

The Economic Impacts of New Construction Activities, the Operation of New Clinical and Research Facilities of the Cancer Center, and New Educational Activities of the University of Nebraska Medical Center and the Nebraska Medical Center on the State of Nebraska

Jerry Deichert, Director
Center for Public Affairs Research, University of Nebraska at Omaha

This study estimates the economic impacts of new construction activities, the operation of new clinical and research facilities of the Cancer Center, and expanded educational activities of the University of Nebraska Medical Center and the Nebraska Medical Center on the state of Nebraska.

Construction phase impacts

Total construction costs for all four projects (Cancer Center in Omaha, Nursing Facility in Lincoln, Nursing and Allied Health Facility in Kearney, and Veterinary Diagnostic Center in Lincoln) are estimated to be \$456 million. These expenditures are estimated to generate:

- A total of more than 6 thousand jobs,
- Total labor income of \$253 million,
- \$350 million in total value added,
- Total output of \$730 million, and
- State sales and income taxes of \$9.4 million resulting from the labor income.

The employment estimates are based on the assumption that all work will be completed in one year. If adjusted for the fact that the construction activities will take place for longer periods of time, the annual equivalent number of jobs created would be 2,657.

Annual economic activity

Wages and salaries and operating costs of clinical and research functions of the Cancer Center and the University of Nebraska Medical Center are assumed to be \$130 million during the first year of operation and will generate an economic impact of:

- 4,550 total jobs,
- Labor income totaling \$190 million,
- Value added totaling \$258 million,
- Total output of \$530 million, and
- Annual state sales and income taxes of more than \$7 million resulting from the labor income.

The annual visitor impact of patients and caregivers who use the services of the Cancer Center is:

- 107 jobs,
- \$2.5 million in labor income,
- \$4.3 million in value added,
- \$8.1 million in total output, and
- A state sales and income tax impact of \$92 thousand resulting from the labor income.

This impact assumes all patients and their caregivers are either from another state or are Nebraskans who otherwise would have left the state for treatment. It measures spending that occurs away from the Cancer Center such as hotel rentals, food at restaurants, and other retail spending.

The annual economic impact of the spending resulting from additional education activities, assuming \$3.3 million in additional expenditures, will result in a total of:

- 79 jobs,
- \$3.6 million in labor income,
- \$4.6 million in value added,
- A total output of \$5.6 million, and.
- A state sales and income tax impact of \$134 thousand resulting from the labor income.

The above analysis only measures the impacts on the state of Nebraska and excludes any impacts on businesses and individuals outside the state. Also the study does not isolate the economic impacts on any area of the state. The purpose of the study is to aid management decision making, as well as to help facilitate communication of these impacts to governments and the general public.

It should be noted that this study only measures monetary and employment impacts. Any major construction project and business activity will have many non-monetary or non-quantifiable impacts (both negative and positive) on the state and local area, such as impacts on public services, additional educational opportunities, benefits of improved infrastructure, contributions to community activities and charities, improved quality of life, etc. These non-quantifiable impacts are not taken into account.

This study uses the IMPLAN input/output model developed by the Minnesota IMPLAN Group, Inc. to generate the estimated impacts. This model allows the estimation of the multiplier effects that result from dollars being spent and respent throughout the state economy. Input/output analysis starts by developing a structural model of the state's economy. The structural model details the linkages among the various sectors of the economy. These include both indirect and induced effects.

Staff from the University of Nebraska Medical Center provided the basic assumptions about the size of the construction activities and the operation of the hospital, research, and expanded teaching activities. Jerry Deichert and Chris Decker from the University of Nebraska at Omaha entered these values into the input/output model of Nebraska to estimate the economic impacts.

The construction impacts are the totals aggregated over the entire period of construction. The clinical and research, education, and visitor impacts are the annual impacts for the first year of operation. The assumptions used in the development of the sales and income tax impacts and the visitors' impacts are available upon request.

Each activity is divided into four components: employment, labor income, total value added (includes labor income), and output. The employment impact measures the number of jobs attributed to the activity. The labor income is the amount of wages and salaries, proprietors' income, and other compensation generated by the activity. The total value-added impact represents the additional revenues generated in the economy. Finally, the output impact estimates the total dollar value of all the goods or services generated as a result of the activity.

There are three types of impacts included in the tables: direct effect, indirect effect, and induced effect. Direct effects are the jobs, incomes, value added, and output resulting from the activity itself. Indirect effects are jobs, incomes, value added, and output generated by businesses which provide goods and services that are necessary for the activity. They may be thought of as "supplier" impacts. Induced effects are the jobs, incomes, value added, and output that result from the spending of the incomes received by the direct and indirect employees on such items as food, housing, transportation, entertainment, etc. This spending will have impacts throughout the economy.

Finally, we estimate state sales and income taxes. These taxes are not generated directly by the IMPLAN model but use the total labor income estimated by the model and average state income and sales taxes collected per dollar of income.

