



# **The Socioeconomic Benefits Generated by Niagara College**

*Province of Ontario*

## **Executive Summary**

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# Executive Summary

## HIGHLIGHTS

- Niagara College (NCAAT) pays \$40.3 million annually in direct faculty and staff wages, salaries, and benefits (i.e., earnings), and accounts for an additional \$236.5 million in earnings off campus.
- NCAAT and the students annually receive federal aid and provincial grants from outside the local economy, amounting to a total of \$30.4 million. Absent NCAAT, these monies would no longer enter and fuel the local economy.
- Taxpayers see a real money “book” return of 9.4% on their annual investments in Niagara College and recover all investments in 12.8 years.
- Students enjoy an attractive 8.8% annual return on their investment of time and money – for every \$1 the student invests in NCAAT, he or she will receive a cumulative \$2.35 in higher future earnings over the next 30 years or so.
- The Province of Ontario benefits from improved health and reduced welfare, unemployment, and crime, saving the public some \$3.8 million per year.

funding from the Association for Community College Trustees (ACCT). The model, which took over a year to develop, was designed to capture and quantify the economic and social benefits of colleges of applied arts and technology. It relies on data collected from individual two-year colleges, and translates these into common sense benefit/cost and investment terms. The model has been subjected to peer review and field-tested on over 350 different colleges throughout the US and Canada. Model results are based on solid economic theory, carefully drawn functional relationships, and a wealth of national and local education-related data. The model provides an analytical alternative from the all-too-common “advocacy analyses” that inflate benefits, understate costs, and thus discredit the process of higher education impact assessment.



## INTRODUCTION

**How do the Niagara College Service Area economy and the Province of Ontario benefit from the presence of Niagara College (NCAAT)?** An obvious question often asked, but rarely answered with more than anecdotes. In this study, CCbenefits, Inc. applied a comprehensive economic model they developed with

Four types of benefits are tracked: (1) regional economic benefits (contributions to local job and income formation); (2) higher earnings captured by exiting students; (3) a broad collection of social benefits (improved health, reduced crime, lower welfare, and unemployment); and (4) the return to taxpayers for their college support.

## THE RESULTS

For a more in-depth exploration of this topic, the reader is encouraged to consult the Main Report, "The Socioeconomic Benefits Generated by Niagara College," containing the detailed assumptions, their context, and the computation procedures.



Source: Niagara Region Online, Home page on-line. Available from: <http://www.regional.niagara.on.ca/exploring/pdf/regional-niagara.pdf>; Internet; last accessed December 2003.

### ➤ Regional Perspective – the Niagara College Economy

NCAAT accounts for \$276.8 million of all annual earnings in the Niagara College Service Area economy (see map). The earnings explained by NCAAT are equal to that of roughly 8,600 jobs. The earnings and job effects break down as follows:

- *NCAAT Operations and Capital Spending*

NCAAT faculty and staff earnings generate additional incomes as they are spent. Likewise, NCAAT operating and capital expenditures generate still further earnings. Altogether, these earnings account for \$52.4 million annually in the

Niagara College Service Area economy (equal to that of about 2,300 jobs).

- *Higher Earnings due to Past Instruction*

Each year students leave NCAAT and join or rejoin the local workforce. Their added skills translate to higher earnings and a more robust Niagara College Service Area economy. Based on current enrollment, turnover, and the growth of instruction over time, the local region workforce embodies an estimated 4.6 million credits of past and present instruction (funded and unfunded hours). The accumulated contribution of past and present NCAAT instruction adds some \$224.5 million in annual earnings to the Niagara College Service Area economy (equal to that of roughly 6,200 jobs).

### ➤ Student Perspective

The student's perspective on the benefits of higher education is the most obvious: he or she sacrifices tuition and current earnings for a lifetime of higher earnings. For every credit completed, NCAAT students will, on average, earn \$69 more per year each year they are in the workforce. Alternatively, for every full-time year they attend they will earn an additional \$2,155 per year. In the aggregate (all exiting students), the higher earnings amount to some \$19.3 million per year for each year they remain in the workforce.

