Measuring Rurality and School Isolation in Montana:
Possibilities for Targeting State Assistance to Support Recruitment and Retention
prepared for the School Funding Interim Commission
by Pad McCracken, Research Analyst, March 2016

There are a number of different metrics and classifications that are used by multiple organizations to define rural. These classifications are frequently premised by first defining what is urban, which is often defined by total population and population density. Rural then is often simply territory not considered urban. Other metrics employ proximity to urban areas and/or the percentage of a geographic area's (often a county's) population that resides inside or outside an urban area.[i]

Montana's geography presents unique challenges to any classification system, some of which would designate the entire state rural due to having no city with a population over 250,000. Other systems use "as-the-eagle-flies" proximity measures, which do not factor in the absence of bridges or the presence of impassable mountain ranges.

In an earlier brief on Montana's Quality Educator Loan Forgiveness Program, the criteria upon which a school's designation as impacted by a critical quality educator shortage were described as:
- Rural isolation (based on the locale codes used by the U.S. Census Bureau);
- Economic disadvantage (measured by percentage of students participating in the free and reduced meals program); and
- Low student achievement (based on the number of years a school has been in improvement status under the federal No Child Left Behind Act).

That first bullet needs to be corrected. Locale codes are assigned to schools by the National Center for Education Statistics (NCES) within the U.S. Department of Education and are based on the U.S. Census designations for urbanized areas (50,000 people or more—Billings, Great Falls, and Missoula) and urban clusters (at least 2,500 but less than 50,000 people—see below) within a "densely settled core of census tracts."

Urban Clusters

Anaconda-Deer Lodge	Deer Lodge	Helena	Polson
Belgrade	Dillon	Kalispell	Poplar
Bozeman	Four Corners	Laurel	Shelby
Browning	Glasgow	Lewistown	Sidney
Butte-Silver Bow	Glendive	Libby	Whitefish
Columbia Falls	Hamilton	Livingston	Wolf Point
Conrad	Hardin	Lolo	
Cut Bank	Havre	Miles City	

From https://www.census.gov/prod/cen2010/cph-2-28.pdf (pdf page 23)

These are the NCES locale code designations:

11 - City, Large:
　　Territory inside an urbanized area and inside a principal city with population of 250,000 or more. (none in MT)

12 - City, Midsize:
　　Territory inside an urbanized area and inside a principal city with population less than 250,000 and greater than or equal to 100,000. (Billings)

13 - City, Small:
　　Territory inside an urbanized area and inside a principal city with population less than 100,000. (Great Falls, Missoula)

21 - Suburb, Large:
　　Territory outside a principal city and inside an urbanized area with population of 250,000 or more. (none in MT)

22 - Suburb, Midsize:
　　Territory outside a principal city and inside an urbanized area with population less than 250,000 and greater than or equal to 100,000. (Lockwood)

23 - Suburb, Small:
　　Territory outside a principal city and inside an urbanized area with population less than 100,000. (Bonner, Black Eagle, East Missoula, Milltown, Orchard Homes, Turah, West Riverside, Malmstrom AFB)

31 - Town, Fringe:
　　Territory inside an urban cluster that is less than or equal to 10 miles from an urbanized area. (Laurel, Lolo)

32 - Town, Distant:
　　Territory inside an urban cluster that is more than 10 miles and less than or equal to 35 miles from an urbanized area. (none in MT)

33 - Town, Remote:
　　Territory inside an urban cluster that is more than 35 miles from an urbanized area. (numerous ranging from Rocker, Poplar, and Conrad to Helena, Butte, and Bozeman)

