

Mahaska County District – IA OCIO ITQ Application

Barriers to Broadband

(This factor takes into consideration special barriers identified by the Community Applicant that complicate the installation of Broadband Infrastructure within the Geographic Area of Concern and serve to further justify the OICO's determination that the Geographic Area of Concern should be prioritized for funding. Responses to this factor may include statements addressing low population density, unique geographic features such as topography or soil composition, higher proportion of low income households, and other factors that make the Geographic area of Concern unlikely to receive Broadband service without the contribution of government funds. Applicants that identifying greater Barriers to Broadband Infrastructure installation will receive higher points in this category.) Also note terrain barriers (rivers, rocky , railroad crossing, etc.) in addition to rural demographic barriers.

Low Population Density

Mahaska County is rural and lower density of housing is a barrier. The largest city in the county is Oskaloosa with a population of 11,558. Of the 99 counties in Iowa, Mahaska is 28th in terms of population with 22,190 residents across 573 square miles of land. For Internet service providers, there are ultimately fewer customers given the lower density of housing against high costs to build and maintain broadband technologies.

Demographics and Customer Base Income

Income of the customer base in rural areas is a barrier. The average poverty percent of households in poverty is 12.7 percent (the poverty threshold being a family of four with \$23,000 annual income or less). The free and reduced lunch population is 49 percent in the Oskaloosa Community School District, the largest school population in the county. For a broadband provider this presents issues with the ability to sell broadband products.

Topography and Open Countryside

Mahaska County includes 3 rivers, 32 named creeks, wetland areas, hills, valleys, woods, and 351,436 acres of cropland out of 366,080 total acres. With 96 percent acres of cropland, it is challenging for broadband providers to build infrastructure to support the farms and households in the area. A broadband provider must cover more area before reaching customers and this significantly increases expenses for the provider. As a result, there are divisions within the community driven by lack of equal access to robust broadband due to barriers for providers regarding open countryside and topography.

Rural Agriculture and Low Customer Density

About 96 percent of Mahaska County is cropland with 351,436 acres of cropland out of 366,080 total acres. This rural area includes farms that need broadband access for modern agriculture precision farming techniques reliant on data collection and analysis for maximizing yield. Examples of such use include application of fertilizer, herbicides, or pesticides. But a broadband provider must cover large areas (in comparison to cities) between customers which translates into significantly higher costs to install and maintain broadband service. As a result, lack of broadband access due to low customer density results in unfavorable economic impacts for the agricultural businesses rural families.