

# **Socio-Demographic Data Dashboards**

## **Technical Appendix**

For Version 1.1

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U.S. Department of Housing and Urban Development <sup>1</sup>

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## I. Introduction

The Socio-Demographic Data Dashboards (SDDD or “dashboards”) provide comprehensive data on the demographic, housing, and socioeconomic conditions of jurisdictions funded by the U.S. Department of Housing and Urban Development's (HUD) Office of Community Planning and Development (CPD) across the United States, the District of Columbia, and Puerto Rico in Fiscal Year (FY) 2023. The dashboards were developed to further HUD's commitment to providing accessible, data-driven tools to support local efforts to conduct effective community development planning. These dashboards can help local governments, Public Housing Agencies, states, and community organizations assess housing needs, comply with HUD regulations, and advance local housing and community development goals.

There are 1,334 FY 2023 CPD-funded local government jurisdictions that have a unique dashboard page (available at <https://data.huduser.gov/dashboard/>) to help analyze local conditions and needs.<sup>2</sup> The SDDD home webpage provides all the dashboards underlying data available for download as CSV files (also referred to as raw data files). The SDDD home webpage provides all the dashboards underlying data available for download as CSV files (also referred to as raw data files). While the dashboards feature user-friendly data visualizations summarizing demographic, housing, and socioeconomic conditions, it is important to note that the SDDD should be viewed as complementary to more current and geographically granular local data and community knowledge.

This technical appendix documents the underlying data, sources, and methods used to create the dashboards. It also serves as a reference to help users appropriately interpret the data presented. The technical appendix is organized as follows: Section II details the data sources used to create the dashboards; Section III describes the SDDD limitations for specific geographic contexts (rural areas, insular areas, and public housing authorities); Sections IV through VII explain the creation and appropriate use of the dashboards Demographics, Neighborhood Conditions, Housing Conditions, and Housing Assistance Organizations sections; Section VIII details the development and appropriate use of the fair housing complaint data provided in the dashboards raw data files and Section IX concludes the document by providing responses to users' Frequently Asked Questions (FAQ).

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<sup>2</sup> The full list of HUD jurisdictions for which a unique dashboard page is provided can be found in the SDDD raw data files, in the CSV named "jurisdiction\_summary\_file". Jurisdictions with “GRANTEE\_CATEGORY” equal to 1, or 2 will have generated dashboard pages. Please note that when the “GRANTEE\_CATEGORY” is equal to 3, or 4, this indicates a jurisdiction is a Different HOME Boundary or a Public Housing Authority respectively, and a dashboard page is currently not available. See the Raw Data File README for more information.

## II. Data Sources

| Data Source Name   | Geographic Level  | Dashboard Sections  | Visualization  | Data Release Date  |
|--|---|---|--|--|
| Internal HUD Office of Community Planning and Development (CPD) Crosswalk File   | HUD Jurisdiction  | Overview  | Map of Jurisdiction and Region Boundaries  | -  |
| Internal HUD calculated Region Boundary File   | HUD Regions (either Core Based Statistical Areas (CBSAs), or the non-CBSA remainder of a state) | Overview  | Map of Jurisdiction and Region Boundaries  | -  |
| <a href="#">HUD Geospatial Data Storefront - Estimated Public Housing Agency (PHA) Service Areas</a>   | HUD Jurisdictions (only PHA Jurisdictions)  | Overview  | Map of Jurisdiction and Region Boundaries  | August 2023  |
| <a href="#">Office of Community Planning and Development (CPD) FY23 Grant Funding Allocations</a>  | HUD Jurisdictions   | Overview  | Table of Fiscal Year (FY) 2023 Grant Funding   | May 2023   |
| American Community Survey (ACS) 2017-2021  | Tract, CBSA   | Demographics, Neighborhood Conditions, Housing Conditions | All census tract level maps, jurisdiction/region level tables, bar charts, and text                | December 2022  |
| Decennial Census (2010 and 2020)<br><br>Used by <a href="#">Othering and Belonging Institute (OBI), University of California, Berkeley</a> to calculate Residential Demographic Distributions categories | Tract   | Neighborhood Conditions                                   | Residential Demographic Distributions Map and Residential Demographic Distributions Map (Detailed) | 2010 Decennial Census: April 2011<br><br>2020 Decennial Census: May 2023 |
| <a href="#">Internal HUD calculations based on 5-year ACS 2017-2021, Decennial Census (2020); Longitudinal Tract Database (LTDB) based on Decennial Census (2000, 2010, 2020)</a>                        | Tract   | Demographics, Neighborhood Conditions, Housing Conditions | All census tract level maps feature a R/ECAPs overlay<br>R/ECAPs Over Time Map                     | December 2021  |

| Data Source Name  | Geographic Level | Dashboard Sections      | Visualization  | Data Release Date  |
|---|------------------|-------------------------|--|--|
|   |                  |                         | <p>R/ECAP, Jurisdiction, and Region Demographics Radar Chart and Table (2020 R/ECAPs only)</p> <p>R/ECAPs and Demographics Map (2020 R/ECAPs only)</p> |  |
| <p><a href="#">Council on Environmental Justice Screening Tool (CEJST)</a> (underlying data sources include: EJScreen 2022; ACS 2016-2020; Environmental Protection Agency (EPA) Facility Registry Service 2022; Department of Homeland Security (DHS) Homeland Infrastructure Foundation-Level Data (HIFLD) Census Block Group 2022; EPA Superfund Enterprise Management System database)</p>                                    | Tract            | Neighborhood Conditions | Environmental Exposure Index Map   | <p>November 2022</p> <p>(v2.0 December 2024 data is now available from CEJST, but November 2022 data, v1.0, was used in the Socio-Demographic Data Dashboards)</p> |
| <p><a href="#">Department of Transportation (DOT) Equitable Transportation Community (ETC) Explorer -Transportation Access Composite Variable</a> (underlying data sources include: Environmental Protection Agency (EPA) Smart Location Database, 2016-2020 U.S. Census American Community Survey (ACS) 5-year Estimates, ESRI, Department of Homeland Security (DHS) Homeland Infrastructure Foundation-Level Data (HIFLD))</p> | Tract            | Neighborhood Conditions | Transportation Barrier Index Map   | November 2022  |

| <b>Data Source Name</b>   | <b>Geographic Level</b>   | <b>Dashboard Sections</b>        | <b>Visualization</b>                       | <b>Data Release Date</b> |
|---|---|----------------------------------|--|--------------------------|
| <a href="#">HUD Geospatial Data Storefront - Multifamily Properties Assisted</a>                  | Point   | Housing Conditions               | Federally Subsidized Housing Maps and text | August 2024              |
| <a href="#">HUD Geospatial Data Storefront - 202 Properties</a>                                   | Point   | Housing Conditions               | Federally Subsidized Housing Maps and text | May 2024                 |
| <a href="#">HUD Geospatial Data Storefront - 811 Properties</a>                                   | Point   | Housing Conditions               | Federally Subsidized Housing Maps and text | August 2024              |
| <a href="#">HUD Geospatial Data Storefront - Low Income Housing Tax Credit (LIHTC) Properties</a> | Point   | Housing Conditions               | Federally Subsidized Housing Maps and text | December 2024            |
| <a href="#">HUD Geospatial Data Storefront - Public Housing Developments</a>                      | Point   | Housing Conditions               | Federally Subsidized Housing Maps and text | December 2024            |
| <a href="#">HUD Housing Counselor API Query Tool</a>  | Point   | Housing Assistance Organizations | HUD Housing Counselors Map                 | November 2024            |
| <a href="#">HUD Geospatial Data Storefront - Fair Housing Initiatives Program (FHIP) Grantees</a> | Point   | Housing Assistance Organizations | FHIP and FHAP Grantees Map                 | November 2024            |
| <a href="#">HUD Geospatial Data Storefront - Fair Housing Assistance Program (FHAP) Grantees</a>  | Point   | Housing Assistance Organizations | FHIP and FHAP Grantees Map                 | October 2024             |
| <a href="#">HUD Enforcement Management System (HEMS) Complaint Data</a>                           | Point, but aggregated up to jurisdiction and region for public use datafiles (PUFs) | -                                | -  | -                        |

### **III. Data Limitations**

#### **A. Public Housing Authorities**

While FY 2023 HUD local government jurisdictions have dashboard pages unique to each jurisdiction, Public Housing Authority (PHA) data is only available through the SDDD raw data files. These downloadable CSV files contain demographic, housing, and socioeconomic conditions data aggregated to PHA service areas.<sup>3</sup> The PHA service area geographic boundaries used for this aggregation were sourced from the Estimated Housing Authority Service Areas dataset available on HUD’s Geospatial Data Storefront (“Open Data Portal”).<sup>4</sup> However, users should note important limitations regarding these service areas: neither the methodology used to create these boundaries nor the geographic boundaries themselves have not been validated by HUD’s Office of Public and Indian Housing (PIH). As such, the PHA service area boundaries should be considered experimental, and users may need to verify PHA-level data provided in the raw data files against their own local knowledge of PHA boundaries. When using the point-level PHA data provided in the raw data files, it is recommended that users verify the information against PIH-maintained databases such as the Inventory Management System (IMS)/ PIH Information Center (PIC) or the Tenant Rental Assistance Certification System (TRACS).

