

EXECUTIVE SUMMARY

Demonstrating the Value of Northern Lakes College

NOVEMBER 2013

Analysis of the Economic Impact and Return on Investment of Education

STUDY HIGHLIGHTS

ECONOMIC IMPACT ANALYSIS

- The NLC Service Region received approximately **\$31.3 million** in added income in 2011-12 due to the operations of NLC and the spending of out-of-region students.
- Former NLC students who were active in the regional workforce in 2011-12 generated another **\$41.6 million** in added income through their higher earnings and increased productivity of their employers.
- Altogether, NLC and its students added **\$72.8 million** to the NLC Service Region economy.

INVESTMENT ANALYSIS

- For every \$1 students invest in NLC, they receive a cumulative **\$3.20** in higher future earnings over the course of their working careers.
- Society as a whole in Alberta receives **\$225.1 million** in added income and **\$3.3 million** in social savings related to reduced crime, lower unemployment, and improved health across the province.
- Provincial taxpayers receive an internal rate of return of **7.5%** on their investment in NLC.

INTRODUCTION

Northern Lakes College creates value in many ways. This study investigates the economic impacts created by NLC on the regional economy and the benefits that the college generates in return for the investments made by its key stakeholder groups—students, society, and taxpayers.

Northern Lakes College (NLC) plays a key role in helping students increase their employability and achieve their individual potential. However, the contribution of NLC consists of more than just influencing the lives of students. The college serves a range of industries in the NLC Service Region and supplies local businesses with skilled workers. Society as a whole in Alberta benefits from an expanded economy and improved quality of life. The benefits created by NLC extend as far as the provincial government, in the form of increased tax revenues and public sector savings.

The following two analyses are presented:

- **Regional economic impact analysis** measuring the income created by the college and its students in the NLC Service Region.
- **Investment analysis** weighing the benefits to students, society, and taxpayers in return for the costs of supporting the college.

The results of the study reflect the 2011-12 analysis year. Data and assumptions are based on the 2011-12 academic and financial reports from the college, industry and employment data from Statistics Canada, outputs of EMSI's Canadian regional input-output model, and a variety of studies and surveys relating education to social behaviour. The study applies a conservative methodology and follows standard practice using only the most recognized indicators of economic impact and investment effectiveness. For a full description of the data and approach, please contact the college for a copy of the technical report.

REGIONAL ECONOMIC IMPACT ANALYSIS

Regional economic impact analysis measures the net added income created by NLC in the regional economy through the spending of the college and its students and the enhanced productivity of the workforce. The backdrop for the analysis is the NLC Service Region.

NLC promotes economic growth in the NLC Service Region in a variety of ways. The college is an employer and a buyer of goods and services, and the living expenses of students from outside of the region benefit local businesses. In addition, NLC is a primary source of education to local residents and a supplier of trained workers to local industry.

Results of the regional economic impact analysis are organized according to the following three effects:

1. Impact of college operations;
2. Impact of the spending of students who relocated to the region, and;
3. Impact of the increased productivity of former students employed in the regional workforce during the analysis year.

Added income created by NLC in 2011-12

\$31.2 million

Effect of college operations

\$66.1 thousand

Effect of student spending

\$41.6 million

Effect of student productivity

\$72.8 million

Total effect

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 annual wages per worker in the region. Based on the added income created by NLC, the job equivalents are as follows:

Effect of college operations =
630 job equivalents

Effect of student spending =
1 job equivalents

Effect of student productivity =
839 job equivalents

Overall, the added income created by NLC and its students supported **1,470** average-wage job equivalents.

IMPACT OF COLLEGE OPERATIONS

NLC is an important employer in the NLC Service Region. In 2011-12, the college employed faculty and staff equivalent to 346 full-time employees. Of these, 90% lived in the NLC Service Region. Total payroll at NLC was \$26.9 million, much of which was spent in the region for groceries, eating out, clothing, and other household expenses.

NLC is itself a large-scale buyer of goods and services. In 2011-12, the college spent \$13.2 million to cover its expenses for facilities, professional services, and supplies.

The total income that NLC created during the analysis year as a result of its day-to-day operations was \$31.2 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.

IMPACT OF STUDENT SPENDING

Approximately 27 NLC students relocated to the NLC Service Region to attend college in 2011-12, including international students. While attending, these students spent \$392,751 to purchase groceries, rent accommodation, pay for transportation, and so on. A significant portion of these expenditures occurred in the region, generating \$66,126 in new income in the economy during the analysis year.

IMPACT OF STUDENT PRODUCTIVITY

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

During the analysis year, NLC's former students generated \$41.6 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.

TOTAL IMPACT

The overall effect of NLC on the regional economy during the analysis year amounted to \$72.8 million, equal to the sum of the college operations effect, the student spending effect, and the student productivity effect. This added income was equal to approximately 1.4% 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 NLC as an investment from the perspectives of students, society, and taxpayers. The backdrop for the analysis is the entire Alberta economy.

STUDENT PERSPECTIVE

In 2011-12, NLC served 1,933 credit students and 4,257 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 NLC's students in 2011-12 amounted to \$24.3 million, equal to \$6.7 million in out-of-pocket expenses plus \$17.6 million in forgone time and money.

In return for their investment, NLC's students develop the skills required for an increasingly globalized workplace and receive a stream of higher future wages that will continue to grow throughout 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 two-year diploma completer from NLC will see an increase in earnings of \$13,200 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 \$463,243 in higher income.

