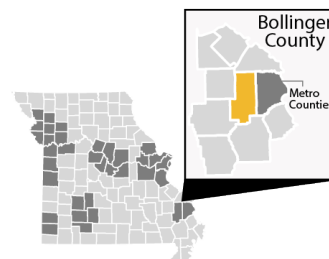


Bollinger County, Missouri

Broadband Expansion Economic Benefit Analysis

Located in southeast Missouri, Bollinger County sits within the Cape Girardeau metropolitan statistical area. At 19.3%, the county has the lowest percent of households with fixed broadband service (fiber, cable or DSL) compared with other Missouri counties. Bollinger County’s 2019 population totaled 12,133, ranking it 79th in Missouri for population size.



Two 10-year expansion scenarios estimate the benefits to Bollinger County if it increased household broadband adoption by 10 (minimum) and 20 (maximum) percentage points. Exhibit 1 shows the number and percent of households assumed to have fixed broadband by year ten. Exhibit 2 shows the total benefit model inputs for each scenario.

Exhibit 1. 10-Year Fixed Broadband Household Adoption Scenarios

Characteristic	Base Value	Minimum Scenario	Maximum Scenario
Households without Fixed Broadband Service	3,705	3,246	2,787
Households with Fixed Broadband Service	888	1,347	1,806
Percent of Households with Fixed Broadband Service	19.3%	29.3%	39.3%

Sources: Demographics from U.S. Census Bureau, ACS, 2019 5-Year Summary Data.

Exhibit 2. 10-Year Economic Benefit Direct Model Inputs

Basic Assumptions	Minimum Scenario	Maximum Scenario
Percent of Households that Adopted Broadband by Year 10	29.3%	39.3%
Broadband Installation Investment to Serve Remaining Households	\$14,149,197	\$14,149,197
Telemedicine Benefits		
Patient Savings from Reduced Use of Emergency Departments	\$1,874,903	\$3,749,806
Patient Savings from Initial Health Consultation via Internet	\$786,213	\$1,572,425
Patient Transportation Savings due to Telemedicine	\$10,702	\$21,403
Missed Work Income Savings to Patient	\$13,335	\$26,670
Education Productivity Benefits		
K12 Teacher Productivity Savings	\$680,857	\$680,857
Income and Employment Benefits		
Household Income Increases	\$479,474	\$1,920,713
Farm Income Changes	\$1,344,406	\$2,688,813
Annual Average Direct Employment Increases by Year 10	66	132

Notes: See Methodology section in full Broadband Impact report for details. Dollar values represent 10-year benefit in nominal figures.

Bollinger County 10-Year Broadband Expansion Benefit Results

Benefits arise from both fixed broadband infrastructure construction and household broadband adoption. In year two, the construction investments and household adoption expansion benefits begin. The temporary construction activity concludes in year six. In each scenario, new jobs, labor income and GDP include the total impact of direct inputs (from Exhibit 2) and indirect purchases, such as new local spending in the county spurred by those inputs.

Minimum Scenario: 10 Percentage Point Gain in Fixed Broadband Adoption over 10 Years

In the minimum scenario, the annual average increase of 79 jobs is realized in year 10. On average, annual employment is 1.6% higher than 2019 county employment. Annually, this scenario adds 1.8% and 1.4%, respectively, to county labor income and GDP on average compared with 2019 levels.

Exhibit 3. Minimum Scenario – Total Economic Benefits by Year

Characteristic	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	10-Year Total*	Avg. Annual Change**
New Annual Average Employment	N/A	39	48	58	66	75	53	62	71	79	79	1.6%
New Labor Income (in Millions)	N/A	\$1.5	\$1.7	\$1.9	\$2.1	\$2.4	\$1.4	\$1.6	\$1.8	\$2.0	\$16.4	1.8%
New GDP (in Millions)	N/A	\$1.9	\$2.2	\$2.6	\$2.9	\$3.3	\$2.1	\$2.4	\$2.8	\$3.1	\$23.3	1.4%

Notes: All income and GDP figures in 2021 dollars. *Total employment is for year 10 as jobs are not cumulative, and other figures are cumulative totals. **Average annual change compared to 2019 county employment, income and GDP totals.

Maximum Scenario: 20 Percentage Point Gain in Fixed Broadband Adoption over 10 Years

In the maximum scenario, the annual average increase of 159 jobs is seen in year 10. On average, annual employment is 2.7% higher than 2019 county employment. This scenario adds an annual average of 3.0% and 2.4%, respectively, to labor income and GDP compared with 2019 levels.

Exhibit 4. Maximum Scenario – Total Economic Benefits by Year

Characteristic	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	10-Year Total*	Avg. Annual Change**
New Annual Average Employment	N/A	49	67	85	103	120	107	125	142	159	159	2.7%
New Labor Income (in Millions)	N/A	\$1.7	\$2.2	\$2.6	\$3.1	\$3.5	\$2.8	\$3.2	\$3.7	\$4.1	\$26.7	3.0%
New GDP (in Millions)	N/A	\$2.2	\$2.9	\$3.6	\$4.3	\$5.0	\$4.2	\$4.8	\$5.5	\$6.1	\$38.7	2.4%

Notes: All income and GDP figures in 2021 dollars. *Total employment is for year 10 as jobs are not cumulative, and other figures are cumulative totals. **Average annual change compared to 2019 county employment, income and GDP totals.

This summary is part of the [Economic Benefits of Expanding Broadband in Select Missouri Counties](#) study published by MU Exceed, June 2021. [Additional resources](#) available from MU Exceed.