This economic impact study measures the contribution of Minnesota State to the Minnesota economy. The goal of this analysis is to provide a full and credible assessment of the total economic, employment, and state and local tax impact of Minnesota’s largest provider of higher education and 11th largest employer in the state.

The primary tool used in the performance of this study is the I-O model and dataset developed and maintained by IMPLAN Group LLC.

Primary financial data used in this study was obtained from the colleges and universities of Minnesota State and included operating budget, payroll, and benefits for employees for fiscal year 2017 and a 10-year average of capital spending.

Secondary data was used to estimate spending by visitors and students (full-time and part-time) exclusive of tuition and fees. This study includes a quantification of all in-state and out-of-state students to capture how Minnesota State is training and retaining the workforce Minnesota needs to fuel its workforce demands.

**DEFINITIONS**

**Direct Effect:** Impacts generated as a result of spending by Minnesota State on capital projects, operations, and pay and benefits. Also included in this category is student and visitor spending.

**Indirect Effect:** The increase in demand for goods and services in industry sectors that supply or support the colleges or universities, their students, and visitors.

**Induced Effect:** The third wave of impact created as a result of spending by Minnesota State, its employees, students, and suppliers. Induced impacts estimate the effect of increased household income including housing, household goods, entertainment, food, clothing, transportation, and other categories of household spending.

---

1 This study sought to build upon the analysis and methodology utilized by the Wilder Research in February 2013 for their report entitled “The economic impact of Minnesota State Colleges and Universities.”

2 Direct impacts include direct impacts from operational spending, student spending, and visitor spending. Based on operations alone, Minnesota State has a direct impact of 16,184 jobs and $1.8 billion.
The combination of indirect and induced impact is commonly referred to as the multiplier effect. Minnesota State expands the local economy through both direct and indirect means. Income generated from direct employment at Minnesota State is subsequently used to purchase local goods and services, creating a ripple effect throughout the statewide economy.

OVERVIEW AND THE IMPLAN MODEL

The most common and widely accepted methodology for measuring the economic impacts of economic sectors is input-output (I-O) analysis. At its core, an I-O analysis is a table that records the flow of resources to and from companies/organizations and individuals within a region at a given time. For a specified region like a state or the nation, the input-output table accounts for all dollar flows between different sectors of the economy in a given time period. With this information, a model can then follow how a dollar added into one sector is spent and re-spent in other sectors of the economy, generating outgoing ripples of subsequent economic activity. This chain of economic activity generated by one event is called the “economic multiplier” effect.

The primary tool used in the performance of this study is the I-O model and dataset developed and maintained by IMPLAN Group LLC (formerly Minnesota IMPLAN Group, Inc.). IMpact analysis for PLANning (IMPLAN) is a widely accepted and used software model first developed by the U.S. Forest Service in 1972. The data used in the baseline IMPLAN model and dataset come largely from federal government databases. The input-output tables themselves come from the Bureau of Economic Analysis. Much of the annual data on labor, wages, seasonal demand, and other market data comes from the Bureau of Labor Statistics, the Census Bureau, and other government sources.
About the Study

Government agencies, companies, and researchers use IMPLAN to estimate the economic activities associated with spending in a particular industry or on a particular project. The IMPLAN model extends conventional I-O modeling to include the economic relationships between government, industry, and household sectors, allowing IMPLAN to model transfer payments such as taxes.

The model works by tracking the flow of resources to and from companies/organizations and individuals within a region. Producers of goods and services must secure labor, raw materials, and other services to produce their product. The resources transferred to the owners of that labor or those raw materials and services are then spent to secure additional goods and services or inputs to the products they sell. For example, an organization in a region may develop a company that produces cars with a value of $1 million. However, to produce that product, they may be required to spend $500,000 on wages and benefits, $200,000 on parts, $100,000 on electricity, $50,000 on transportation of goods and raw materials to and from the plant, and $50,000 on various professional services associated with operating a business (e.g., attorneys and accountants). The suppliers will, in turn, spend those resources on labor and raw materials necessary to produce the cars. Workers and the owners of the company will spend money on goods and services (and the associated taxes) from other companies in the area (e.g., restaurants, gas stations). The suppliers, employees, and owners of this second tier will, in turn, spend those resources on other goods and services either within the study region or elsewhere. The cycle continues until all of the money leaves the region.

IMPLAN METHODOLOGY

The model uses national production functions for more than 536 industries to determine how an industry spends its operating receipts to produce its commodities. These production functions are derived from U.S. Census Department data. IMPLAN couples the national production functions with county-level economic data to determine the impacts at a state and congressional district level. IMPLAN collects data from a variety of economic data sources to generate average output, employment, and productivity for each industry in a given county.

IMPLAN combines this data to generate a series of economic multipliers for the study area. The multiplier measures the amount of total economic activity generated by a specific industry spending an additional dollar in the study area. Based on these multipliers, IMPLAN generates a series of tables to show the economic event’s direct, indirect, and induced impacts to gross receipts, or output, within each of the model’s more than 536 industries.
WHAT IS AN ECONOMIC CONTRIBUTION ANALYSIS?

