



Memorial University

**Economic Impact
Assessment**





Memorial University
Memorial University Economic Impact Assessment
April 2021

Disclaimer

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Acknowledgement

We acknowledge that the lands on which Memorial University's campuses are situated are in the traditional territories of diverse Indigenous groups, and we acknowledge with respect the diverse histories and cultures of the Beothuk, Mi'kmaq, Innu, and Inuit of this province.



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Glossary & Acronyms

Term/Acronym	Meaning
FTE Student	Full-time Equivalent Student
GDP	Gross Domestic Product
I/O Model	Statistics Canada's Input-Output Model
Memorial or University	Memorial University of Newfoundland; Memorial University
Province	Province of Newfoundland and Labrador
Statistics Canada I/O Model	Interprovincial Input – Output Model of Statistics Canada



Executive Summary

Memorial University (“Memorial”, or the “University”), is a significant contributor to the local, provincial, and national economy. The impact that Memorial has on Gross Domestic Product (GDP), labour income, and employment comes from a variety of sources attributable to Memorial and subsequently have a multiplier effect that far exceeds the University’s annual operating budget. The purpose of this economic impact study is to **quantify the economic value of the University to the economy**.

A variety of data points and sources were utilized as the basis of this study’s quantitative and qualitative assessments. The University provided financial statements, employment and enrolment data, and planned capital expenditures as inputs for the quantitative analysis. Supplementary information was gathered through interviews conducted with stakeholders identified by Memorial¹, and augmented by desktop research. Academic unit leaders at the University provided insights on case studies showcasing socio-economic impacts of research and program offering. All inputs and assumptions used to conduct analyses were validated and confirmed with the University prior to finalization. This report presents economic impacts resulting from Memorial’s operations, investments, research contributions and academic program from quantitative and qualitative perspectives.

Total Average Annual GDP Impacts Contributed to the Province

To quantify the University’s economic impacts, Statistics Canada’s Input-Output (I/O) modelling was used. This I/O methodology estimates the employment, labour income, and GDP impacts of various types of expenditures, such as salaries and wages, purchase of goods and services, and indirect taxes. The I/O model simulates economic impacts of an expenditure, based on an assumed structure of an economy for an industry, good, or service. The model is developed and maintained by Statistics Canada based on statistical estimates of the Canadian economy for a point in time. As such, results generated using the I/O method are approximations or estimates of economic impact from expenditures². For the purposes of this study, the quantified, estimated economic impacts of the University are based on average expenditures over three years.

Operational | Memorial’s University’s average operational activities



Contributed

\$293 million
to the provincial GDP

5,401 jobs

Operational expenditures of the University aggregated for this estimation include ancillary operations, plant operations, research operations, and other special-purpose operations that include expenditures such as salaries, benefits, and other expenses such as repairs, renovations, materials and supplies, utilities, and other expenses associated with Memorial’s operations.

On average, Memorial’s operational expenditures resulted in economic impacts of approximately 5,401 jobs and \$413 million in labour income annually. The study’s findings further suggest that a large portion of these incomes are spent on local goods and services such as restaurants, transportation,

¹ For a comprehensive list of stakeholders interviewed, see Appendix A

² Please refer to the [Overview of Input-Output \(I/O\) Model](#) section below for further insights to the methodology of the input-output model.



and other retail outlets, thereby creating and supporting local jobs such as those in the retail and restaurant sectors.

Capital | Memorial University's average capital program



Contributed
\$67 million
to the provincial GDP

574 jobs

Memorial's capital expenditures contributed an estimated annual average of \$67 million to the provincial GDP. These expenditures ranged from new construction projects to major facility renovations. Over the three-year period studied, the University played a critical role in the Province's overall economic vitality by supporting the communities it is directly invested in, with capital expenditures totaling \$283 million over the 3-year period.

Student | Estimated incremental impact as a result of annual student expenditures



Contributed
\$210 million
to the provincial GDP

3,095 jobs

The study examined spending by non-local and international students brought to the region to attend Memorial. It is estimated that all students incur \$205 million of expenditures annually on goods and services such as accommodations, food and beverage, transportation, and other personal expenditures. These expenditures are estimated to generate \$210 million in GDP, and supporting over 3,000 jobs annually.

Visitor | Average local spending by out-of-town visitors



Contributed
\$55 million
to the provincial GDP

850 jobs

The study examined economic contributions from out-of-town visitors to Memorial, such as friends and families of students attending the University. To estimate out-of-town spending impacts, calculations comprised accommodations, public & local transportation, vehicle rental and operations, food and beverages at stores, food and beverages at restaurants/ bars, recreation/ entertainment, and other retail expenditures. The study found, on an annual average, these visitors contribute approximately \$55 million to the provincial GDP and support approximately 850 jobs.



Memorial has also contributed toward human capital development in Newfoundland and Labrador. The study calculated incremental earnings of University alumni who currently reside within the Province³. By using a methodology employed in similar studies by other Canadian universities (see Appendix B for methodology), the following indicates the approximate amount of additional income Memorial alumni will earn, and the ripple effect of the additional income earned on the economy, respectively.

- **\$1.37 billion in additional income** earned by Memorial alumni annually due to obtaining an education
- **\$2.06 billion GDP impact based on the additional income** earned by Memorial alumni due to obtaining an education

Memorial plays an important role in the community and within the province in terms of community building and engagement, and student involvement through a variety of other activities – all leading to additional positive community impacts. The University's involvement in various community engagements and activities are important qualitative contributions to capture. These qualitative impacts are often realized over several years and decades, but have lasting effects and influences on the communities and industries served by Memorial. Through stakeholder interviews and desktop research, four themes of socio-economic impact were identified:

1. Memorial students, programs and alumni are drivers of the economic, social and cultural development of communities across the province;
2. Memorial is an incubator for unique research that enables industry and addresses social accountability, both at home and around the world;
3. Memorial is a hub connecting people, ideas and resources critical for success; and
4. Memorial is pioneering approaches to Indigenous reconciliation, both on campus and in communities.

These themes of socio-economic impact are presented alongside case studies in the report, and help to contextualize the quantified economic impacts of the University's operations, investments, research and academic programs. The findings of this study highlight the breadth and depth of Memorial's socio-economic impacts over time, and across local, provincial, national, and global geographies. The University's activities result in economic impacts on GDP, employment and labour income annually, and also contribute to economic growth, science and innovation advancement, and social, cultural, and heritage knowledge preservation domestically and internationally.

³ Memorial University data suggest approximately 66,669 students currently reside within the province and have obtained their education from Memorial University. Methodology further explained in Appendix B.



Introduction

Memorial University (“Memorial”, or the “University”) is the only university located in Newfoundland and Labrador. It was established as Memorial University College in 1925 with five faculty members and 55 full-time students⁴. By 1949, the institution had become formally known as Memorial University. Today, Memorial offers programming across five campuses in three regions: (i) St. John's campus, (ii) the Marine Institute in St. John's, (iii) Grenfell Campus in Corner Brook, (iv) the Labrador Institute in Happy Valley-Goose Bay, and (v) Harlow in the United Kingdom. As of November 2020, Memorial University has more than 19,000⁵ students and employs over 4,200 faculty and staff members⁶.

KPMG Scope of Work

Memorial engaged KPMG to assess the economic impact of the University's activities and our findings are presented in this report. The objective of the study is to illustrate the economic impact of the University, using both quantitative and qualitative perspectives, at local, regional, and national levels, where appropriate.

The **qualitative** impacts presented within this report are based on the four themes identified, which are that Memorial's programs and alumni are economic drivers for social and cultural development, Memorial is a unique research entity that supports and enables industry and addresses social accountability, Memorial is a hub for connections, and Memorial pioneers approaches to Indigenous reconciliation.

The **quantitative** impacts are explicitly estimated and calculated for the following expenditures, of which the specific elements that are included are denoted later in Table 1:



Operational expenditures – Three-year average of data provided by Memorial University, including salaries and benefits, and purchases of goods and services for teaching, research, administrative and ancillary operations for fiscal years 2017-2019⁷



Capital expenditures – Three-year average of data provided by Memorial for renovations, new facilities, equipment, and other strategic assets invested in for fiscal years 2017-2019



Student expenditures – Three-year average of data provided by Memorial University of student enrolment numbers for school years 2017-2019 (*data corresponds with academic years and the full 2020 enrolment numbers were not currently available*⁸)



Visitor expenditures – Based on three-year average of student enrolment provided by Memorial made by visitors to the University for academic years 2017-2019

These quantitative impacts are discussed within a provincial and national context, with impacts for Memorial University campuses and respective municipalities and regions identified where available.

⁴ Source: Memorial University Our Story <https://www.mun.ca/main/history/overview/>

⁵ Source: Memorial University Fast Facts https://www.mun.ca/main/Memorial_fast_facts.pdf

⁶ Source: Memorial University HR Counts 2017-20

⁷ Operational Expenditures include relevant expenses for all operations including ancillary, research, plant, and special purpose operations.

⁸ Enrolment is at Fall census date (end of September) – it is not the full year enrolment but represents a full year. E.g., Fall 2020 is outside of scope because it represents 2020-21 academic year.



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A variety of data points and sources were utilized as the basis of this study's quantitative and qualitative assessments. Memorial provided financial statements, employment and enrolment data, and planned capital expenditures as inputs for the quantitative analysis. Like most post-secondary institutions – and the economy in general – Memorial adapted to a significantly different operating environment to ensure safety of staff, faculty, and students in the face of the COVID-19 pandemic. As such, the University provided guidance to utilize a three-year average of financial, research, and extracurricular programming information (quantitative and qualitative) between fiscal years 2017 to 2019⁹, inclusive. Furthermore, Memorial's fiscal years are different than its academic years, and therefore student enrolment data is reflective of the academic year versus other financial data for capital expenditures and operational expenditures, which are reflective of Memorial's fiscal years. Where possible, we have worked to align fiscal and academic years to provide the most reliable data to ensure the consistency of the analysis. All results presented in this report are in 2020 dollars.

Supplementary information was gathered through interviews conducted with stakeholders identified by Memorial¹⁰, and augmented by desktop research. The University also circulated an online form using experience-management software (i.e., Qualtrics) to academic unit leaders to solicit case study suggestions. Selected case studies informed the qualitative analysis presented in this report. All inputs and assumptions used to conduct analyses were validated and confirmed with the University prior to finalization.

⁹ Enrolment is at Fall census date (end of September) – it is not the full year enrolment but represents a full year. E.g., Fall 2020 is outside of scope because it represents 2020-21 academic year.

¹⁰ For a comprehensive list of stakeholders interviewed, see Appendix A

Quantitative Analysis Methodology

To measure the economic impacts of Memorial University, Statistics Canada's Input-Output (I/O) modelling was employed. This I/O methodology estimates the employment, labour income, and GDP impacts of various types of expenditures such as salaries and wages, purchase of goods and services, and indirect taxes.

For this report, four types of expenditures were analyzed to estimate economic impacts:



Operational expenditures – Three-year average of data provided by Memorial University, including salaries and benefits, and purchases of goods and services for teaching, research, administrative and ancillary operations for fiscal years 2017-2019¹¹



Capital expenditures – Three-year average of data provided by Memorial for renovations, new facilities, equipment, and other strategic assets invested in for fiscal years 2017-2019



Student expenditures – Three-year average of data provided by Memorial University of student enrolment numbers for school years 2017-2019 (*data corresponds with academic years and the full 2020 enrolment numbers were not currently available*)¹²



Visitor expenditures – Based on three-year average of student enrolment provided by Memorial made by visitors to the University for academic years 2017-2019

Overview of the Input-Output (I/O) Model

Like any economic impact assessment, it is important to understand that the estimated results derived within this study reflect the data sources provided and the choice of multipliers utilized deemed to be accurate and reliable. Thus, this type of assessment may have varying degrees of economic impacts quantified based on the methodology incorporated and data utilized.

