

# 2020 CENSUS UPDATE PROGRAMS

## COUNT QUESTION RESOLUTION PUBLIC USE MICRODATA AREA (PUMA)

December 14, 2021

[Krishna M. Akundi](#)

Projections and State Data Center

Maryland Department of Planning

# DECENNIAL CENSUS PROGRAMS FOR ACCURATE COVERAGE

- Local Update of Census Addresses (LUCA)

<https://www.census.gov/programs-surveys/decennial-census/about/luca.html>

- Participant Statistical Areas Program (PSAP)

<https://www.census.gov/programs-surveys/decennial-census/about/psap.html>

- New Construction Program

<https://www.census.gov/programs-surveys/decennial-census/about/new-construction.html>

# DECENNIAL CENSUS PROGRAMS FOR ERROR CORRECTION

- Count Question Resolution (CQR)
- Post-Census Group Quarters Review (PCGQR)

<https://www.regulations.gov/document/USBC-2021-0025-0001>

# CENSUS COUNT QUESTION RESOLUTION

# SCHEDULE FOR COUNT QUESTION RESOLUTION (CQR)

**September 2021**

*Census counts published*

**December 2021**

*Census Bureau officially announces the program.*

**January 3, 2022**

*Census Bureau begins accepting and researching case submissions from eligible GU's*

**February 2022**

*Maryland State Data Center hosts online CQR workshop*

**June 30, 2023**

*Census Bureau stops accepting cases*

**September 2023**

*Census Bureau provides results to impacted governmental units (GU's)*

# DECENNIAL CENSUS DATA IS NOT PERFECT

The leading causes of inaccuracies and errors are:

*Within scope of Count  
Question Resolution (CQR)*

**a) Boundary errors:**

erroneous boundary lines which result in miscalculations of county and municipal population totals

**b) Geolocation errors:**

address points mis-assigned to wrong blocks

**c) Coverage errors:**

Coverage of residential addresses or GQs – if Census missed, then uncounted

# DECENNIAL CENSUS DATA IS NOT PERFECT

The leading causes of inaccuracies and errors are:

*Not Within scope of Count  
Question Resolution (CQR)*

## **a) Census Bureau processing**

secondary sources, data-mining, or imputation for addresses not participating – this can cause undercounts (or overcounts)

