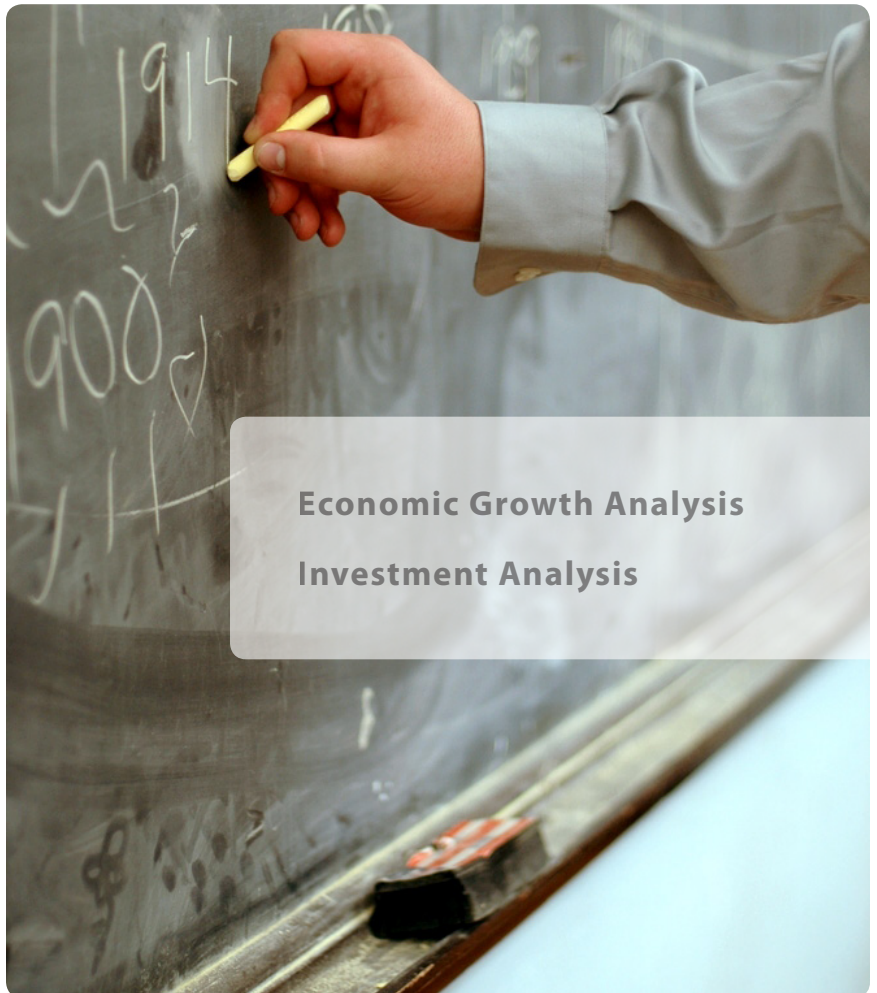




Executive Summary

The **Economic Contribution** *of*

Ozarks Technical Community College
State of Missouri



Economic Growth Analysis
Investment Analysis

emsi

December 14, 2010

Overview Fact Sheet

INVESTMENT ANALYSIS

Student Perspective

- OTC served **15,096** credit students and **10,131** non-credit students in the 2008-09 reporting year.
- Education increases lifetime income. The average income at the career midpoint of someone with an associate's degree in the OTC Service Region is **\$35,400**, 36% more than a student with a high school diploma.
- Throughout his or her working career, the average OTC student's discounted lifetime income increases by **\$6.10** for every dollar invested in OTC.
- Students enjoy an attractive **16.6%** average rate of return on their OTC educational investment, recovering all costs (including tuition, fees, and forgone wages) in 9.2 years.

Social Perspective

- Higher earnings of OTC students and associated increases in state income expand the tax base in Missouri by about **\$58.4 million** each year.
- Missouri will see avoided social costs amounting to **\$2.9 million** per year due to OTC students, including savings associated with improved health, reduced crime, and reduced welfare and unemployment.

