

The economic impact of Pine Technical College

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Executive summary

Pine Technical College generates an annual economic impact of \$29 million from its operations in the East Central region. Based on the East Central region economy of \$4 billion, this means that for every \$100 produced in the region, \$1 is directly or indirectly related to Pine Technical College. The direct impact of the college in 2011 was \$21 million, while the indirect impact in other industries was \$8 million.

Similarly, during 2011 the college and its students generated an estimated 395 jobs in the East Central region. These jobs included an estimated 326 direct jobs, and 69 additional indirect jobs, created by vendors, contractors, and businesses supplying inputs to the college and its students.

Additionally, by educating its students, Pine Technical College enhances the productivity of both public and private organizations in Minnesota. Only considering the 25 degrees awarded by Pine Technical College in 2011, this is equivalent to \$2.2 million of future value created in the state.

Introduction

Pine Technical College 21.33 acres campus is located in Pine City, Minnesota, part of the East Central economic region. Pine Technical College is accredited by the Higher Learning Commission, North Central Association of Colleges and Schools and has been since 1994. The college offers a variety of programs in four academic divisions (Business, Computer Technology, and Health and Human Services; Nursing and Health Sciences; Industrial Technology; Math, Science, and Liberal Arts). Students can choose from three different degrees: Associate in Arts, Associate in Science, and Associate in Applied Science.

Pine Technical College serves more than 1,400 students each year; over 30% of them are full-time students. In 2011 the college awarded 25 associate degrees and 178 diplomas and certificates. During the same year, the college had operational expenses of \$13 million.

Pine Technical College is one of the 31 institutions in the Minnesota State Colleges and Universities (MnSCU) system; the largest single provider of higher education in the state of Minnesota. The colleges and universities operate 54 campuses in 47 Minnesota communities, serving 430,000 students in credit and non-credit courses, with about 34,700 graduates each year.

This report estimates the economic impact of Pine Technical College on the East Central region. Through its daily activities, the college generates economic value for the region in several ways. First, spending by the college and its students directly impacts the personal income, employment, and tax revenues of the state. Secondly, these expenditures generate an indirect effect; all Pine Technical College activities induce other organizations and businesses to spend more, creating what is known as a “multiplier effect.” Finally, by educating its students, the college enhances the productivity of both public and private organizations in Minnesota.

Data used in the analysis include:

- Pine Technical College operational expenditures, salaries and benefits from its 2011 financial statements
- Capital expenditures from the state's bond projects that financed investments for Pine Technical College during 2010 to 2012 from the Minnesota Management & Budget office¹
- Estimates of Pine Technical College students' spending. A survey of 63 students and their spending patterns was used in the IMPLAN model to estimate the direct and indirect effect of this spending for a given year²

¹ Minnesota Management and Budget (2012). Bond's Proceeds Report. Retrieve at <http://www.mmb.state.mn.us/doc/bonds/proceeds/mnscu-bonds-fund-4020-FY10.pdf>

² The method used in the calculations of these impacts is the Input-Output model developed by IMPLAN. This method measures the direct impact of an organization's spending in a particular region (a country, state or county) by estimating the inputs used by the organization and the multiplier effects in other industries in the region. For purposes of this study, the college's expenditures and its indirect effects come from its operational activities, its capital investments, and its students' spending.

Pine Technical College impact on the East Central region

Regional profile

During 2011, the East Central region had around 163 thousand residents (approximately 3 percent of the state's population), with 72 thousand employees and a gross regional product of \$4 billion (close to 2 percent of the state's total regional product). The main industries in the region, by employment levels, were government, education, nursing and residential care facilities, and food services and drinking places.

1. East Central regional profile 2011

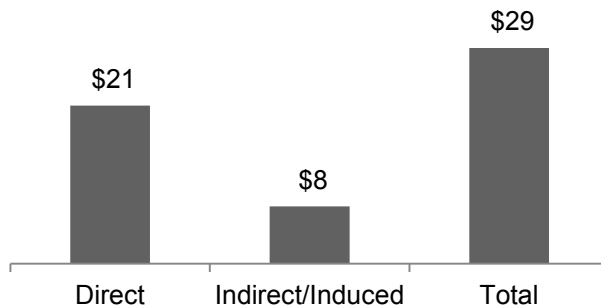
Population	163,951
Total employment	72,198
Gross regional product	\$4 billion
Average household income	\$84,731
Per capita gross regional product	\$24,603

Counties in the region: Chisago County, Isanti County, Kanabec County, Mille Lacs County, Pine County

Economic impact of Pine Technical College on the East Central region

The annual economic impact of the Pine Technical College in the East Central region reaches \$29 million (Figure 2). Based on the East Central region economy of \$4 billion, this means that for every \$100 produced in the East Central region, \$1 is directly or indirectly related to Pine Technical College. The sources of these direct and indirect impacts are the institution's operations (\$16 million), students' expenditures (\$12 million), and investments (\$549,677).