From an investment standpoint, NCAAT students will enjoy an 8.8% rate of return on their investments of time and money, which compares favorably with the

returns on other investments, e.g., the long-term return on CDN stocks and bonds. The corresponding benefit/cost ratio (the sum of the discounted future benefits divided by the sum of the discounted costs) is 2.4, i.e., for every \$1 the student invests in NCAAT education, he or she will receive a cumulative of \$2.35 in higher future earnings over the next 30 years or so. The payback period (the time needed to recover all costs) is 15.6 years.

### ➤ **Taxpayer Perspectives**

Provincial and local government spent \$30.4 million in support of NCAAT during the analysis year. Is this a good use of taxpayer money? Our analysis indicates that the answer is a resounding yes: returns far outweigh the costs, particularly when a collection of social savings is included in the assessment. For example, persons with higher education are less likely to smoke or abuse alcohol, draw welfare or employment insurance benefits, or commit crimes. This translates into associated dollar savings (avoided costs) amounting to some \$14 per credit per year, counted as an indirect benefit of NCAAT education. When aggregated across all exiting students, the Province of Ontario will benefit from \$3.8 million worth of avoided costs per year, broken down as follows:

- *Improved Health*

Employers in the Niagara College Service Area see health-related absenteeism reduced by around 6,600 days per year, with a corresponding annual dollar savings of \$1.0 million. The province will benefit from the health-related savings of roughly 250 fewer smokers and 60 fewer

alcohol abusers. The corresponding dollar savings are \$640,800 and \$836,200 per year, now and into the future (these savings include application to Ontario health care).

- *Reduced Crime*

Studies show that incarceration drops with each year of higher education. In the Niagara College Service Area, about 1 fewer individual will be incarcerated per year, resulting in annual savings of \$17,200 (combined savings from reduced arrest, prosecution, jail, and reform costs). Reductions in victim costs (e.g., property damage, legal expenses, lost workdays, etc.) result in savings of \$20,600 per year. Finally, that people are employed rather than incarcerated adds \$11,300 of earnings per year to the economy.

- *Reduced Welfare/Unemployment*

There will be approximately 120 fewer people on welfare, and 140 fewer drawing employment insurance benefits per year, saving some \$414,100 and \$847,300 per year, respectively.

### ➤ **Taxpayer Return on Investment**

The return on a year's worth of provincial and local government investment in NCAAT is obtained by projecting the associated educational benefits into the future, discounting them back to the present, and weighing these against the \$30.4 million provincial and local taxpayers spent during the analysis year to support the college. The analysis is based on the portion of NCAAT operations that is wholly dependent on provincial and local government support. Two investment perspectives are possible, one broad and one narrow.

- *Broad Perspective*

Taxpayers expect their annual investment in NCAAT to result in higher lifetime earnings for students and social savings from lifestyle changes (reduced crime, welfare and unemployment, and improvements in health). From a broad investment perspective, the value of all future earnings and associated social savings is compared to the year's worth of provincial and local taxpayer support that made the benefits possible.

Following this procedure, it is estimated that NCAAT provides a benefit/cost ratio of 10.8, i.e., every dollar of provincial or local tax money invested in NCAAT today returns a cumulative of \$11 over the next 30 years.

- *Narrow Perspective*

The narrow perspective limits the benefit stream to provincial and local government budgets, namely increased tax collections and expenditure savings. For example, in place of total increased student earnings, the narrow perspective includes only the increased provincial and local tax receipts from those higher earnings. Similarly, in place of overall crime, welfare, unemployment and health savings, the narrow perspective includes only those portions that translate to actual reductions in provincial and local government expenditures.

Note here that it is normal for the provincial government to undertake activities wanted by the public, which are unprofitable in the marketplace. This means that positive economic returns are generally not expected from government

investments. From the narrow taxpayer perspective, therefore, even a small positive return (a benefit/cost ratio equal to or just greater than 1, and/or a rate of return equal to or just greater than the 4.0% discount rate used in this analysis) would be a most favorable outcome, certainly one that justifies continued taxpayer support of the college. For NCAAT, the narrow perspective results greatly exceed the minimum expectations. The results indicate strong and positive returns: a rate of return of 9.4%, a benefit/cost ratio of 1.9 (every dollar of provincial or local tax money invested in NCAAT today returns \$1.92), and a short payback period of only 12.8 years.