Taxpayer Perspective

- State and local governments allocated approximately **\$20.3 million** in support of OTC in FY 2008-09.
- For every dollar of this support, taxpayers see a cumulative return of **\$2.00** over the course of students' working careers (in the form of higher tax receipts and avoided costs).
- State and local governments see a rate of return of **6.9%** on their support for OTC. This return compares very favorably with private sector rates of return on similar long-term investments.

ECONOMIC GROWTH ANALYSIS

College Operations Effect

- The OTC Service Region economy annually receives roughly **\$31.6 million** in income due to OTC operations. This is a conservative figure adjusted to account for monies that leave the economy or are withdrawn from the economy in support of the college.

Student Spending Effect

- OTC estimates that approximately **10%** of its students come from outside the region, bringing with them monies that would not have otherwise entered the local economy.
- The expenditures of OTC's non-local students generate roughly **\$11.6 million** in added income in the OTC Service Region each year.

Productivity Effect

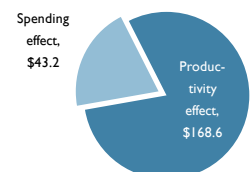
- The current OTC Service Region economy embodies an estimated **1.3 million** credits that have accumulated over the past 19-year period as thousands of former OTC students (completers and non-completers) enter the workforce year after year.
- OTC skills translate to higher earnings for students and increased output of businesses. The added income attributable to the accumulation of OTC credits in the workforce amounts to around **\$168.6 million** each year.

OTC ECONOMIC IMPACT ANALYSIS AT A GLANCE

Added Income

College operations effect	\$31,554,000
Student spending effect	\$11,631,000
Total spending effect	\$43,185,000
Student productivity effect	\$168,616,000
GRAND TOTAL	\$211,801,000

Total Added Income in OTC Service Region Due to OTC (\$ Millions)





Socioeconomic Impact Study

STUDY HIGHLIGHTS

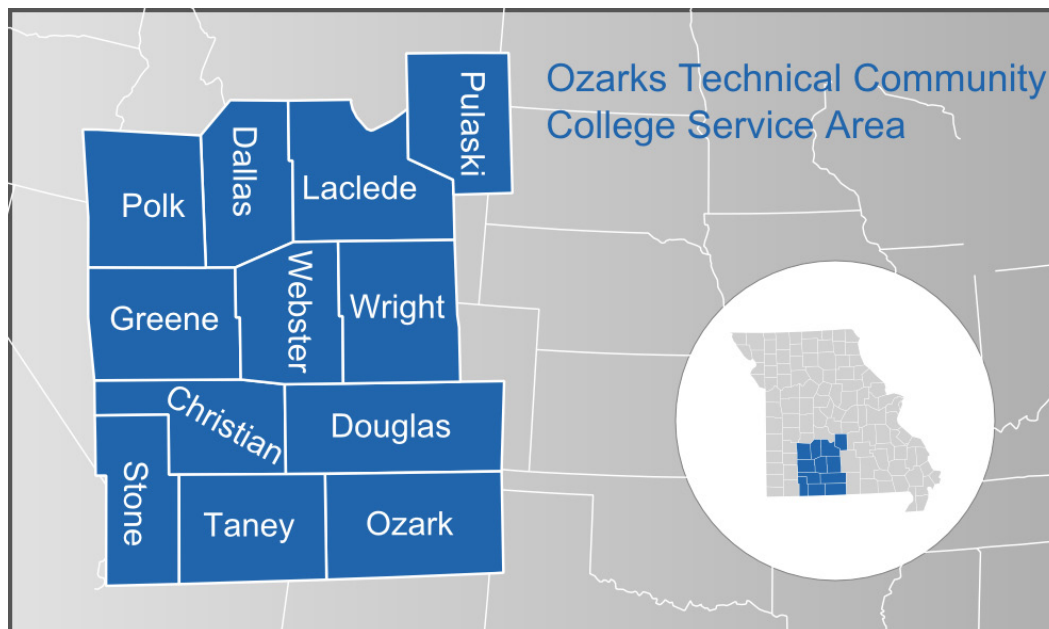
INVESTMENT ANALYSIS

- For every dollar students invest in OTC, they receive a cumulative **\$6.10** in higher future income (discounted) over the course of their working careers.
- Missouri benefits from improved health and reduced welfare, unemployment, and crime, saving the public some **\$2.9 million** per year.
- Taxpayers see a rate of return of **6.9%** on their investment in OTC.

