

The Geography of College Attainment: Dismantling Rural “Disadvantage”

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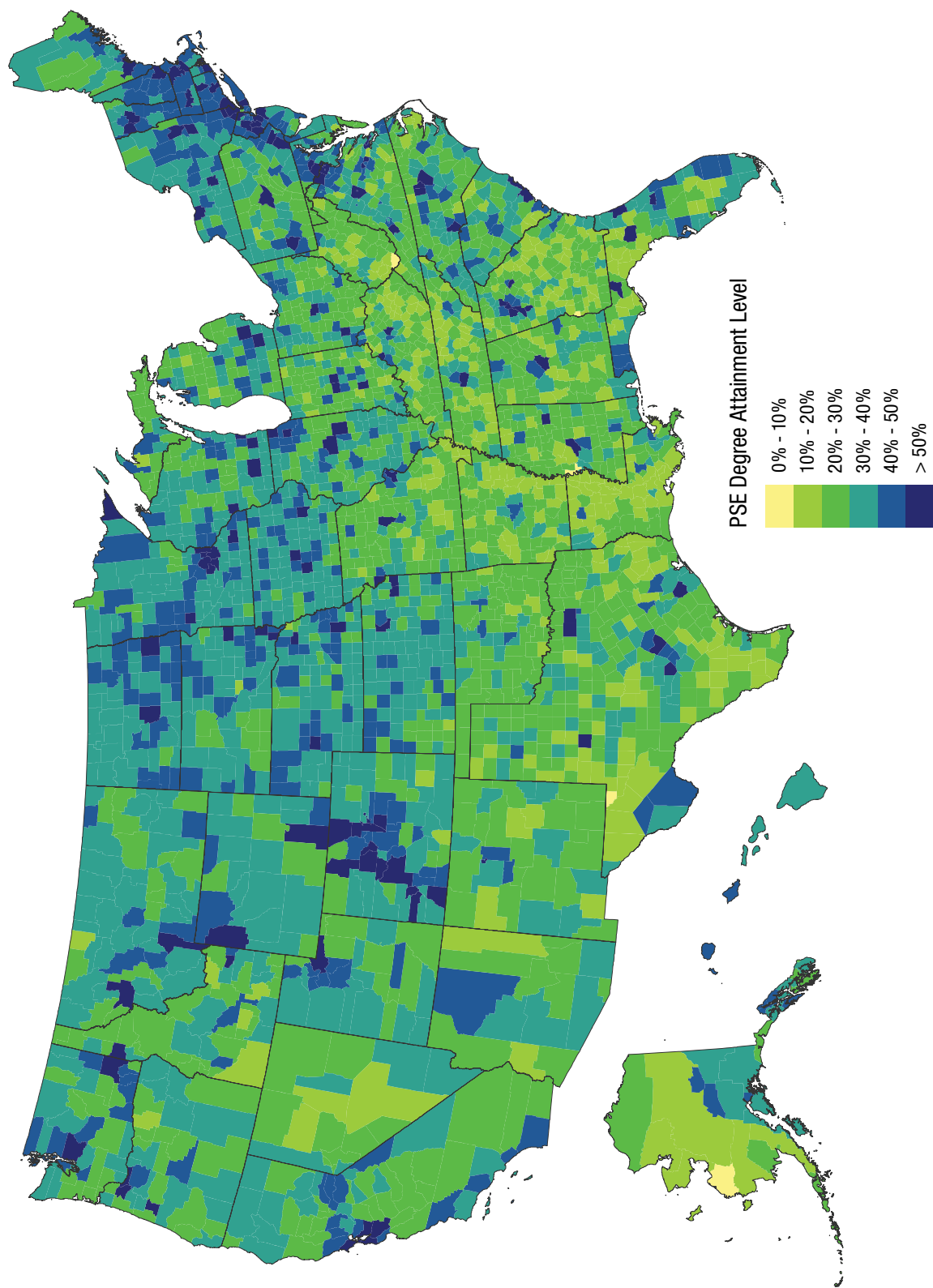
Increasing college attainment should be a priority of public policymakers in the United States, given the many economic and non-economic benefits afforded to both individuals and society when attainment rises (Carnevale, Jayasundera, & Gulish, 2016; Ma, Pender, & Welch, 2016; Oreopoulos & Salvanes, 2011). But, like the 2015 and 2016 editions, the 2017 Indicators Report demonstrates persisting variation across demographic groups in college attainment. Inequality in college attainment translates into inequality in access to the many benefits of higher education.