An I/O model divides the economy into a matrix of industries and commodities. Relationships within the model map the production of commodities to industries and identify the primary or intermediate commodities that are used in the production of each final commodity. Final commodities are either used by consumers or sold as an export. The model then aggregates all of the expenditures on goods and services, and expenditures in the supply chain, as commodities are produced. Based on the commodity structure of a specific industry, an I/O model can estimate the employment; gross output; and the labour, business and government income (collectively, the value-add) as a result of expenditures in that industry.

In Canada, the most authoritative and comprehensive I/O model is the Interprovincial Input-Output Model of Statistics Canada (Statistics Canada I/O Model). The inter-provincial I/O model has similar characteristics to the national version with the added breakdown of the provincial and territorial dimension (and with the exception of the induced effects). All of the provincial and territorial estimates are then adjusted on a pro rata basis (a process referred to as normalization) to ensure they aggregate to the same national totals¹³. The Statistics Canada I/O Model can be used in two ways.

¹¹ Operational Expenditures include relevant expenses for all operations including ancillary, research, plant, and special purpose operations.

¹² Enrolment is at Fall census date (end of September) – it is not the full year enrolment but represents a full year. E.g., Fall 2020 is outside of scope because it represents 2020-21 academic year.

¹³ Source: [Statistics Canada](https://www150.statcan.gc.ca/n1/pub/26-669-x/2019001/article/00001-eng.htm)

1. If detailed expenditure data is available, a tailored production function can be developed for the target entity and the I/O model can then simulate economic impacts based on the associated commodity structure.
2. If detailed expenditure data is limited or aggregated at a higher level, multiplier tables can be used instead. Multiplier tables are based on the aggregate production function of a given industry. For the purposes of this Report, Statistics Canada's I/O Multiplier Tables were used to estimate the economic impacts presented in this Report.

The Statistics Canada I/O Multiplier Tables used in this analysis represent the most recent versions publicly available and are calibrated to Canada's economy in 2016. This means economic impacts are based on the commodity structure of industries in 2016. Statistics Canada's I/O Model is managed and calibrated solely by Statistics Canada, including the assumptions that are built into the model.

In this Report, GDP, labour income, and employment impacts – as a result of Memorial's expenditures – are highlighted.

- **GDP impact** is a measure of economic output from the production of goods and services, measured in dollars. It measures the total amount of "value-add" that individual producers contribute to the purchased inputs to generate their output. GDP impacts can be broken down into segments corresponding to labour income, government revenues and income to businesses. This Report separately reports labour income, in addition to reporting overall GDP impact.
- **Labour income impact** is defined as all compensation paid to employees (e.g., wages, salaries, employer social contributions, bonuses and performance pay, etc.). Labour income is measured in dollars and is a component of the GDP impact.
- **Employment impact** estimates the number of jobs created.

Economic impacts can be further broken down into three categories: (i) direct; (ii) indirect; and (iii) induced impacts.



Direct impacts comprise economic impacts generated by Memorial University and can be observed through an analysis of its employee base, payroll, taxes paid and the difference between its revenues (e.g. from tuition and government funding support) and purchased inputs.



Indirect impacts comprise economic impacts generated further up the supply chain by suppliers to Memorial University. For example, suppliers to Memorial have their own employees and purchase commodities from other suppliers in turn. These expenditures ultimately result in income to labour, income to businesses or governments, or in the import of a good or service from another jurisdiction.



Induced impacts comprise the direct and indirect impacts that result from the subsequent spending by employees of their wages and salaries. This includes spending by employees both within Memorial and within its upstream supplier base. It is important to note that induced impacts should be interpreted with some caution as they are affected by a household's propensity to save, amongst other variables. For example, when an economy experiences high unemployment, household saving rates tend to increase and induced economic impacts will decrease. Therefore, it is important to be mindful that induced economic impacts may not always materialize to the extent shown.



The I/O model simulates economic impacts of an expenditure, based on an assumed structure of an economy for an industry, good, or service. The model is developed and maintained by Statistics Canada based on statistical estimates of the Canadian economy for a point in time. As such, results generated using the I/O method are approximations or estimates of economic impact from expenditures.

Report Overview

Memorial University engaged KPMG to conduct an Economic Impact Study (the Study, or the Report) of the University. The objective of the report is to illustrate the transformative quantitative impact estimates of:

- The University's operational activities three-year average of data provided for 2017-2019¹⁴
- The University's capital program for three-year average of data provided for 2017-2019
- Local spending by students based on three-year average enrolment data provided for 2017-2019
- Local spending by visitors who attend convocations or visit from out of town, based on a three-year average enrolment for 2017-2019

In the Report, these impacts are discussed within a provincial and national context, with impacts of the individual campuses identified, where available. Of note, the calculations throughout this report are calculated in 2020 dollars and are averages of the above-mentioned timeframes. Given the circumstances relating to COVID-19 in the 2020 and 2021 years of operations, the report has calculated impacts based on operating results from prior years. We believe this provides a fairer representation of Memorial's economic impacts on an ongoing basis.

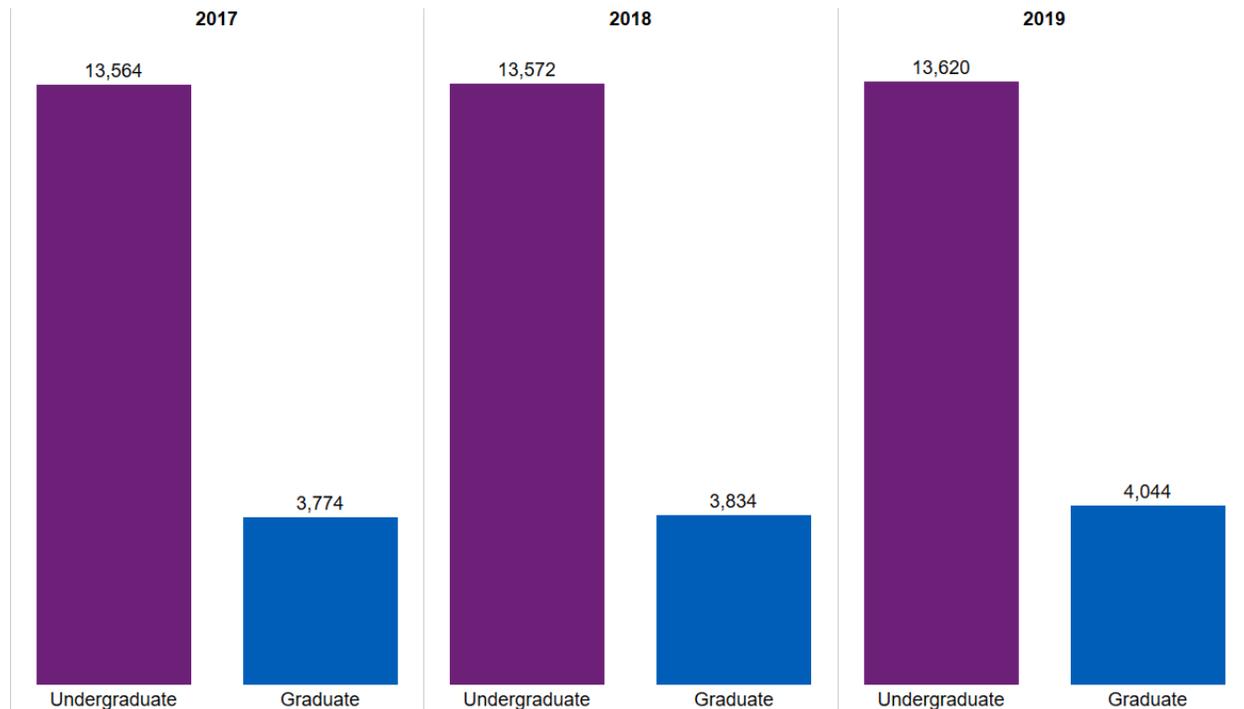
¹⁴ Enrolment is at Fall census date (end of September) – it is not the full year enrolment but represents a full year. E.g., Fall 2020 is outside of scope because it represents 2020-21 academic year.



Memorial University Overview

As of November 2020, Memorial offered programming to more than 19,000 students. These students come from various stages of academic and professional pursuits and represent over 115 countries. Memorial offers certificate, diploma, undergraduate, graduate and postgraduate programs across five campuses, and online. A global network of almost 100,000 alumni around the world highlights Memorial University's capacity as leaders in research, teaching and public engagement¹⁵. The following details in this section are directly stated from Memorial University.

Figure 1 – Student Enrolment by Level¹⁶



Research

Over 40% of Memorial's research is ocean-related. Memorial is a partner with the Ocean Frontier Institute, a \$220 million collaborative research initiative aimed at harnessing the vast potential of the world's oceans. Memorial is also part of Canada's Ocean Supercluster, a private-sector-led partnership using innovation and commercialization to drive increased sustainable economic growth from our oceans.

As one of the top 20 research universities in Canada¹⁷, Memorial has more than 30 research centres and received more than \$160 million in research funding in 2019-20 while its research program comprised more than 1,500 graduate fellowships and 854 Ph.D. students. As a research-intensive University, Memorial researchers depend on their highly motivated students, their specialized staff, and have access

¹⁵ Source : [About Memorial | Newfoundland and Labrador's University | Memorial University of Newfoundland \(mun.ca\)](#)

¹⁶ Data is reflective of Memorial University data provided in their Fact Book table 15, inclusive of the Full-Time and Part-Time students from St. John's Campus, Grenfell, Marine Institute, the Western Regional School of Nursing, the Centre for Nursing Studies.

¹⁷ Source : About Memorial University – [Research Infosource Inc.](#)



to state-of-the-art equipment and facilities, all of which creates an environment that enables research excellence at Memorial.

Memorial has broad research strengths within a variety of strategic research themes, including¹⁸:

- Indigenous Peoples
- Arctic and Northern Regions
- Community, Regional and Enterprise Development
- Creative Arts, Culture and Heritage
- Environment, Energy and Natural Resources
- Governance and Public Policy
- Information and Communication Technology
- Oceans, Fisheries and Aquaculture
- Social Justice
- Well-Being, Health and Biomedical Discovery

Important to realizing the significant opportunities presented through the research themes, Memorial collaborates and partners on research activities with communities, governments, organizations, and the private sector as Memorial recognizes that these inter-disciplinary collaborations are vital to its success.

Awards & Honours

Memorial's faculties have been recognized with numerous awards and honours for their contributions to society. For example, the Arctic Inspiration Prize, SSHRC Impact Awards (including Gold Medal and Insight Award), Governor General's Innovation Award (2018 and 2019), and the UN's Climate Solution Award a few among several received by Memorial to recognize its contributions to national and international global research communities.

Most recently, Memorial's Genesis was named top challenger in North America by University Business Incubators. The Memorial Centre for Entrepreneurship (MCE) was recognized as one of the top five emerging entrepreneurship centres in the world. MCE was named a finalist in 2019 in the outstanding emerging entrepreneurship centre category of annual awards presented by Global Consortium of Entrepreneurship Centers (GCEC), making MCE the only Canadian post-secondary entrepreneurship centre recognized by the GCEC, and one of only four outside of the U.S. to be named a finalist or winner across the eight award categories.

Many staff and faculty members with Memorial also sit on national and international committees on research, including:

- 31 fellows of the Royal Society of Canada
- 21 Canada Research Chairs
- 19 fellows of the Canadian Academy of Engineering
- 13 fellows of the Canadian Academy of Health Sciences

¹⁸ Source: Memorial University [Strategic Research Intensity Plan 2014 – 2020](#).