ECONOMIC GROWTH ANALYSIS

- The net added income generated by OTC operations (**\$31.6 million**) and the spending of non-local students (**\$11.6 million**) contributes a total of **\$43.2 million** in income to the OTC Service Region economy each year.
- The accumulated credits achieved by former OTC students over the past 19 years translate to **\$168.6 million** in added regional income each year due to the higher earnings of students and increased output of businesses.

OTC SERVICE REGION MAP



Executive Summary

INTRODUCTION

How do the OTC Service Region economy and the state of Missouri benefit from the presence of Ozarks Technical Community College (OTC)?

In this study, EMSI applies a comprehensive model designed to quantify the economic benefits of community and technical colleges and translate these into common sense benefit/cost and investment terms. The study includes two major analyses:

1. **Investment Analysis:** Treats education funding as an investment, calculating all measurable returns and comparing them to costs, from the perspec-

tives of students, taxpayers, and society as a whole.

2. **Economic Growth Analysis:** Measures added income in the region due to college operations, student spending, and the accumulated skills of past and present students still in the workforce.

The economic impact model has been field-tested to generate more than 900 studies for community, technical, and further education colleges in the US, Canada, the UK, and Australia. To see the full documentation of the study, please contact the college.

THE RESULTS

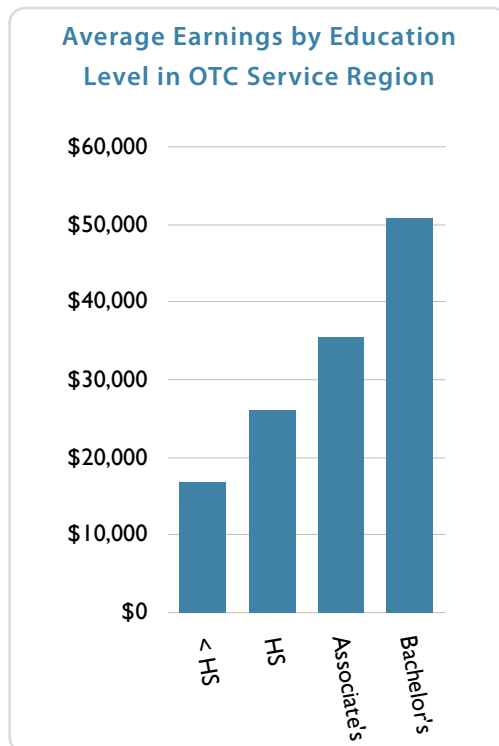
Investment Analysis

Student Perspective

Benefits of higher education are most obvious from the student perspective: students sacrifice current earnings (as well as money to pay for tuition) in return for a lifetime of higher income. Compared to someone with a high school diploma, associate's degree graduates earn \$9,300 more per year, on average, over the course of a working lifetime (undiscounted).

From an investment standpoint, OTC students enjoy a 16.6% rate of return on their investments of time and money. This compares favorably with returns on other investments, e.g., long-term return on stocks and bonds.

The corresponding benefit/cost ratio is 6.1, i.e., for every dollar students invest in OTC education, they receive a cumulative of \$6.10 in higher future income over their working careers. This is a real return that accounts for any discounting that occurs during the entire period. The payback period is 9.2 years.