In our efforts to identify effective policies and practices for closing persisting gaps in higher education attainment and ensuring that all have the opportunity to benefit, we must recognize the spatial aspects of higher education attainment. While providing a useful reference point, national- and even state-level estimates mask the variation in college opportunities and outcomes that exists within smaller geographic boundaries (e.g., Misra, 2017).

Examining smaller geographic units (e.g., county) reveals the spatial nature of the college attainment process, allowing for greater contextual understanding of how social, economic, and educational resources that are available at the local level impact college attainment. Where one lives, particularly during childhood, is a determinant of college participation, as well as economic mobility and other life course outcomes (Chetty & Hendren, 2016; Rothwell & Massey, 2015; Sampson, Morenoff, & Gannon-Rowley, 2002). Figure 1 displays the variation in the percent of the population age 25 to 64 that has attained at least an associate’s degree by county. Counties with higher levels of college attainment are clustered in the Mid-Atlantic region, Southern California, and the Bay Area, among other locations. Even in regions with historically low college attainment (e.g., the Southeast), there are pockets of counties with relatively high attainment. Counties with high attainment are typically located near metropolitan areas.

⁸¹ All views expressed in this essay are the sole responsibility of the authors, and do not represent the position of the Pell Institute for the Study of Opportunity in Higher Education or the Alliance for Higher Education and Democracy of the University of Pennsylvania (PennAHEAD).

Figure 1: Percentage of adults age 25 to 64 with an associate's degree or higher by U.S. county: 2015

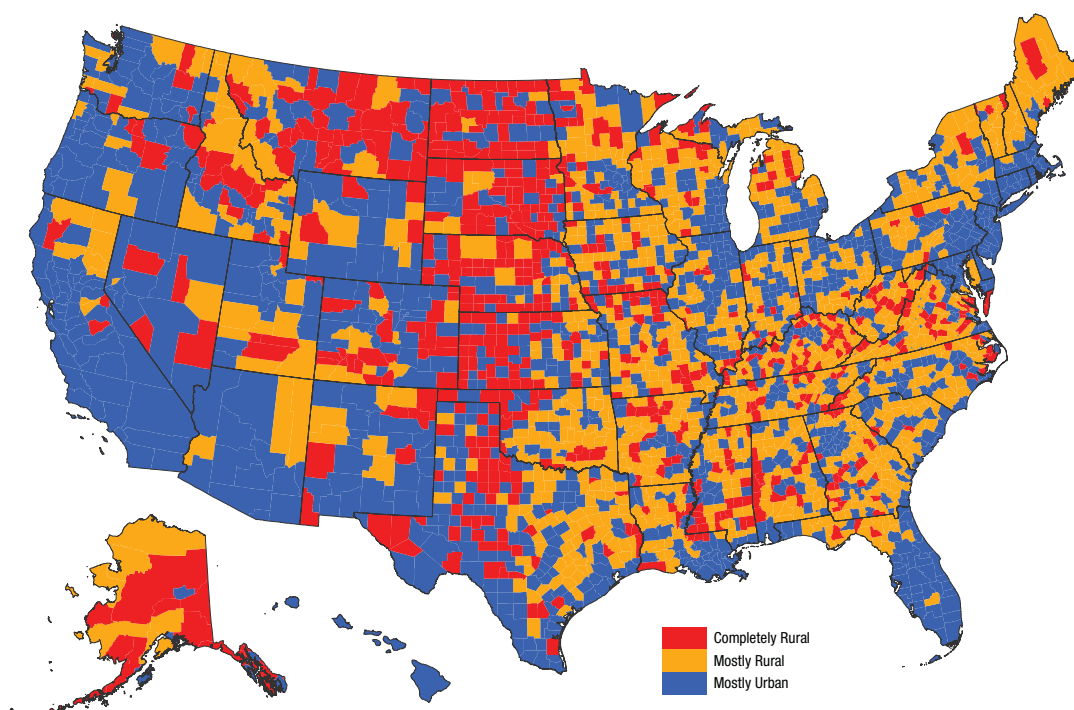


SOURCE: U.S. Census Bureau. (2016). *American Community Survey 2015 (5-year estimates)*.