#### **B. Rural Areas and Insular Areas**

The U.S. Census Bureau categorizes populated areas into three distinct types: 1) “urbanized areas” with 50,000 or more residents, 2) “urbanized clusters” with 2,500 to 49,999 residents, and 3) rural areas, which are defined by exclusion as any place that does not meet the aforementioned criteria. Rural areas present unique challenges for demographic analysis, in part because of their expansive census tracts, which can span hundreds of square miles, and limit the utility of tract-level data analysis. The demographic composition of rural areas often differs significantly from urban areas. For example, rural areas generally have a lower proportion of residents recognized as people of color which will likely affect how key demographic conditions, such as patterns of segregation, can be identified and measured.<sup>5</sup> Given these fundamental differences between urbanized areas and rural areas, communities in rural settings may need to reconsider and adapt certain demographic measures, such as Racially or Ethnically Concentrated Areas of Poverty (R/ECAPs), which are defined in the “Neighborhood Conditions” section of this Technical

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<sup>3</sup> Data is not available for any state-level PHAs.

<sup>4</sup> This dataset is available at <https://hudgis-hud.opendata.arcgis.com/datasets/HUD::estimated-housing-authority-service-areas-1/about>.

<sup>5</sup> U.S. Department of Agriculture Economic Research Service (2020). "Racial and ethnic minorities made up about 22 percent of the rural population in 2018, compared to 43 percent in urban areas." <https://www.ers.usda.gov/data-products/chart-gallery/gallery/chart-detail?chartId=99538>.



Appendix, to better reflect their local context when standard metrics included in the Socio-Demographic Data Dashboards prove insufficient.

Insular areas represent another distinct geography requiring special consideration when conducting geospatial data analysis. The U.S. Department of the Interior (DOI) defines insular areas as jurisdictions of the United States that are neither Federal districts, nor a part of the 50 states and the District of Columbia. Insular areas include American Samoa, Guam, Northern Mariana Islands, the U.S. Virgin Islands, and Puerto Rico, which holds a unique status as both an insular area and a commonwealth. A study conducted by the U.S. Government Accountability Office (GAO) found that insular areas often experience data gaps, primarily because these jurisdictions are not always included in federal statistical products.<sup>6</sup> Insular areas' exclusion from federal products stems from several factors including: elevated data collection costs, variations in reporting timelines, and distinct standards for data quality assessment. Furthermore, the demographic composition of insular areas often differs substantially from the continental United States, making certain demographic metrics less applicable. For example, analyzing limited English proficiency (LEP) to measure potential barriers to housing access may hold less relevance in communities where English is not the predominant language spoken, such as HUD jurisdictions located in Puerto Rico. While the SDDD include some data for Puerto Rican HUD jurisdictions, all jurisdictions in insular areas will need to seek alternative data sources and/or explore data collection efforts to support comprehensive analysis of demographic, housing, and socioeconomic conditions.

#### **IV. Demographics**

The “Demographics” section of the Socio-Demographic Data Dashboards largely draws from the 2017-2021 American Community Survey (ACS) to create visualizations that summarize demographic characteristics at the FY 2023 HUD jurisdiction and region levels. Demographic data can be used to ensure HUD grantee program compliance with laws such as Section 562 of the Housing and Community Development Act of 1987, Title VIII of the Civil Rights Act of 1968, Title VI of the Civil Rights Act of 1964, and more. Throughout this section, all maps incorporate an overlay for “Racially or Ethnically Concentrated Areas of Poverty” (R/ECAPs), which is a key socioeconomic metric developed by HUD that is explained in detail within the “Neighborhood Conditions” section of this Technical Appendix. The following subsections labeled A through H provide detailed information about the specific ACS tables and variables used to create the visualizations featured in the Demographics section of the SDDD, along with important contextual information users should be aware of when interpreting the dashboards' demographic data.

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<sup>6</sup> U.S. Government Accountability Office (2024). “U.S. Territories: Coordinated Federal Approach Needed to better Address Data Gaps” <https://www.gao.gov/assets/gao-24-106574.pdf>.

The ACS data in these dashboards show general neighborhood demographics. However, PHAs, local governments, and states receiving HUD funds are often required to collect more detailed demographic information on the specific populations they serve. When available, jurisdictions should use their own detailed demographic data rather than the Census data provided in the SDDD.

### **A. Families with Children**

The SDDD provides information on family households from the 2017-2021 American Community Survey (ACS) tables DP05, DP02, and S1101. The dashboards feature a text summary, table, and an interactive map to present a comprehensive overview of family households residing in the selected jurisdiction and its associated region. The table presents counts for the jurisdiction's total population, total number of families, and the total number and overall percentage of families with children. The map displays the percentage of families that have children under 18 in the selected jurisdiction and its broader region.

Note that the ACS defines "families" and "families with children" as households with 2 or more people related by birth, marriage, or adoption. Whereas the SDDD defines "families" as the total number of households (including unrelated individuals) to align with HUD programmatic criteria. The SDDD defines "families" as the total number of households, and "families with children" as the total number of households with members under 18 years old. This broader definition aligns with both HUD program requirements and other HUD tools such as the Affirmatively Furthering Fair Housing Data and Mapping Tool (AFFH-T). Users should note that ACS data on family households is not currently available for Puerto Rico.

Data Source: 2017-2021 U.S. Census American Community Survey 5-year Estimates, Tables DP05, DP02, and S1101

| <b>Dashboard Variable</b> | <b>ACS Variable Code</b> |
|---------------------------|--------------------------|
| Total Population          | DP05_0001E               |
| Total Families            | S1101_C01_001E           |
| Families with Children    | DP02_0014E               |

### **B. Age**

The SDDD presents data on age from the 2017-2021 5-year American Community Survey (ACS) table DP05. Users can view this information through a text summary, table, and interactive map. The map visualizes the percentage of residents under the age of 18 by census

tracts within the selected jurisdiction and associated region. The 2021 ACS collects age data based on survey respondents' completed years at the time of the interview.<sup>7</sup>

Users should be aware of the important distinctions between ACS and HUD age classifications when using the SDDD to inform HUD funding or programmatic decisions. For example, while the U.S. Census Bureau generally recognizes older adults as those aged 65 years and over, HUD's Section 202 Supportive Housing for the Elderly program sets its age eligibility threshold at 62 years and older.<sup>8</sup> Users must carefully consider whether the dashboards age data aligns with HUD specific program requirements and definitions to ensure accurate application of the SDDD information.

