



Recompete Eligibility Mapping Tool Technical Documentation

**National Economic Research and Resilience Center
Decision and Infrastructure Sciences Division**

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Introduction

The Research and Development, Competition, and Innovation Act (as part of the CHIPS and Science Act) became Public Law 117–167 (P.L. 117-167) on August 9, 2022. Section 10621 (Regional Innovation Capacity) of the legislation amended the Stevenson-Wydler Technology Innovation Act by adding Section 29 to create the Distressed Area Recompete Pilot Program. Section 29 authorizes a \$1 billion Recompete Pilot Program at the U.S. Department of Commerce’s Economic Development Administration (EDA) to alleviate persistent economic distress and support long-term comprehensive economic development and job creation in the most distressed communities (White House). The Consolidated Appropriations Act, 2023 appropriated \$200 million for the Recompete Pilot Program.

Through support from EDA, Argonne National Laboratory (Argonne) developed the Recompete Eligibility Mapping Tool (REMT) to help identify areas experiencing economic distress because of prime age underemployment, and to facilitate identification of potentially eligible areas for the Recompete Pilot Program based on the statutory eligibility requirements. This report explains the data sources and methodology used to make the calculations needed to make the identification.

Recompete Statutory Requirements

Eligibility for the Recompete Pilot Program is dependent on a specified area’s prime age employment gap, which is defined as the difference (expressed as a percentage) between the national 5–year average prime–age (25 to 54 years old) employment rate and the 5–year average prime–age (25 to 54 years old) employment rate of the specified area.

Two paths exist for areas to be potentially eligible for the Recompete Pilot Program; the first path is as a local labor market and the second path is as a local community. A local labor market is defined as:

- A metropolitan statistical area or micropolitan statistical area excluding tribal land with a tribal prime-age population,
- A commuting zone excluding metropolitan statistical area or micropolitan statistical areas and tribal land with a tribal prime-age population, and
- Tribal land with a tribal prime-age population represented by a tribal government.

To be eligible for the Recompete Pilot Program, a local labor market must have a prime age employment gap of at least 2.5 percent.

Neither the Research and Development, Competition, and Innovation Act nor the Stevenson-Wydler Technology Innovation Act defines commuting zone. For the analysis in the REMT, Argonne and EDA decided to use the commuting zones delineated by Penn State University researchers whose methodology is built from earlier work by the U.S. Department of Agriculture’s Economic Research Service (Penn State undated).

The term local community means the area served by a general-purpose unit of local government that is located within, but does not cover the entire area of, an otherwise ineligible local labor market. To be eligible as a local community, either: 1) the entire area served by the unit of local

government on average must have a PAEG of at least 5% and a median annual household income of no more than \$75,000, or 2) a subset of the area served by the unit of local government has five or more contiguous Census tracts that each individually have a PAEG of at least 5% and median annual household income of no more than \$75,000. In this instance, the applicant's service area must be contained within the identified Census tracts.

The P.L. 117-167 defines eligible tribal land as those with a tribal prime-age population with a tribal government and a prime age employment gap of at least 2.5 percent using the data provided by the applicable tribal government to the U.S. Department of the Treasury under the Coronavirus State and Local Fiscal Recovery Fund programs. EDA and Argonne consulted with the U.S. Department of the Treasury and determined that the data submitted under the Coronavirus State and Local Fiscal Recovery Fund programs did not include the information needed to perform the calculation described in the statute. For purposes of the REMT, tribal land was not excluded when considering metropolitan statistical areas, micropolitan statistical areas, or commuting zones. A data layer displaying the tribal land boundaries (reservation or statistical entity only) as defined by the U.S. Census Bureau was obtained from the National Historical Geographic Information Systems and included in the REMT.

REMT Methodology

Unless otherwise noted, all population and employment data are from the American Community Survey's (ACS) 2017-2021 5-year estimates. The analysis uses this source data, rather than more recent ACS estimates or the 2020 Census data, because of concerns that unemployment due to the COVID-19 pandemic would skew the results. All geospatial and data processing was performed using R statistical software (v4.2.2; R Core Team 2022).

ACS data at the census tract-level was used to calculate population, employment, and income characteristics for both counties and labor markets. Geospatial census tracts with attached attributes were acquired using the *tidycensus* package. Specifically, tract-level measures of total population, total employed civilian population, and total armed forces population were acquired for the age categories 25-29, 30-34, 35-44, and 45-54. These variables were then summed to produce tract-level measures of the prime age (25-54) population, prime age employed civilian population, and prime age armed forces population.

