



Labovitz School
OF BUSINESS AND ECONOMICS

Bureau of Business and
Economic Research

Economic Impact of Critical Access Hospital 2007 Update

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Impact Procedures and Input Assumptions

IMPLAN Models

There are two components to the IMPLAN system, the software and databases. The databases provide all information to create regional IMPLAN models. The software performs the calculations and provides an interface for the user to make final demand changes.

Comprehensive and detailed data coverage of the IMPLAN study area by county, and the ability to incorporate user-supplied data at each stage of the model building process, provides a high degree of flexibility both in terms of geographic coverage and model formulation, in this case definition of the Cass county study area, and the definition of specific models for construction and operations.

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Data

IMPLAN data files use federal government data sources including:

- US Bureau of Economic Analysis Benchmark I/O Accounts of the US
- US Bureau of Economic Analysis Output Estimates
- US Bureau of Economic Analysis REIS Program
- US Bureau of Labor Statistics Covered Employment and Wages (ES202) Program
- US Bureau of Labor Statistics Consumer Expenditure Survey
- US Census Bureau County Business Patterns
- US Census Bureau Decennial Census and Population Surveys
- US Census Bureau Economic Censuses and Surveys
- US Department of Agriculture Crop and Livestock Statistics
- US Geological Survey

IMPLAN data files consist of the following components: employment, industry output, value added, institutional demands, national structural matrices and inter-institutional transfers.

Impacts for this model use the most recent IMPLAN data available which is for the year 2004. The impact is reported in 2006 dollars (given the data year of inputs supplied to the Bureau of Business and Economic Research) and calculated with the built-in deflators of the modeling software.

Economic impacts are made up of direct, indirect, and induced impacts. The following cautions are suggested assumptions for accepting the impact model:

- IMPLAN input-output is a production based model
- Local or export based purchases that represent transfers from other potential local purchases are not counted.
- The numbers (from U.S. Department of Commerce secondary data) treat both full and part time individuals as being employed.
- Assumptions need to be made concerning the nature of the local economy before impacts can be interpreted.
- The IMPLAN model was constructed for the year 2004 (most recent data available). 2006 dollars are estimated by the model.

Definitions used in this report:

Measures

- **Gross Output** represents the value of local production required to sustain activities.
- **Value Added** is a measure of the impacting industry's contribution to the local community; it includes wages, rents, interest and profits.
- **Employment** is fairly self-explanatory. Part time individuals are counted as being employed. This means that the employment estimates are not in terms of full time equivalents.

Effects

- **Direct** – For each dollar outlay for a given industry that amount used for purchase of goods and services from each industry sector model
- **Indirect** – The inter-industry effects of input-output analysis

Findings: Construction Impacts and Operations Impacts

Construction Impacts

The construction impact findings below are reported by study area, by year, by measure, and by effect.

Study Area: Cass County

The following table, Table 1 shows Output, Employment, and Value Added impacts on Cass County from construction of the Critical Access Hospital in 2008. These estimations of approximate additions to the region's Gross Domestic Product are reported in terms of the direct effect (for each dollar outlay the amount used for purchase of goods and services from each industry sector); and the indirect effect (inter-industry effects). From construction of the Critical Access Hospital, there will be \$2.3 million additional inter-industry spending in the county on top of the direct \$20.5 million of expenditures to construct the hospital. The additional output will also create 31 additional jobs in Cass County due to the 253 direct construction employment.

	Direct	Indirect	Total
Output	\$20,500,000	\$2,349,123	\$22,849,132
Employment	252.9	31.3	284.2
VA	\$10,002,098	\$1,300,887	\$11,045,855

Source: IMPLAN

Note: Part time individuals are counted as being employed. This means that the employment estimates are not in terms of full time equivalents. These estimations of employment are reported in terms of the direct effect (for each dollar outlay the amount used for purchase of goods and services from each industry sector); and the indirect effect (inter-industry effects).

Operation Impacts

The operation impact findings below are reported by study area, by year, by measure, and by effect.

Study Area: Cass County

The following table shows Output, Employment, and Value Added impacts on Cass County, for the first year of operation, 2009. These estimations of approximate additions to the region's Gross Domestic Product are reported in terms of the direct effect (for each dollar outlay the amount used for purchase of goods and services from each industry sector); and the indirect effect (inter-industry effects).

From initial start up operations of the Critical Access Hospital, there will be \$1.3 million additional inter-industry spending in the county on top of the direct \$8.3 million of expenditures. The additional output will also create 16 additional jobs in the county due to the 75 direct employment to operate the hospital.

Table 2: Economic Impact of Hospital Start up Operation (2006 Dollars)			
	Direct	Indirect	Total
Output	\$8,315,197	\$1,283,997	\$9,598,580
Employment	75	16.1	91.1
VA	\$4,366,066	\$729,696	\$5,095,762
Source: IMPLAN			

Note: Part time individuals are counted as being employed. This means that the employment estimates are not in terms of full time equivalents.

At full operations of the Critical Access Hospital, there will be \$2.3 million additional inter-industry spending in the county on top of the direct \$13.9 million of expenditures. The additional output will also create 29 additional jobs in the county due to the 125 direct employment to operate the hospital.

Table 3: Economic Impact of Hospital Full Operation (2006 Dollars)			
	Direct	Indirect	Total
Output	\$13,858,744	\$2,296,820	\$16,155,564
Employment	125	28.8	153.8
VA	\$6,773,268	\$1,306,460	\$8,079,728
Source: IMPLAN			

Note: Part time individuals are counted as being employed. This means that the employment estimates are not in terms of full time equivalents.

Special Considerations

Readers are encouraged to remember the Bureau of Business and Economic Research was asked to supply an economic impact analysis only. Any subsequent policy recommendations would best be based on the “big picture” of total impact, which must include environmental, social, and governmental impacts among others.