41 - Rural, Fringe:
　　Census-defined rural territory that is less than or equal to 5 miles from an urbanized area, as well as rural territory that is less than or equal to 2.5 miles from an urban cluster. (numerous, including Frenchtown, Montana City, Piltzville)
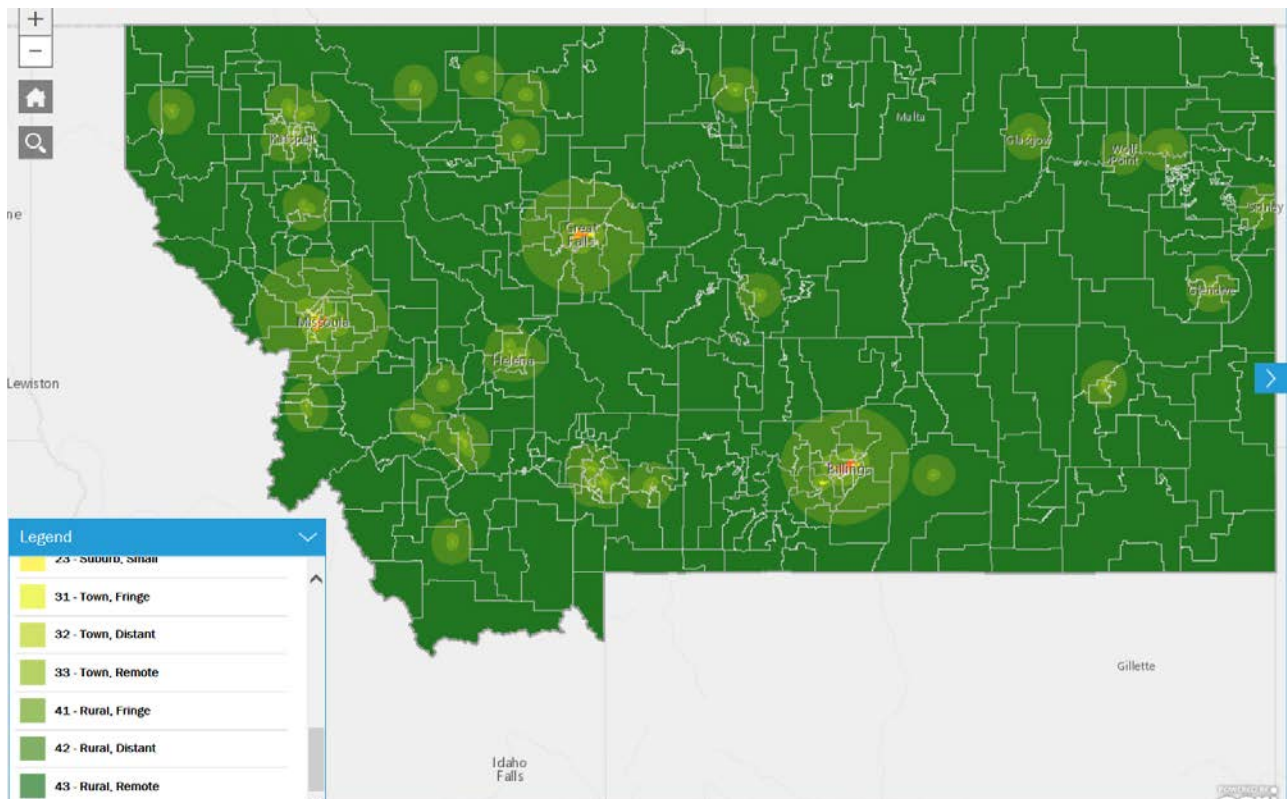
42 - Rural, Distant:
　　Census-defined rural territory that is more than 5 miles but less than or equal to 25 miles from an urbanized area, as well as rural territory that is more than 2.5 miles but less than or equal to 10 miles from an urban cluster. (many, including Huntley, Coram, Belt, Joliet, Manhattan, Pablo)

43 - Rural, Remote:
　　Census-defined rural territory that is more than 25 miles from an urbanized area and is also more than 10 miles from an urban cluster. (the vast majority of Montana locales, including those as isolated as Wisdom, Babb, Roy, Melstone, and Jordan and those less isolated such as Townsend, Three Forks, Big Fork, Custer, and Boulder)

These classifications yield the map of Montana below. Each of Montana's three urbanized areas (Billings, Great Falls, Missoula) produces the larger radius circles, while the 31 urbanized areas each create a smaller circle. Territory outside these circles is considered "remote rural," and this is what creates a classification system in which communities arguably within commuting

distance of population centers like Helena, Bozeman, or Kalispell are considered more remote than relatively small, isolated towns like Libby, Poplar, Hardin, and Glasgow.

Why does any of this matter? Well, the commission has heard testimony regarding the difficulty of hiring qualified educators, especially in Montana's numerous small, isolated schools. Because the one mechanism Montana has to target funds to critical educator shortage areas, the Quality Educator Loan Forgiveness Program, relies on NCES locale codes (as well as measures of economic disadvantage and school achievement), it's not clear that the roughly $500,000 per year devoted to this program is well targeted. Only about half of the 170 recipients of the loan forgiveness program in 2015 taught in schools designated rural remote; 38 taught in AA districts.

If the commission desires to target this program more towards the most isolated schools in Montana or if the commission wanted to recommend a separate funding increase to these schools to aid recruitment and retention, it could consider establishing different criteria to define isolated such as:
- Driving distance or time from an urbanized area or urban cluster or creating a new designation, such as cities and towns with more than 10,000 people;
- Excluding those urban clusters with a population below 5,000 (for example); or
- Designating counties in which schools are eligible for the program based on population density.

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[i] For an in-depth exploration of the various classification systems for rurality, see
http://opi.mt.gov/PUb/pdf/Superintendent/RuralityReport.pdf