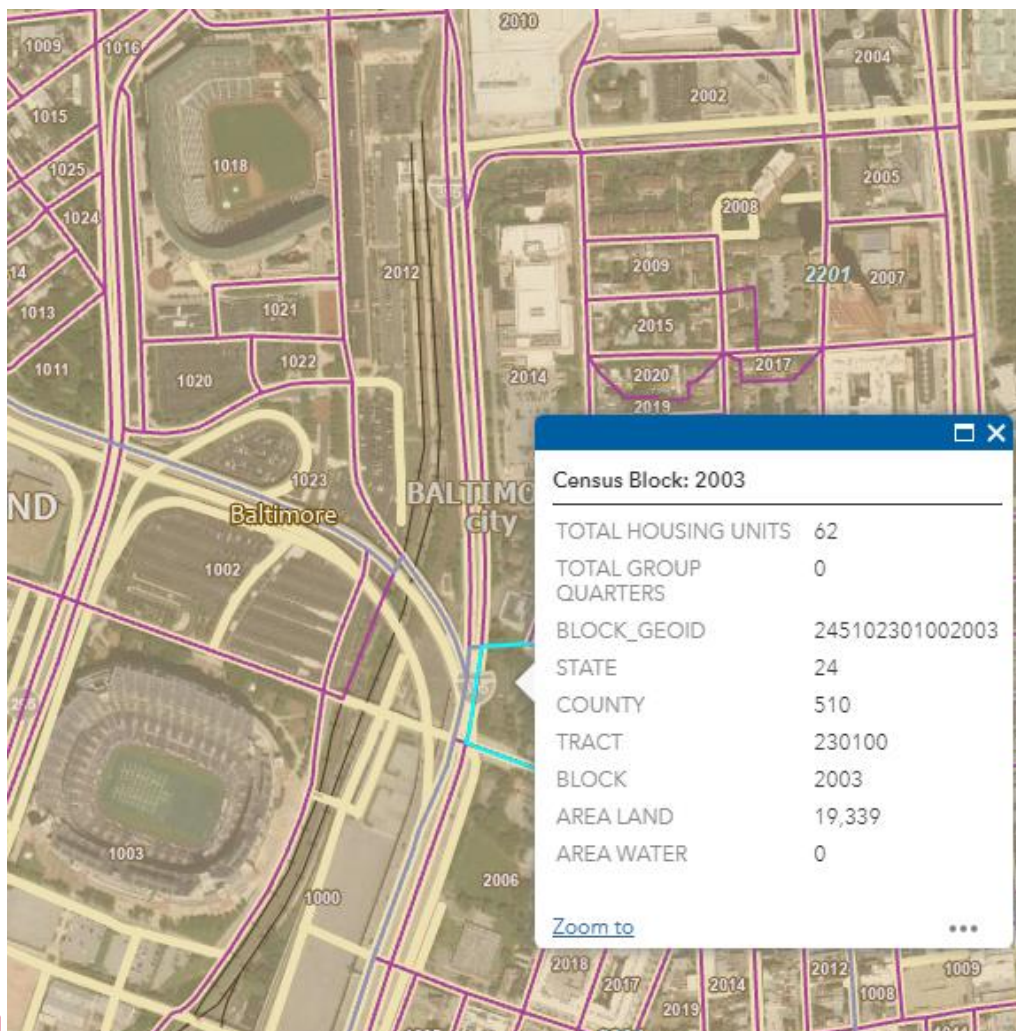
## **b) Respondent errors**

this can cause undercounts (or overcounts)

## **c) Disclosure Avoidance Systems**

distortions introduced to the summary tables in order to frustrate the personal identifiability of population characteristics – causes slight inaccuracy

# GIS DATA ON BLOCK BOUNDARIES



Population by race for blocks, block groups, tracts, municipalities and county geographies:

- [https://planning.maryland.gov/MSDC/Page/s/census/Census2020/pL\\_2020redistricting.aspx](https://planning.maryland.gov/MSDC/Page/s/census/Census2020/pL_2020redistricting.aspx)
- “True” boundaries maintained by County GIS departments

2020 Census boundaries, any state or county:

- [tigerweb.geo.census.gov/tigerweb2020/](https://tigerweb.geo.census.gov/tigerweb2020/)