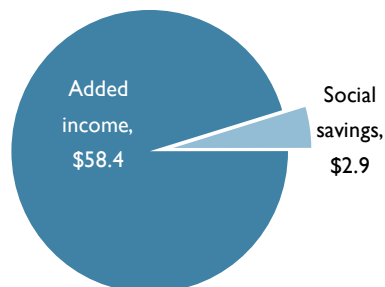
OTC INVESTMENT ANALYSIS AT A GLANCE

Stakeholder	Rate of Return	Benefit/Cost	Payback (Years)
Student perspective	16.6%	6.1	9.2
Social perspective	NA	24.7	NA
Taxpayer perspective	6.9%	2.0	17.3

Social Perspective

From the perspective of society as a whole, the benefits of education accrue to different publics. For example, OTC students expand the state's economic base through their higher incomes, while the businesses that employ them also become more productive through the students' added skills. These benefits, together with the associated ripple effects, contribute an estimated \$58.4 million in taxable income to the Missouri economy each year.

As they achieve higher levels of education, OTC students are also less likely to smoke or abuse alcohol, draw welfare or unemployment benefits, or commit crimes. This translates into associated dollar savings (i.e., avoided costs) to the public equal to approximately \$2.9 million annually. These are benefits that are incidental to the operations of OTC and accrue for years into the future, for as long as students remain active in the workforce.

Annual Benefits to Missouri Public Due To OTC Students (\$ Millions)

To compare benefits to costs, we project benefits into the future, discount them back to the present, and

weigh them against the \$20.3 million that state and local taxpayers spent in FY 2008-09 to support the college. Following this procedure, it is estimated that OTC provides a benefit/cost ratio of 24.7, i.e. every dollar of state and local tax money invested in the college today yields a cumulative of \$24.70 in benefits that accrue to all Missouri residents, in terms of added taxable income and avoided social costs.

Taxpayer Perspective

Under the taxpayer perspective, only benefits that accrue to state and local governments are counted, namely, increased tax collections and reduced government expenditures. For example, in place of increased income, the taxpayer perspective includes only the increased state and local tax receipts from those higher incomes. Similarly, in place of overall crime, welfare, unemployment and health savings, the taxpayer perspective includes only those that translate to actual reductions in state and local government expenditures.

Note here that government often undertakes activities wanted by the public, but which may be unprofitable in the marketplace. This means that positive economic returns are generally not expected from government investments. From the taxpayer perspective, therefore, even a small positive return (a benefit/cost ratio equal to or greater than 1, or a rate of return equal to or greater than the 3% discount rate used in the taxpayer investment analysis) would be a favorable outcome.

For OTC, the results indicate positive returns: a rate of return of 6.9% and a benefit/cost ratio of 2.0 (every dollar of state or local tax money invested in OTC today returns \$2.00).

Economic Growth Analysis

OTC affects the local economy in three ways: (1) through its local purchases, including wages paid to faculty and staff; (2) through the spending of students who come from outside the region; and (3) through the increase in the skill base of the local workforce. These effects break down as follows:

College Operations Effect

OTC creates income through the earnings of its faculty and staff, as well as through its own operating and capital expenditures. Adjusting for taxes and other monies withdrawn from the local economy in support of OTC, it is estimated that the OTC Service Region economy receives a net of \$31.6 million in added labor and non-labor income due to OTC operations each year.

Student Spending Effect

Students from outside the region spend money for room and board, transportation, entertainment, and other miscellaneous personal expenses. These expenditures create jobs and incomes for local businesses. The spending of OTC’s non-local students generates

approximately \$11.6 million in added income in the OTC Service Region economy each year.

Student Productivity Effect

Every year students leave OTC and join or rejoin the regional workforce. Their added skills translate to higher income and a more robust OTC Service Region economy. Based on OTC’s historical enrollment and credit production over the past 19-year period, it is estimated that the accumulated contribution of OTC instruction received by former students (both completers and non-completers) annually adds some \$168.6 million in income to the OTC Service Region.

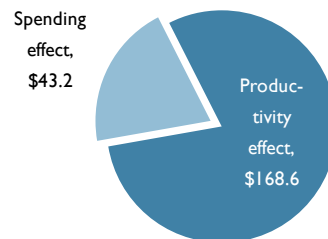
Total Effect

Altogether, the average annual added income due to the activities of OTC and its former students equals \$211.8 million. This is approximately equal to 1.0% of the total OTC Service Region economy.

