

# EXECUTIVE SUMMARY

## *Demonstrating the Value of John Tyler Community College*

FEBRUARY 2014

ANALYSIS OF THE ECONOMIC IMPACT & RETURN ON INVESTMENT OF EDUCATION

*John Tyler Community College (JTCC) creates value in many ways. The college plays a key role in helping students increase their employability and achieve their individual potential. It provides students with the skills they need to have a fulfilling and prosperous career. Further, it supplies an environment for students to meet new people, increase their self-confidence, and promote their overall health and well-being.*

The contribution of JTCC consists of more than just influencing the lives of students. The college serves a range of industries in the JTCC Service Area and supports local businesses. Society as a whole in Virginia benefits from an expanded economy and improved quality of life. The benefits created by JTCC extend as far as the state and local government, in the form of increased tax revenues and public sector savings.

The purpose of this study was to investigate the regional economic impacts created by JTCC on the local business community and the benefits that the college generates in return for the investments made by its key stakeholder groups—students, society, and taxpayers. The following two analyses are presented:

- **REGIONAL ECONOMIC IMPACT ANALYSIS**
- **INVESTMENT ANALYSIS**

All results reflect student and financial data for Fiscal Year (FY) 2012-13. Impacts on the local business community are reported under the regional economic impact analysis, and the return on investment to students, society, and taxpayers is reported under the investment analysis. Both analyses are described more fully in the following sections.

# REGIONAL ECONOMIC IMPACT ANALYSIS

*JTCC promotes economic growth in the JTCC Service Area in a variety of ways. The college is an employer and a buyer of goods and services which benefit local businesses. In addition, JTCC is a primary source of education to local residents and a supplier of trained workers to local industry.*



The regional economic impact analysis examines the impact of JTCC on the local business community through increased consumer spending and enhanced business productivity. Results are measured in terms of added income and are organized according to the following effects:

1. Impact of college operations;
2. Impact of the increased productivity of former students that were employed in the regional workforce during the analysis year.

## **IMPACT OF COLLEGE OPERATIONS**

JTCC is an important employer in the JTCC Service Area. In FY 2012-13, the college employed 1,144 full-time and part-time faculty and staff. Total payroll at JTCC was \$29.7 million, much of which was spent in the region for groceries, eating out, clothing, and other household expenses.

JTCC is itself a large-scale buyer of goods and services. In FY 2012-13 the college spent \$16.8 million to cover its expenses for facilities, professional services, and supplies.

The total income that JTCC created during the analysis year as a result of its day-to-day operations was \$35.9 million. This figure represents the college's payroll, the multiplier effects generated by the spending of the college and its employees, and a downward adjustment to account for funding that the college received from local sources.

## JOB EQUIVALENTS BASED ON INCOME

Job equivalents are a measure of the average-wage jobs that a given amount of income can potentially support. They are calculated by dividing income by the average income per worker in the region. Based on the added income created by JTCC, the job equivalents are as follows:

Effect of college operations = **769** job equivalents

Effect of student productivity = **4,076** job equivalents

Overall, the added income created by JTCC and its students supported **4,845** job equivalents.

## IMPACT OF STUDENT PRODUCTIVITY

JTCC's greatest impact results from the education and training it provides for local residents. Since the college was established, students have studied at JTCC and entered the workforce with new skills. Today thousands of former students are employed in the JTCC Service Area.

During the analysis year, JTCC's former students generated \$190.3 million in added income in the region. This figure represents the higher wages that students earned during the year, the increased output of the businesses that employed the students, and the multiplier effects that occurred as students and their employers spent money at other businesses.

## INCOME CREATED BY JTCC IN FY 2012-13 (ADDED INCOME)

**\$35.9 MILLION**

Effect of college operations

**\$190.3 MILLION**

Effect of student productivity

**\$226.2 MILLION**

Total effect

## TOTAL IMPACT

The overall effect of JTCC on the local business community during the analysis year amounted to \$226.2 million, equal to the sum of the college operations effect and the student productivity effect. This added income was equal to approximately 1.3% of the region's Gross Regional Product.