Data Source: 2017-2021 U.S. Census American Community Survey 5-year Estimates, Table DP05

| <b>Dashboard Variable</b>        | <b>ACS Variable Code</b> |
|----------------------------------|--------------------------|
| Total Population                 | DP05_0001E               |
| Number of Residents Under 18     | DP05_0019E               |
| Percent of Residents Under 18    | DP05_0019PE              |
| Number of Residents 65 and Over  | DP05_0024E               |
| Percent of Residents 65 and Over | DP05_0024PE              |

### **C. Race/Ethnicity**

The SDDD provides race and ethnicity data based on the 2017-2021 American Community Survey from tables DP05, B02001, and B03001. The dashboards feature a text summary, table, bar chart, and two interactive maps detailing the racial demographics of the selected jurisdiction and its associated region. The dashboards incorporate estimates and percentages of populations of each race and ethnicity category defined in the identified ACS tables. Since the U.S. Census Bureau categorizes Hispanic or Latino as an ethnicity separate from racial categories, the dashboards provide data for each racial group excluding ethnicity. In other words, the dashboards provide data for non-Hispanic White residents, non-Hispanic Black residents, non-Hispanic Native American residents, non-Hispanic Multiracial residents, non-Hispanic Asian/Pacific Islander residents, non-Hispanic Other Race residents, and Hispanic residents. In addition, the dashboards combine Asian, Native Hawaiian, and Other Pacific Islander into one

<sup>7</sup> U.S. Census Bureau (2021). American Community Survey and Puerto Rico Community Survey 2021 Subject Definitions, [https://www2.census.gov/programs-surveys/acs/tech\\_docs/subject\\_definitions/2021\\_ACSSubjectDefinitions.pdf](https://www2.census.gov/programs-surveys/acs/tech_docs/subject_definitions/2021_ACSSubjectDefinitions.pdf).

<sup>8</sup> Government Publishing Office. Code of Federal Regulations, Title 24, Part 891 (2012). <https://www.govinfo.gov/content/pkg/CFR-2012-title24-vol4/pdf/CFR-2012-title24-vol4-part891.pdf>.; U.S. Census Bureau (2024). "Older Adults in the United States: 2019 and 2022". <https://www.census.gov/library/visualizations/interactive/older-adults-in-the-united-states.html>.

racial category called “Asian/Pacific Islander” as the counts of Asian and Native Hawaiian/Pacific Islander are often very small and could lead to privacy concerns.

Data Source: 2017-2021 U.S. Census American Community Survey 5-year Estimates, Tables DP05, B02001, and B03001

| <b>Dashboard Variable Name</b>              | <b>ACS Variable Code</b>               |
|---|--|
| Total Population                            | DP05_0001E                             |
| Number of White Residents                   | DP05_0077E                             |
| Percent of White Residents                  | DP05_0077PE                            |
| Number of Black Residents                   | DP05_0078E                             |
| Percent of Black Residents                  | DP05_0078PE                            |
| Number of Hispanic Residents                | DP05_0071E                             |
| Percent of Hispanic Residents               | DP05_0071PE                            |
| Number of Asian/Pacific Islander Residents  | DP05_0080E + DP05_0081E                |
| Percent of Asian/Pacific Islander Residents | DP05_0080PE + DP05_0081PE / DP05_0001E |
| Number of Native American Residents         | DP05_0079E                             |
| Percent of Native American Residents        | DP05_0079PE                            |
| Number of Multiracial Residents             | DP05_0083E                             |
| Percent of Multiracial Residents            | DP05_0083PE                            |
| Number of Other Race Residents              | DP05_0082E                             |
| Percent of Other Race Residents             | DP05_0082PE                            |

#### **D. Foreign Born**

The SDDD provide data on foreign born populations based on the 2017-2021 American Community Survey (ACS) table DP02. This data is visualized with a text summary, table, and two interactive maps. The first map displays the percentage of foreign-born residents per census tract, while the second illustrates the geographic distribution of the Top 5 Countries of Birth for foreign-born residents within the selected jurisdiction and its broader region

A critical component of this section is the “Top 5 Countries of Birth” table, which was generated by analyzing population counts for each country of birth recorded in the ACS and ranking them by population size. In jurisdictions where there were fewer than five distinct countries of birth recorded in the ACS data; the table will display the next most populous countries of birth in the greater region (with an associated count of 0 in the jurisdiction table). Users should note that ACS data on foreign-born populations in Puerto Rico is limited and may be unavailable for certain jurisdictions and regions.

Data Source: 2017-2021 U.S. Census American Community Survey 5-year Estimates, Table DP02

| Dashboard Variable Name                             | ACS Variable Code |
|---|-------------------|
| Total Population                                    | DP02_0088E        |
| Number of Foreign Born Residents                    | DP02_0094E        |
| Percent of Foreign Born Residents                   | DP02_0094PE       |
| Number of Residents from Denmark, Brazil, ..., etc. | Table B05006      |

### E. Sex

The SDDD provide sex data from the 2017-2021 American Community Survey (ACS) table DP05. This data is visualized with a text summary, table, bar chart, and an interactive map for the selected jurisdiction and its associated region. The table provides a comprehensive breakdown of the jurisdiction's population by sex, including total numbers and percentage distributions for both men and women. The map shows the percentage of female residents per census tract, from which users can derive the percentage of males by calculating the inverse percentage.

Users should be aware of important limitations in how sex and gender are represented in the ACS sex data. The ACS only records binary male or female sex categories. However, as established in *Bostock v. Clayton Cty.*, 140 S. Ct. 1731 (2020), Title VII’s prohibition against sex discrimination includes sexual orientation and gender identity. For more comprehensive Sexual Orientation and Gender Identity (SOGI) data, users may reference alternative Census Bureau data products such as the Household Pulse Survey, which has collected SOGI data since 2021, or the American Housing Survey (AHS), which began collecting SOGI data in 2023. Both the Household Pulse Survey and the AHS are available for select Metropolitan Statistical Areas (MSAs).

Data Source: 2017-2021 U.S. Census American Community Survey 5-year Estimates, Table DP05

| Dashboard Variable        | ACS Variable Code |
|---------------------------|-------------------|
| Total Population          | DP05_0001E        |
| Total Male Population     | DP05_0002E        |
| Percent Male Population   | DP05_0002PE       |
| Total Female Population   | DP05_0003E        |
| Percent Female Population | DP05_0003PE       |

## F. Disability Status and Type

The SDDD provide data on disability status and type of disability sourced from the 2017-2021 5-year American Community Survey (ACS) subject table S1810. Users can view this information through a text summary, table, and two interactive maps. The first map displays the percentage of residents with any disability by census tracts within the selected jurisdiction and associated region. The second map provides a dot density visualization to display the distribution of individuals by disability type, where each dot represents 75 people. In the 2021 5-year ACS, “any disability” is defined as the total count of individuals reported to have at least one of six distinct disability types. Please note that individuals reporting multiple disabilities are only counted once in the ACS’s “any disability” total. Therefore, the total number of people with “any disability” will be lower than the sum of individual disability counts across all disability types. The ACS disability type definitions<sup>9</sup> are as follows:

| <b>Disability Type</b>        | <b>Definition</b>   | <b>Acronym</b> |
|-------------------------------|---|----------------|
| Hearing Difficulty            | Deaf or having serious difficulty hearing   | DEAR           |
| Vision Difficulty             | Blind or having serious difficulty seeing, even when wearing glasses  | DEYE           |
| Cognitive Difficulty          | Because of a physical, mental, or emotional problem, having difficulty remembering, concentrating, or making decisions                    | DREM           |
| Ambulatory Difficulty         | Having serious difficulty walking or climbing stairs  | DPHY           |
| Self-care Difficulty          | Having difficulty bathing or dressing   | DDRS           |
| Independent Living Difficulty | Because of a physical, mental, or emotional problem, having difficulty doing errands alone such as visiting a doctor’s office or shopping | DOUT           |

The disability definitions used by HUD housing programs may differ from the ACS classifications. For example, the Section 811 Supportive Housing for Persons with Disabilities program defines disability status according to a specific set of criteria, in part based on section

<sup>9</sup> “How Disability Data are Collected from The American Community Survey”. United States Census Bureau. Nov. 21, 2021. <https://www.census.gov/topics/health/disability/guidance/data-collection-acs.html>.

102(7) of the Developmental Disabilities Assistance and Bill of Rights Act.<sup>10</sup> When using the dashboards to inform HUD funding applications or allocation decisions, users should ensure their analysis aligns with the disability definitions specific to their HUD funding source.

