



South Dakota School of Mines and Technology FY07 Economic Impact Report



Employee Spending
The School of Mines directly employed 770 full- and part-time employees in FY07 (including student workers). These employees then in turn purchased goods and services, injecting money into the economy and supporting local jobs.



R&D
The School of Mines is an active partner in research and development. More than \$70 million in federal dollars were expended in FY07. In addition, the School of Mines provides new discoveries that result from campus research that impacts state business and industry.



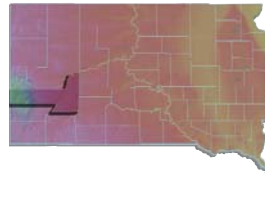
Student Spending
Through expenditures such as housing, food, entertainment, transportation, and personal items, School of Mines students made a big impact, infusing more than \$18 million into the local and state economy.



Visitor Spending
The School of Mines welcomed more than 25,000 visitors to campus in FY07, who were responsible for a more than \$3.1 million impact on the state economy.



O&E Budget
The day-to-day operations for the School of Mines has had a significant impact on the economy of South Dakota. The total impact of School of Mines operations (purchase of goods and services and payroll) was \$87 million in FY07.



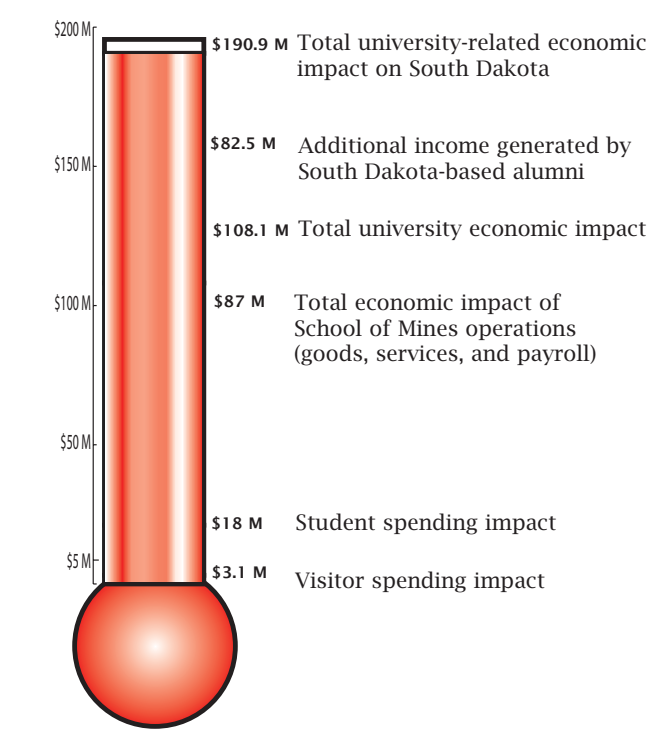
State and County Impact
The School of Mines and its related activities created \$101.3 million in total economic output and 1,304 full- and part-time jobs in Pennington County. Statewide, the School of Mines had a total economic impact of \$108.1 million, supporting 1,379 full- and part-time jobs providing \$37.7 million in income to South Dakota workers.

About the Report

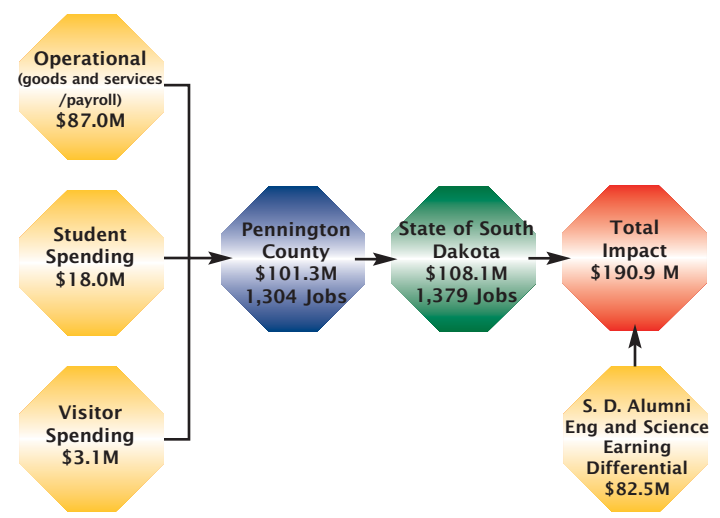
The FY07 South Dakota School of Mines and Technology Economic Impact Report was produced by the Office of University and Public Relations. Consultation and data analysis was provided by Dr. Todd Gabe, associate professor at the University of Maine School of Economics. Dr. Gabe holds a Ph.D. from Ohio State University, and his professional research expertise includes regional economic development. This report was prepared using the South Dakota IMPLAN model. IMPLAN (IMPact analysis for PLANning) techniques are used to measure effects on regional and local economies by other economic activities. The IMPLAN database contains county, state, and federal economic statistics.

