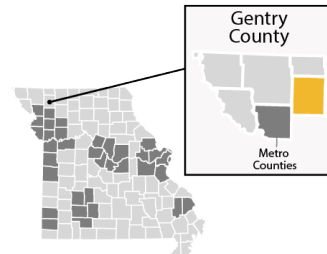


Gentry County, Missouri

Broadband Expansion Economic Benefit Analysis

Located in northwest Missouri, Gentry County has 48.6% of households with fixed broadband services, just below the Missouri county median value (49.7%). Gentry County’s 2019 population totaled 6,571 people, ranking it 103rd in Missouri for population size.



Two 10-year expansion scenarios estimate the benefits to Gentry County if it increased household broadband adoption by 10 (minimum) and 20 (maximum) percentage points. Exhibit G1 shows the number and percent of households assumed to have broadband by year ten. Exhibit G2 shows the total benefit model inputs for each scenario.

Exhibit G1. 10-Year Fixed Broadband Household Adoption Scenarios

Characteristic	Base Value	Minimum Scenario	Maximum Scenario
Households without Fixed Broadband Service	1,314	1,059	803
Households with Fixed Broadband Service	1,241	1,497	1,752
Percent of Households with Fixed Broadband Service	48.6%	58.6%	68.6%

Sources: Demographics from U.S. Census Bureau, ACS, 2019 5-Year summary data.

Exhibit G2. 10-Year Economic Benefit Direct Model Inputs

Basic Assumptions	Minimum Scenario	Maximum Scenario
Percent of Households that Adopted Broadband by Year 10	58.6%	68.6%
Broadband Installation Investment to Serve Remaining Households	\$13,168,148	\$13,168,148
Telemedicine Benefits		
Patient Savings from Reduced Use of Emergency Departments	\$1,094,957	\$2,189,914
Patient Savings from Initial Health Consultation via Internet	\$481,193	\$962,386
Patient Transportation Savings due to Telemedicine	\$14,583	\$29,166
Missed Work Income Savings to Patient	\$11,592	\$23,183
Education Productivity Benefits		
K12 Teacher Productivity Savings	\$583,285	\$583,285
Income and Employment Benefits		
Household Income Increases	\$340,925	\$1,365,811
Farm Income Changes	\$3,121,057	\$6,242,115
Annual Average Direct Employment Increases by Year 10	70	140

Notes: Dollar values represent 10-year benefit in nominal figures.

Gentry County 10-Year Broadband Expansion Benefit Results

Benefits arise from both fixed broadband infrastructure construction and household broadband adoption. In year two, benefits from construction investments and household adoption expansion begin. Temporary construction activity, and associated jobs, concludes in year five. In each scenario, new jobs, labor income and GDP include the total impact of direct inputs (from Exhibit G2) 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 89 jobs is realized in year 10. On average, annual employment is 1.6% higher than 2019 county employment. This scenario annually adds 1.8% and 1.3%, respectively, on average to county labor income and GDP compared with 2019 levels.

Exhibit G3. 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	48	59	69	78	50	60	70	79	89	89	1.6%
New Labor Income (in Millions)	N/A	\$1.9	\$2.2	\$2.6	\$2.9	\$1.8	\$2.1	\$2.4	\$2.8	\$3.1	\$21.8	1.8%
New GDP (in Millions)	N/A	\$2.4	\$3.0	\$3.5	\$4.0	\$2.6	\$3.1	\$3.6	\$4.1	\$4.6	\$31.0	1.3%

Notes: All income and GDP figures in 2022 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 178 jobs is seen in year 10. On average, annual employment is 2.9% higher than 2019 county employment. Annually, this scenario adds 3.1% and 2.3%, respectively, on average to county labor income and GDP compared with 2019 levels.

Exhibit G4. 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	59	79	100	120	101	120	140	159	178	178	2.9%
New Labor Income (in Millions)	N/A	\$2.2	\$3.0	\$3.7	\$4.4	\$3.5	\$4.2	\$4.9	\$5.6	\$6.2	\$37.7	3.1%
New GDP (in Millions)	N/A	\$2.9	\$4.0	\$5.1	\$6.1	\$5.2	\$6.2	\$7.2	\$8.2	\$9.1	\$54.1	2.3%

Notes: All income and GDP figures in 2022 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.

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