Data Source: 2017-2021 U.S. Census American Community Survey 5-year Estimates, Table S1810

| <b>Dashboard Variable Name</b>                         | <b>ACS Variable Code</b> |
|--|--------------------------|
| Total Population                                       | DP05_0001E               |
| Number of Residents with Any Disability                | S1810_C02_001E           |
| Number of Residents with Hearing Disability            | S1810_C02_019E           |
| Number of Residents with Vision Disability             | S1810_C02_029E           |
| Number of Residents with Cognitive Disability          | S1810_C02_039E           |
| Number of Residents with Ambulatory Disability         | S1810_C02_047E           |
| Number of Residents with Self-Care Disability          | S1810_C02_055E           |
| Number of Residents with Independent Living Disability | S1810_C02_063E           |

## **G. Language**

The dashboards provide data on language proficiency and linguistic diversity based on the 2017-2021 American Community Survey (ACS) tables DP02 and S1601. The dashboards feature both total population estimates and percentages of individuals who speak English less than "very well," commonly referred to as limited English proficiency (LEP). The ACS language data incorporated in the dashboards is visualized through a text summary, two tables, and two interactive maps. The first map displays the percentage of LEP residents across census tracts within both the selected jurisdiction and its broader region. The second map provides a dot density visualization of the Top 5 Language Groups spoken besides English, where each dot represents 75 people. In jurisdictions where there were fewer than five distinct non-English languages spoken as recorded in the ACS data, the table displays the next largest non-English languages spoken in the greater region (with an associated count of 0 in the jurisdiction table).

Due to limitations presented by the U.S. Census Bureau's language data collection processes, users will notice that the language groups presented in the dashboards are classified in broad categories.<sup>11</sup> Additionally, the SDDD's language tables and maps utilize ACS measures that may

<sup>10</sup> Code of Federal Regulations, Title 24, Part 891. (2012). Government Publishing Office. Page 88, <https://www.govinfo.gov/content/pkg/CFR-2012-title24-vol4/pdf/CFR-2012-title24-vol4-part891.pdf>.

<sup>11</sup> To learn more the broader language group classifications used by the U.S. Census Bureau, visit: "About Language Use in the U.S. Population" (2021). <https://www.census.gov/topics/population/language-use/about.html>.

not provide useful insights for some jurisdictions or regions. For example, the primary language spoken in Puerto Rico is Spanish; therefore, limited English proficiency may not have as significant an impact in participating in HUD programs.

Data Source: 2017-2021 U.S. Census American Community Survey 5-year Estimates, Tables DP02 and S1601

| Dashboard Variable Name   | ACS Variable Code |
|---|-------------------|
| Total Population  | DP02_0088E        |
| Number of Limited English Proficiency Residents   | S1601_C05_001E    |
| Percent of Limited English Proficiency Residents  | S1601_C05_001E    |
| Number of Limited English Proficiency Residents who speak Spanish, Tagalog, German, .... etc. | Table C16001      |

## H. Poverty Rates

The SDDD provide poverty rate data from the 2017-2021 American Community Survey (ACS) subject table S1071. The dashboards feature a text summary, table, and an interactive map. The map shows the percentage of residents experiencing poverty by census tracts in the selected jurisdiction and its associated region. The table includes the total population for whom poverty status is determined, as well as the total population and percentage of residents in the jurisdiction that are in poverty.

The U.S. Census Bureau determines poverty status using the Official Poverty Measure (OPM), which compares pre-tax cash income (including earnings, Social Security, pensions, and disability benefits) against a national poverty threshold adjusted by family composition. In 2021, these thresholds were set at \$27,479 for a family of four with two children and \$16,400 for a single person under 65 years of age. The thresholds used to determine poverty status remain constant across geographic areas and exclude capital gains and non-cash benefits such as public housing, Medicaid, and food stamps. However, the U.S. Census Bureau does not determine poverty status for several populations, which is why the SDDD include the number of residents in a jurisdiction for whom poverty status is determined. The Census notes that poverty status cannot be determined for Americans who live in institutional group quarters (such as prisons or nursing homes), college dormitories, military barracks, those without conventional housing (and who are not in shelters) and unrelated individuals under the age of 15 (such as foster children).<sup>12</sup>

Users should note that while the dashboards present Census poverty rates to visualize spatial distributions of poverty and their relationship to other demographics and Racially or Ethnically

<sup>12</sup> U.S. Census Bureau (2023). "How the Census Bureau Measures Poverty". <https://www.census.gov/topics/income-poverty/poverty/guidance/poverty-measures.html#:~:text=People%20Whose%20Poverty%20Status%20Cannot,Military%20barracks.>



Concentrated Areas of Poverty (R/ECAPs), HUD programs generally do not use Census poverty rates for income eligibility determinations.

Data Source: 2017-2021 U.S. Census American Community Survey 5-year Estimates, Table S1701

| Dashboard Variable Name                          | ACS Variable Code |
|--|-------------------|
| Population for whom poverty status is determined | S1701_C01_001E    |
| Population in poverty                            | S1701_C02_001E    |

## V. Neighborhood Conditions

### A. Racially or Ethnically Concentrated Areas of Poverty (R/ECAPs)

Racially or Ethnically Concentrated Areas of Poverty (R/ECAPs) are census tracts recognized by HUD as areas with high concentrations of poverty and racial or ethnic minorities.<sup>13</sup> HUD developed a formula to designate census tracts as R/ECAPs by setting a racial or ethnic concentration threshold and poverty test. To qualify as a R/ECAP, census tracts must have:

1. A majority non-White population (greater than 50 percent) *AND*
  2. A poverty rate greater than or equal to 40 percent,
- OR*
3. A poverty rate greater than or equal to three times the tract average for the metro area (whichever is lower)

This criterion translates into the following equation:

$$R/(ECAP_i) = \text{yes ... if ...} \left\{ PovRate_i \geq [3 \times \mu_{PovRate}^{cbsa}] \text{ or } PovRate_i \geq 0.4 \cap \left[ \frac{[(Pop]_i - NHW_i)}{Pop_i} \right] \geq 0.50 \right\}$$

Here  $i$  represents census tracts,  $\mu_{PovRate}^{cbsa}$  is the metropolitan/micropolitan (CBSA) mean tract poverty rate,  $PovRate_i$  is the  $i$ th tract poverty rate,  $NHW_i$  is the non-Hispanic White population in tract  $i$ , and  $Pop$  is the population in tract  $i$ . While this definition of R/ECAP works well for census tracts in CBSAs, tracts outside of these geographies are unlikely to have racial or ethnic group concentrations as high as 50 percent. In these areas, the racial/ethnic group concentration threshold is set at 20 percent.

<sup>13</sup> For a full description of HUD's definition of R/ECAPs, please visit the Department's Office of Policy Development and Research website at this link: [Racially or Ethnically Concentrated Areas of Poverty \(R/ECAPs\) | HUD Open Data Site](#).

The R/ECAP, Jurisdiction, and Region Demographics radar chart and table included in the SDDD allows users to compare demographics for all R/ECAPs found within the selected jurisdiction to the demographics of the jurisdiction and region respectively. Radar charts enable readers to see the “over” and “underrepresentation” of specific demographic groups as percentages, while the data table helps compare the raw totals for jurisdictions, regions and R/ECAPs. The majority of maps featured in the SDDD allow users to overlay census tracts designated as R/ECAPs in 2020. The two interactive maps in the R/ECAPs section are:

- R/ECAPs Over Time: allows a user to compare how R/ECAP designations have evolved in a jurisdiction from 2000, 2010, to 2020. Please note that the demographics provided in the popup tables for R/ECAPs in 2000, 2010, and 2020 are sourced from the 2017-2021 5-year ACS.
- R/ECAPs and Demographics: allows a user to compare the distribution of demographic characteristics such as race and ethnicity, disability status, and languages spoken with R/ECAP boundaries

All R/ECAPs across all years have geographic boundaries in terms of 2020 Decennial Census tracts. 2020 R/ECAPs use demographic data (i.e. race/ethnicity and poverty data) from the 2020 Decennial Census and the 2016-2020 5-year ACS. The 2010 and 2000 R/ECAPs are identified using demographic data from the 2000 and 2010 decennial Census respectively to determine if a tract qualifies as a R/ECAP. To convert the 2000 and 2010 tract level demographic data into 2020 tract boundaries, the National Historical Geographic Information System (NHGIS) crosswalk files are used.