OTC ECONOMIC IMPACT ANALYSIS AT A GLANCE

Added Income	
<i>College operations effect</i>	\$31,554,000
<i>Student spending effect</i>	\$11,631,000
Total spending effect	\$43,185,000
<i>Student productivity effect</i>	\$168,616,000
GRAND TOTAL	\$211,801,000

Total Added Income in OTC Service Region Due to OTC (\$ Millions)



CONCLUSION

The results of this study demonstrate that OTC is a sound investment from multiple perspectives. The college enriches the lives of students and increases their lifetime incomes. It benefits taxpayers by generating

increased tax revenues from an enlarged economy and reducing the demand for taxpayer-supported social services. Finally, it contributes to the vitality of both the local and state economies.

Business Perspective

OTC Raises Consumer Spending

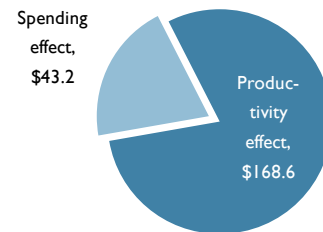


- OTC employed 479 full-time and 528 part-time faculty and staff in the 2008-09 reporting year, with an annual payroll of \$36.9 million.
- In addition to payroll, OTC spent \$23.4 million in FY 2008-09 for supplies and services, of which an estimated 39% was spent in the OTC Service Region.
- OTC estimates that approximately 10% of its students come from outside the OTC Service Region. Non-local students who settle in the region spend money at local businesses for food, transportation, and other personal expenses.

OTC Generates New Income

- The net added income generated by OTC operations (\$31.6 million) and the spending of non-local students (\$11.6 million) contributes a total of \$43.2 million in income to the OTC Service Region economy each year.
- The increased productivity of workers due to the accumulation of past and present OTC skills in the OTC Service Region workforce creates approximately \$168.6 million in added income each year.

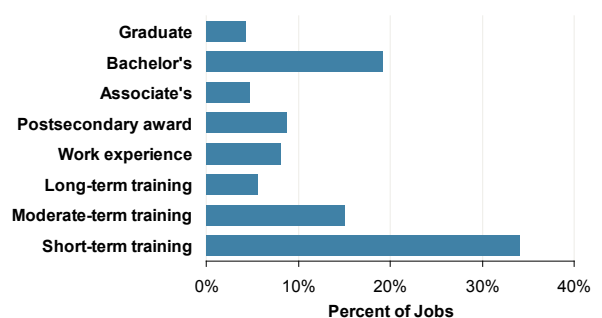
Added Income in OTC Service Region Due to OTC (\$ Millions)



OTC Creates a Skilled Workforce

- OTC activities encourage new business, assist existing business, and create long-term economic growth. The college enhances worker skills and provides customized training to local business and industry.
- An estimated 1.3 million OTC credits have accumulated in the OTC Service Region workforce over the past 19-year period as former OTC students (completers and non-completers) enter the regional workforce each year.

Projected 2019 Jobs by Skill Level in OTC Service Region (%)