Teaching & Learning

Offering more than 100 degree programs with more than 378 possibilities for certificates, diplomas, undergraduate (majors/minors), graduate, post-doctoral, options to choose from¹⁹. Memorial University is one of the largest universities in Atlantic Canada. It offers:

- \$1.5 Million in entrance scholarships
- 750 scholarships awarded annually
- \$9.5 Million in graduate fellowships and scholarships
- 16:1 student-faculty ratio (one of the best in Canada)
- 450+ courses available online
- 1,600 co-op placements and internships around the world
- 50+ Rhodes Scholars educated at Memorial

In addition, Memorial has entered into a 10-year partnership through a memorandum of understanding with the Nunavut Arctic College (NAC). This partnership as stated in the Memorial Gazette will see both Memorial and NAC working “to promote northern research opportunities, build administrative capacity and expand post-secondary programs available to learners in Nunavut through joint credentials with the expressed purpose of increasing Inuit employment. The new credentials will be degrees awarded by both NAC and Memorial”²⁰.

Memorial offers a range of programs not typically available nationally or internationally, including:

- The only co-op program in Ocean and Naval Architectural Engineering in the world.
- Canada’s only MBA in social enterprise and entrepreneurship
- The only Anglophone university in Canada to offer comprehensive folklore programs at the undergraduate and graduate levels
- Canada’s only Remotely Operated Vehicles (ROV) Operator Program
- Canada’s first joint degree in music and business
- The first master of occupational health and safety degree in Atlantic Canada
- The only four-year Bachelor of Fine Arts degree in Atlantic Canada with options in acting or theatre production

Memorial’s faculty are widely recognized for their teaching and supervision, with many notable achievements and honours, including nine (9) recipients of 3M Teaching Fellowships, five (5) recipients of the Atlantic Association of Universities’ Distinguished Teacher Award and two (2) recipients of the Northeastern Association of Graduate Schools Geoffrey Marshall Mentoring Award.

Internationalization

Memorial is privileged to be able to bring together students, faculty and staff from Canada and other countries, building mutual respect, cultural understanding and meaningful relationships. That’s why Memorial is committed to internationalization, international co-operation, student mobility and cultural sensitivity.

¹⁹ Source : <https://www.mun.ca/regoff/registration/course-offerings/degree-codes.php>

²⁰ Source: Memorial University Gazette. [Historic generational partnership \(mun.ca\)](#)



According to the Canadian Association for Graduate Studies, Newfoundland and Labrador has the highest percentage of full-time international master's and doctoral students in Canada²¹. In 2015, Memorial ranked first among Canadian universities in the International Student Barometer in the category of support from the graduate school.

- 3,400+ international students from 110+ countries.
- 20% of the student population are international students and nearly 40% of all graduate students are international students
- 125 exchange agreements in more than 40 countries
- 1 of only 2 Canadian universities with a campus in the United Kingdom.

Memorial is a multi-campus, multi-disciplinary, public university that is committed to the excellence in teaching and learning, research and scholarships, and to public engagement and service. Memorial is an institution with global reach, which stems from its commitment to quality university education for the people of the province and its contributions to the economic, social, cultural, scientific, and overall economic development of Newfoundland and Labrador.

Memorial University is one of the top 20 research universities in Canada²², receiving hundreds of millions in research funding and home to more than 3,700 staff and faculty members. The institution provides more than 100-degree programs²³, and is also an essential institution for various trainings, certificates, and programming to support the region's oceans industries. Memorial's Marine Institute is a significant contributor to oceans research and education, benefiting from unique geographic advantages that enables it to provide research and training opportunities that are unique to the region and rare in the world.

Memorial has programming ranging from business, education, engineering, human kinetics and recreation, various humanities and social sciences, to nursing, pharmacy, and medicine programs, along with a broad range of programming provided by the Marine Institute.

²¹ Source: <https://www.mun.ca/main/about/>

²² Source: <https://www.mun.ca/main/about/>

²³ Source: <https://www.mun.ca/main/about/>



Quantitative Impacts of Memorial University

Overview of Quantitative Impacts

The following sections summarize the economic impacts associated with each of Memorial University's major expense categories, known as Activities. These activities are:



Operating expenditures – which includes spending that Memorial University incurs as a result of normal business operations. Cost categories include employee salaries, and other general operating costs (maintenance and repairs, utilities, etc.),²⁴. (This data has been provided directly by Memorial University and has not been validated.)



Capital expenditures – which include spending that Memorial University incurs based on new construction, facilities renovations, purchases of furniture or equipment, and other capital expenses on ancillaries. (This data has been provided directly by Memorial University and has not been validated.)



Student expenditures – which include cost categories such as housing, food, books and supplies, personal expenses, and transportation.



Visitor expenditures – which include cost categories such as accommodation, transportation, food and beverage, recreation, retail, etc.

Table 1 highlights the level of investment that Memorial University contributes.

²⁴ Operational Expenditures include related relevant expenses for all operations including ancillary, research, plant, and special purpose operations.



Table 1 – Expenditures related to Memorial University

	Operating ²⁵	Capital ²⁶	Non-local Student Expenditures ²⁷	Visitor Expenditures ²⁸
Description	<ul style="list-style-type: none"> ▪ Salaries and wages ▪ Benefits ▪ Goods and services ▪ Indirect taxes ▪ Recurring minor capital 	<ul style="list-style-type: none"> ▪ New construction ▪ Major facility renovations ▪ Capital expenditures on ancillaries 	<ul style="list-style-type: none"> ▪ Accommodation ▪ Food ▪ Books and Supplies ▪ Personal Spending ▪ Transportation 	<ul style="list-style-type: none"> ▪ Accommodation ▪ Public & local transportation ▪ Vehicle rental & operations ▪ Food and beverages at stores ▪ Food and beverages at restaurants/bars ▪ Recreation/entertainment ▪ Retail/other
St. John's Region	\$541 million average annual expenditures	Total expenditures of \$283 million over three years	\$75 million average annual expenditures	\$65 million average annual expenditures
Corner Brook Region	\$35 million average annual expenditures			
Labrador Region	\$1.6 million average annual expenditures			

The following study is a comprehensive summary and breakdown of the economic impacts.

²⁵ Operating Expenditures 3-year average from 2017-2019 data provided by Memorial University.

²⁶ Capital Expenditures total over 3-years from 2017-2019 data provided by Memorial University.

²⁷ Based on Student Expenditures profiles provided by Memorial University website along with 3-year average of student enrolment from 2017-2019.

²⁸ Based on Visitor Expenditures provided directly by the Newfoundland Department of Tourism, Culture, Arts and Recreation along with the 3-year average student enrolment from 2017-2019.



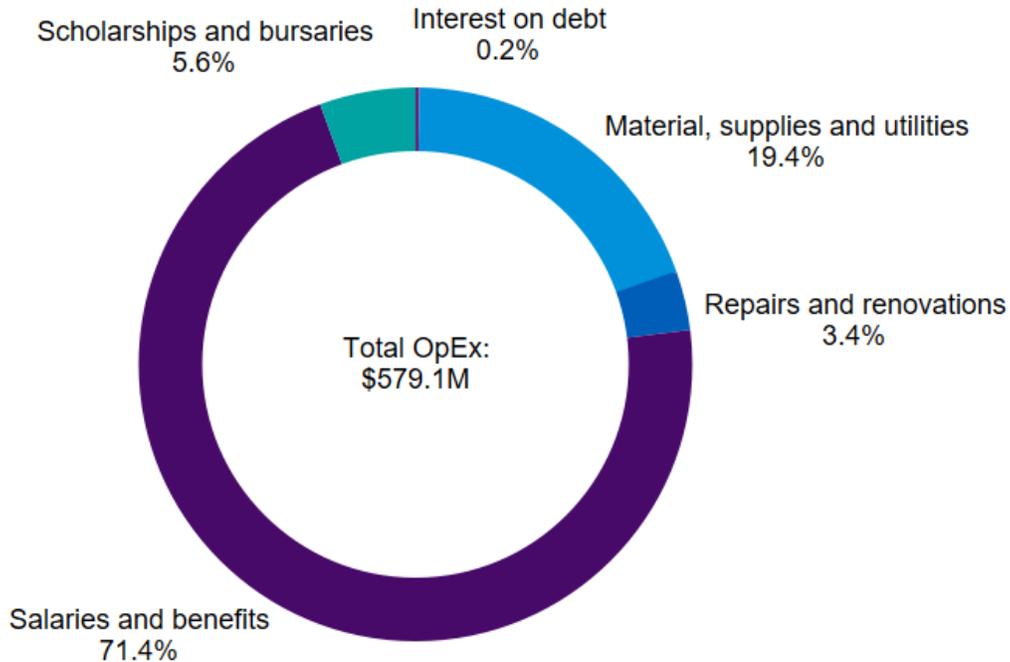
Economic Impact of Operational Expenditures

The operational expenditures as provided by Memorial University are based on the average calculations of the fiscal periods from 2017 to 2019 of annual operations. Over this three-year period, Memorial – as a whole – spent an average of approximately \$579 million annually on operations across all campuses.

Memorial University three-year Average Operating Expenditures (\$ millions)

Memorial has facilities across the province, which can be seen as employment drivers for these regions. The employment income paid at various locations, in turn, generates local economic impacts in the form of local spending. While Memorial’s expenditures result in economic impacts in and of themselves, these expenditures also result in benefits to the local economy and business communities through local talent retention and knowledge transfer.

Figure 2 – Operating Expenditure Categories





Memorial University three-year Average Employment Trend 2017-2019 (Headcount)

Figure 3 shows the annual headcount of full-time and part-time employees at Memorial over the past three years.

Figure 3 – Staff Total Headcounts



As Figure 3 suggests, Memorial employs an average of 3,805 full-time employees and an average of approximately 630 part-time employees³⁰.

Expenditures as a result of Memorial's operational expenditures for the years 2017-2019 were taken at an average and estimated to incrementally contribute **\$293 million to the provincial GDP** and noting an estimated **5,401 jobs**.

²⁹ Data is based on information provided by Memorial University for staff and includes agencies.

³⁰ These figures are based on average employment of Full-time and Part-time employees from 2017-2019, as per data provided by Memorial University.



Table 2 presents Memorial’s total (i.e., direct, indirect, and induced) economic impacts on Canada and the Province through its three-year average operational expenditures from 2017 to 2019.

Table 2 – Economic Impact of Operating Expenditures³¹

Economic Impact of Operating Expenditures		
	Newfoundland and Labrador	Canada
Employment (FTEs)		
Direct	4,395.8	4,395.8
Indirect & Induced	1,042.0	1,680.7
Total	5,401.8	6,040.5
GDP (\$ millions)		
Direct	230.1	230.1
Indirect & Induced	63.4	97.7
Total	293.6	327.8
Labour Income (\$ millions)		
Direct	172.0	172.0
Indirect & Induced	36.3	59.4
Total	208.3	231.5

Note: Totals may not add up precisely due to rounding.

Local Impacts from operational expenditures

Memorial’s operations have notable impacts on local businesses – directly through its purchases from local businesses, and indirectly through purchase of goods and services by faculty and staff living in the local region.

The approximate impact on local businesses operating in proximity to Memorial’s campuses is estimated and presented through two perspectives in this study:

1. By analyzing the geographic distribution of purchase orders on record for the University (averaged over three years), and
2. By analyzing the percentage of staff and faculty employed by the University residing within the local regions defined for this study³².

Results of these analyses are presented below.

³¹ In the Statistic-Canada input-output modeling framework, all direct impacts occur within the province of the expenditure and hence direct impacts for Canada overall are the same as direct impacts for Newfoundland and Labrador. (In other words, no direct impacts occur outside of the province).