This study is a contribution analysis and builds upon the methodology and measurement previously utilized by Minnesota State in its 2013 analysis. The study quantifies the economic contribution of all colleges and universities of Minnesota State in terms of economic impact, jobs, and local and state tax revenue. The study calculates how spending by Minnesota State colleges and universities, employees, visitors, and students contribute to the vitality of Minnesota. It examines how expenditures create additional impact in the economy. An economic contribution analysis quantifies the broader and more general case of the how economic activity cycles through an existing economy. For the purposes of this study, an economic contribution is defined as the gross changes in Minnesota’s existing economy that can be attributed to a Minnesota State colleges and universities.

Contribution analysis is a descriptive analysis that tracks the gross economic activity of how the spending by Minnesota State and its constituencies as the dollars cycle through the economy. The Minnesota State economic contribution analysis does not consider how spending at one college or university may crowd out spending at another college or university. This type of analysis is one of the most common analysis that is performed and is very often mislabeled as an economic impact study. Please note while the terms used to express the contribution of Minnesota State to the statewide economy are referred to as impact, this is a contribution analysis.

Spending by students, staff, and faculty who are explicitly participating in activities associated with Minnesota State’s output represents a “stemming from effect” and could also be considered a direct effect of the industry.

For example, students who attend classes and spend $10 on lunch at a local restaurant are a stemming from effect of the college or university. This contribution analysis then follows the direct economic activity and associated stemming from effects through the economy. The economic model is built to represent the structure and degree of interconnectedness in the economy with the output of each sector broken down and attributed to expenditures on intermediate inputs or to value-added components such as labor, taxes, and returns to capital. Output multipliers, which are sector and region specific, are derived from the appropriate model and relate an industry’s economic activity (or changes in the industry’s economic activity) to gross sales in the other sectors of the regional economy.

The contribution analysis does not account for the fact that if a student attending class at Minnesota State college or university was a local, then the $10 they spent on lunch potentially represents $10 they are not spending at another restaurant elsewhere in their town. The direct effect in a contribution analysis includes purchases by local students and non-local students and is neither a measure of changes to the state’s economic base nor a measure of the value added to the region above what was paid to input suppliers.
WHAT SHOULD YOU REMEMBER ABOUT THE STUDY WHEN YOU READ IT?

- It is a point-in-time calculation of impact for FY17.
- It quantifies the amount of impact that Minnesota State produces each year.
- The economic numbers can fluctuate year to year based on operational spending, capital spending, pay and benefits, number of employees, and number of students, and state appropriation.
- Beyond the data, a team of researchers interviewed leadership teams at all colleges and universities participating in the study and consulted with higher education experts to inform the analysis.
- This is an economic contribution analysis which casts a broader net to calculate impact than an economic impact study.

WHAT METHODOLOGY WAS USED TO COMPLETE THIS STUDY?

IMPLAN data and software were used to conduct this economic contribution analysis. The IMPLAN database is built utilizing county, state, ZIP code, and federal economic statistics that are specialized by region, not estimated from national averages to measure the contribution or impact of an organization’s economic activity.

WHAT WERE THE MULTIPLIERS FOR THIS STUDY?

The multipliers used in this study range from 1.8 to 2.1. The multipliers are derived through the input-output models created using the IMPLAN software based upon industries selected during the modeling process.

WHAT DATA DOES THIS STUDY UTILIZE TO CALCULATE THE ECONOMIC IMPACT?

Primary data utilized in this analysis was obtained from Minnesota State and includes:
- Operating expenditures (FY17)
- Capital expenditures (10-year average)
- Pay and benefits by employee type
- Number and types of students (all in-state and out-of-state students are counted)
- Visitor numbers for individual colleges and universities
- Alumni data from individual colleges and universities
- Volunteerism
- Charitable giving

Secondary data was utilized to estimate the following:
- Student spending habits (full-time students and part-time students, excluding tuition and fees)
- Visitor spending habits
WHAT ARE THE COMMUNITY BENEFITS IMPACTS BASED UPON?

Charitable giving impacts are based upon assumptions found in the U.S. Census donor data. These models do not assume 100 percent participation rate for staff, faculty, and students and are based on averages. Some colleges and universities had primary data available on volunteerism, and in those cases actual hours were used in the calculation. For the purposes of this study, it is assumed that 24.9 percent of staff and faculty donate $2,064 annually and 14.9 percent of students donate $250 each year.

Volunteer impacts are based upon assumptions found in the U.S. Census and the value of a volunteer hour was obtained from the Points of Light Foundation and is estimated at $23.56 per hour. For the purposes of this breakout analysis, it was assumed that 27.2 percent of staff and faculty volunteer and 23.3 percent of students volunteer.

WHY DID MINNESOTA STATE COMMISSION A STUDY?

Minnesota State commissioned the analysis to quantify the impact of its statewide operations. Minnesota State has a number of tools helpful in explaining the value proposition for supporting higher education; this independent study is one way to help explain its worth. In trying to explain the value of Minnesota State to both internal and external constituents, it is important to quantify the financial and societal gains realized throughout the state.

WHY DOES THIS ECONOMIC CONTRIBUTION STUDY LOOK AND SOUND DIFFERENT THAN OTHERS WE HAVE SEEN PUBLISHED?

The veracity of the data and methodology is consistent with the 2013 Wilder Research analysis and other college and university systems that want to capture the impact of and universities. The data is an independent assessment of Minnesota State’s contribution to the overall economy – the numbers drive the message not the other way around. Additional assumptions and information can be found in the Appendices. The report is designed to make the data analysis accessible to all readers.