2020 Census Address Count Listing Viewer:

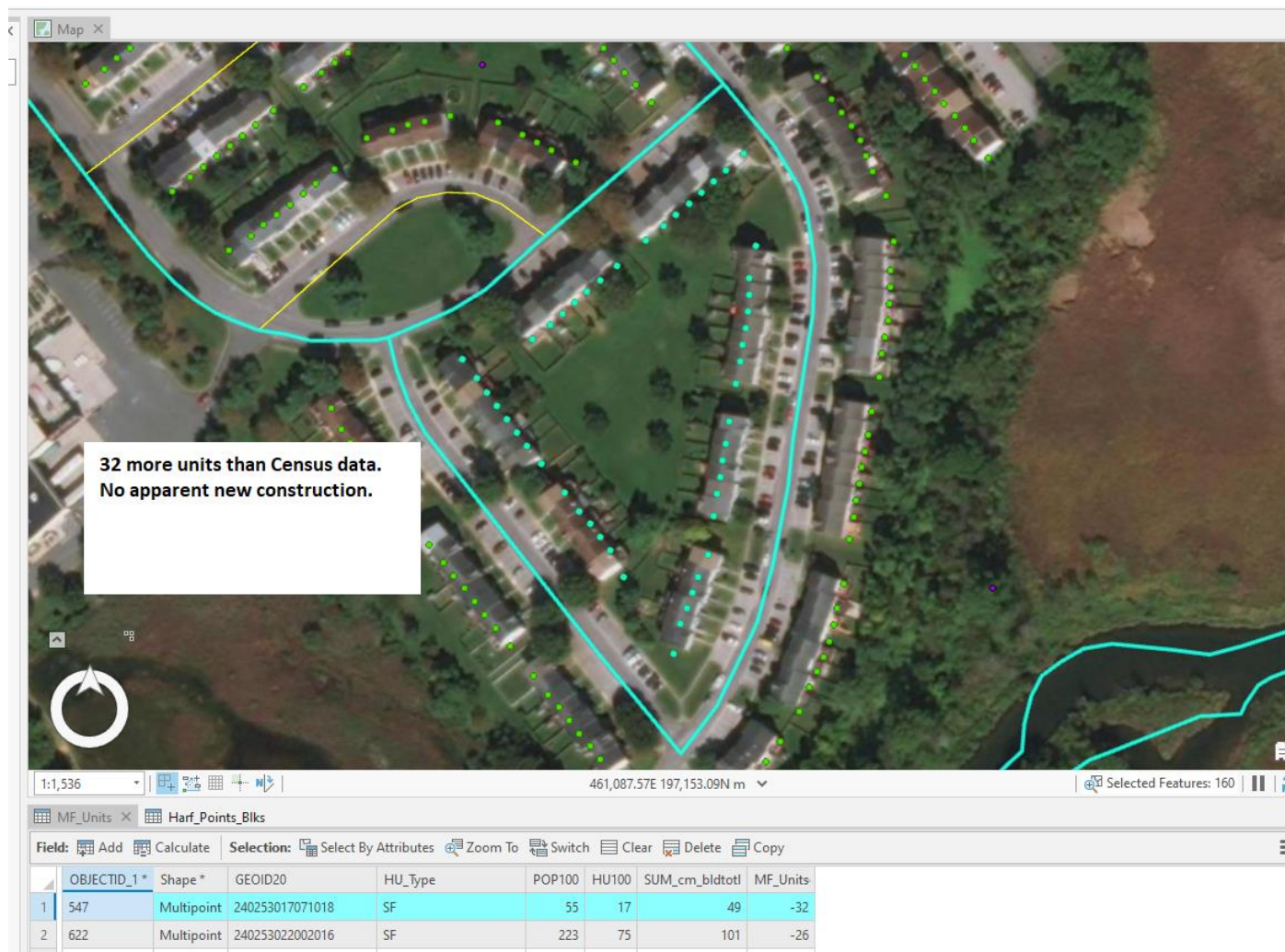
- [www.census.gov/data/data-tools.html](https://www.census.gov/data/data-tools.html)



# COMPARE VALIDATION DATASET WITH CENSUS HOUSING UNIT COUNTS

For valid comparison:

- Include only Residential addresses/units



# COMPARE VALIDATION DATASET WITH CENSUS HOUSING UNITS

For valid comparison:

- Exclude addresses too new to count





# COMPARE VALIDATION DATASET WITH CENSUS HOUSING UNITS

For valid comparison:

- Merits investigation: Was there an undercount? Are these apartment properties or subdivisions that Census missed?



# GUIDANCE ON CQR PROCESS

- Tribal, state, and local governments [should] review published 2020 Census results.
- If governmental units (GU's) suspect errors with boundaries or housing counts by block, GU may file a CQR case.
- Upon receipt of case by CQR staff, case materials are reviewed for correctness and completeness.
- CQR staff determines whether case is in-scope.
- In-scope cases are sent to Census staff for research and resolution.
- Census staff review 2020 Census enumeration and processing records in conjunction with the evidence supplied with the case.
  - If no processing errors are found, there will be no updates and the case is closed.
  - If processing errors are found, they are addressed within Census Bureau records and systems.
- The Census Bureau provides the disposition for each CQR case to the highest elected official(s) of all impacted government(s) via a determination letter, and posts any revised housing and population counts for each affected census block as errata on the 2020 CQR website

*Source: Matthew Frates, CQR Program, Census Bureau*

# COUNT QUESTION RESOLUTION

- Census will issue *errata* notices, all corrections, by Sept. 30, 2023
  - Data sets published on data.census.gov will *still* be in circulation
  - No changes to redistricting
  - But corrected numbers will be in the “base data” used for annual population estimates - which in turn informs budget and resource allocations, etc.

# TECHNICAL SUPPORT PROVIDED

## Maryland State Data Center offers

- Training, technical assistance, supporting data resources
- Tentatively anticipate hosting a workshop on the Count Question Resolution and the Post-Census Group Quarters Review.
- February 2022

# POST-CENSUS GROUP QUARTERS REVIEW

- Census received several comments to address errors in the GQ count as part of the CQR process.
- As this was not feasible, a new program was launched.
- No formal schedule for the PCGQR has been made available.
- The Census Bureau will conduct a PCGQR to collect information and incorporate all 2020 PCGQR revisions into supporting programs: intercensal population estimates and American Community Survey in 2022. Results will also be posted on the Census Bureau 2020 PCGQR website.