The present value of the higher future wages that NLC's students will receive over their working careers is \$77.9 million. Dividing this value by the \$24.3 million in student costs yields a benefit-cost ratio of 3.2. In other words, for every \$1 students invest in NLC in the form of out-of-pocket expenses and forgone time and money, they receive a cumulative of \$3.20 in higher future wages. The average annual internal rate of return for students is 18.8%. This is a favourable 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.

STUDENT PERSPECTIVE

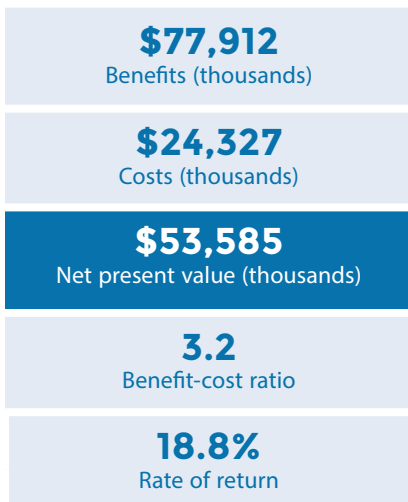
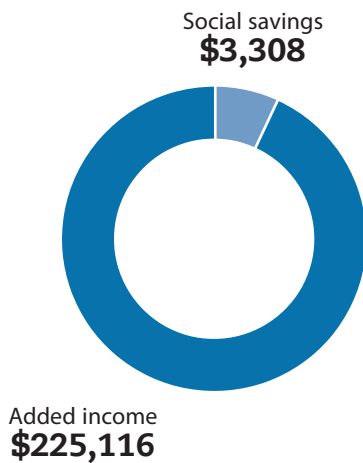


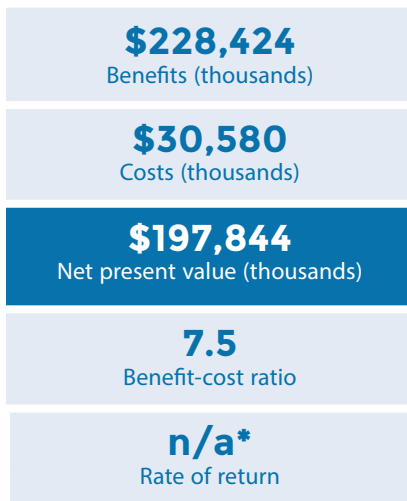
Figure 1. Annual income by education level at career midpoint in the NLC Service Region



Figure 2. Present value of added income and social savings in Alberta (thousands)



SOCIAL PERSPECTIVE



*The internal 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.

SOCIAL PERSPECTIVE

NLC aims to improve the socioeconomic well-being of the local and provincial community by increasing students' earning potential and by positively influencing the health and lifestyle habits of its students. As a result, society as a whole in Alberta benefits from the presence of NLC in two major ways. The first and largest benefit to society is the added income created in the province. As discussed in the previous section, students earn more because of the skills they acquire while attending NLC. 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 province, thereby raising prosperity in Alberta 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, and mental illness. Crime savings include reduced Criminal Justice System expenditures, lower victim costs, and increased productivity of individuals who are working rather than spending time in custody. Unemployment savings include the reduced demand for employment insurance benefits and social assistance.

Figure 2 shows the present value of the added income and social savings that will occur in Alberta over the working lifetimes of NLC's 2011-12 students. Added income amounts to a present value of \$225.1 million due to the increased lifetime incomes of students and associated increases in business output. Social savings amount to \$3.3 million, the sum of health, crime, and unemployment savings in Alberta. Altogether, total benefits to society equal \$228.4 million (in present value terms).

Provincial taxpayers invested \$30.6 million in NLC during the analysis year. For every dollar of this investment, society as a whole in Alberta will receive a cumulative value of \$7.50 in benefits, equal to the \$228.4 million in benefits divided by the \$30.6 million in costs. These benefits will occur for as long as NLC's 2011-12 students remain employed in the provincial workforce.

TAXPAYER PERSPECTIVE

From the taxpayer perspective, benefits consist primarily of the taxes that provincial government will collect from the added income created in the province. As NLC's 2011-12 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, provincial government will have collected a present value of \$46.7 million in added taxes.

A portion of the savings enjoyed by society also accrues to provincial taxpayers. Students are more employable, so the demand for income assistance reduces. Improved health habits lower the students' demand for national health care services. Students are also less likely to commit crimes, so the demand for law enforcement

TAXPAYER PERSPECTIVE

\$48,031

Benefits (thousands)

\$30,580

Costs (thousands)

\$17,451

Net present value (thousands)

1.6

Benefit-cost ratio

7.5%

Rate of return

services reduces. All of these benefits will generate a present value of \$1.3 million in savings to provincial taxpayers.

Total benefits to taxpayers are \$48 million, equal to the sum of the added taxes and public sector savings. Comparing this to the taxpayer costs of \$30.6 million—equal to the funding that NLC received from provincial government during the analysis year—yields a benefit-cost ratio of 1.6. This means that for every \$1 of public money invested in NLC, taxpayers receive a cumulative value of \$1.60 over the course of the students' working lives. The average annual internal rate of return is 7.5%, a solid investment that compares favourably with other long-term investments in both the private and public sectors.

CONCLUSION

About EMSI

Economic Modeling Specialists International, a CareerBuilder company, is a leading provider of economic impact studies and labour market data to educational institutions, workforce planners, and regional developers in North America and the UK. Since 2000, EMSI has completed over 1,200 economic impact studies for educational institutions in four countries. For more information about EMSI and its products and services, visit www.economic-modeling.com.

The results of this study demonstrate that NLC 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 Alberta by creating a more prosperous economy and generating a variety of savings through the improved lifestyles of students. Finally, it benefits provincial taxpayers through increased tax receipts across the province and a reduced demand for government-supported social services.