³² Local Regions refer to: St. John’s (inclusive of the Marine Institute) located in St. John’s, NL; The Grenfell Campus located in Corner Brook, NL; and The Labrador Institute located in Happy Valley-Goose Bay, NL.



Memorial has a footprint in three primary regions:

1. St. John's (inclusive of the Marine Institute) located in St. John's, NL;
2. The Grenfell Campus located in Corner Brook, NL; and
3. The Labrador Institute located in Happy Valley-Goose Bay, NL.

These regions and facilities were strategically selected and located throughout Newfoundland and Labrador in an effort to support the socio-economic well-being of the broader province and thus provide centralized points for rural communities to provide ease-of-access to top-tier education. Furthermore, the locations seek to take advantage of their natural geographic proximity where possible. For example, the St. John's campus and the Marine Institute utilize their location to the benefit of their programs and enhancing their research opportunities.

Table 3 presents the estimated economic impacts of operational expenditures on the Newfoundland and Labrador economy and the Canadian economy based on the average operational expenditures over the years 2017 to 2019. This table apportions overall provincial impacts from Table 2 to the various campuses based on their operating expenditures. It should be noted that the indirect and induced impacts for each region may occur anywhere in the province.

Table 3 – Economic Impact of Operating Expenditures by Region³³

Economic Impact of Operating Expenditures			
	St. John's Region	Corner Brook Region	Labrador Region
Employment (FTEs)			
Direct	4,084.0	263.1	12.7
Indirect & Induced	976.1	62.9	3.0
Total	5,060.2	325.9	15.7
GDP (\$ millions)			
Direct	215.2	26.1	1.1
Indirect & Induced	59.6	3.7	0.2
Total	274.8	26.5	1.3
Labour Income (\$ millions)			
Direct	159.9	11.7	0.5
Indirect & Induced	33.7	2.5	0.1
Total	193.6	14.2	0.6

Note: Totals may not add up precisely due to rounding.

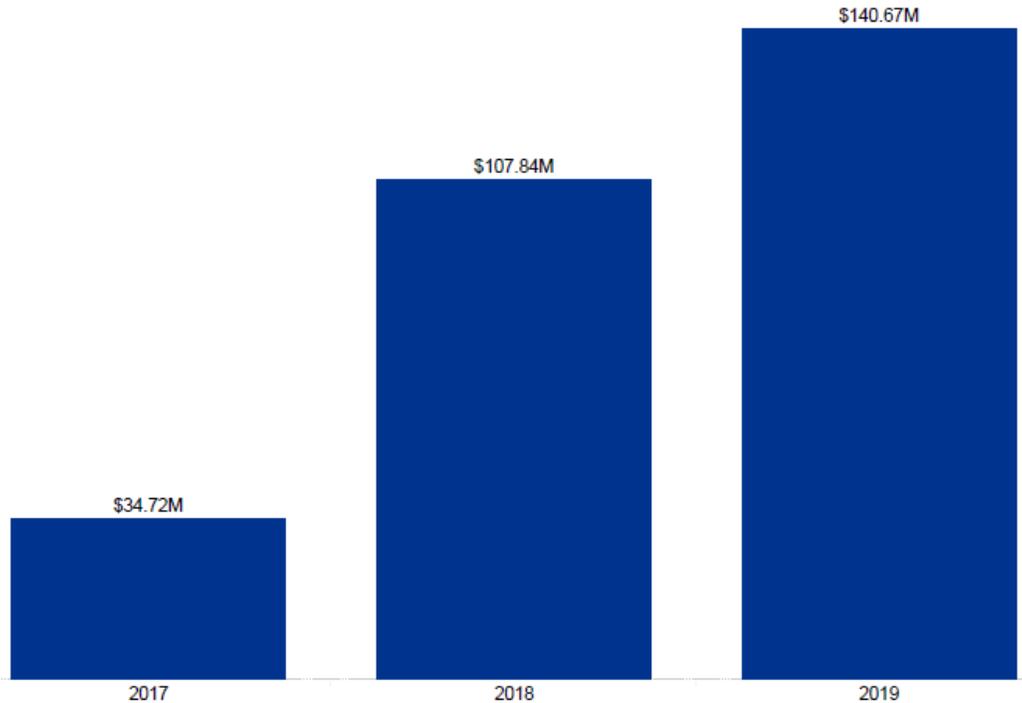
³³ The reader should also note that the location of faculty members according to their respective regions have been conducted, in an effort to articulate the local impacts, but should not be considered an exhaustive analysis. Of note, the economic impact on GDP as a result of operating expenditures incurred by the Main Campus is approximately ~93% of the total national economic impact by Memorial University.



Economic Impact of Capital Expenditures

Over the past three years, Memorial has continued to invest in its facilities through new construction, infrastructure improvements, and other investments in capital assets. Capital expenditures totaled \$283 million from 2017 through to 2019.

Figure 4 – Capital Asset Investments 2017-2019



These capital investments have positive impacts in the cities in which the investments occur, throughout the province, and across Canada.

Furthermore, these investments position Memorial to continue to grow and take advantage of new opportunities and endeavours that further allow Memorial to continue its research efforts and enhance its overall program delivery for students. Table 4 shows the average capital expenditures from the fiscal years 2017 to 2019. These capital investments made by Memorial over the past three years were estimated to make an annual average contribution of **\$67 million to the provincial GDP** and contribute an estimated **574 jobs**.

Table 4 – Economic Impact of Capital Expenditures

Economic Impact of Capital Expenditures (\$M)		
	Newfoundland and Labrador	Canada
Employment (FTEs)		
Direct	296.5	296.5
Indirect & Induced	278.4	556.9
Total	574.9	853.4
GDP (\$ millions)		
Direct	37.5	37.5
Indirect & Induced	29.9	58.2
Total	67.4	95.7
Labour Income (\$ millions)		
Direct	26.7	26.7
Indirect & Induced	17.5	34.1
Total	44.2	60.8

Note: Totals may not add up precisely due to rounding.

Projects in Progress

The following summaries highlight some of the University's current and planned initiatives³⁴.

<p>Planning has been underway to establish an Indigenous House at Memorial University. There are currently approximately 600 self-identified Indigenous students at the St. John's campus, and recent information suggests that the number of students who self-identify may be significantly greater, particularly so if all campuses included.</p> <p>The vision is to have a centrally located, highly visible, dedicated Indigenous space on the St. John's Campus. The space would allow for programming growth, and other features could include a gathering and performing space, lounge, offices for Indigenous Student Resource Centre staff, study rooms, seminar/conference room, kitchen, washrooms, student lockers, and a storage room. The site of the proposed Indigenous House is the former warehouse location next to the Henrietta Harvey building.</p> <p>Budget: \$6.9 million City: St. John's Completion Date: TBD</p>	 <p><i>Rendering</i></p>
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³⁴ Project details were provided by Memorial University as part of their Major Capital Projects from their Campus Planning & Development Committee of the Board of Regents meetings.



Rendering



Site Progress

The Marine Institute is developing a functional marine base at the South Arm of Holyrood Bay to include a breakwater, wharfs, and a large multi-purpose Oceans Research and Training Building. Lat49 Architecture's concept design is a 3,382 m² (36,404 sq ft) building, with an overall footprint of 58.5m long by 21.6m deep. Designed to support industry and academic research and collaboration, the building includes large high bay workshops with wharf access, laboratories for electronic and computer activities, classrooms, meeting/conference rooms, office space, lounge space, and open space for community gatherings, lectures and public events.

Budget: \$24 million
City: Holyrood
Completion Date: August 2022

The **Animal Resource Centre (ARC)** is a replacement for two of Memorial's current animal research care facilities, which play an integral part in Memorial's research and program offerings. Aging infrastructure at the Health Sciences Centre animal research facility (over 40-years old) and the Biotechnology Building (over 25 years old) has resulted in challenges not only for institutional compliance, but also for research competitiveness, clinical skills teaching, research faculty securing sustainable grant funding, and occupational health and safety issues for faculty, staff, and students. Safety of the animals is also considered paramount. The new facility will allow Memorial to maintain its certification with the Canadian Council on Animal Care (CCAC).



Substantially Complete Building

Budget: \$39 million
City: St. John's
Completion Date: December 2020 (substantial)

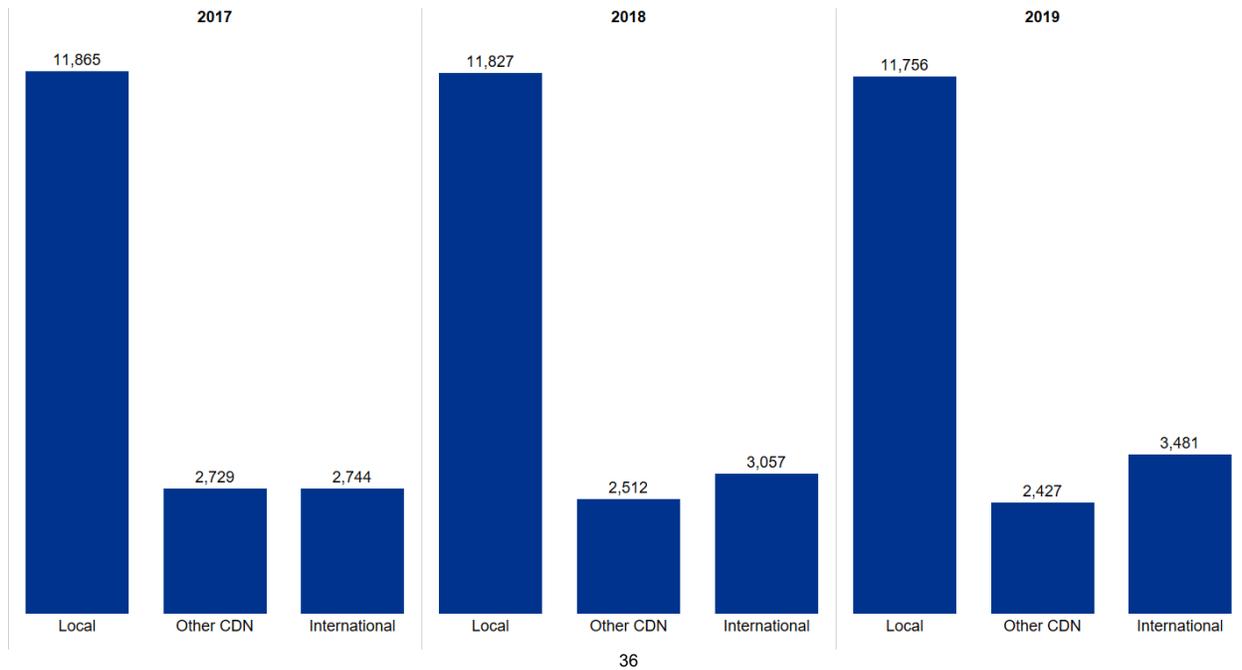


Memorial University continues to plan for ongoing capital investments to enhance its ability to deliver quality programming, globally, nationally and locally relevant research, and an overall student experience. At the time of conducting this study, Memorial indicated additional projects currently in planning and in early concept development stages. If approved, these projects will have impacts at other campus locations, such as Grenfell Campus and other regions within the province.

Economic Impact of Student Expenditures

Students at Memorial are part of the economic fabric of the region through their activities and various expenditures during their time as students and researchers at the university. The estimated impacts of student expenditures are approximately **\$210 million** in GDP to the provincial economy and employment of **3,095 jobs**. Table 9 presents the estimated overall economic impacts of local student expenditures on the Newfoundland and Labrador and Canadian economies, based on the average three-year student enrolment data provided by Memorial University.