Applying a spatial lens offers especially valuable insights into college attainment among the nation's rural population. Although representing a relatively small share of the nation's population, this segment can exert a substantial influence on U.S. political and social life. While some attention focuses on urban areas, rural communities are often neglected in conversations about how to improve postsecondary educational opportunity and outcomes.⁸²

The U.S. Census Bureau classifies counties into three rurality categories: completely rural, mostly rural, and mostly urban.⁸³ Figure 2 shows that completely and mostly rural counties are more frequently located in the interior of the U.S., particularly in the Upper Midwest and South, whereas mostly urban counties are disproportionately located in the Mid-Atlantic region, South Florida, Southwest, and West Coast. Completely rural counties account for 22 percent of the nation's 3,124 counties, but less than 2 percent of the U.S. population. Mostly rural counties account for 38 percent of all counties, but 12 percent of the U.S. population. Mostly urban counties represent 40 percent of all counties, but 87 percent of the total U.S. population (Ratcliffe, Burd, Holder, & Fields, 2016). Although representing a small percentage of the U.S. population (14 percent), completely and mostly rural counties still account for approximately 42 million people (Ratcliffe et al., 2016).

Figure 2: Rurality of U.S. counties: 2010



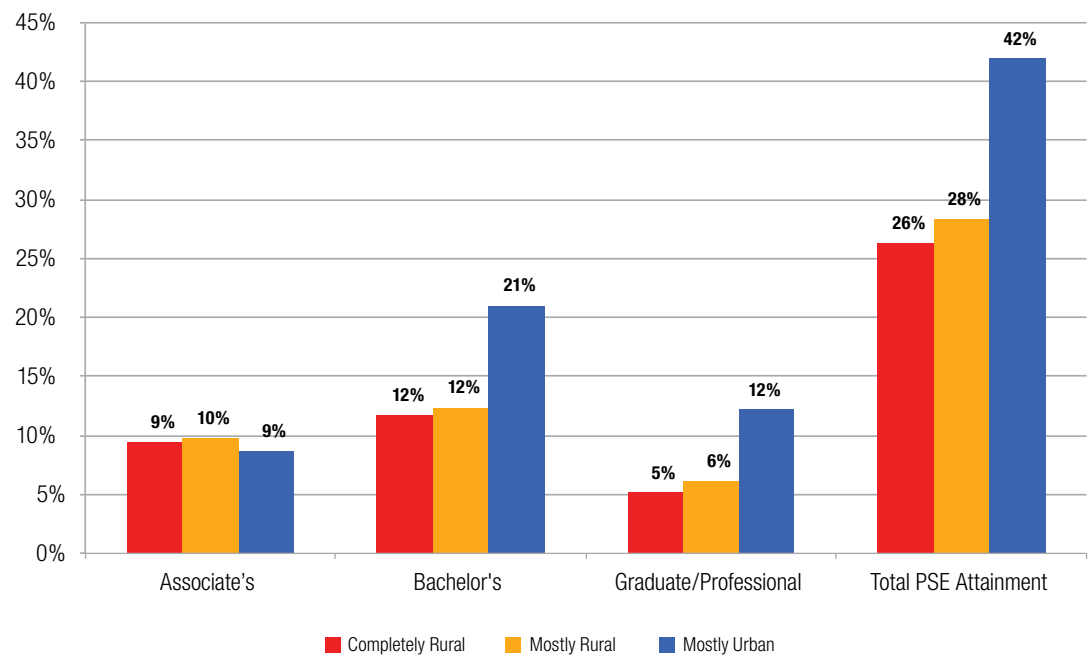
SOURCE: U.S. Census Bureau. (2016). *County classification lookup table* [Data file].