# PUBLIC USE MICRODATA SAMPLE AND PUBLIC USE MICRODATA AREAS



# 2020 CENSUS PUBLIC USE MICRODATA SAMPLE (PUMS)

- What are the PUMS files?
  - 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 incorporate disclosure protection so that individuals or housing units cannot be identified.

# PUMS GEOGRAPHIES

Data are available for specified geographies:

- U. S. Regions
- U. S. Divisions
- States
- Public Use Microdata Areas (PUMAs)
  - PUMAs have a minimum population threshold of 100,000 persons
  - PUMAs are the smallest geography for which PUMS data are available

# SCHEDULE FOR DELINEATING PUMAS

## Summer 2021

*Final 2020 PUMA criteria posted to Census web page.*

## September 2021

*Census Bureau officially announces the program.*

## Fall 2021

*Census Bureau conducts training online (Oct. 6th, Oct. 27th and Dec. 15th)*

## November 7, 2021

*Maryland State Data Center hosts online PUMA workshop*

## November 2021 - December 2021

*Maryland jurisdictions invited to submit updated PUMA delineations to State Data Center*

## December 2021 - January 2022

*State Data Center to review submissions and send PUMA updates to Bureau*

## Summer 2022

*Final 2020 PUMAs and their associated data are made available online*

# MARYLAND JURISDICTION POPULATION 2020 AND 2010

| JURISDICTION     | CENSUS           |                  | CHANGE         |             |
|------------------|------------------|------------------|----------------|-------------|
|                  | 2020             | 2010             | Net            | Percent     |
| <b>MARYLAND</b>  | <b>6,177,224</b> | <b>5,773,552</b> | <b>403,672</b> | <b>7.0%</b> |
| Allegany         | 68,106           | 75,087           | -6,981         | -9.3%       |
| Anne Arundel     | 588,261          | 537,656          | 50,605         | 9.4%        |
| Baltimore City   | 585,708          | 620,961          | -35,253        | -5.7%       |
| Baltimore County | 854,535          | 805,029          | 49,506         | 6.1%        |
| Calvert          | 92,783           | 88,737           | 4,046          | 4.6%        |
| Caroline         | 33,293           | 33,066           | 227            | 0.7%        |
| Carroll          | 172,891          | 167,134          | 5,757          | 3.4%        |
| Cecil            | 103,725          | 101,108          | 2,617          | 2.6%        |
| Charles          | 166,617          | 146,551          | 20,066         | 13.7%       |
| Dorchester       | 32,531           | 32,618           | -87            | -0.3%       |
| Frederick        | 271,717          | 233,385          | 38,332         | 16.4%       |
| Garrett          | 28,806           | 30,097           | -1,291         | -4.3%       |
| Harford          | 260,924          | 244,826          | 16,098         | 6.6%        |
| Howard           | 332,317          | 287,085          | 45,232         | 15.8%       |
| Kent             | 19,198           | 20,197           | -999           | -4.9%       |
| Montgomery       | 1,062,061        | 971,777          | 90,284         | 9.3%        |
| Prince George's  | 967,201          | 863,420          | 103,781        | 12.0%       |
| Queen Anne's     | 49,874           | 47,798           | 2,076          | 4.3%        |
| St. Mary's       | 113,777          | 105,151          | 8,626          | 8.2%        |
| Somerset         | 24,620           | 26,470           | -1,850         | -7.0%       |
| Talbot           | 37,526           | 37,782           | -256           | -0.7%       |
| Washington       | 154,705          | 147,430          | 7,275          | 4.9%        |
| Wicomico         | 103,588          | 98,733           | 4,855          | 4.9%        |
| Worcester        | 52,460           | 51,454           | 1,006          | 2.0%        |