Figure 5 – Student Enrolment Geographical Analysis 2017-2019³⁵



Each year, Memorial becomes home to thousands of students, from within the province, across the country, and around the world. Each of these students will have a unique spending profile based on where they come from. Memorial provided data that enabled further analysis of students by full-time versus part-time, and graduate versus undergraduate programs, which allowed for further refining of the student profile based on these characteristics. These student profiles that were created were then multiplied by the respective student expenditure profiles and the results are shown in the following tables. The expenditure profiles are derived directly from Memorial University.

³⁵ Data in this figure does not include the Marine Institute diploma and certificate students.

³⁶ Data for student breakdown is based on data from Memorial University from the "Fact Book 1-15 from 2017-2019", table 15. 27



Table 5 – St. John’s Undergraduate Student Expenditures

St. John’s ³⁷ Student Expenditures - Undergraduate (\$2020) ³⁸	Annual
Accommodation	\$4,493
Food	5,115
Books and Supplies	1,500
Personal Expenses	3,000
Transportation	600
Total (excluding tuition and fees)	\$14,708

Table 6 – St. John’s Graduate Student Expenditures

St. John’s Student Expenditures - Graduate (\$2020)	Annual
Accommodation	\$7,224
Food	2,900
Books and Supplies	400
Personal Expenses	3,000
Transportation	600
Total (excluding tuition and fees)	\$14,124

Table 7 – Corner Brook Undergraduate Student Expenditures

Grenfell ³⁹ Student Expenditures - Undergraduate (\$2020)	Annual
Accommodation	\$3,532
Food	3,000
Books and Supplies	1,500
Personal Expenses	3,000
Transportation	600
Total (excluding tuition and fees)	\$11,632

Table 8 – Corner Brook Graduate Student Expenditures

Grenfell Student Expenditures - Graduate (\$2020)	Annual
Accommodation	\$7,224
Food	2,900
Books and Supplies	400
Personal Expenses	3,000
Transportation	600
Total (excluding tuition and fees)	\$14,124

³⁷ Source: Memorial University https://www.mun.ca/finance/fees/res_meals/Stjohns_res.php

³⁸ Source: Memorial University <https://www.mun.ca/undergrad/money/index.php>

³⁹ Source: Memorial University <https://www.grenfell.mun.ca/future-students/Pages/Thinking-of-Applying/tuition-and-finances.aspx>28



Table 9 – Economic Impact of Overall Student Expenditures

Economic Impact of Local and Non-Local Student Expenditures		
	Newfoundland and Labrador	Canada
Employment (FTEs)		
Direct	2,495.5	2,495.5
Indirect & Induced	599.6	987.1
Total	3,095.1	3,482.6
GDP (\$ millions)		
Direct	143.1	143.1
Indirect & Induced	67.3	108.2
Total	210.4	251.2
Labour Income (\$ millions)		
Direct	84.6	84.6
Indirect & Induced	34.5	57.1
Total	19.1	141.7

Note: Totals may not add up precisely due to rounding.



Local impact by student expenditures

Students attending programs in Memorial’s three primary regions of operation have economic impacts on local businesses through the purchase of goods and services. For the purpose of this study, we have separately quantified the impacts of non-local and international students here, as these are economic impacts on the region which tie directly to Memorial and Memorial’s ability to attract these students to study in the region which creates these additional impacts⁴⁰. It is estimated that non-local student expenditures generate total GDP impact of more than \$70 million in the province, with approximately 96% of this impact in the St. John’s region.

Table 10 presents the estimated overall economic impacts of non-local student expenditures on the economies of the province of Newfoundland and Labrador and of Canada based on the average over the years 2017 to 2019 specifically on the St. John’s and Corner Brook regions. These impacts are extracted from the overall summary of economic impacts presented in Table 9 that includes both the local and non-local student expenditure impacts⁴¹. It should be noted that the indirect and induced impacts for each region may occur anywhere in the province

Table 10 – Economic Impact of Non-Local Student Expenditures by Region

Economic Impact of Non-Local Student Expenditures		
	St. John’s Region	Corner Brook Region
Employment (FTEs)		
Direct	662.1	26.3
Indirect & Induced	188.7	7.3
Total	850.8	33.7
GDP (\$ millions)		
Direct	46.9	1.8
Indirect & Induced	21.1	0.8
Total	68.0	2.6
Labour Income (\$ millions)		
Direct	23.0	0.9
Indirect & Induced	11.1	0.4
Total	34.1	1.3

Note: Totals may not add up precisely due to rounding.

As Table 10 only includes St. John’s and Corner Brook at this time, that is because there are no students assigned to the Labrador Institute in Memorial University’s central data sets at the time of this study. Until the new School of Arctic and Subarctic Studies was created (July 2020), most of the activities at Labrador Institute were research and engagement in nature. To date, courses have been occasionally delivered at the Institute through local and visiting faculty, and through cohort degree programs with the Nunatsiavut Government, but the students are from programs in Corner Brook or St. John’s and typically the academic unit bears the majority of the costs of the instruction.

⁴⁰ Non-local students are students from outside of the regions for the respective campuses.

⁴¹ As previously noted, it is recognized that it is difficult to ascertain the explicit impacts that would be generated to a campus’ local community. It may be assumed that the majority of the figures calculated under the provincial columns for the operational and student expenditures would to some degree be contributed to the city the campus resides in



Economic Impact of Visitors

Friends and families of non-local students come to the campus region for visits with and to provide support. To estimate economic impacts from visitors attracted to Memorial's St. John's campuses, the following assumptions were made with regards to visitors per student type:

- Each FTE non-local student (defined as those not from the province, but from within Canada) correlates to two visitors on average per year; and
- Each FTE international student correlates to one visitor on average per year.

In addition to these assumed annual visits, Memorial also attracts visitors for its annual convocation ceremony. Table 12 summarizes the estimated number of visitors to Memorial, based on these events, which was used to approximate economic impacts for this study. These assumptions are further calculated through typical visitor expense profiles of travelers, as provided by the Newfoundland and Labrador Department of Tourism, Culture, Arts and Recreation.

Table 11 – Visitor Expense Profile

Expenditure ⁴²	Domestic Visitors	International Visitors
Accommodation	\$804	\$1,137
Public & Local transportation	\$64	\$85
Vehicle rental & Operations	\$354	\$355
Food and beverage at stores	\$144	\$182
Food and beverage at restaurants/bars	\$462	\$540
Recreation/entertainment	\$136	\$146
Retail/other	\$161	\$311
Total	\$2,215	\$2,755

⁴² Source: Department of Tourism, Culture, Arts and Recreation: Non-resident visitor exit survey



Table 12 – Estimated Number of Non-Local & International Student Visitors to Memorial University

In terms of visitors and the economic impacts generated, the assumptions provided by Memorial University state that visitors calculations are to be based on:

- An annual convocation ceremony of 2,600 graduates⁴³ and their visitors;
 - With assumptions of two visitors per non-local student and one visitor per international student.
- An annual visit to all non-local and international students’
 - With assumptions of two visitors per local student and one visitor per non-local student.

	Non-local (domestic) Visitors	International Visitors	Total
Number of Students (FTE)	2,427	3,481	5,908
Number of Visitors per Student	2	1	NA
Total Number of Visitors as a result of Non-Local Students Enrolled at Memorial University	4,854	3,481	8,335
Number of Visitors due to Convocation	587	1,198	1,785
Total Number of Visitors	5,441	4,679	10,120

Source: Provided by Memorial University; KPMG Calculations; Assumptions verified with Memorial University.

Note: Totals may not add up precisely due to rounding.

Note: Local students make up 66% of enrolment, non-local make up 11% of enrolment, and international students make up 23% of enrolment.

Note: In 2020, there were approximately 2,600 graduates. This proxy was utilized for number of visitors for convocation assumptions.

⁴³ Source : <https://www.mun.ca/convocation/celebration/listofgraduates.php>



As such, the incremental economic impacts from visitors, as defined above, approximately contributes **\$55 million** to the provincial GDP and noting approximately **850 jobs**, as summarized below:

Table 13 – Economic Impact of Visitor Expenditures

Economic Impact of Visitor Expenditures		
	Newfoundland and Labrador	Canada
Employment (FTEs)		
Direct	683.2	683.2
Indirect & Induced	167.1	311.2
Total	850.3	994.3
GDP (\$ millions)		
Direct	37.1	37.1
Indirect & Induced	18.2	33.1
Total	55.3	70.2
Labour Income (\$ millions)		
Direct	23.2	23.2
Indirect & Induced	9.5	17.6
Total	32.7	40.8

Note: Totals may not add up precisely due to rounding.

In addition to visits by friends and family and annual convocations, Memorial also attracts visitors by hosting a variety of events, such as conferences. These attract out-of-town attendees and visiting professionals (professors, researchers, fellows, etc.).

At the time of conducting this study, Memorial University estimated approximately 835 event days⁴⁴. These events include Varsity Athletic programming, music and concert series, research forums, and a myriad of other lectures and events that draw in visitors. Many events are hosted annually; however, there was no visitor or attendee data or counts for these events were available at the time of this study, and therefore these impacts have not been calculated for these additional event days and impacts were only calculated based on the information provided in Table 12 and reflected in impacts in Table 13 above. Nonetheless, impacts of the downstream expenditures by these visitors would contribute to local economic activities in host communities and neighbouring regions (through stakeholder consultations it was noted that visitors to events at Memorial may often choose to extend their stay to visit other parts of the province).

⁴⁴ 835 booking days data provided by Memorial University Emera Innovation Exchange data. This figure is from 2019 – 2020 (records stopped at beginning of March 2020 due to the pandemic). This figure is therefore an estimated average of booking days³³



Economic Impact through Human Capital Development

Universities play an integral role in developing human capital, which leads to improvement in employability, earnings, health, and other outcomes in adulthood⁴⁵. This development role is not limited to local communities and the Canadian economy but is also apparent globally through Memorial's alumni network.

Memorial University offers a comprehensive suite of programming, some of which is unique to Memorial and the region, and other programming that is well suited for working professionals seeking additional certifications and qualifications. The broad range of programs offered and facilities throughout the province enables the holistic development of their respective communities by leveraging the talent developed through these programs. The hands-on experiences that students earn through the various co-op programs, work terms, medical residencies, and internships further the knowledge spillovers from Memorial. These hands-on experiences thereby extend the reach and impact of Memorial and help to establish its programs as an essential support mechanism and continuous talent pool for participating communities, including rural and remote communities all over Newfoundland and Labrador.

Memorial's impact on human capital development can be approximated using the incremental earnings of alumni as a result of earning a degree from the University. Salary differentials between high school graduates and diploma students, and high school graduates and undergraduate students⁴⁶ are used as proxies to quantify human capital development. Further, the human capital impacts of alumni with a graduate or medicine degree were estimated using the salary differential against individuals with an undergraduate degree. To begin to quantify the economic value of a degree from Memorial University, the following calculations were conducted, utilizing Statistics Canada⁴⁷ data on average employment income levels for various education attainment levels, including employment income estimates for high school education, undergraduate degrees, and graduate degrees, and constructing the further increase/differences.

The total number of Memorial University alumni (since Memorial has been able to offer conferred degrees) currently living in Newfoundland and Labrador is 66,669⁴⁸. It is estimated that alumni living in Newfoundland and Labrador realized an improvement in annual earnings of \$1.37 billion as a result of the training and human capital development through Memorial University, independent of the type of program enrolled.

It is further estimated that an additional \$2.06 billion in GDP impact is attributable to additional earnings by Memorial's alumni as a result of the training and education received at Memorial. This is the estimated GDP impact accruing to the Province through higher income as a result of human capital development. Calculations are shown in Table 14 below. (See Appendix B for Human Capital Impacts Methodology).