Data Source: Internal HUD calculations based on 5-year ACS 2017-2021, Decennial Census (2020); Longitudinal Tract Database (LTDB) based on Decennial Census (2000, 2010, 2020)

| <b>R/ECAP Variable</b>   | <b>Data Source</b>                              | <b>Table Variable</b> |
|--|---|-----------------------|
| Poverty Status in the Past 12 Months by Sex by Age               | 2016 – 2020 5-year American Census Survey (ACS) | ACS1620-B17001        |
| Hispanic or Latino Origin by Race                                | 2016 – 2020 5-year American Census Survey (ACS) | ACS1620-B03002        |
| Total Population   | 2020 Decennial Census                           | 2020_DHCa-P1          |
| Hispanic or Latino Origin of Householder by Race of Householder) | 2020 Decennial Census                           | 2020_DHCb-PCT1        |

## B. Residential Demographic Distributions

To assist users with understanding the racial distribution of residents within HUD jurisdictions and regions, the Socio-Demographic Data Dashboards feature two interactive maps providing information on segregation and integration. These maps were created with data developed by the Othering and Belonging Institute (OBI) at the University of California, Berkeley to measure racial residential segregation and integration across all census tracts in the United States.<sup>14</sup>

The first map in the Residential Demographic Distributions section of the dashboards display census tracts designated as one of three categories: Racially Integrated, Low-Medium Segregation, or High Segregation. “Racially Integrated” census tracts must meet all of the following criteria:

1. A Divergence Index score in the bottom third of all tracts nationally
2. An Entropy score in the top 50 percent of all tracts nationally; and
3. A Black and Latino population of at least 20 percent.

The Divergence Index measures segregation by comparing how racial groups are distributed in a smaller area (such as a census tract) in comparison to a larger area (such as a Core-Based Statistical Area (CBSA) or county).<sup>15</sup> The Divergence Index values range from 0 upward. A score of 0 means the racial composition of a neighborhood perfectly mirrors its broader region, suggesting no segregation. Higher scores indicate greater differences between the two areas, pointing to segregation. In comparison to Divergence, Entropy measures *diversity* (and not segregation) by evaluating how evenly racial groups are distributed within an area.<sup>16</sup> Entropy scores range from 0 to 1, with higher scores indicating more racial diversity. Recent research has established benchmarks within this range, as scores under 0.37 indicate “Low Diversity” areas, while scores above 0.74 represent “High Diversity” areas.<sup>17</sup> Census tracts designated as “High Segregation” have a Divergence Index score in the top third of all tracts nationally. “Low-Medium Segregation” applies to census tracts that do not meet the “Racially Integrated” or “High Segregation” criteria.

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<sup>14</sup> For detailed information on how these segregation and integration categories were calculated please see OBI’s technical appendix ([https://belonging.berkeley.edu/technical-appendix#footnote35\\_9lo058x](https://belonging.berkeley.edu/technical-appendix#footnote35_9lo058x)), as this document contains an abbreviated summary.

<sup>15</sup> For more information on the methods used by OBI to calculate Divergence Index scores nationally, please read their Technical Appendix: [https://belonging.berkeley.edu/technical-appendix#footnote35\\_9lo058x](https://belonging.berkeley.edu/technical-appendix#footnote35_9lo058x).

<sup>16</sup> For more information on the methods used by OBI to calculate Entropy scores nationally, please read their Technical Appendix: [https://belonging.berkeley.edu/technical-appendix#footnote35\\_9lo058x](https://belonging.berkeley.edu/technical-appendix#footnote35_9lo058x).

<sup>17</sup> Jonathan Chipman et al., “MixedMetro: Mapping Diversity and Segregation in the USA,” accessed January 4, 2025, <http://www.mixedmetro.us/>.

The second map, labeled as Residential Demographic Distributions Map (Detailed), maintains the Low-Medium Segregation and Racially Integrated categories while subdividing the High Segregation category into High White Segregation and High POC Segregation. “High White Segregation” is defined by three criteria:

1. A Divergence Index score in the top third of all tracts nationally
2. A majority white population
3. A white Location Quotient above 1.2.

The Location Quotient details one racial group’s representation in a census tract relative to its larger area. For example, a census tract with a white Location Quotient value above 1.2 indicates the white population is more concentrated in that tract than in its Core-Based Statistical Area (CBSA), or county if the tract is located outside of a CBSA. OBI defines “High POC Segregation” areas as census tracts with a Divergence Index score in the top third of all tracts nationally, that was not already identified as a “High White Segregation” area.

For both maps in the Residential Demographic Distributions section, users have the ability to check a box to display segregation and integration categories for either 2010 or 2020 (determined based on demographic data from the 2010 and 2020 Decennial Census respectively). Users should take caution when using the data provided in this section to make geographic comparisons, given that all data is displayed using 2010 census tract boundaries, even when showing 2020 data. NHGIS crosswalks were used to convert the 2020 data into 2010 tract boundaries.

It is important to note that the categories described above are not federally defined measures. When users utilize the SDDD to inform Departmental funding decisions or other administrative needs, HUD funding recipients must ensure all terminology and data comply with the funding source requirements specified in program guidance. The OBI segregation and integration data is currently not available for Puerto Rico. Note: A census tract may also have a designation of “NA” if the tract has a total population of zero, or if tract has a Divergence Index or Entropy score of zero.

Data Source: Decennial Census (2010 and 2020) used by Othering and Belonging Institute (OBI), University of California, Berkeley to calculate Residential Demographic Distributions categories.

### **C. Environmental Exposure Index**

This section contains one interactive map that shows Environmental Exposure Index values by census tracts in the selected jurisdiction and its associated region, along with individual toggleable data layers. This index is presented in the SDDD as a national percentile ranging from 0 to 100, where higher scores indicate greater community exposure to environmental toxins. HUD created this index using seven environmental indicators sourced from the Council on Environmental Justice Screening Tool (CEJST), which are described in detail below:

1. **PM 2.5 in the air:** The weight of fine inhalable particles with 2.5 or smaller micrometer diameters. The underlying data source for this variable is a Fusion of model and monitor data from 2017 as compiled by Environmental Protection Agency's (EPA) EJScreen, sourced from the EPA National Air Toxics Assessment (NATA) and the U.S. Department of Transportation (DOT) traffic data.<sup>18</sup>
2. **Diesel particulate matter exposure:** Mixture of particles in diesel exhaust in the air, measured as micrograms per cubic meter. The underlying data source for this variable is [Traffic data](#) from 2017 as compiled by EPA's EJScreen.
3. **Lead Paint:** Share of homes built before 1960, which indicates potential lead paint exposure. Tracts with extremely high home values (i.e., median home values above the 90th percentile) that are less likely to face health risks from lead paint exposure are not included. The underlying data source for this variable is the 2015-2019 5 Year ACS.
4. **Proximity to Hazardous Waste Facilities:** Number of hazardous waste facilities (Treatment, Storage, and Disposal Facilities and Large Quantity Generators) within 5 kilometers (or nearest beyond 5 kilometers), each divided by distance in kilometers. The underlying data source for this indicator is [Treatment, Storage, and Disposal Facilities \(TSDF\) data](#) from 2020 calculated from EPA's RCRA database as compiled by EPA's EJScreen.
5. **Proximity to Superfund Sites:** Number of proposed or listed Superfund or National Priorities list (NPL) sites within 5 kilometers (or nearest one beyond 5 kilometers), each divided by distance in kilometers. The underlying data source for this indicator is the [CERCLIS database](#) from 2020 as compiled by EPA's EJScreen.
6. **Leaky underground storage tanks:** Weighted formula of the density of leaking underground storage tanks and the number of all active underground storage tanks within 1,500 feet of the census tract boundaries. The underlying data source for this indicator is EPA's [UST Finder](#) from 2021 as compiled by EPA's EJScreen.
7. **Wastewater discharge:** Risk-Screening Environmental Indicators (RSEI) modeled toxic concentrations at stream segments within 500 meters, divided by distance in kilometers. The underlying data for this indicator is the [Risk-Screening Environmental Indicators \(RSEI\) model](#) from 2020 as compiled by EPA's EJScreen.
8. **Share Lead Paint:** Share of homes built before 1960, which indicates potential lead paint exposure. Tracts with extremely high home values (i.e., median home values above the 90th percentile) that are less likely to face health risks from lead paint exposure are not included. Data is sourced from the 2015-2019 ACS.