⁸² Although inconsistently operationalized, the term “rural” generally refers to places with low population counts or density and that are located some distance from urbanized places (Ratcliffe et al., 2016). Definitions of “rurality” and “urbanicity” vary across the research literature and among governmental agencies. The U.S. Department of Agriculture’s Economic Research Service (2016b), Office of Management and Budget (U.S. Census Bureau, 2015), and National Center for Education Statistics (n.d.) define these terms and related concepts slightly differently, which limits comparisons of study findings across data sources.

⁸³ The U.S. Census Bureau (Ratcliffe et al., 2016) defines mostly urban counties as those with less than 50 percent of residents in a county living in rural areas, mostly rural as those with 50 to 99 percent of residents living in rural areas, and completely rural as those with all residents living in rural areas.

College attainment is typically lower in rural than urban counties. Figure 3 shows that in 2015, approximately a quarter of adults age 25 to 64 in completely rural and mostly rural counties held at least an associate's degree, compared with 42 percent of working-age adults in mostly urban counties.

Figure 3: Percentage of adults ages 25 to 64 with at least an associate's degree by rurality: 2015



SOURCE: U.S. Census Bureau. (2016). *American Community Survey 2015 (5-year estimates)*.

Comparable shares of working-age adults in completely rural, mostly rural, and mostly urban counties count an associate's degree as their highest level of attainment (approximately 10 percent). Figure 3 shows that differences in attainment by rurality are due to differential rates of attainment of a bachelor's or graduate degree. One-third (33 percent) of working-age adults in mostly urban counties have attained a bachelor's degree or higher, compared with 17 percent in completely rural counties and 18 percent in mostly rural counties.⁸⁴

The social, economic, and geographic contexts of rural places influence postsecondary trajectories for rural youth (McDonough, Gildersleeve, & Jarsky, 2010; Perna, 2006; Roscigno, Tomaskovic-Devey, & Crowley, 2006). In addition to having lower postsecondary attainment rates, rural residents are, on average, more likely than urban residents to be White, employed within agriculture, mining, and manufacturing industries, have lower earnings, and live in poverty.⁸⁵

About 20 percent of the nation's public school students (9.7 million students) attend rural elementary and secondary schools (Johnson, Showalter, Klein, & Lester, 2014). Rural schools educate large shares of economically disadvantaged students yet, on average, spend fewer dollars per pupil than schools located in

⁸⁴ Even within the same rurality classification, county-level college attainment levels vary by county. See Appendix A for disaggregated county-level attainment levels by county rurality.

⁸⁵ See Appendix B for demographic and economic profiles of the U.S. population by county rurality.

urban and suburban areas, likely because they draw financing from a lower tax base (Roscigno et al., 2006). Rural high schools tend to offer fewer rigorous college preparatory courses such as Advanced Placement (AP), which places students from rural schools at a structural disadvantage in terms of college enrollment and ultimately completion (Byun, Irvin, & Meece, 2012b; Byun, Meece, & Irvin, 2012a; Roscigno et al., 2006).

Family and community ties also shape educational outcomes (McDonough et al., 2010; Perna, 2006; Roscigno et al., 2006). Rural youth are more likely to have parents who not only lack a bachelor's degree, but also have lower expectations that their children will attain a four-year degree; parental educational attainment and parents' expectations for a child's attainment are predictors of college attendance and attainment (Byun et al., 2012a). Some rural students are reluctant to disassociate themselves from their families and communities by attending college away from home and instead "choose" to attend a local two-year option, conforming to the norms of their community (McDonough et al., 2010). However, rural youth with high academic expectations or who perceive poor local job opportunities tend to place less importance on remaining in their home communities after high school and travel greater distances to attend college (Johnson, Elder, & Stern, 2005).

Local economic conditions likely influence rural students' willingness to invest in postsecondary education (Becker, 1993; Perna, 2006; Roscigno et al., 2006). Compared to urban economies, rural economies are more dependent on farming, manufacturing, and mining industries (U.S. Department of Agriculture, 2016a). But these industries are employing declining shares of the population (Bureau of Labor Statistics, 2015), and technological improvements are increasing the educational requirements of the jobs that remain and are being created in these and other sectors (Carnevale & Rose, 2015).