⁴⁵ Rolnick, Arthur J. and Rob Grunewald (2003). Early Childhood Development: Economic Development with a High Public Return. The Federal Reserve Bank of Minneapolis Gazette, March 2003.

⁴⁶ Based on Statistics Canada 2016 Census data employment income groups for Newfoundland and Labrador and the Government of Canada's Job Bank for selected NOC occupations.

⁴⁷ Source: [Labour market outcomes for college and university graduates: Interactive tool \(statcan.gc.ca\)](https://www150.statcan.gc.ca/n1/pub/92-627-x/2019001/article/00001-eng.htm)

⁴⁸ Provided by Memorial University



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In order to estimate the impacts of this income on GDP, a multiplier is applied to the total additional earnings. In similar studies by Canadian universities, a multiplier of 1.5 is employed and has been utilized to estimate the \$2.06 billion in GDP as per Table 17^{49,50,51}.

Table 14 – Incremental Earnings Impact of Diploma

Impact of Undergraduate Diploma from Memorial University	2020
Median income of those with a Diploma (Canada)	\$45,172
Median income of those with high school education	\$41,065
Salary differential	\$4,107
Number of Memorial University alumni with Undergraduate Degree in the province	4,625 ⁵²
Total differential for Memorial University alumni with Undergraduate diploma	\$18,992,587

Table 15 – Incremental Earnings Impact of Undergraduate Degree

Impact of Undergraduate Degree from Memorial University	2020
Median income of those with Undergraduate Degree (Canada)	\$62,124
Median income of those with high school education	\$41,065
Salary differential	\$21,059
Number of Memorial University alumni with Undergraduate Degree in the province	49,224 ⁵³
Total differential for Memorial University alumni with Undergraduate degree	\$1,036,608,290

Table 16 – Incremental Earnings Impact of a Graduate Degree

Impact of Graduate Degree from Memorial University	2020
Median income of those with a Graduate Degree (Canada)	\$87,079
Median income of those with high Undergraduate Degree	\$62,124
Salary differential	\$24,955
Number of Memorial University alumni with Graduate Degree in the province	12,820 ⁵⁴
Total differential for Memorial University alumni with Graduate degree	\$319,922,033

Table 17 – Income Earned Impacts

	Newfoundland and Labrador
Estimated additional income earned by Memorial alumni due to their education at Memorial University	\$1.37 billion
Estimated GDP impact from additional income earned by Memorial alumni due to their education at Memorial University	\$2.06 billion

⁴⁹ Sudmant, W. "The Economic impact of the University of British Columbia", Planning and Institutional Research, University of British Columbia, September 2009.

⁵⁰ Briggs, A., Jennings, J. "The Economic Impact of the University of Alberta: A Comparative Approach", University of Alberta, September 2012.

⁵¹ Diaz, V., Mercier, P., Duarte, S. « University of Ottawa, 2012 Economic Impact Study", Institutional Research and Planning, University of Ottawa, May 15, 2012.

⁵² Source: Statistics Canada <https://www12.statcan.gc.ca/census-recensement/2016/dp-pd/prof/details/page.cfm?Lang=E&Geo1=CMACA&Code1=001&Geo2=PR&Code2=10&Data=Count&SearchText=St.%20John>

⁵³ Alumni Data provided directly by Memorial University.

⁵⁴ Alumni Data provided directly by Memorial University.



Qualitative Impacts

In the prior sections, the Report presented economic impacts resulting from spending by Memorial University, its students, and visitors. In the following section, the report presents intangible impacts that are linked to the outcomes achieved through Memorial's activities, of which are not easily quantifiable, or may take several years to transpire, but have noteworthy qualitative impacts.

Many of these outcomes are intangible in nature and reflect Memorial's mandate in service to the province, its people, economy, and environment. These impacts help to contextualize and characterize some of the quantified economic impacts presented in previous sections and show the broader impacts of Memorial's presence. Many of these specific Memorial University examples are depicted in the sections below.

Qualitative impacts of Memorial University are organized by four themes in this report:

1. Memorial students, programs and alumni are drivers of the economic, social and cultural development of communities across the province;
2. Memorial is an incubator for unique research that enables industry and addresses social accountability, both at home and around the world;
3. Memorial is a hub connecting people, ideas and resources critical for success; and
4. Memorial is pioneering approaches to Indigenous reconciliation, both on campus and in communities.



Memorial is an Economic Driver

Memorial students, programs and alumni are drivers of the economic, social and cultural development of communities across the province.

Memorial's activities directly and indirectly impact development of communities throughout the province and are helping to build a foundation for future growth. Several of Memorial's campuses – St. John's, the Marine Institute, Grenfell Campus located in Corner Brook, and soon-to-be in Happy Valley-Goose Bay – cater to and leverage local needs and talents. Through co-op placements, medical placements, and volunteer positions (among others), Memorial's reach and service across the Province are extensive.

These activities are widely recognized. For example, the Faculty of Medicine has won the Society of Rural Physicians of Canada Keith Award six times (2002, 2010, 2013, 2016, 2017, and 2018) as the university with the largest number of graduates practicing in rural Canada for the most recent 10 years following graduation. This reflects the Faculty's concerted effort to recruit and train students from the communities they wish to serve, with 75% of medical students hailing from Newfoundland and Labrador and a mandatory 16-week placement for undergraduate medical students in rural practice as part of their four-year training.

This is just one example of how these programs offered by Memorial provide students with opportunities to apply knowledge learned in their programs to real-world situations, broadening their experience and deepening their understanding. Such programs are often essential to the communities they support, providing talent and services to rural and remote communities all over Newfoundland and Labrador.

Co-op and Work-Integrated Learning Opportunities at Memorial University have a long history of exemplary curricular Work Integrated and Experiential Learning opportunities throughout numerous faculties and schools including: Engineering, Business, Human Kinetics and Recreation, Humanities & Social Sciences, Science, Education, Social Work, Nursing, Medicine and Pharmacy. These placements embed Memorial co-op students directly into workplaces across the province, providing them with practical experience and providing employers access to a year-round rich talent pool at very little to no financial costs.

Distributed Medical Education is a new office within the Faculty of Medicine at Memorial. Previously, the office was known as the Rural Medical Education Network (RMEN). The transition to DME has given the Faculty of Medicine an opportunity to focus on their Social Accountability mandate that includes optimizing medical education and training throughout our province as an initiative to expose medical learners to rural medicine with the expectation that this will produce positive results in recruitment and retention of rural physicians within the province and beyond. By engaging the provincial government, the Regional Health Authorities, and the Newfoundland and Labrador Medical Association, this collaborative approach is building momentum which helps to enhance networks and rural education experiences, and ultimately improve the health of the people of Newfoundland and Labrador communities.



CityStudio is an experiential learning program which gives students at the Grenfell Campus an opportunity to interface directly with the local government within Corner Brook. The program places students within City Hall to support problem solving for the City's most pressing issues. CityStudio helps build partnerships between Memorial and the government and provides an environment in which students can apply their knowledge and passions to support their community.

Beyond providing jobs and job placements to support local economies throughout the province, Memorial also plays an integral role in the Province's Immigration Strategy, by attracting and retaining international students to live long-term in Newfoundland and Labrador. Memorial's Internationalization Office supports students from the moment they are accepted to Memorial by providing welcome and arrival information, to healthcare and cultural exchange details once they arrive on campus, and by supporting and navigating the immigration and visa process for those looking to establish a new life in Newfoundland and Labrador with. These services are vital in supporting international students to plant roots in the Province.

International Student Outreach Services support international students in adjusting to and integrating with the local culture. For many students, transitioning to a new country can be challenging. Memorial provides advice for students around academic performance and understanding the Canadian education system, information on cultural adjustment and homesickness, budgeting and financial planning, making friends and feeling part of the community, and even how to manage crisis situations in the student's home country. Altogether, these services help set-up students for a successful new life in Newfoundland and Labrador.

The **International Student Career Experience Program** enhances international students' knowledge of the local and Canadian job markets and covers topics that prepare them to enter the job market (e.g., resume/cover letters, interviewing, networking, immigration advising), information to gain valuable work-related experience and how to connect directly with employers. Preparing students and brokering connections with the local job market has significant economic outcomes for the province.

Furthermore, Memorial plays an integral role in investing in the revitalization and transformation of economies. As part of its unique mandate in service to the province, Memorial plays an outsized role in supporting the continuity and evolution of small towns, rural communities, and regions in flux across the province through specialized programming. In this role, Memorial directly engages with communities to envision their future, and to allow communities to draw on the resources of Memorial to turn ideas into reality. Many researchers at Memorial study Newfoundland and Labrador communities as part of wider efforts to support communities toward a prosperous future.

Thriving Regions is a 2-year iterative engagement program based out of the Harris Centre. Building on the success of the Harris Centre's Regional Workshops that ran from 2005-2016, the Thriving Regions Partnership Process was launched in 2017. The Process provides funding and support to Memorial faculty, staff and students to build meaningful research partnerships that help promote thriving social and economic regions. Regions self-nominate for the program, as a result of which workshops are held and dedicated research funding is provided to complete research on priorities that have been identified by people in each region. The process has been funded by the provincial Department of Tourism, Culture, Industry and Innovation and the Atlantic Canada Opportunities Agency, and involves partnering with Memorial. The Process also includes the development of a local

advisory committee to help with implementation. To date, five regions have been involved in the program, including Great Northern Peninsula, Baie Verte Peninsula, Southwest Coast, Baccalieu Region, Burin Peninsula. This program is a critical platform for Memorial to better engage with the vast communities that make-up Newfoundland and Labrador, with particular interest in remote and rural communities, and Indigenous Groups.



The **PLACE Model of Community Development** aims to pioneer studies in Social Enterprise. Researchers, Dr. Slawinski, Dr. Winsor, and Dr. Schouten have been working with Shorefast on Fogo Island to examine regenerative organizations, which seek to reverse economic, cultural, and environmental damage, and to renew communities resulting in the development of the PLACE model of community development. PLACE has garnered media attention, and the researchers have shared this attention with community champions and policy makers from across the province, Atlantic Canada and in Europe. In 2018, the FBA launched the first master's degree in Social Enterprise & Entrepreneurship. This program differentiates Memorial and provides a recruitment advantage and the impetus to unleash innovation and creativity in teaching through

initiatives like living labs. The inaugural cohort spent time in rural Newfoundland and Labrador interacting with business owners, completing site visits and tours. Through panel discussions and debrief sessions, they examined the spectrum of social enterprise.

Moreover, as the province's only university, Memorial leads retention efforts for the unique culture of the province, by program offerings that perpetuate local culture such as folklore and choral studies, to research that addresses local issues; Memorial is integral to the continuity of the unique way of life in Newfoundland and Labrador, and is a physical home to many of the province's pieces of history where they are preserved in facilities such as the Centre for Newfoundland Studies and the University's libraries.

The **Centre for Newfoundland Studies** preserves, protects and provides access to the province's most valuable historical and cultural treasures. These unique manuscripts, photos, digital documents, newspapers, maps, audio recordings and other primary sources, continue to spark innovative research by students, faculty, staff and researchers. These holdings garner interest from researchers around the world who come to Memorial University to access the original and unique resources, as well as receive invaluable professional archival and librarian expertise in the interpretation of the resources. These global researchers are authors, publishers, journalists, playwrights, film directors, tourism operators, policy makers, archaeologists, environmentalists, scientists, educators, musicians, and business owners who use these primary research sources to stimulate economic development in their respective sectors.

Dr. Ursula Kelly's research involves the creation of the first collection and production of the first recording of local **Occupational Songs and Stories** of early forestry in Newfoundland and Labrador. Her publications share new knowledge in the areas of critical literacy, place-conscious education, and rural literacies. Dr. Kelly's research has had a significant impact locally, nationally, and internationally, as her work challenges other scholars to consider socio-cultural issues critically and deeply, as evidenced by the many reviews of her work by national and international scholars.