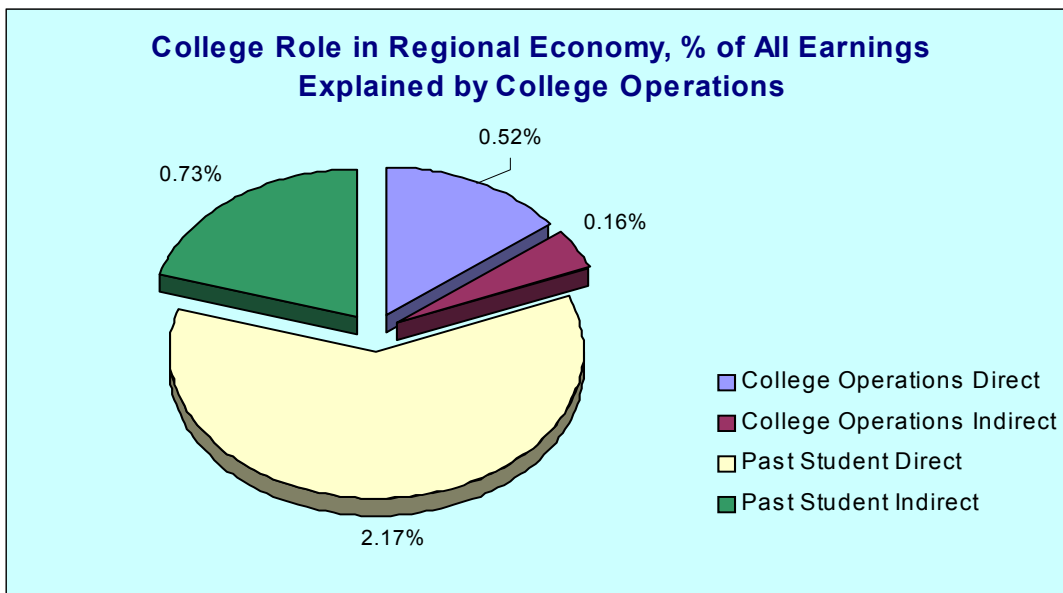


## CONCLUSION

The results of this study demonstrate that NCAAT 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 provincial economies.

Benefits at a Glance

Regional Analysis	Regional Impact		
<b>Regional Economic Development</b>			
Increment from college operations			\$52,374,000
Increment from past student productivity			\$224,451,000
<b>Total</b>			<b>\$276,825,000</b>
Job equivalent			8,553
<b>Annual Benefits</b>			
<i>Higher earnings</i>			
Aggregate (all student)			\$19,331,491
Per Credit			\$69
Per year full time equivalent student			\$2,155
<i>Social savings</i>			
Aggregate (all students)			\$3,809,195
Per Credit			\$14
Per year full time equivalent student			\$435
Investment Analysis	RR	B/C Ratio	Payback (Years)
Students	8.8%	2.4	15.6
Taxpayers: Broad Perspective	NA	10.8	NA
Taxpayers: Narrow Perspective	9.4%	1.9	12.8



In sum, the graph shows that the college accounts for a total of 3.6% of all earnings (\$7.7 billion) generated from all sources in the economic region.

This short summary report is one of six products generated for this impact study. In addition, one long report intended for economists and college institutional researchers (90 pp) lays out the detailed assumptions and analysis. Another report (9 pp) provides detailed tabular results by gender and entry levels of education, and a one-page fact sheet contains highlights of the study results at a glance. The study also includes a one-page write-up in layman's terms about the differences between the broad and narrow taxpayer perspectives. Lastly, a PowerPoint presentation is developed showing the main results for college presidents to adapt and use in speeches before provincial legislators and other education stakeholders.