Although the magnitude varies, median earnings increase with postsecondary attainment regardless of rurality. Figure 4 shows that, compared to high school completers, median earnings are 53 percent higher in mostly rural counties and 63 percent higher in mostly urban counties for those who hold a bachelor's degree.⁸⁶

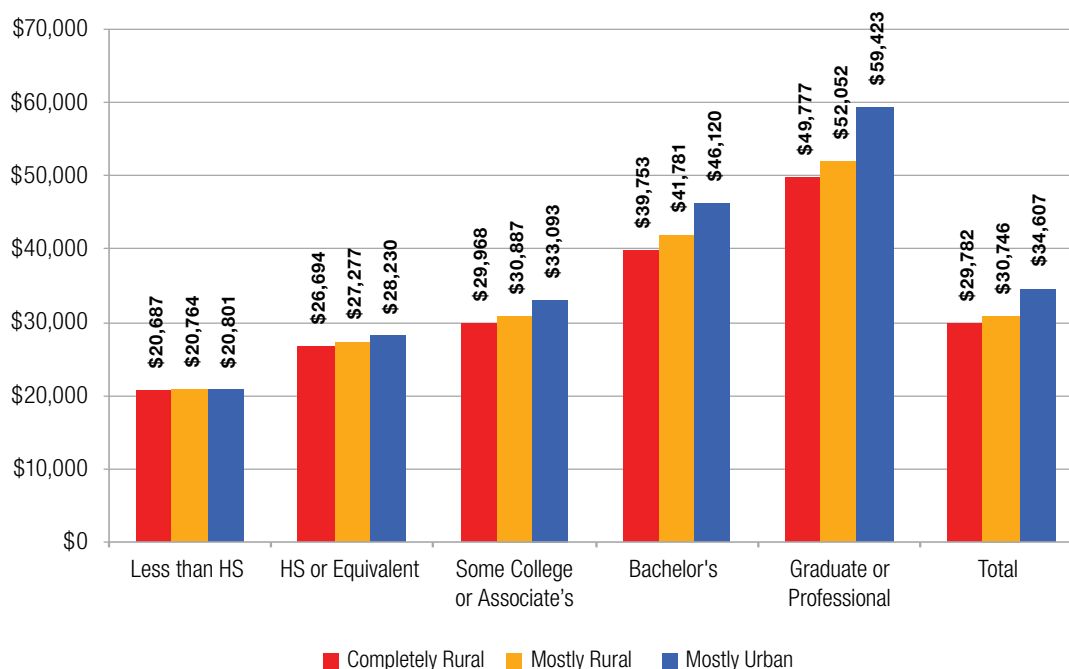
College attainment in rural areas is also restricted by the lack of geographic proximity to postsecondary institutions. As the share of rural residents increases, the likelihood of a four-year college or university (particularly broad and open access institutions) within a commuting zone decreases, while the likelihood of a community college marginally increases (Hillman, 2016). Research demonstrates that students' proximity to postsecondary institutions is positively related to the number of college applications submitted (Griffith & Rothstein, 2009; Turley, 2009), likelihood of college enrollment (Frenette, 2006; Kling, 2001), and selectivity of institution attended (Alm & Winters, 2009; Do, 2014; Rouse, 1995). Rural youth who enroll in higher education are more likely than non-rural youth to delay college enrollment after completing high school, attend community colleges or less selective four-year institutions, and experience discontinuous college enrollment (Burke, Davis, & Stephan, 2015; Byun, Irvin, & Meece, 2015; Koricich, 2014).

Despite differences in college-related outcomes, rural youth should not be pathologized as deficient. Rural Americans possess cultural wealth, diversity of perspective, and other attributes that can enrich the enterprise of higher education (Byun et al., 2012b; McDonough et al., 2010; Yosso, 2005).

Recognizing the value of enrolling rural students, some colleges and universities are actively recruiting students from rural communities and providing them with relevant supports. For example, Texas A&M University provides

⁸⁶ The unit of analysis for Figure 4 is the county. The American Community Survey (ACS) data to which we have access reports median earnings by attainment level for each county. The number of adult earners within each attainment level that is used to derive these county-level aggregate earnings estimates is unknown. We do not report in the text the earnings premium for bachelor's degree attainment for completely rural counties because of the magnitude of missing data in ACS for these counties. Earnings data are not reported for 9 percent of mostly urban counties, 15 percent of mostly rural counties, and 52 percent of completely rural counties.