Memorial is an Incubator for Research

Memorial is an incubator for unique research that enables industry and addresses social accountability, both at home and around the world.

Memorial prides itself on its modern approach to learning, through growing a variety of course offerings and types. Over the years, Memorial's teaching and learning opportunities have evolved in flexibility, through expansions in distance learning, micro-credentialing, and certification courses. By increasing delivery methods, Memorial is able to enhance access to its diverse student body and the equally diverse demands from industries from all over Canada and around the world.

Memorial University's capacity to perform research is not only a critical part of its overall mission but it is also of economic importance to the Province. Over the past decade, Memorial has strengthened all aspects of research, including scholarship and creative activities, as well as the translation of knowledge into products, practices, and policies, and other forms of community engagement.

Of critical importance is the impact of applied research on innovation and entrepreneurship through the engagement of students, alumni and faculty, especially in industry start-ups and commercialization/ utilization of research outputs. By conducting world-class research and dissemination of the results, researchers enhance the university's reputation, in turn attracting partnerships with industry, government and community players, and increasing its ability to recruit new students.

In addition to ground-breaking research, start-up companies, inventions and patents, Memorial's research programs also create employment potential for human capital in the form of research assistants, technicians, graduate assistants, post-doctoral fellows, and more. Research funds also play a vital role funding the construction of research facilities and equipment which in turn creates employment during both the construction phase and once the facilities are accessible.

For example, the Marine Institute offers an extensive roster of intensive, industry short-course offerings, which are often particularly important for professional certification or re-certification, thereby broadening employment opportunities and increasing the earning potential of candidates. Skill enhancements such as these have significant impacts on the local economy and provides a labour pool upon which the economy can reliably draw from.

Credentialing is offered by the Marine Institute in many topic areas related to the oceans, including Ocean Mapping, which is recognized by the International Hydrographic Organization and is a Certified Category B program—the only program of its kind to be offered at a post-secondary institution in Canada. Other certifications offered by the Marine Institute include Remotely Operated Vehicles, which is a transferrable certificate that can be used to gain employment elsewhere. Many of these credentialing programs are vital to the ongoing functioning of the economy, particularly in sectors such as marine transportation and offshore oil and gas. Furthermore, as one-of-a-kind programs, these course offerings are an attractor to students in the oceans and fisheries areas, and have resulted in new academic programs, such as the Applied Ocean Technology program.

The **Safety and Emergency Response Centre (SERT)** is an elite training site located in Stephenville. SERT is one of Canada's premiere training facilities, with the capability and equipment to provide a range of nationally certified training programs. Training areas include firefighting, offshore petroleum industry, marine transportation, marine safety and security, fishing, aquaculture, and small boating certifications, etc. At SERT, their unique training capabilities, location and ability to



provide customized, site-specific training certifications and programming all supports upskilling and ensures a talented, well-trained labour force to keep the economy moving.

Memorial has a strong history of leveraging research to support innovations in industry. Much of Memorial's research center on addressing vexing real-world problems observed in its place-based context, resulting in an enormous wealth of knowledge in areas such as oceans and fisheries science, boreal climate, and harsh environments, among others. Memorial's niche research is often transformed into applications that enable industry and support the local economy, which are then also exported through lessons learned to enrich similar communities around the world.

Through the School of Fisheries at the Marine Institute, researchers are studying various aspects of **Sustainable Aquaculture**, including salmon aquaculture topics such as physiology, nutrition, functional genomics, immunology, disease processes and vaccine development, sea lice control, and farmed-wild fish interactions. To date, this research has been awarded \$7 million in recent research funding. The school also houses North America's leading cleaner fish research and development facility and producer. Cleaner fish (e.g., lumpfish and cunner) are a key species being developed for the salmon aquaculture industry to control sea lice populations in their pens and cages. This project recently received \$3 million in research funding. These innovations in research directly support advancements in the fishing industry, resulting in enhanced economic competitiveness and the ongoing ability to support livelihoods for Newfoundlanders.

Pye Centre for Northern Boreal Food Systems, located at the Labrador Institute, is a hub for community-led and Northern-focused food systems research, education, community connections, production, and distribution in Labrador. The Centre was leased by Memorial in 2019, for the next 80 years, after Memorial received an estate gift focused on conservation and agriculture. Memorial acquired the site as part of its commitment to, and leadership in, boreal agricultural research and practice. The Centre provides research opportunities to students and faculty, to innovate and hone techniques and approaches to boreal agriculture that works to address food insecurity across the province. This knowledge can, and is used, to support communities in boreal climates across the world.

Dr. Brad de Young, of the Department of Physics and Physical Oceanography, leads the Observation Core in the MEOPAR NCE, where he has supported development of the **Canadian Integrated Ocean Observing System (CIOOS)**. He is the international lead for AtlantOS that is focused on the development of a basin-scale ocean observing system that brings together partners from around the Atlantic Basin, North and South, and will be a contributing activity within the UN Decade of Ocean Science for Sustainable Development. His work on new vehicles and sensors for ocean observations led to new observations on icebergs (relevant to offshore oil exploration) and have helped to characterize winter ocean dynamics in the Labrador Sea (climate). Several private sector partners have expressed interest in the mission planning tools that have been developed for operating ocean gliders.

S M A R I C E

SmartICE, a research project by Dr. Trevor Bell in the Department of Geography, is the first climate change adaptation tool to integrate traditional knowledge of sea ice with advanced

data acquisition and remote monitoring technology. The system provides insight into sea-ice thickness and local ice conditions, in near real-time, providing increased safety for those travelling on the ice, helping to increase food security and community health and well-being. Memorial University was one of the founding partners of this enterprise, along with a number of other institutions. SmartICE has been awarded significant research funding as well as numerous accolades, including the Arctic Inspiration Prize (2016) and funding by the Government of Canada in November 2020 of \$671,751. Also, in November of 2020, SmartICE was awarded nearly \$1.2 million by Canada's Ocean Supercluster for its Inclusive Workforce for Arctic Ocean Technology project.

Another aspect of Memorial's role as the Province's only university is that research at Memorial is committed to supporting not only industries within the Province, but solving vexing social issues unique to, or overrepresented in, Newfoundland and Labrador. As such, Memorial is responsible for some of the most important breakthroughs in areas such as public health and housing.

Drs. Terry-Lynn Young, Kathy Hodgkinson, Sean Connors and Daryl Pullman within the Faculty of Medicine studied **Sudden Cardiac Death Syndrome**, or scientifically known as arrhythmogenic right ventricular cardiomyopathy—ARVC, a rare heart arrhythmia. Often referred to as “The Newfoundland Curse,” cases of ARVC was overrepresented in the Newfoundland and Labrador population. Dr. Kathy Hodgkinson worked as a genetic counsellor/genetic researcher with many families afflicted with this disease for more than two decades to determine the natural history and clinical course of the disorder. Dr. Terry-Lynn Young then led the search for the gene, along with its mutation, responsible for the early deaths. As a result, today health-care practitioners now perform a simple blood test which can reveal if a person is carrying the deadly gene mutation. Dr. Sean Connors has since developed a prevention program in which family members with the disease-causing mutation are provided with implantable cardioverter defibrillators, while Dr. Daryl Pullman developed legislation to ensure that all human subject research conducted in the province is reviewed by a duly constituted research ethics board within Newfoundland and Labrador. The team of researchers were the first from Memorial to receive the Governor General's Innovation Awards for their ground-breaking discovery that is saving the lives of those affected by a deadly genetic disease.

Dr. Kapil Tahlan is a microbiologist with research coordinated by the Provincial Veterinary Services, Agriculture and Agri-Food Canada and the Dairy Farmers of Canada. Some of the work focuses on **Johne's Disease**—a bacterial infection often affecting dairy cows. Given that Newfoundland is home to many large dairy farms, Dr. Tahlan's work previously supported significant economic impacts throughout the province. This work is ongoing, with current exploration taking place in Quebec and Ontario.



At Home in the North, led by Dr. Julia Christensen of the Department of Geography, this project hosted at Memorial University and in partnership with rural and urban communities in the North, identifies possibilities for culturally-safe, contextually-relevant housing

creation and construction, housing programs, and wrap-around social supports for northerners experiencing housing insecurity and homelessness. In doing so, it expands understanding and fills knowledge gaps concerning northern homelessness and housing insecurity across Canada's Norths and ultimately fills these gaps through the development of a Northern Housing Strategy. Bringing together partners across academia, government and advocacy, the project creates, shares and mobilizes knowledge on homelessness and housing insecurity. Over forty partner organizations and sponsors from across Canada are participating in the project. Current funding, including funding from the Social Sciences and Humanities Research Council (SSHRC) Partnership program exceeds \$3 million.

Research revenue has steadily increased over the past decade at Memorial. This funding signifies significant investment from the provincial and federal governments, as well as industry and private partners. Of which has further positive impacts on the economy that likely would not occur if it were not for Memorial University's presence and commitment to research.

Memorial is a Hub of Connectivity

Memorial is a hub connecting people, ideas and resources critical for success.

At Memorial, physical spaces, programming, course offerings, and research, are concentrated together. This concentration supports the exchange of ideas and resources which supports innovation and collaboration among those both on and off campus.

For example, as a leader in ocean sciences, Memorial is home to a concentration of facilities that supports their role in global oceans research networks and associations. Locally, Memorial is a key contributor of talent and innovation for businesses and start-ups, however, it is also integral to national and global thinking around oceans and ocean science through the Oceans Frontier Institute and Oceans Supercluster.

Core Science Facility and the Ocean Frontier Institute is to be completed this year (2021), the Core Science Facility will be home to research, laboratory, and teaching spaces for the Faculties of Science and Engineering & Applied Science. Comprised of 480,000 square feet, the new facility will support innovation and student collaboration. The Ocean Frontier Institute will also be housed at the Core Science Facility.



Leveraging the research that takes place across its campuses, Memorial has invested heavily in both physical and social infrastructure to foster entrepreneurship among students, faculty, and industry. Through programming, dedicated space on campus, and new course offerings, Memorial is committed to incubating research ideas and transforming them into market-ready products and applications.

The **Centre for Social Enterprise** is a collaboration between the Faculty of Business Administration, the School of Social Work, and School of Music. The Centre acts as a catalyst to nurture social entrepreneurs, strengthen social enterprises and drive social innovation in Newfoundland and Labrador. The centre works within the social entrepreneurial ecosystem to create linkages among students, faculty, community, and company leaders for networking and mentorship opportunities. It's a platform to support connections between academic disciplines to nurture innovation in social entrepreneurship.

MBA in Social Enterprise and Entrepreneurship (MBA-SEE) is the first MBA program in Canada purposefully designed to prepare students to become a new kind of leader for a new way of doing business – one that is based on the three pillars of sustainability: people, planet and profits. The program is designed for students to develop a keen understanding of the strategic context of social enterprises and social entrepreneurship, including practical experience gained during a four-month internship.

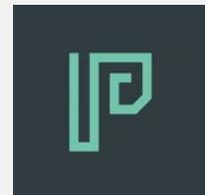


As a result of these programs and facilities, Memorial has incubated a myriad of successful home-grown ventures that now give back to the province in economic gains, jobs, and international reputation. These companies demonstrate Memorial's critical role as a place where bright ideas can be propelled by research support and innovative thinking to develop the next generation of industry in the province.