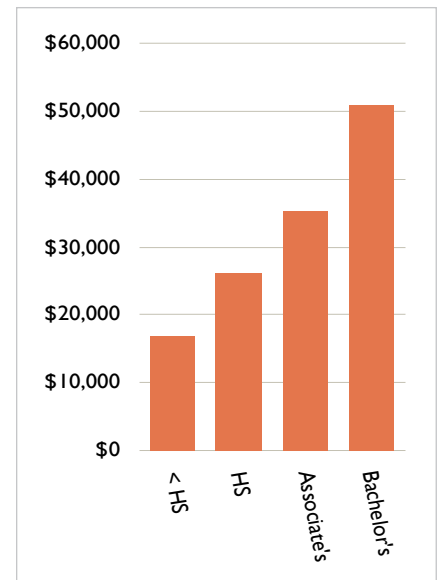
Student Perspective

Education Will Pay You Back—For a Lifetime



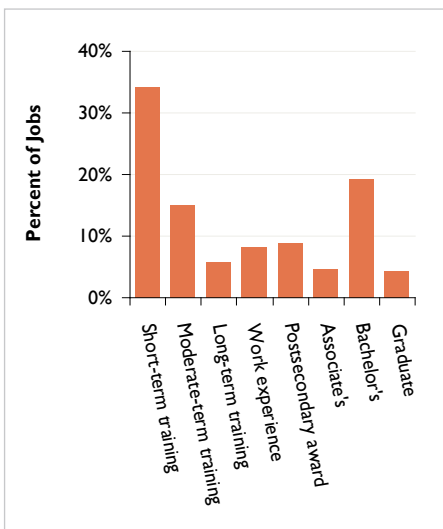
- Students enjoy an attractive 16.6% rate of return on their OTC educational investment.
- Over the course of his or her working career, the average OTC student’s lifetime earnings will increase \$6.10 for every dollar invested in their OTC education (in the form of tuition, fees, and forgone earnings).
- The average annual income of the typical associate’s degree graduate in the OTC Service Region at the midpoint of his or her career is \$35,400, 36% more than someone with a high school diploma.
- Over the course of a working lifetime, associate’s degree graduates in the OTC Service Region earn \$381,300 more than someone with a high school diploma (undiscounted).

Average Earnings in OTC Service Region



Education Is Your Ticket to a Better Job

Projected 2019 Jobs in OTC Service Region by Skill Level



- By 2019 it is anticipated that there will be about 114,700 new and replacement jobs available in the OTC Service Region.
- About 28% of these jobs will require an education level equal to an associate’s degree or greater.
- Another 9% of available jobs in 2019 will require some kind of post-secondary certificate or vocational award.



Social & Taxpayer Perspectives

State and local taxpayers earn a 6.9% rate of return on their investment in Ozarks Technical Community College.

Ozarks Technical Community College adds more money to the state treasury than it takes out. Not only does the college pull its own weight, but it also effectively subsidizes other sectors funded by the taxpayers. Absent OTC, taxes would actually have to be raised in order to maintain services in all other sectors at their current levels. The return on investment is considered from two taxpayer perspectives: social and taxpayer.

Social Perspective

The social perspective adds up all benefits attributable to OTC, regardless of recipient, and compares the total to the original investment made. This is called the “benefit/cost ratio.” If the ratio is less than 1.0, the investment is not worthwhile; if it is greater, the investment is considered sound.

For example, a transportation authority might justify a new road by showing that savings in travel time and vehicle expenses accrued by thousands of drivers exceed the project’s cost. Public parks are justified by showing that recreation, scenic, and other values enjoyed by park users exceed the cost of park infrastructure, operation, and the net value of the park’s land and resources not used for other purposes. So the social perspective counts all benefits, not just those that accrue back to state or local government.

Benefits generated by OTC also accrue to different groups. Students benefit from higher incomes, employers benefit from increased worker productivity, and the public at large benefits from an expanded economic base. The public also enjoys a variety of external social benefits, such as reduced crime, lower welfare and unemployment, improved health, and less absenteeism from work. All of these are tallied up and compared to the investment made by state and local governments, or the taxpayers. A social perspective benefit/cost ratio greater than 1.0 is a minimal indicator of a worthwhile public investment.

Counting benefits and costs in this way, OTC’s benefit/cost ratio is 24.7. In other words, the cumulative added value attached to each dollar invested will have a present value of \$24.70 by the end of the students’ working career.

Taxpayer Perspective

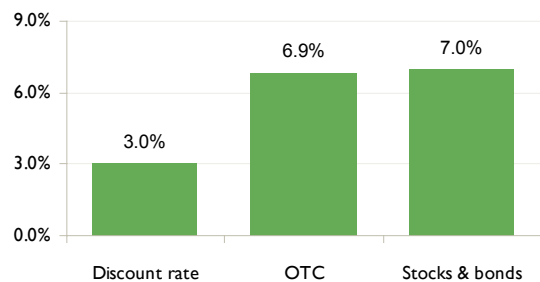
The taxpayer investment perspective counts only benefits that can be entered into the books of state and local governments. For example, educated workers earn more and thus pay more taxes. Furthermore, because state and

local governments bear part of the cost of crime, their budgets benefit from education’s crime-reducing effect, and the same is true for other benefits of an educated populace. The bottom line: state and local governments receive returns from their support of OTC in the form of increased tax revenue and savings associated with avoided social costs.