# MARYLAND 2010 PUMAS AND POTENTIAL 2020 PUMAS

| JURISDICTION     | CENSUS           |                  | 2010 PUMA Count | Potential 2020 PUMA Count | 2020 POTENTIAL PUMA TYPE |          |           |
|------------------|------------------|------------------|-----------------|---------------------------|--------------------------|----------|-----------|
|                  | 2020             | 2010             |                 |                           | Single                   | Multi    | PUMA part |
| <b>MARYLAND</b>  | <b>6,177,224</b> | <b>5,773,552</b> | <b>44</b>       | <b>61</b>                 | <b>6</b>                 | <b>8</b> |           |
| Allegany         | 68,106           | 75,087           | 0.5             | pt                        |                          |          | X         |
| Anne Arundel     | 588,261          | 537,656          | 4               | 5                         |                          | X        |           |
| Baltimore City   | 585,708          | 620,961          | 5               | 5                         |                          | X        |           |
| Baltimore County | 854,535          | 805,029          | 7               | 8                         |                          | X        |           |
| Calvert          | 92,783           | 88,737           | 0.5             | pt                        |                          |          | X         |
| Caroline         | 33,293           | 33,066           | 0.2             | pt                        |                          |          | X         |
| Carroll          | 172,891          | 167,134          | 1               | 1                         | X                        |          |           |
| Cecil            | 103,725          | 101,108          | 1               | 1                         | X                        |          |           |
| Charles          | 166,617          | 146,551          | 1               | 1                         | X                        |          |           |
| Dorchester       | 32,531           | 32,618           | 0.2             | pt                        |                          |          | X         |
| Frederick        | 271,717          | 233,385          | 2               | 2                         |                          | X        |           |
| Garrett          | 28,806           | 30,097           | 0.5             | pt                        |                          |          | X         |
| Harford          | 260,924          | 244,826          | 2               | 2                         |                          | X        |           |
| Howard           | 332,317          | 287,085          | 2               | 3                         |                          | X        |           |
| Kent             | 19,198           | 20,197           | 0.2             | pt                        |                          |          | X         |
| Montgomery       | 1,062,061        | 971,777          | 7               | 10                        |                          | X        |           |
| Prince George's  | 967,201          | 863,420          | 7               | 9                         |                          | X        |           |
| Queen Anne's     | 49,874           | 47,798           | 0.2             | pt                        |                          |          | X         |
| St. Mary's       | 113,777          | 105,151          | 0.5             | 1                         | X                        |          |           |
| Somerset         | 24,620           | 26,470           | 0.34            | pt                        |                          |          | X         |
| Talbot           | 37,526           | 37,782           | 0.2             | pt                        |                          |          | X         |
| Washington       | 154,705          | 147,430          | 1               | 1                         | X                        |          |           |
| Wicomico         | 103,588          | 98,733           | 0.33            | 1                         | X                        |          |           |
| Worcester        | 52,460           | 51,454           | 0.33            | pt                        |                          |          | X         |

# REFERENCES

- About the Decennial Census of Population and Housing  
<https://www.census.gov/programs-surveys/decennial-census/about.html>
- Census Question Resolution  
[2020 Census Count Question Resolution Operation \(CQR\)](#)
- Public Use Microdata Areas  
<https://www.census.gov/programs-surveys/geography/guidance/geo-areas/pumas/2020pumas.html>
- 2010 Census PUMA Reference Maps  
<https://www.census.gov/geographies/reference-maps/2010/geo/2010-pumas/maryland.html>
- 2020 Public Use Microdata Areas (PUMA) FAQ document  
[https://www2.census.gov/geo/pdfs/reference/puma/2020PUMA\\_FAQs.pdf](https://www2.census.gov/geo/pdfs/reference/puma/2020PUMA_FAQs.pdf)
- Maryland State Data Center  
<https://planning.maryland.gov/Msdc/Pages/default.aspx>

# CONTACTS

Alfred Sundara  
Manager, Projections and State Data Center  
Maryland Department of Planning  
Ph: 410-767-4002  
Email: [Alfred.Sundara@maryland.gov](mailto:Alfred.Sundara@maryland.gov)

Jesse Ash  
PUMA Coordinator, Projections and State Data Ctr  
Maryland Department of Planning  
Ph: 410-767-4453  
Email: [Jesse.Ash@maryland.gov](mailto:Jesse.Ash@maryland.gov)

# Q&A