The national average prime age employment (PAE) rate was calculated using tracts for all 50 states, Washington, DC and Puerto Rico. Prime age employment rate data was not available from the U.S. Census or the U.S. Department of the Interior for the territories of American Samoa, Guam, and the Commonwealth of the Northern Mariana Islands and the freely associated states of the Federated States of Micronesia, the Republic of the Marshall Islands, and the Republic of Palau. Similar to the treatment for Tribal land, these regions will be eligible by default where other available data for distress indicate that the PAEG likely meets the statutory criteria.

The formula for the prime age employment rate is:

$$\text{PAE} = \left(\frac{\text{prime age employed civilian population}}{\text{total prime age pop} - \text{prime age armed forces pop}} \right) * 100$$

Based on the 2021 ACS, Argonne calculated the national average PAE to be 78.39.

To calculate PAEs for labor markets, the tract-level ACS population and employment attributes were joined to geospatial boundaries of all counties located within a core-based statistical area (CBSA). Where a CBSA did not exist, tracts were joined to the U.S. Department of Agriculture's (USDA) Economic Research Service (ERS) Commuting Zones (CZs), which represent groups of counties that comprise the commuting area for one or more nearby labor markets. The most recent delineation of CZs using the ERS methodology was undertaken by researchers at Penn State University using the 2010 Census data; their improved replication with updated census data was used to define CZs for the REMT (Fowler et al., 2016).

Tract-level attributes were grouped according to their corresponding labor market (CBSA or CZ) and summed in order to calculate the market's PAE and the gap between the national average PAE and the market's PAE, to determine the prime age employment rate gap (PAEG). Labor markets with a PAEG greater than or equal to 2.5 (i.e., the market's PAE is below 75.89) are eligible to apply for grants through the Recompete Pilot Program.

If an area is not located within an eligible labor market, it may become eligible depending on the characteristics of the local community. Local communities, in the context of this analysis, were designated as either an incorporated place or a county. Geospatial boundaries of incorporated places were drawn from the *tidycensus* package; the CLASSFP attribute within this data was used to remove all unincorporated places and military installations. ACS 2021 5-year population, employment, and median income characteristics for U.S. Census-designated places were joined to the place boundaries. The county boundaries and tract-level ACS data used in the labor market calculations were also used to calculate county-level statistics, with the data summarized to the county-level. The PAE and PAEG were then calculated for all places and counties. Any county already located in an eligible market, or place in which more than half its area was located in an eligible market, was excluded from eligibility calculations. Those remaining places or counties in which the PAEG was greater than or equal to 5 (i.e., below 73.39) and the median income was less than or equal to \$75,000 were identified as eligible to apply for a Recompete Pilot Program grant.

To identify partially eligible local communities, the PAEG for each individual Census tract was calculated for all tracts not located in eligible local labor markets or local communities. Census tracts with a PAEG greater than or equal to 5 (i.e., below 73.39) and a median income less than or equal to \$75,000 were labelled as potentially eligible. Next, the Census tracts labeled potentially eligible were tested for contiguity (i.e., tract boundaries are touching) with other Census tracts meeting the same eligibility criteria. Incorporated places and counties with at least 5 contiguous Census tracts meeting eligibility criteria were then identified as "partially eligible."

Additional Economic Context

The Recompete Eligibility Mapping Tool includes additional information that may provide insight into the presence of economic distress. Specifically, users can access statistics on per capita income (PCI), sourced from two different datasets: the U.S. Census Bureau’s ACS estimates from January 2019 and the Bureau of Economic Analysis’s estimates from January 2021. Both attributes are provided at the county-level; similar to the unemployment rate, we supplied the PCI for the county with the most spatial coverage over a given incorporated place. At the market-level, each county’s PCI were weighted by the size of the county’s population as a percentage of the market’s total population. For example, if a market comprises counties, one that possesses 80 percent of the market’s total population (county A) and another that possesses only 20 percent (county B), then the market’s PCI would be calculated as:

$$\text{Market PCI} = (0.8 * \text{County A's PCI}) + (0.2 * \text{County B's PCI})$$

This process was used to calculate a market-weighted per capita income using both BEA and ACS estimates.

Additionally, monthly county-level unemployment data from the Current Population Survey administered by the Bureau of Labor Statistics was used to calculate 24-month average unemployment rate. This rate was calculated by summing the count of unemployed persons and the count of persons in the labor force over the course of 24 months ending in December 2022, and then dividing counts of unemployed persons by those in the labor force. For incorporated places located in one or more counties, the unemployment rate associated with the county that had the largest spatial overlap with the incorporated place is given. For markets, unemployment rates were calculated using the raw unemployment counts for all counties located within a market.

Recompete Pilot Program Data and Attributes

This section lists all layers that have been calculated and are available in the Recompete Eligibility Mapping Tool data files.

