Using the American Community Survey Public Use Microdata Sample Files: What Data Users Need to Know
- <https://www.census.gov/programs-surveys/acs/guidance/handbooks/pums.html>
- Public Use Microdata Areas  
[https://www.census.gov/content/dam/Census/library/publications/2021/acs/acs\\_pums\\_handbook\\_2021\\_ch02.pdf](https://www.census.gov/content/dam/Census/library/publications/2021/acs/acs_pums_handbook_2021_ch02.pdf)