Worthwhile public projects often generate negative taxpayer perspective returns, because the role of government is to provide services that the public wants but that the business sector may find unprofitable. Considerable funds are spent on public parks, for example, yet they yield little or no direct return. From a taxpayer perspective, returns are negative, though the park is justified by the benefits tracked under the social perspective.

But unlike most government endeavors, funding for OTC generates strong results from *both* the social and taxpayer perspectives. Economists generally assume a 3% discount rate in analyzing government investments, assuming that governments can obtain unsecured loans at a rate of 3% or receive a 3% return on any excess funds, if they were invested. *Since OTC’s taxpayer rate of return of 6.9% is greater than 3%, state and local governments actually make money on the investment.* By funding the college, therefore, other recipients of state and local funding are actually subsidized through the revenues generated by the college.

Comparison of OTC’s Rate of Return to Discount Rate and Average Return on Stocks and Bonds



Taxpayer Perspective

OTC Leverages Taxpayer Dollars

- An estimated 98% of OTC students remain in Missouri and contribute to economic growth. Students who enter the workforce expand the tax base by generating higher earnings and reducing social costs.
- Higher student earnings and associated increases in property income generate about \$4.8 million in added tax revenue each year.
- State and local governments will save approximately \$203,200 in avoided social costs each year, including savings associated with improved health, lower costs of law enforcement, and fewer welfare claimants.



OTC Generates a Return on Public Investment



- State and local governments allocated about \$20.3 million in support of OTC in FY 2008-09.
- For every dollar appropriated by state and local governments to OTC, taxpayers will see a return with a cumulative added value of \$2.00 in the form of higher tax revenues and avoided social costs.
- State and local governments will receive a rate of return of 6.9% on their investments in OTC.

Social Perspective

OTC Increases State Income

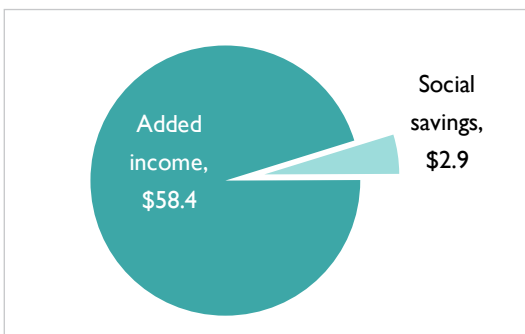


- The activities of OTC’s 2008-09 student body will generate about \$37.2 million in labor income in the state economy each year.
- Once OTC’s current students become active in the workforce, they will promote business output, raise consumer spending, and increase property income in the state. All of this contributes an additional \$21.2 million in taxable income each year.
- Altogether, higher student income and associated effects on business productivity add \$58.4 million in income annually to the state economy.

OTC Reduces Social Costs

- Education is statistically correlated with improved lifestyle behaviors, including reduced incidences of absenteeism, alcohol abuse, and smoking, lower probability of committing crime, and fewer welfare and unemployment claims.

Annual Benefits to the Missouri Public Due to OTC (\$ Millions)



- It is estimated that OTC’s 2008-09 student population will generate social savings to the Missouri public equal to \$2.9 million a year.
- These savings accrue to all state and local residents—students, homeowners, businesses, and taxpayers.





ABOUT THE STUDY

This report summarizes the results from “The Economic Contributions of Ozarks Technical Community College” detailing the role that the college plays in promoting economic development, enhancing students’ careers, and improving quality of life. Data sources include, but are not limited to, 2008-09 academic and financial reports from the college, industry and employment data from the U.S. Bureau of Labor Statistics, earnings and demographic data from the U.S. Census Bureau, and a variety of studies and surveys relating education to social behavior.

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