Local Labor Markets

- **Market ID:** unique identifier. Source: Assigned.
- **Market Name:** either the CBSA name or the identifier associated with a commuting zone. Source: U.S. Census or Penn State.
- **CBSA Type:** identifies CBSAs as either a Metropolitan (“Metro”) or Micropolitan (“Micro”) Statistical Area. Source: U.S. Census.
- **Total Population:** market’s total population. Source: 2021 ACS.
- **Total Prime Age Population:** market’s prime age population. Source: 2021 ACS.
- **Prime Age Employed Population:** market’s prime age employed population. Source: 2021 ACS.
- **Prime Age Employment Rate:** market’s prime age employment (PAE) rate. Source: Calculated.
- **Prime Age Employment Rate Gap:** difference, or gap (PAEG), between the national average PAE and the market’s PAE. Source: Calculated.

- **Eligibility:** indicates whether the market is potentially eligible for Recompete Pilot Program grants. Source: Calculated.
- **Counties:** list of the counties associated with a market. Source: U.S. Census
- **State:** state name. Source: U.S. Census.
- **24 Month Unemployment:** market's 24-month average unemployment rate. Source: Bureau of Labor Statistics, December 2022.
- **Per Capita Income (BEA):** market's per capita income (PCI). Source: Bureau of Economic Analysis, January 2021.
- **Per Capita Income (ACS):** market's per capita income (PCI). Source: ACS, January 2019.

Local Communities (Combined)

- **Geography:** type of local community (Incorporated Place or County). Source: Assigned based on U.S. Census designation.
- **County FIPS:** county FIPS code (state FIPS + county FIPS). Source: U.S. Census.
- **County Name:** county name. Source: U.S. Census.
- **Place ID:** place geographic identifier (state FIPS + place FIPS). Source: U.S. Census.
- **Place Name:** place name. Source: U.S. Census.
- **State FIPS:** state FIPS code. Source: U.S. Census.
- **State:** state name. Source: U.S. Census.
- **Total Population:** local community's total population. Source: 2021 ACS.
- **Total Prime Age Population:** local community's prime age population. Source: 2021 ACS.
- **Prime Age Employed Population:** local community's prime age employed population. Source: 2021 ACS.
- **Prime Age Employment Rate:** local community's prime age employment rate (PAE). Source: Calculated.
- **Prime Age Employment Rate Gap:** difference, or gap (PAEG), between the national average PAE and the local community's PAE. Source: Calculated.
- **Median Income:** local community's median income. Source: 2021 ACS
- **Eligibility:** indicates whether the local community is eligible for Recompete Pilot Program grants. Source: Calculated.
- **24 Month Unemployment:** county's 24-month average unemployment rate. Source: Bureau of Labor Statistics, December 2022.
- **Per Capita Income (BEA):** county's per capita income. Source: Bureau of Economic Analysis, January 2021.
- **Per Capita Income (ACS):** county's per capita income. Source: ACS, January 2019.
- **Name:** county's name if geography is "County" or the place's name if geography is "Incorporated Place." Source: Assigned based on U.S. Census designation.

Tribal Areas and Pacific Ocean Territories

- **Name:** name of the tribal land or Pacific Ocean Territory.
 - Tribal land boundaries (reservation or statistical entity only) as defined by the U.S. Census Bureau. Source: National Historical Geographic Information Systems.
 - Pacific Ocean Territories. Source: ESRI.

- **Eligibility:** indicates whether the tribal land or Pacific Ocean Territory is eligible for Recompete Pilot Program grants. Source: Assigned.

Eligible Census Tracts

- **Cluster ID:** unique identifier for geographic clusters. Source: Assigned.
- **Cluster Geography:** cluster's geographic bounds (incorporated place or county).
- **Tract ID:** tract unique identifier (state FIPS + county FIPS + tract FIPS). Source: U.S. Census.
- In Partially Eligible Municipalities file:
 - **Place ID:** place geographic identifier (state FIPS + place FIPS). Source: U.S. Census.
 - **Place Name:** place name. Source: U.S. Census.
- In Partially Eligible Counties file:
 - **FIPS:** county FIPS code (state FIPS + county FIPS). Source: U.S. Census.
 - **County:** county name. Source: U.S. Census.
- **State:** state name. Source: U.S. Census.
- **Total Population:** tract's total population. Source: 2021 ACS.
- **Total Prime Age Population:** tract's prime age population. Source: 2021 ACS.
- **Prime Age Employed Population:** tract's prime age employed population. Source: 2021 ACS.
- **Median Income:** tract's median income. Source: 2021 ACS.
- **Prime Age Employment Rate:** tract's prime age employment rate (PAE). Source: Calculated.
- **Prime Age Employment Rate Gap:** difference, or gap (PAEG), between the national average PAE and the tract's PAE. Source: Calculated.
- **Eligibility:** indicates whether the tract is eligible for Recompete Pilot Program grants. Source: Calculated.

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