VERAFIN

Verafin was founded in 2003 by three Memorial students—Jamie King, Brendan Brothers, and Raymond Pretty. All three students were studying engineering at the graduate level, with an interest in artificial intelligence and decision-making systems. Over time, their research evolved to focus on fraud and money laundering, ultimately developing a product for banks and credit unions to support anti-financial crime management. In November 2020, Nasdaq, Inc. purchased the company for \$2.75 billion USD. As part of the deal, the headquarters for the company will remain in St. John's. The technology can be found in over 3,000 banks and credit unions across North America.

PolyUnity was founded by three medical students studying at Memorial—Michael Bartellas, Stephen Ryan, and Travis Pickett. PolyUnity is a 3D printing-based company, that began in response to limited resources, particularly medical training equipment such as simulation models, across Newfoundland and Labrador. During the COVID-19 pandemic, the start-up pivoted operations to address a personal protection equipment shortage in the province by supplying 3D-printed face shields. Today, PolyUnity is partnered with Eastern Health's Living Labs innovation program to support innovation in healthcare delivery around the world.





Memorial takes Leading Edge Approaches to Indigenous Reconciliation

Memorial is pioneering approaches to Indigenous reconciliation; on campus and in communities.

Memorial is deeply invested in reconciliation with Indigenous Peoples and Groups, by implementing strategies, policies, and new initiatives that integrate ways of Indigenous thinking, knowing, doing and being on campus, and throughout Memorial's current and future activities. Memorial is focused on being a leader in Indigenization, working collaboratively with Indigenous Peoples and Groups through enhanced efforts of inclusion, collaboration, and understanding.

Together, it is hoped that these efforts support Indigenous Peoples in feeling safer and welcome at Memorial, and creating environments where Indigenous Peoples can pursue an education in a way which respects their cultures and histories, enhances learning opportunities, supports a future they desire, and sees benefits ripple within their communities for generations to come. It is widely understood at Memorial that investment in reconciliation and sense of belonging on campus for Indigenous Peoples can have deep benefits for students and their communities, by supporting a legacy of higher education and fulfilling employment that can lead to impactful change for families and communities.

While many of these initiatives are underway, Memorial is thinking long-term in its investments, with upcoming capital projects such as the Indigenous House and programming such as Elders in Residence.

Memorial released its first ever **Strategic Framework for Indigenization 2021-2026**, by working in partnership with the Indigenous Peoples of Newfoundland and Labrador to develop the framework. The framework presents a set of actions grounded in the consultations and framed so Memorial can advance reconciliation. It sets out four strategic priorities: Leadership and Partnership; Teaching and Learning; Research; and Student Success. Within each strategic priority, actions have been identified that reflect what was heard from both Indigenous communities and the Memorial community. The framework was endorsed by the Memorial University Senate at its December 2020 meeting, and then approved by the Board of Regents at its March 2021 meeting.

The **Research Impacting Indigenous Groups policy** ensures Researchers carry out and continue to carry out appropriate engagement with Indigenous collectives in Indigenous research, starting at the research design stage. This policy reflects Memorial's commitment to excellence in research, including maintaining the highest ethical standards and supporting integrity in research, and an understanding that the conduct of research that impacts Indigenous communities, cultures, and lands must be grounded in ethical conduct and respectful ongoing engagement with Indigenous groups. The policy was approved by the Board of Regents in July 2020.

The **Labrador Institute & School of Arctic and Subarctic Studies** is a division of Memorial based in Happy Valley-Goose Bay, Labrador. The Labrador Institute is a leading centre of research, education, policy, and outreach by and for the North. The Labrador Institute was established by Memorial to stimulate, coordinate, and support major University projects and programs and to expand the Labrador knowledge base. Within the Labrador Institute, Memorial established the School of Arctic and Subarctic Studies (SASS) in July 2020 as its first academic unit based in Labrador. The Labrador Institute is currently working towards the establishment of the Labrador Campus of Memorial University, including infrastructure design and curriculum development. Part of the vision for the proposed Labrador Campus is to create and unlock new opportunities for Indigenous and Northern communities and is therefore why the Campus aims to include thematic course offerings, co-developed and taught by Indigenous Peoples.

Conclusion

Memorial University contributes to the local, provincial, and national economies through its various activities, including periodic capital investments and annual operations. In particular, this study notes the following provincial economic impacts as a result of Memorial's average capital and operational activities:



An estimated annual average impact of **\$293 million** to the provincial GDP and **5,401 jobs** due to the operational expenditures.



An estimated annual average impact of **\$67 million** to the provincial GDP and over **574 jobs** due to the impact of capital expenditures.



An estimated annual average impact of **\$210 million** in GDP impacts is due to local and non-local students. This also includes **3,095 jobs** in employment opportunities generated as a result of these estimated expenditures in the province.



Approximately **\$55 million** of GDP impact generated nationally as a result of visitors to Memorial to attend events such as annual convocations, with approximately **850 jobs** supported in the province. These visitors are coming from outside the local region and incurring expenditures which would otherwise not occur without the existence of Memorial University.

Memorial has contributed toward human capital development in Newfoundland and Labrador. By approximating these contributions, calculations used incremental earnings of the University's alumni that currently reside within the province⁵⁵ and have obtained education at Memorial University. By using a methodology employed in similar studies by Canadian universities, the following indicates the approximate amount of additional income Memorial alumni will earn and the further ripple effect of the additional income earned on the economy, respectively.

- **\$1.37 billion in additional income** earned by Memorial alumni due to obtaining an education.
- **\$2.06 billion GDP impact based on the additional income** earned by Memorial alumni due to obtaining an education.

In addition to the quantitative economic impacts, it has been noted through Memorial University stakeholders, Memorial University provided data, and through secondary research of socio-economic impacts of Universities, that there is a wide array of additional qualitative impacts that occur as result of Memorial University. Some of these identified qualitative impact themes were noted, as follows:

- Memorial students, programs and alumni are drivers of the economic, social and cultural development of communities across the province;
- Memorial is an incubator for unique research that enables industry and addresses social accountability, both at home and around the world;
- Memorial is a hub connecting people, ideas and resources critical for success; and
- Memorial is pioneering approaches to Indigenous reconciliation, both on campus and in communities.

It is apparent in the analysis that varying degrees of economic impact can be quantified as a direct result of spending incurred through the daily operations and capital investments. However, the reader should note that there are a great deal of partnerships and less readily quantifiable impacts that Memorial brings.

⁵⁵ Memorial University data suggest approximately 66,669 students currently reside within the province and have obtained their education from Memorial University. Methodology further explained in Appendix B.



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Memorial's activities have impacts at the local, provincial and national levels; in particular, Memorial plays a key role in the development of skilled labour for tomorrow's workforce – this is evident in its ongoing refinement and suite of programs offered to students to prepare them for the workforce after graduation.



Appendix A – Stakeholder List

The following is an overview of stakeholders engaged, either as part of interviews or through written case study submissions.

Round 1 Interviewees

Name & Title	Portfolio	Date
Dr. Vianne Timmons, President and Vice-Chancellor		February 19, 2021
Dr. Mark Abrahams, Provost and Vice-President	Academic	February 12, 2021
Dr. Neil Bose, Vice-President	Research	February 10, 2021
Mr. Kent Decker, Vice-President	Administration & Finance	February 12, 2021
Dr. Jeff Keshen, Vice-President	Grenfell Campus	February 17, 2021
Mr. Glenn Blackwood, Vice-President	Marine Institute	February 16, 2021

Round 2 Interviewees

Name & Title	Portfolio	Date
Dr. Sean Cadigan, Associate Vice-President	Academic	March 23, 2021
Dr. Aimée Surprenant, Associate Vice-President and Dean of Graduate Studies	Academic	March 23, 2021
Dr. Gavan Watson, Associate Vice-President, Teaching & Learning	Academic	March 23, 2021
Dr. Donna Hardy-Cox, Associate Vice-President, Students	Academic	March 23, 2021
Dr. Robert Shea, Associate Vice-President	Marine Institute	March 12, 2021
Cpt. Fred Anstey, School Head, School of Maritime Studies	Marine Institute	March 12, 2021
Kevin Anderson, School Head, School of Fisheries	Marine Institute	March 12, 2021
Paul Brett, School Head, School of Ocean Technology	Marine Institute	March 12, 2021
Dr. Mumtaz Cheema, Associate Professor, School of Science and the Environment	Grenfell Campus	March 19, 2021
Dr. Ray Gosine, Associate Vice-President	Research	March 19, 2021



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Dr. Robert Greenwood, Associate Vice-President	Public Engagement & External Relations	March 17, 2021
Ms. Ann Browne, Associate Vice-President	Administration & Finance	March 17, 2021
Dr. Kent Decker, Vice-President	Administration & Finance	March 17, 2021
Ms. Carol Tibbo, Director of Operations	Administration & Finance	March 17, 2021
Mr. Stephen Green, Chief Information Officer/Director of Information Technology Services	Administration & Finance	March 17, 2021
Mr. Stephen Dodge, Director of Human Resources	Administration & Finance	March 17, 2021
Ms. Lori Pike, Director of Budgeting Room	Administration & Finance	March 17, 2021
Ms. Deborah Collis, Director	Administration & Finance	March 17, 2021
Dr. Margaret Steele, Dean	Faculty of Medicine	March 18, 2021
Mr. Paul Tucker, Chief Operating Officer	Faculty of Medicine	March 18, 2021
Ms. Penny Blackwood, Executive Director	Office of Development	March 18, 2021
Ms. Catharyn Andersen, Special Advisor to the President	Aboriginal Affairs	March 23, 2021 March 30, 2021
Dr. Ashlee Cunsolo, Founding Dean	Labrador Institute School of Artic & Sub-Arctic Studies	March 23, 2021 March 30, 2021
Sonja Knutson, Director	Internationalization Office	April 14, 2021

Case Study Survey Respondents

- Faculty of Business Administration
- Faculty of Education
- Faculty of Engineering and Applied Sciences
- Faculty of Humanities and Social Sciences
- Faculty of Medicine & Distributed Medical Education
- Faculty of Science
 - Department of Biology
 - Department of Ocean Sciences
 - Department of Physics & Physical Oceanography
- School of Graduate Studies
- School of Human Kinetics and Recreation
- Centre for Social Enterprise
- Libraries
- Student Life



Appendix B – Human Capital Impacts Methodology

To estimate Memorial's impact on human capital development in the Province of Newfoundland and Labrador, KPMG estimated the increase in salaries and the subsequent impact of the additional compensation as a result of the education received at Memorial University. This was calculated by measuring the incremental salary received by a Memorial alumnus completing one of:

- A diploma certificate (e.g., CEGEP, non-university)
- An undergraduate (e.g., Bachelor's) degree
- A graduate (e.g., Master's, PhD) degree

In order to estimate the salary differential for alumni graduated with a diploma, the difference in median incomes between individuals with a diploma and individuals with high school education was calculated based on the Statistics Canada 2016 employment income for the province⁵⁶.

In order to estimate the salary differential for alumni graduated with an undergraduate degree, the difference in median incomes between individuals with a bachelor's degree and individuals with high school education were calculated based on the Statistics Canada 2016 employment income for the province.

In order to estimate the salary differential for alumni graduated with a graduate degree, the difference in median incomes between individuals with a graduate degree and individuals with a bachelor's degree were calculated based on the Statistics Canada 2016 employment income for the province.

As this data was reported in 2016 dollars, salaries were inflated to 2020 dollars⁵⁷. This was then multiplied by the number of diplomas and undergraduate degrees conferred in the province.

⁵⁶ Statistics Canada. Table 37-10-0152-01 Average earnings or employment income, by age group and highest certificate, diploma or degree (x 1,000)

⁵⁷ Statistics Canada. Table: 18-10-0005-01 (formerly CANSIM 326-0021) Consumer Price Index, Newfoundland and Labrador, All items (2016)