Full text of the report can be found at <www.impact.sdsmt.edu>.

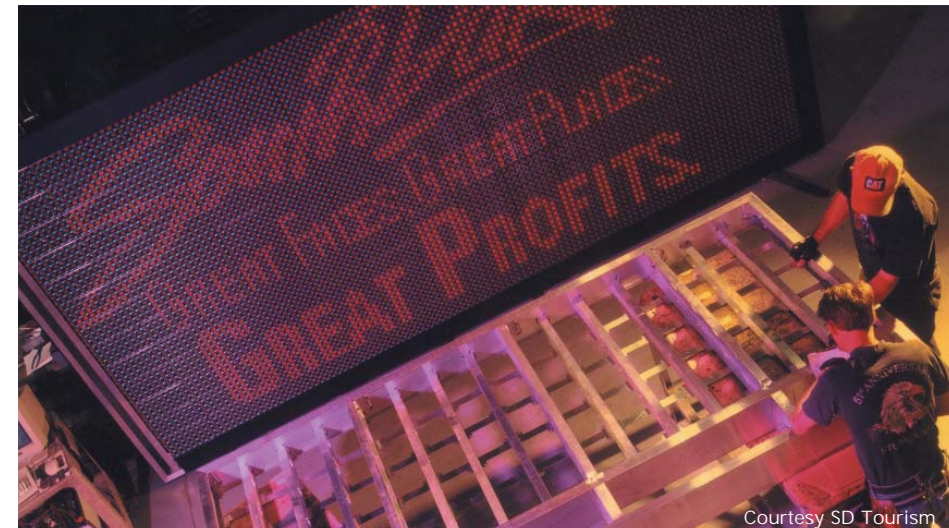
Degrees of Impact



Impact Summary



School of Mines generates approximately \$200 million in economic impact to State of South Dakota.



Founded in 1885, the South Dakota School of Mines and Technology has been educating and inspiring engineers, scientists, researchers, innovators, and leaders for nearly 125 years. Though our primary focus is on education and research, as an institution at the heart of the Black Hills economy for more than a century the School of Mines serves an important role in the fiscal health and well-being

of the region and state. In FY07 the university's day-to-day operations, along with student and visitor spending, contributed an estimated \$108.1 million in total output to the South Dakota economy, and supported 1,379 full- and part-time jobs that provided \$37.7 million in income to South Dakota workers. In addition to the impact outlined in this report, the School of Mines provides significant far-reaching impact

- \$ The School of Mines generated \$108.1 million to the South Dakota economy.
- \$ Alumni living in South Dakota created \$82.5 million in income over and above average college graduates.
- \$ The School of Mines supported 1,379 full- and part-times jobs, providing \$37.7 million in income to South Dakota workers.
- \$ Every \$1 in state dollars invested in the School of Mines resulted in \$7.57 in statewide economic activity.

- through a variety of means, including:
- \$ the value of new discoveries by faculty, staff, students, and alumni on South Dakota business and industry
 - \$ the creation of new businesses in South Dakota
 - \$ support provided to existing business and industry in South Dakota
 - \$ availability of students to meet workforce needs of local businesses as full- and part-time employees

SOUTH DAKOTA
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South Dakota School of Mines and Technology
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Contributions to South Dakota and Pennington County Economies

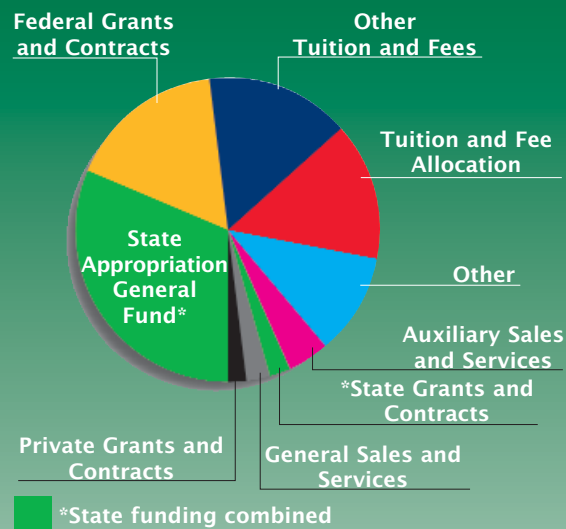
The School of Mines' daily operations generate substantial economic activity. This includes the university's spending on goods and services purchased in the regional and payroll expenditures.