Each of the above variables used to create the Index are numeric (with different ranges) and were originally available from CEJST at the 2010 census tract level (or aggregated/calculated at the 2010 tract level). These variables were converted to 2020 census tract boundaries using the

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<sup>18</sup> For more information, see the CEJST technical support document here: <https://static-data-screeningtool.geoplatform.gov/data-versions/2.0/data/score/downloadable/cejst-technical-support-document.pdf>.

National Historical Geographic Information System (NHGIS) 2010/2020 Crosswalk. The raw values were then averaged together to create a raw Environmental Exposure Index. Then, the environmental indicator variables were converted into national percentiles to standardize the scale of the variables.

Users should note two important limitations regarding the Environmental Exposure Index. First, much of the underlying environmental data is unavailable for Puerto Rico, so the Environmental Exposure Index map is not available for HUD jurisdictions in Puerto Rico. Second, Connecticut's 2022 county code changes are not reflected in the NHGIS crosswalk, which may result in incorrect county names appearing in any Connecticut jurisdiction maps.

#### **D. Transportation Barrier Index**

This section contains one interactive map that shows the Transportation Barrier Index values for census tracts in the selected jurisdiction and its associated region. The index is presented as a national percentile, with values ranging from 0 to 100, where higher scores indicate greater transportation barriers in a community. These barriers (detailed below) include longer commute times and difficulty traveling via cars, walking, or transit. Index values are provided as percentile rankings. A census tract's percentile ranking shows its position relative to all U.S. census tracts. For example, if a census tract has a Transportation Barrier Index score in the 65<sup>th</sup> percentile, it faces more transportation barriers than 65 percent of all census tracts in the United States.

The Transportation Barrier Index data draws from the Department of Transportation's (DOT) Equitable Transportation Community Explorer (ETC) tool. The ETC tool has a "Transportation Insecurity" index that is made up of 3 subcomponents: Transportation Access, Transportation Cost, and Transportation Safety. The Transportation Access subcomponent combines four data indicators (No Personal Vehicle, Average Commute Time to Work, Peak Transit Frequency per Square Mile, and Jobs Within a 45-Minute Drive) into a single measure. The underlying data sources for these indicators include the Environmental Protection Agency (EPA) Smart Location Database, 2016-2020 U.S. Census American Community Survey 5-year Estimates, the Department of Homeland Security (DHS) Homeland Infrastructure Foundation-Level Data (HIFLD), and custom DOT calculations.<sup>19</sup> The Climate and Economic Justice Screening Tool (CEJST) extracts this "Transportation Access" subcomponent and converts it to national percentile rankings, labeling it as "Transportation Barriers." The SDDD adopts this same data for the Transportation Barrier Index. To clarify, the "Transportation Barrier" variable found in the CEJST, the "Transportation Access" subcomponent found in the ETC, and the Transportation Barrier Index found in the SDDD are all derived from the exact same data.

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<sup>19</sup> For more information on the underlying data, see DOT's technical documentation available at: <https://www.transportation.gov/sites/dot.gov/files/2023-05/5.2.23ETC%20Explorer%20Technical%20DocumentationFinal.pdf>.

The Transportation Barrier Index data was originally compiled using 2010 Census tract boundaries. To align with the 2020 tract boundaries used by other data in the dashboards, we used the National Historical Geographic Information System (NHGIS) geographic crosswalks to convert the index values to 2020 Census tract boundaries. This conversion process involved transforming raw data values from 2010 to 2020 tracts using appropriate NHGIS weights, followed by recalculating national percentiles using the adjusted 2020 tract-level data. To be specific, the raw data values were transformed from 2010 tracts into 2020 tracts with appropriate weights from the NHGIS crosswalk. Then national percentiles were re-calculated using the adjusted 2020 tract level data.

Users should note two important limitations: first, the underlying data used to create the Transportation Barrier Index is unavailable for Puerto Rico, so the interactive map is not available for HUD jurisdictions in Puerto Rico. Second, Connecticut's 2022 county code changes are not reflected in the NHGIS crosswalk, which may result in incorrect county names appearing in Connecticut jurisdiction maps.

Data Source: Department of Transportation (DOT) Equitable Transportation Community (ETC) Explorer Tool – Transportation Access Composite Variable. Underlying data sources include Environmental Protection Agency (EPA) Smart Location Database, 2016-2020 U.S. Census American Community Survey (ACS) 5-year Estimates, ESRI, Department of Homeland Security (DHS) Homeland Infrastructure Foundation-Level Data (HIFLD)

## **VI. Housing Conditions**

### **A. Housing Cost Burden**

The Socio-Demographic Data Dashboards allow users to analyze housing affordability challenges within jurisdictions and their associated regions. The dashboards use 2017-2021 American Community Survey (ACS) data from table B25106, B25070, and B25091 to create a bar chart, table, and four interactive maps that display the percentage of cost burdened and severely cost burdened homeowner and renter households.

The dashboards use ACS definitions of housing cost burden. A household is considered cost burdened if it spends more than 30 percent of monthly income on housing costs and severely cost burdened if spending exceeds 50 percent. Housing costs are defined differently for renters and homeowners: for renters, costs are limited to rent, while homeowner costs include mortgages, taxes, condo fees, utilities, and other expenses.<sup>20</sup> While HUD's definitions of cost burden

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<sup>20</sup> For the full list of selected owner costs included, please see page 36 of the [ACS and Puerto Rico Community Survey Subject Definitions 2022](#).

generally align with these ACS definitions, users should verify specific HUD program requirements when using this data to inform funding or programmatic decisions.

The table and bar chart provide both counts and percentages of cost burdened and severely cost burdened households in the jurisdiction, with separate breakdowns for renters and homeowners. The four interactive maps display these same metrics geographically, showing the percentage of cost burdened and severely cost burdened households by census tract, with separate maps for renters and homeowners. Users should view only one cost burden layer at a time for optimal map interpretation.

Data Source: 2017-2021 U.S. Census American Community Survey 5-year Estimates, table B25106

| <b>Dashboard Variable Name</b>              | <b>ACS Variable Code</b>   |
|---|--|
| Total Number of Households                  | B25106_001E  |
| Number of Homeowners                        | B25106_002E  |
| Number of Renters                           | B25106_024E  |
| Number of Cost Burdened Homeowners          | B25091_008E +<br>B25091_009E +<br>B25091_010E +<br>B25091_011E +<br>B25091_019E +<br>B25091_020E +<br>B25091_021E +<br>B25091_022E |
| Number of Severely Cost Burdened Homeowners | B25091_011E +<br>B25091_022E   |
| Number of Cost Burdened Renters             | B25070_007E +<br>B25070_008E +<br>B25070_009E +<br>B25070_010E   |
| Number of Severely Cost Burdened Renters    | B25070_010E  |

## **B. Homeownership Rates**

The dashboards allow users to explore overall homeownership rates by race and ethnicity in the selected jurisdiction. The homeownership rates table features the total number of households, homeowners, renters, and the jurisdiction’s overall homeownership rate. The calculation for homeownership rate is the percentage of total occupied housing units that are owner-occupied.



The bar chart shows the homeownership rate among different races and ethnicities (shown in green) in the jurisdiction and features a yellow line that indicates the overall homeownership rate in the jurisdiction.