TABLE 1. ECONOMIC IMPACT ON THE STATE OF NEBRASKA OF CONSTRUCTION ACTIVITIES OF THE UNIVERSITY OF NEBRASKA MEDICAL CENTER AND THE NEBRASKA MEDICAL CENTER

Construction of the Cancer Center at Omaha, assuming \$370 million construction expenditures				
<u>Impact Type</u>	<u>Employment*</u>	<u>Labor Income</u>	<u>Total Value Added</u>	<u>Output</u>
Direct Effect	2,932.2	\$125,218,234	\$154,268,999	\$370,000,000
Indirect Effect	726.1	\$36,439,123	\$52,074,499	\$93,659,455
Induced Effect	1,213.9	\$43,813,585	\$77,366,464	\$128,981,761
Total Effect	4,872.2	\$205,470,942	\$283,709,962	\$592,641,216
State sales taxes		\$3,322,465		
State income taxes		\$4,314,890		
Construction of the Nursing Facilities in Lincoln, assuming \$17 million construction expenditures				
<u>Impact Type</u>	<u>Employment*</u>	<u>Labor Income</u>	<u>Total Value Added</u>	<u>Output</u>
Direct Effect	134.7	\$5,753,270	\$7,088,035	\$17,000,000
Indirect Effect	33.4	\$1,674,230	\$2,392,612	\$4,303,272
Induced Effect	55.8	\$2,013,057	\$3,554,675	\$5,926,189
Total Effect	223.9	\$9,440,557	\$13,035,323	\$27,229,461
State sales taxes		\$152,654		
State income taxes		\$198,252		
Construction of the Nursing and Allied Health Facilities in Kearney, assuming \$19 million construction expenditures				
<u>Impact Type</u>	<u>Employment*</u>	<u>Labor Income</u>	<u>Total Value Added</u>	<u>Output</u>
Direct Effect	150.6	\$6,430,126	\$7,921,922	\$19,000,000
Indirect Effect	37.3	\$1,871,198	\$2,674,096	\$4,809,540
Induced Effect	62.3	\$2,249,887	\$3,972,872	\$6,623,387
Total Effect	250.2	\$10,551,211	\$14,568,890	\$30,432,927
State sales taxes		\$170,613		
State income taxes		\$221,575		
Construction of the Veterinary Diagnostic Center in Lincoln, assuming \$50 million construction expenditures				
<u>Impact Type</u>	<u>Employment*</u>	<u>Labor Income</u>	<u>Total Value Added</u>	<u>Output</u>
Direct Effect	396.2	\$16,921,383	\$20,847,162	\$50,000,000
Indirect Effect	98.1	\$4,924,206	\$7,037,095	\$12,656,683
Induced Effect	164.0	\$5,920,755	\$10,454,928	\$17,429,968
Total Effect	658.4	\$27,766,343	\$38,339,184	\$80,086,651
State sales taxes		\$448,982		
State income taxes		\$583,093		

*These estimates of the employment impact assume that the construction activity is completed in a one-year period.

TABLE 2. ECONOMIC IMPACT ON THE STATE OF NEBRASKA OF CLINICAL AND RESEARCH FUNCTIONS OF THE CANCER CENTER AT THE UNIVERSITY OF NEBRASKA MEDICAL CENTER

Clinical and Research Activities in Omaha, assuming \$100 million in wages and salaries and \$30 million in operating expenditures

<u>Impact Type</u>	<u>Employment</u>	<u>Labor Income</u>	<u>Total Value Added</u>	<u>Output</u>
Direct Effect	2,604.6	\$115,204,662	\$128,555,098	\$315,416,196
Indirect Effect	824.5	\$33,930,675	\$57,820,193	\$95,041,170
Induced Effect	1,121.1	\$40,514,437	\$71,458,284	\$119,205,941
Total Effect	4,550.2	\$189,649,773	\$257,833,575	\$529,663,307
State sales taxes		\$3,066,637		
State income taxes		\$3,982,645		

TABLE 3. ECONOMIC IMPACT ON THE STATE OF NEBRASKA OF VISITORS (PATIENTS AND THEIR CAREGIVERS) TO THE CANCER CENTER

<u>Impact Type</u>	<u>Employment</u>	<u>Labor Income</u>	<u>Total Value Added</u>	<u>Output</u>
Direct Effect	77	\$1,301,043	\$2,355,335	\$4,686,600
Indirect Effect	15	\$648,455	\$1,014,992	\$1,832,167
Induced Effect	15	\$529,152	\$933,698	\$1,557,232
Total Effect	107	\$2,478,650	\$4,304,025	\$8,075,999
State sales taxes		\$40,080		
State income taxes		\$52,052		

TABLE 4. ECONOMIC IMPACT ON THE STATE OF NEBRASKA OF ADDITIONAL EDUCATION ACTIVITIES AT THE UNIVERSITY OF NEBRASKA

Assuming \$3.3 million in additional education expenditures

<u>Impact Type</u>	<u>Employment</u>	<u>Labor Income</u>	<u>Total Value Added</u>	<u>Output</u>
Direct Effect	58.0	\$2,832,751	\$3,210,692	\$3,300,000
Indirect Effect	0.0	\$0	\$0	\$0
Induced Effect	21.3	\$770,323	\$1,358,005	\$2,266,011
Total Effect	79.3	\$3,603,073	\$4,568,697	\$5,566,011
State sales taxes		\$58,262		
State income taxes		\$75,665		