During FY07, the School of Mines received \$42.3 million in revenues from a variety of sources. Key out-of-state revenue sources included federal grants

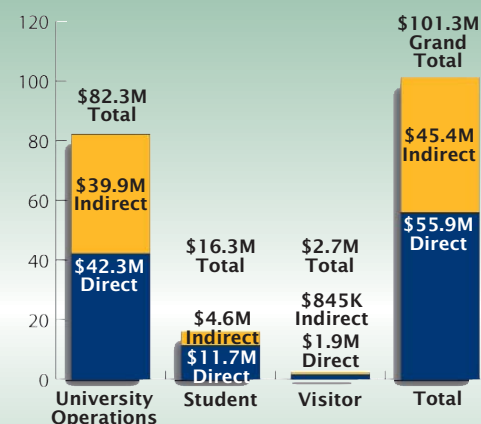
and contracts (\$7 million) and tuition and fees paid by non-resident students. Nearly one-third (690 of 2,124) of the student body was classified as non-resident, resulting in an influx of totally new dollars to the state economy. The State of South Dakota appropriation (\$13.2 million) and state grants and contracts (\$1 million) provided a sound investment for South Dakota taxpayers.

Every \$1 invested by the State of South Dakota resulted in \$7.57 in total statewide economic activity.

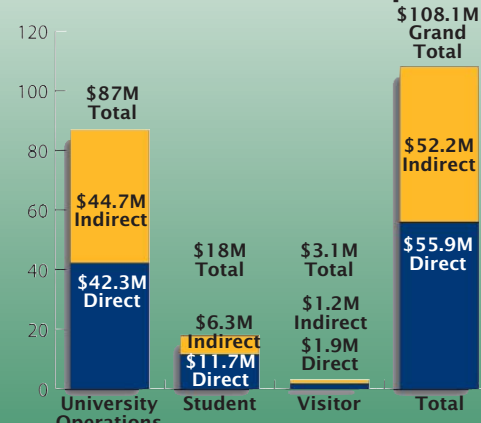
Revenue Sources



Pennington County Economic Impact



Statewide Economic Impact



Every state dollar invested in the School of Mines resulted in \$7.57 in statewide economic activity

Total State Support \$1

Economic Activity Generated \$7.57

Alumni Impact

School of Mines graduates benefit the South Dakota economy in a number of ways. In South Dakota and nationwide, scientists and engineers provide a substantial boost to the economy through new discoveries and innovations that improve existing products and services. These activities are reflected in the higher wages and salaries earned in the workplace.

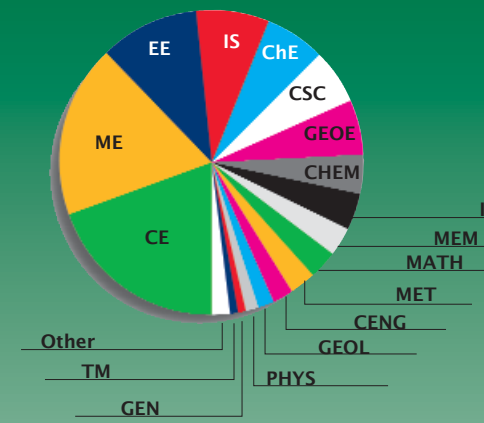
For the purpose of this report, alumni who graduated after 1960 and reside in South Dakota were analyzed, resulting in a total pool of 2,407. **The study finds that the average South Dakota resident with at least a four-year college degree working in a science and technology occupation earned 1.47 times as much as the average four-year college graduate.**

Applying these premiums to the 2,407 South Dakota-based School of Mines alumni, the report finds that they generated an additional \$82.5 million over non-science and technology employees to the South Dakota economy. This benefited the entire state through greater purchasing power and greater spending, which also created additional jobs and revenues.

In addition, School of Mines alumni drive the development of technology-based companies that employ thousands of South Dakotans. Although the impact of the businesses they have created was not quantified, their significance can not be overlooked. A few examples of the many South Dakota businesses established by School of Mines alumni include:

\$ Daktronics, Brookings. Founded by two School of Mines alumni in 1968, Daktronics is a world leader in programmable electronic signs, scoreboards, and digital displays and employs more than 2,300 people with annual net profits of more than \$400 million.