Data Source: 2017-2021 U.S. Census American Community Survey 5-year Estimates, table S2503

| Dashboard Variable Name | ACS Variable Code |
|-------------------------|-------------------|
| Total Households        | S2503_C01_001E    |
| Number of Homeowners    | S2503_C03_001E    |
| Number of Renters       | S2503_C05_001E    |

### C. Federally Subsidized Housing

The Federally Subsidized Housing section of the Socio-Demographic Data Dashboards shows the location of HUD-subsidized rental housing programs serving low-income renters, elderly individuals, people with disabilities, and other eligible populations. The dashboards provide property locations and select tenant demographics for two types of housing assistance programs:

1. *Public Housing:* These are federally funded residential properties built and managed by Public Housing Authorities (PHAs) to serve very low-income households. Eligibility is determined by PHAs.
2. *Privately Owned, Project Based:* These programs provide subsidies that are tied to specific privately-owned units, often referred to as "assisted multifamily properties." There are many programs under this umbrella, though the SDDD features four main programs:
  - Section 8 Project Based Rental Assistance (PBRA): Provides rental assistance in privately owned or non-profit developments
  - Section 811 Supportive Housing: Offers subsidized units with supportive services for eligible very low-income individuals with disabilities
  - Section 202 Supportive Housing: Provides subsidized units with supportive services for eligible very low-income seniors
  - Low-Income Housing Tax Credit (LIHTC): Offers affordable, income-restricted units that were developed through the LIHTC tax incentive managed by the U.S. Department of Treasury

The dashboards include a text summary and three interactive maps using data from HUD's Geospatial Data Storefront ("Open Data Portal"). The first map displays the location of properties covered by the programs mentioned above, allowing users to understand the spatial distribution of federally subsidized housing in the selected jurisdiction and its associated region. The second map enables users to overlay demographic data (race, disability status, languages spoken, and foreign-born population distributions) on federally subsidized housing locations.

The third map allows the user to overlay federally subsidized housing locations on census tracts' designated " Residential Demographic Distributions" categories, as explained in detail in the "Neighborhood Conditions" section of this document.

On all maps in the "Federally Subsidized Housing" subsection, users can access tenant demographics by clicking on the maps' building icons to view popup tables. For privacy protection, developments with fewer than 11 households reported or less than 50 percent of occupied units reported may show tenant demographics with a value of "-4" , which indicates that tenant data has been suppressed.

Please note across all three maps in this subsection, the "Public Housing Developments" layer displays one building icon per Asset Management Project (AMP). This means maps show the location of the public housing building with the greatest number of units in an AMP or development, and *not* the location of every public housing *building*. For example, users will notice that scattered-site properties appear as a single point on the map, though demographic data encompasses all properties within a given AMP. Finally, the "Section 8: PBRA Properties" layer that is also featured on all maps in this subsection, was created using the HUD Open Data Portal "Multifamily Properties – Assisted" layer, filtered to only include properties with active Section 8 contracts.

Data Source: U.S. Department of Housing and Urban Development, Geospatial Data Storefront.

[Multifamily Properties – Assisted](#) (Last updated August 2024)

[Section 202 Properties](#), (Last updated May 2024)

[Section 811 Properties](#) (Last updated August 2024)

[Low-Income Housing Tax Credit Properties](#) (Last updated December 2024)

[Public Housing Developments](#) (Last updated December 2024)

## **VII. Housing Assistance Organizations**

### **A. HUD Housing Counselors**

The HUD Housing Counselors subsection of the Socio-Demographic Data Dashboards displays the location of HUD-certified housing counseling agencies' offices within selected jurisdictions and their associated regions. The dashboards include both a text summary and an interactive map to display data on HUD-certified housing counseling agencies. However, if there are no housing counseling agencies present in a jurisdiction's larger region, then a text summary and map will not be displayed. Data on Housing Counselors was sourced from HUD's Office of Housing Counseling Housing Counseling System (HCS) via the Office of the Chief Data Officer's Housing Counselor API Query Tool. Housing Counselors represented in this dataset are HUD-certified professionals who provide services including financial management and budgeting guidance, home buyer education, foreclosure prevention counseling, rental counseling, and homelessness prevention counseling.

Data Source: U.S. Department of Housing and Urban Development Office of the Chief Data Officer, [HUD Housing Counselor API Query Tool](#).

## **B. Fair Housing Initiatives Program (FHIP) and Fair Housing Assistance Program (FHAP)**

The Fair Housing Initiatives Program (FHIP) and Fair Housing Assistance Program (FHAP) subsection of the Socio-Demographic Data Dashboards displays the locations of FHIP and FHAP grantees' offices within the selected jurisdictions and its associated regions. The SDDD will not display a map if no FHIP or FHAP grantees are present in the selected jurisdiction's associated region. The dashboards also include a text summary providing the total number of FHIP and FHAPs in the jurisdiction and region. Data on FHIP and FHAPs comes from HUD's Open Data Portal. The information on FHIP grantees is from FY 2022, and the information on FHAP grantees reflects awards made in FY 2023. Users should note that the location of offices likely does not represent the service areas of these FHIP and FHAP organizations, as many of these grantees provide assistance across entire states. Additionally, FHIP and FHAP organizations may have several office locations, though the SDDD only includes one location per FHIP and FHAP funding recipient.

FHIP grantees are private non-profit organizations authorized by the Housing and Community Development Act of 1987 (42 U.S.C. 3616) to provide housing discrimination assistance, including public education, complaint filing support, and counseling services. Whereas FHAP grantees are state and local government agencies that partner with HUD's Office of Fair Housing and Equal Opportunity (FHEO) to enforce state and local fair housing laws that are substantially equivalent to the federal Fair Housing Act. FHAP grantees receive financial and operational assistance from FHEO to investigate and enforce fair housing laws at the local level.

Data Source: U.S. Department of Housing and Urban Development, Geospatial Data Storefront. [Fair Housing Initiatives Program \(FHIP\)](#).; [Fair Housing Assistance Program \(FHAP\)](#).

## **VIII. Fair Housing Complaints**

The Socio-Demographic Data Dashboards raw data files include fair housing complaint data from the HUD Enforcement Management System (HEMS) Warehouse, aggregated to FY 2023 HUD jurisdiction and region geographic boundaries. While the complaint data is not displayed in the dashboards, the raw data can help communities identify protected class groups that may be particularly vulnerable to housing discrimination. The complaint data was compiled by extracting the "violation locations" or addresses in which reported housing discrimination occurred from complaints filed with HUD in FY 2010 and 2020.<sup>21</sup> The addresses were then geocoded and aggregated to 2020 decennial census tracts and subsequently HUD jurisdictions

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<sup>21</sup> FY 2010 was October 1, 2009 to September 30, 2010. FY 2020 was October 1, 2019 to September 30, 2020.

and their associated regions. To protect complainants' privacy, only jurisdiction and region-level complaint data appear in the raw data files.

The raw data files allow users to access complaint data across three key metrics: total complaints filed, complaints filed by protected class basis <sup>22</sup>, and the number of complaints filed per 100,000 residents (using 2017-2021 ACS population data). The "complaints per 100,000 residents" metric allows users to conduct population-adjusted comparisons between HUD jurisdictions. For example, if this column contains a value of "6.2", then there were roughly 6 complaints filed for every 100,000 residents in the jurisdiction. However, please note that the number of complaints filed per 100,000 people will seem particularly high in jurisdictions with a small population.

Approximately four percent of complaints could not be geocoded as the recorded violation locations were incomplete or incorrect. As such, users should treat the complaint data as estimates of filed fair housing complaints, rather than exact counts. Additionally, users should recognize that this dataset only includes cases of housing discrimination reported to HUD. Jurisdictions seeking direct access to HEMS complaint data should contact their local Fair Housing Assistance Program (FHAP) grantees or [HEMS@hud.gov](mailto:HEMS@hud.gov).

*What is a "fair housing complaint"?*

The Fair Housing Act protects individuals from housing discrimination based on these seven protected classes: race, color, religion, national origin, sex (including gender identity and sexual orientation), familial status (presence of children under 18), and disability status. When formal complaints are filed with HUD or its partner agencies, complainants can allege multiple forms of discrimination within a single complaint. For instance, a complainant may have experienced housing discrimination based on both their national origin and disability status. While this constitutes one discrete complaint in the total number of complaints filed, it is recorded under both relevant protected class categories in the SDDD raw data files. Consequently, the sum of individual discrimination bases exceeds the total number of complaints filed.

Data Source: U.S. Department of Housing and Urban Development, HUD Enforcement Management System (HEMS) Warehouse.