# INVESTMENT ANALYSIS

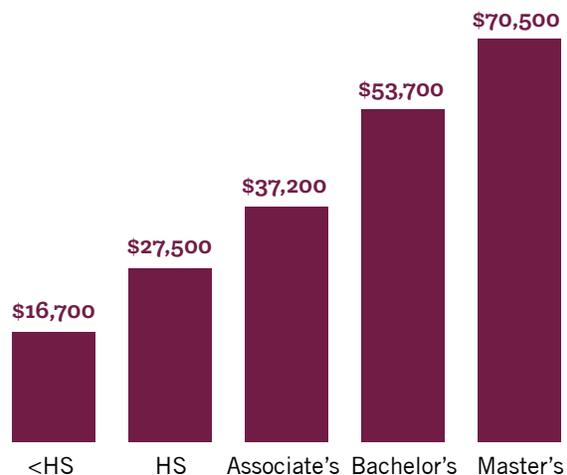
*Investment analysis is the process of evaluating total costs and measuring these against total benefits to determine whether or not a proposed venture will be profitable. If benefits outweigh costs, then the investment is worthwhile. If costs outweigh benefits, then the investment will lose money and is considered unprofitable. This study considers JTCC as an investment from the perspectives of students, society, and taxpayers. The backdrop for the analysis is the entire Virginia economy.*

## STUDENT PERSPECTIVE

In 2012-13, JTCC served 14,116 credit students and 3,257 non-credit students. In order to attend college, students paid for tuition, fees, books, and supplies. They also gave up money that they would have otherwise earned had they been working instead of attending college. The total investment made by JTCC's students in FY 2012-13 amounted to \$72.8 million, equal to \$21.2 million in out-of-pocket expenses plus \$51.6 million in forgone time and money.

In return for their investment, JTCC's students will receive a stream of higher future wages that will continue to grow through their working lives. As shown in Figure 1, mean income levels at the midpoint of the average-aged worker's career increase as people achieve higher levels of education. For example, the average associate's degree completer from JTCC will see an increase in earnings of \$9,700 each year compared to someone with a high school diploma or equivalent. Over a working lifetime, this increase in earnings amounts to an undiscounted value of approximately \$446,200 in higher income.

**FIGURE 1. ANNUAL INCOME BY EDUCATION LEVEL AT CAREER MIDPOINT IN THE JTCC SERVICE AREA**



Source: EMSI regionalized wage rates.



The present value of the higher future wages that JTCC’s students will receive over their working careers is \$493.1 million. Dividing this value by the \$72.8 million in student costs yields a benefit-cost ratio of 6.8. In other words, for every \$1 students invest in JTCC in the form of out-of-pocket expenses and forgone time and money, they receive a cumulative of \$6.80 in higher future wages. The average annual rate of return for students is 22.3%. This is an impressive return compared, for example, to the less than 1% return per annum that is generally expected from saving money in today’s standard bank savings accounts.

The college estimates that dual enrollment students who take courses for both high school and college credit can also expect approximately \$2.3 million in potential tuition savings, as well as a potentially higher return on investment.

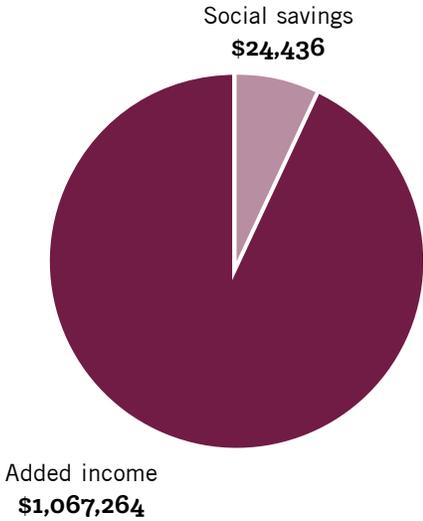
**SOCIAL PERSPECTIVE**

Society as a whole in Virginia benefits from the presence of JTCC in two major ways. The first and largest benefit that society receives is the added income created in the state. As discussed in the previous section, students earn more because of the skills they acquire while attending JTCC. Businesses also earn more because the enhanced skills of students make them more productive. Together, higher student wages and increased business output stimulate increases in income across the state, thereby raising prosperity in Virginia and expanding the economic base for society as a whole.

Benefits to society also consist of the savings generated by the improved lifestyles of students. Education is statistically correlated with a variety of lifestyle changes that generate social savings across three main categories: 1) health, 2) crime, and 3) unemployment. Health savings include avoided medical costs associated with smoking, alcoholism, obesity, drug abuse, and mental disorders. Crime savings include reduced security expenditure and insurance administration, lower victim costs, and reduced criminal justice system expenditures. Unemployment savings include the reduced demand for income assistance and welfare benefits.