Figure 4: Median earnings of adults age 25 and older by educational attainment and rurality: 2015



SOURCE: U.S. Census Bureau. (2016). *American Community Survey 2015 (5-year estimates)*.

bus transportation for distant, rural prospective students from West Texas and New Mexico to participate in on-campus recruitment events. Drexel University School of Medicine includes rural students as one demographic served by its Office of Diversity, Equity & Inclusion (Pappano, 2017). McDonough and colleagues (2010) challenge four-year higher education institutions to provide pathways for rural youth by actively engaging with rural communities and creating an institutional presence in rural high schools.

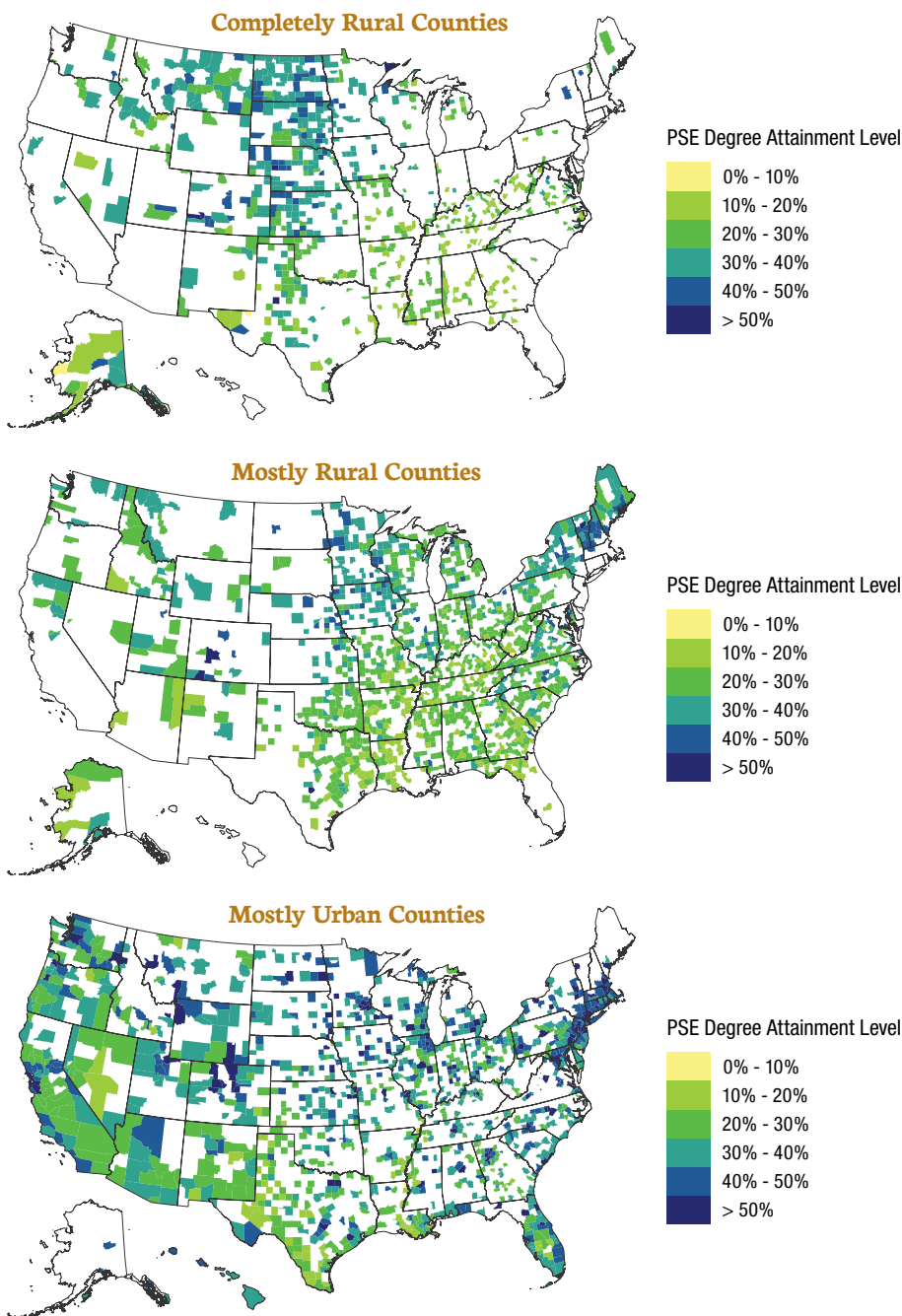
Place-based strategies may also improve postsecondary opportunity for rural populations. One federal initiative that recognized the importance of place is the federally designated Promise Zone. Administered by the Department of Housing and Urban Development between 2014 and 2016, this initiative awarded competitive grants to 22 geographically diverse high-poverty communities across the U.S. to combat a range of social, economic, and educational challenges. Of the 22 funded programs, four are in rural locations (in Kentucky, South Carolina, Florida, and Puerto Rico, U.S. Department of Housing and Urban Development, 2016).