## **IX. Frequently Asked Questions**

The list of frequently asked questions provided below was compiled to help provide responses to questions users may have about the scope of the Socio-Demographic Dashboards project, how to best utilize the dashboards, and other inquiries. If you have additional questions or feedback

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<sup>22</sup> Retaliation is included as one of the protected class bases in the SDDD raw data files because Section 818 of the Fair Housing Act and associated HUD regulations (including 24 CFR Parts 1, 6, and 8) require that retaliation be included in discrimination complaint data and enforcement activities.

about this project, please contact [helpdesk@huduser.gov](mailto:helpdesk@huduser.gov) with "Socio-Demographic Dashboards feedback" as the subject line.

### **1. What are some “best practices” users should apply when using the Socio-Demographic Data Dashboards?**

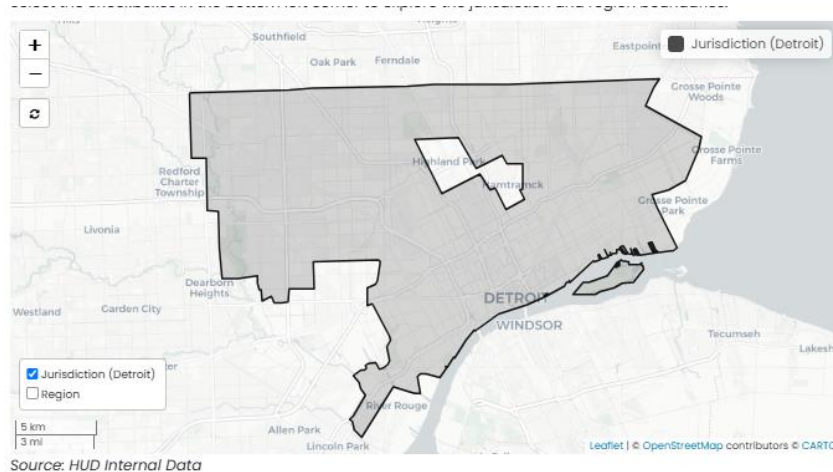
You can use this tool as a resource to understand your community’s local demographic, housing, and socioeconomic conditions. You may also want to grasp a better understanding of the visualizations provided by taking a deeper dive into underlying data sources or look at the SDDD raw data files to calculate your own metrics, or explore additional data sources. You should also use these dashboards as a first step in identifying data and patterns about your communities. Try to identify other local data and knowledge that can supplement the data in the dashboard. This can be helpful, particularly when local data are more up-to-date, geographically granular, or more accurate than the HUD-provided data.

For optimal performance, it is recommended that users view these dashboards on a desktop computer. For jurisdictions with large populations, you may have to wait a few minutes for the dashboard page to completely load.

### **2. How should jurisdictions interpret their boundary maps, which may display “holes”?**

Users may notice that maps in the SDDD display "holes" or areas that appear to be carved out from the main jurisdiction boundary. These holes represent areas that, while geographically located within the jurisdiction's “official” Census boundaries, are technically separate units of general local government for purposes of receiving HUD funding.

HUD Jurisdictional boundaries will likely differ significantly from “official” Census boundaries for cities, and counties. HUD boundaries are specifically based on (The now discontinued) summary level 070 geographies which often have “holes” and may look a little disjointed. For example, in the City of Detroit's jurisdiction boundary map, areas like Hamtramck and Highland Park appear as “holes” on the Jurisdiction Boundary Map because these areas (from the perspective of HUD) are independent from the City of Detroit. In this example, the municipalities or areas where “holes” are displayed did not receive HUD funding in FY 2023 and therefore are excluded from the data provided in the SDDD for the City of Detroit.



*Figure 1: Screenshot of the Detroit, MI Dashboard's Jurisdiction Boundary Map*

The demographic, housing, and socioeconomic data presented in a jurisdiction's dashboard only reflects the areas within that jurisdiction's official boundary, and excludes any "holes." To clarify, these holes are not data gaps or missing information - they are intentionally excluded areas that may even be covered in separate jurisdiction-specific dashboards. To analyze conditions in these areas, users should navigate to the SDDD query tool to see if data is available for the excluded geographies. As a reminder, unique dashboard pages are only provided for local government FY 2023 HUD jurisdictions.

### **3. What is the difference between the American Community Survey (ACS) and the decennial census?**

The U.S. Census Bureau's decennial census and American Community Survey (ACS) serve as critical data sources for HUD jurisdictions. However, the decennial census and the ACS serve different purposes. The decennial census, conducted every 10 years, provides official population counts and determines congressional representation. The ACS, collected monthly, provides detailed transportation, employment, and education data not covered in the decennial census. The ACS produces two types of estimates:

- 1-year estimates from 12 months of data collection (available only for areas with 65,000+ residents)
- 5-year estimates from 60 months of data collection (available for all geographic areas)

The Socio-Demographic Data Dashboards use 2017-2021 5-year ACS estimates, which were the most recent 5-year data available at the start of development. The dashboard's development team prioritized using five-year estimates, as they provide greater statistical reliability for smaller geographies and populations compared to one-year estimates.

#### **4. Why doesn't the Socio-Demographic Data Dashboard's "Residential Demographic Distributions" section include the Dissimilarity Index?**

Users may be familiar with other HUD data products' use of the Dissimilarity Index to assess racial residential segregation. The Dissimilarity Index quantifies segregation by measuring how evenly two groups are distributed across an area, such as a city or county. With values ranging from 0 to 100, the index typically compares the distribution of two racial or ethnic groups, such as non-Hispanic Black and non-Hispanic White residents. A value of 0 indicates perfect integration, where both groups are proportionally distributed throughout the area. A value of 100 represents complete segregation, where the two groups live entirely separately from each other.

While the dissimilarity index is a useful measure to understand overall levels of segregations in a community, it does have a few limitations. Most notably, the index can only compare the distribution of two racial groups at once. Additionally, the index's accuracy decreases when the overall population of the analyzed area is small, or when one of the two racial groups being compared is much smaller than the other. For example, comparing segregation levels between a large city with many census tracts and a small city with few census tracts could give misleading results, even if the two cities have similar patterns of segregation. The segregation data from OBI uses a few other segregation metrics (like Entropy, Divergence Index, and Location Quotients) to overcome these challenges and allows users to assess racial distributions at the more granular census tract level.

#### **5. What are some other helpful HUD datasets and tools to support community's planning efforts?**

HUD offers a range of data resources to aid jurisdictions planning related efforts. These include:

[Comprehensive Housing Affordability Strategy \(CHAS\)](#): An annually updated dataset produced by HUD to help entitlement jurisdictions identify the number of individuals in need of housing assistance. The data are derived from the American Community Survey and focus on four housing issues: affordability, overcrowding, lack of kitchen facilities, and lack of plumbing. CHAS data allows end users to measure these issues across income groups and many protected classes.

[Community Planning and Development \(CPD\) Maps](#): HUD's CPD Maps tool combines demographic and housing data into an interactive kit, designed to help Program Participants complete consolidated plans. CPD Maps has detailed data on income classifications and housing type, as well as data on existing HUD-funded entitlement programs like CDBG and HOME. This makes it useful for



understanding a community's overall housing needs and any existing interventions that help address them.

[Geospatial Data Storefront](#): The Office of Policy Development and Research (PD&R) at HUD maintains a portal to provide public access to all of the Department's geospatial datasets, web-based mapping tools, and application programming interfaces (APIs) in one unified platform.

[Picture of Subsidized Households](#): This annual HUD publication describes tenants living in federally assisted housing. It encompasses individuals who live in public or private project-based housing, as well as those who receive tenant assistance through Housing Choice Vouchers and similar programs. Like LIHTC data, the Picture of Subsidized Housing primarily offers basic demographic data on tenants and properties. However, it also incorporates harder-to-access elements like waitlist times and average utility costs for families.

**Important Note on Geographic Boundaries**: When using the aforementioned resources for analysis or reporting, users should note a critical distinction in geographic boundaries. The resources listed above typically use U.S. Census Bureau boundaries (cities, counties, states) for geographic analysis. However, the Socio-Demographic Data Dashboards specifically use HUD-defined geographic boundaries for all jurisdictions, which may differ from Census boundaries. For official HUD reporting purposes, jurisdictions must use HUD-specific boundaries to ensure alignment with program requirements and accurate analysis of their service areas.