2. Economic impact of Pine Technical College in the East Central region in 2011 (\$ millions)



Real estate is the main industry sector impacted by Pine Technical College, with \$10.6 million supported by the college. Other industries impacted by Pine Technical College are state and local government education (e.g. public universities), and food services and drinking places (e.g. restaurants, bars, etc.). Figure 3 below shows the top ten industries affected by Pine Technical College in 2011.

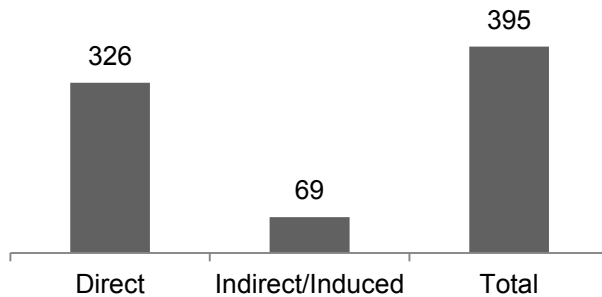
3. Top ten industries impacted by Pine Technical College in the East Central region in 2011 (\$ millions)

Real estate establishments	10.6
State and local government education	4.1
Food services and drinking places	1.9
Child day care services	1.2
Telecommunications	1.0
Imputed rental activity for owner-occupied dwellings	0.6
Medical and diagnostic labs and outpatient and other ambulatory care services	0.6
Wholesale trade businesses	0.5
Personal and household goods repair and maintenance	0.4
Retail Stores - Food and beverage	0.4

Impact on jobs

During 2011, Pine Technical College generated an estimated 395 jobs in the East Central region. These jobs include 326 direct jobs generated by the college and its students, and 69 additional indirect jobs, created by vendors, contractors, and businesses supplying inputs to the college and its students (Figure 4).

4. Impact on employment of Pine Technical College in the East Central region in 2011 (jobs)



The sources of these direct and indirect impacts are the institution’s operations (247 jobs), students’ expenditures (141 jobs), and investments (7 jobs). A total of 205 jobs are created directly by the college’s operational activities (Figure 5).

5. Impact on employment of Pine Technical College in the East Central region by source (jobs)

	Direct	Indirect	Total
Operational expenditures	205	42	247
Students' spending	115	26	141
Investments	6	1	7
Total	326	69	395

The same three industries mentioned before are also the most impacted by the college in its employment, directly or indirectly (Figure 5).

5. Top ten industries impacted by employment in 2011 (jobs)

State and local government education	195
Food services and drinking places	39
Real estate establishments	26
Child day care services	26
Retail Stores - Food and beverage	11
Retail Stores - Clothing and clothing accessories	11
Personal and household goods repair and maintenance	5
Medical and diagnostic labs and outpatient and other ambulatory care services	4
Employment services	4
Retail Stores - General merchandise	3

Impact on taxes

Pine Technical College generates about \$1.6 million in tax revenues for state and local governments each year. Through its operational activities, its employees' and students' spending, Pine Technical College supports the activities of the East Central region by paying sales, property, and income taxes. Similarly, the college and its employees' social insurance contributions add to the state tax revenues. Since Pine Technical College's operational activities and spending create demand for other businesses and industry sectors, additional tax revenues come from businesses that serve the college. These taxes include sales, income, and property taxes, along with others, such as corporate taxes.

Benefits beyond operations: enhanced productivity

By educating its students, Pine Technical College enhances the productivity of both public and private organizations in Minnesota. Its alumni provide the skills and knowledge needed to improve the functioning of many organizations in the state.

Since performing a direct measurement of the contribution of graduates to Minnesota businesses and governments is not feasible, we estimate the additional earnings of graduates as a result of their training. This measure of additional earnings is equivalent to estimating the increase in productivity due to students' education; the students are able to earn more as they better fit the needs of businesses and government.

Only considering the 25 associate degrees awarded by Pine Technical College in 2011, this is equivalent to \$2.2 million of future value created in the state. Unlike previous estimations in this report, this is an additional value to the state, not just the region, since we cannot know where the students live after graduation.³

Some studies present the enhanced productivity without discounting the future income received by students (for example, the Tripp Umbach study for the University of Minnesota). If we calculate the additional future earnings in this way, the economic benefit from enhanced productivity reaches \$4 million.⁴

³ This estimation assumes 40 years of work life, a discount rate of 3 percent and two important parameters. The first one is that the total is adjusted by 30 percent (similar to Tripp Umbach's 2011 report for the University of Minnesota), to allow for the forgone income while attending the college or university, future periods of unemployment, time out of the labor force, and other events. The second parameter included in the estimation is that 80 percent of students stay in the state after graduation (MnSCU Amazing Facts, 2010). The economic value created by the enhanced productivity of students should consider only those students staying in the state; if they leave there is not economic impact for Minnesota in the years following their graduation.

⁴ Tripp Umbach (2011). The Economic and Societal Impact of the University of Minnesota.