Over the past decade, place-targeted financial aid programs, commonly known as “promise programs,” have also emerged as a strategy for increasing college access and attainment. Whereas traditional financial aid programs make awards based only on financial need or merit-based criteria, promise programs typically require residency in a particular place and/or attendance at a particular school or district (Perna, 2016). Place-based scholarship programs like the Kalamazoo Promise are intended to promote local community economic development by increasing postsecondary educational attainment of residents (Miller-Adams, 2015).

Lower rates of postsecondary attainment for rural students, families, and communities are the result of structural barriers endemic to the nation’s social, economic, and educational systems (Soja, 2010). Policymakers and practitioners need to understand the contexts in which students live and make college-related decisions in order to design policies and practices that improve college-related opportunity and outcomes for this population.

By including attention to rurality in public policy (Farrington & Farrington, 2005) and institutional practice (McDonough et al., 2010), we can begin to dismantle rural “disadvantage” and allow for greater postsecondary attainment of rural youth. Explicitly recognizing the needs and attributes of rural students will enable these students – and our nation – to realize the numerous benefits of college attainment.

Essay Appendix A: Percentage of adults age 25 to 64 with an associate's degree or higher by rurality: 2015



SOURCE: U.S. Census Bureau. (2016). *American Community Survey 2015 (5-year estimates)*.

Essay Appendix B: Percentage of adults age 25 to 64 with an associate's degree or higher by rurality: 2015

	Mostly Urban %	Mostly Rural %	Completely Rural %
Demographics			
White Non-Hispanic	59	82	82
Black Non-Hispanic	13	9	9
Hispanic (any race)	19	5	4
Native Born Citizen	85	97	98
Employment & Industry			
Labor Force Participation	65	58	55
Unemployment Rate	8	8	8
Agriculture, Mining	2	5	10
Construction	6	7	8
Manufacturing	10	15	12
Information	2	1	1
Finance, Insurance, Real Estate	7	4	4
Professional, Scientific, Management	12	7	6
Education and Health Care	23	23	22
Income & Poverty			
Avg. Median Household Income	\$51,625	\$43,736	\$43,450
Avg. Per Capita Income	\$26,354	\$22,576	\$23,717
Poverty Status (children under 18)	21	24	26
Poverty Status (adults 18-64)	14	16	17
Health Insurance Coverage	87	87	86

SOURCE: U.S. Census Bureau. (2016). *American Community Survey 2015 (5-year estimates)*.

American Community Survey 2015 Definitions

Native Born Citizen: Share of total U.S. population born in the United States, which excludes naturalized U.S. citizens and non-citizens.

Labor Force Participation: Share of total population 16 years and over in the labor force.

Unemployment Rate: Share of total civilian population 16 years and over in the labor force that is unemployed.

Employment by Industry: Share of total civilian population 16 years and over employed within each industry.

Poverty Status (children under 18): Share of population under 18 years of age for whom poverty status is determined that lives below the federal poverty level.

Poverty Status (adults 18-64): Share of population 18 to 64 years of age for whom poverty status is determined that lives below the federal poverty level.

Health Insurance Coverage: Share of civilian non-institutionalized population that has health insurance through public health coverage or private health insurance.