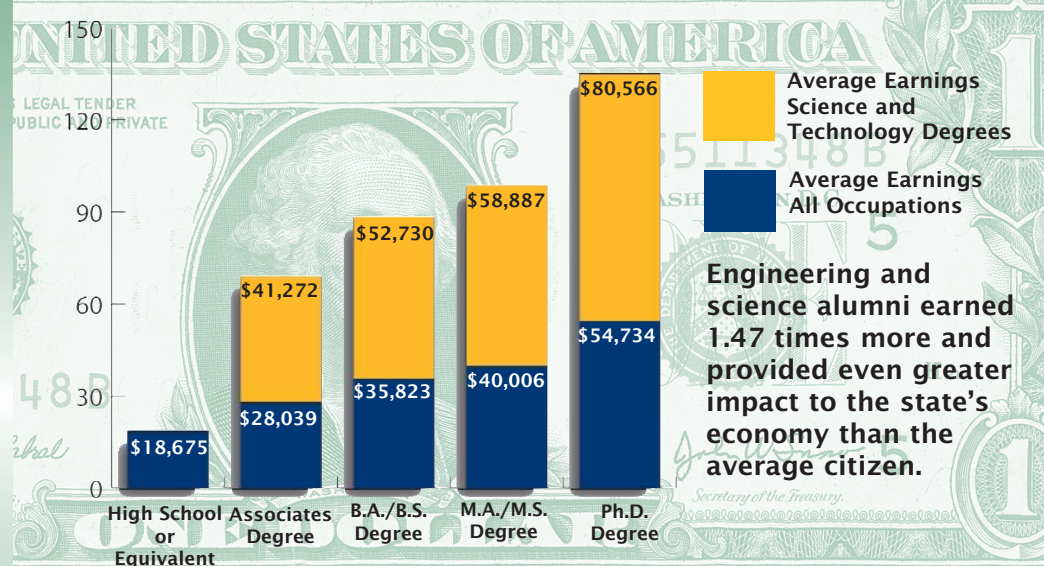
In State Alumni (by degree)



Degree Abbreviations

- ChE → Chemical Engineering
- CHEM → Chemistry
- CE → Civil Engineering
- CENG → Computer Engineering
- CSC → Computer Science
- EE → Electrical Engineering
- GEOE → Geological Engineering
- GEOL → Geology
- IE → Industrial Engineering
- IS → Interdisciplinary Sciences
- MATH → Mathematics
- ME → Mechanical Engineering
- MET → Metallurgical Engineering
- MEM → Mining Engineering and Management
- PHYS → Physics

Average Earnings for South Dakota Residents



Engineering and science alumni earned 1.47 times more and provided even greater impact to the state's economy than the average citizen.

Pennington County Impact

Given the campus' home in Rapid City, a substantial portion of the School of Mines' economic impact is felt in Pennington County. The expenditures are similar to the totals at a statewide level because this is the area where students and employees live and where much of their spending occurs. The School of Mines and its

related activities supported \$101.3 million in total economic output and 1,304 full- and part-time jobs that provided \$36.5 million in income to Pennington county workers.

Approximately one in 33, or 3.2 percent of all jobs in Pennington County were associated with expenditures linked directly to the School of Mines.

Statewide Impact

The School of Mines affected economic activity in two ways:

\$ Direct expenditures for university operations (goods, services, and payroll) by the School of Mines and student and visitor spending. These dollars supported businesses, which in turn needed to employ personnel to provide the goods and services desired.

\$ Indirect expenditures. Those businesses that benefited from direct expenditures from the

School of Mines respend the dollars earned, creating the demand for even more jobs.

The School of Mines, its students, and its visitors, spent \$55.9 million for the direct purchase of goods and services in FY07. Indirect expenditures totaled \$52.2 million, resulting in a total economic impact of \$108.1 million, supporting 1,379 full- and part-times jobs providing \$37.7 million in income to South Dakota workers.

\$ RESPEC, Rapid City. Founded by School of Mines faculty and alumni in 1969, RESPEC is an integrated consulting and services firm with approximately 100 full-time employees and annual revenues of approximately \$10 million.

\$ Innovative Systems, Mitchell. Founded in 1990 by a School of Mines alumnus, Innovative Systems is a developer of advanced telecommunications services that employs more than 100 people.

Faculty, staff, and students also play a significant role in the creation of technology based companies.

The School of Mines campus is home to the **Black Hills Business Development Center**. The center houses several businesses all with ties to the School of Mines:

- **Zyvex, South Dakota**
- **C-Lock Technology Inc.**
- **Evans & Sutherland**
- **Innovative Systems**
- **and others**

"The combined economic impact from a fully occupied Business Development Center is expected to exceed \$39 million and this impact will be repeated each three to five years as the companies graduate and others take their place."

— James H. Mirehouse
CEO, Black Hills Business Development Center