Figure 2 shows the present value of the added income and social savings that will occur in Virginia over the working lifetimes of

**FIGURE 2. PRESENT VALUE OF ADDED INCOME AND SOCIAL SAVINGS IN VIRGINIA (THOUSANDS)**





JTCC's 2012-13 students. Added income amounts to a present value of \$1.1 billion due to the increased lifetime incomes of students and associated increases in business output. Social savings amount to \$24.4 million, the sum of health, crime, and unemployment savings in Virginia. Altogether, total benefits to society equal \$1.1 billion (in present value terms).

State and local taxpayers invested \$18.8 million in JTCC during the analysis year. For every dollar of this investment, society as a whole in Virginia will receive a cumulative value of 58.1 in benefits, equal to the \$1.1 billion in benefits divided by the \$18.8 million in costs. These benefits will occur for as long as JTCC's 2012-13 students remain employed in the state workforce.

## **TAXPAYER PERSPECTIVE**

From the taxpayer perspective, benefits consist primarily of the taxes that state and local government will collect from the added income created in the state. As JTCC's 2012-13 students earn more, they will make higher tax payments. Employers will also make higher tax payments as they increase their output and purchase more supplies and services. By the end of the students' working careers, state and local government will have collected a present value of \$90.4 million in added taxes.

A portion of the savings enjoyed by society also accrues to state and local taxpayers, generating a present value of \$6.4 million to state and local taxpayers.

Total benefits to taxpayers equal \$96.8 million, equal to the sum of the added taxes and public sector savings. Comparing this to the taxpayer costs of \$18.8 million—equal to the funding that JTCC received from state and local government during the analysis year—yields a benefit-cost ratio of 5.1. This means that for every \$1 of public money invested in JTCC, taxpayers receive a cumulative value of \$5.10 over the course of the students' working lives. The average annual rate of return is 11.4%, a solid investment that compares favorably with other long-term investments in both the private and public sectors.

**TABLE 2. SUMMARY OF INVESTMENT ANALYSIS RESULTS**

<b>STUDENT PERSPECTIVE</b>	
<b>\$493,076</b>	Benefits (thousands)
<b>\$72,771</b>	Costs (thousands)
<b>\$420,305</b>	Net present value (thousands)
<b>6.8</b>	Benefit-cost ratio
<b>22.3%</b>	Rate of return*

<b>SOCIAL PERSPECTIVE</b>	
<b>\$1,091,700</b>	Benefits (thousands)
<b>\$18,798</b>	Costs (thousands)
<b>\$1,072,903</b>	Net present value (thousands)
<b>58.1</b>	Benefit-cost ratio
<b>N/A</b>	Rate of return*

<b>TAXPAYER PERSPECTIVE</b>	
<b>\$96,793</b>	Benefits (thousands)
<b>\$18,798</b>	Costs (thousands)
<b>\$77,995</b>	Net present value (thousands)
<b>5.1</b>	Benefit-cost ratio
<b>11.4%</b>	Rate of return*

\* The rate of return is not reported for the social perspective because the beneficiaries of the investment are not necessarily the same as the original investors.

## SUMMARY OF INVESTMENT ANALYSIS RESULTS

Table 2 presents the results of the investment analysis for all three of JTCC’s major stakeholder groups—students, society, and taxpayers. As shown, students receive great value for their educational investment. At the same time, the investment made by state and local taxpayers in the college creates a wide range of benefits to society and returns more to government budgets than it costs.



# CONCLUSION



The results of this study demonstrate that JTCC creates value from multiple perspectives. The college benefits local businesses by increasing consumer spending in the region and supplying a steady flow of qualified, trained workers into the workforce. It enriches the lives of students by raising their lifetime incomes and helping them achieve their individual potential. It benefits society as a whole in Virginia by creating a more prosperous economy and generating a variety of savings through the improved lifestyles of students. Finally, it benefits state and local taxpayers through increased tax receipts across the state and a reduced demand for government-supported social services.

## ABOUT THE STUDY

Data and assumptions used in the study are based on several sources, including the 2012-13 academic and financial reports from the college, industry and employment data from the U.S. Bureau of Labor Statistics and U.S. Census Bureau, outputs of EMSI's Social Accounting Matrix (SAM) model, and a variety of studies and surveys relating education to social behavior. The study applies a conservative methodology and follows standard practice using only the most recognized indicators of investment effectiveness and economic impact. For a full description of the data and approach used in the study, please contact the college for a copy of the technical report.