Final Report

Submitted to:

Association of Atlantic Universities (AAU)

Economic Impact of the Knowledge Infrastructure Program Investment in Atlantic Canada's Universities

December 20, 2010

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10_019 AAU Infrastructure Impacts

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Sent Via E-mail

Dear Mr. Halpin,

RE: Economic Impact of the Knowledge Infrastructure Program Investment in Atlantic Canada's Universities

The following is our assessment of the economic impact of the proposed Campus Infrastructure Renewal program that would see $177 million spent throughout Atlantic Canada on sixteen university construction and infrastructure related projects.

The purpose of our work was to highlight the economic benefits from "one-time-only"[1] construction impacts that will result through the planned developments to take place at universities throughout Atlantic Canada. Furthermore, our role was to assess the impacts for each project within its respective province, as well as for Atlantic Canada.

Approach

We used a proprietary Inter-Regional Input-Output model that is based on Canada's National System of Accounts to assess the impact of the planned expenditures on the economy of the four Atlantic Provinces, as well as all provinces and territories in Canada.[2]

The model uses commodity level provincial and territorial industry input and output data, and inter-provincial trade data to model economies of each province and territory, and then calculates the impact of the proposed infrastructure investments.

Financial data used in our assessment was provided by participating universities, through the Association of Atlantic Universities (AAU). This data is provided in **Table 1**.

[1] They are 'one time only' because, although they may occur over a period of several years, the spending ends when the facilities are completed (i.e. the Construction Phase).

[2] The inter-provincial input-output model used in this analysis was developed by our Senior Economist John Jozsa together with William Schaffer, Emeritus Professor of Economics at the Georgia Institute of Technology.

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Table 1 – Summary of Infrastructure Projects

University & Province	Spending
Mount Allison University	$4,303,000
St. Thomas University	$978,200
Université de Moncton	$12,821,155
University of New Brunswick	$20,288,913
Total New Brunswick	**$38,391,268**
Memorial University	$27,000,000
Total Newfoundland and Labrador	**$27,000,000**
Acadia University	$4,150,600
Cape Breton University	$15,000,000
Dalhousie University	$28,696,674
Mount Saint Vincent University	$3,400,000
Nova Scotia Agricultural College	$899,000
NSCAD University	$3,961,565
Saint Mary's University	$26,037,068
St. Francis Xavier University	$22,698,954
Université Sainte-Anne	$2,500,000
University of King's College	$350,751
Total Nova Scotia	**$107,694,612**
University of Prince Edward Island	$4,000,000
Total Prince Edward Island	**$4,000,000**
Grand Total	**$177,085,880**

The total value of these projects amounts to **$177 million** and includes a mix of new commercial construction, as well as commercial renovations of existing facilities.

Findings

Using an interprovincial Input-Output (I-O) model that is based on Canada's National System of Accounts, we assessed the impact of the planned expenditures per province on the economy of each respective province (i.e., Newfoundland and Labrador, Nova Scotia, Prince Edward Island, and New Brunswick).

Our Input-Output economic impact model (I-O model) addresses construction impacts as they pertain to each province wherein the spending takes place.

The summary of impacts of the proposed construction spending is provided in Table 2.

Table 2 – Summary of Total Economic Impact: All Projects

University	Employment	Provincial Tax Revenues	Federal Tax Revenues	Wages & Salaries
Acadia University	49	$340,000	$550,000	$2,080,000
Cape Breton University	176	$1,240,000	$1,990,000	$7,500,000
Dalhousie University	336	$2,360,000	$3,810,000	$14,350,000
Memorial University	226	$1,230,000	$3,530,000	$12,050,000
Mount Allison University	39	$330,000	$550,000	$1,980,000
Mount Saint Vincent University	40	$280,000	$450,000	$1,700,000
Nova Scotia Agricultural College	11	$70,000	$120,000	$450,000
NSCAD University	46	$330,000	$530,000	$1,980,000
Saint Mary's University	305	$2,140,000	$3,450,000	$13,020,000
St. Francis Xavier University	266	$1,870,000	$3,010,000	$11,350,000
St. Thomas University	9	$80,000	$120,000	$450,000
Université de Moncton	116	$990,000	$1,630,000	$5,900,000
Université Sainte-Anne	29	$210,000	$330,000	$1,250,000
University of King's College	4	$30,000	$50,000	$180,000
University of New Brunswick	184	$1,560,000	$2,580,000	$9,330,000
University of Prince Edward Island	45	$340,000	$540,000	$1,810,000
TOTAL (Atlantic Canada)	**1,880**	**$13,400,000**	**$23,230,000**	**$85,400,000**

This summary indicates the following impacts[3]:

- 1,880 person years of direct and spin-off[4] employment
- $85.4 million in direct and spin-off wages and salaries (household income)
- $13.4 million in direct and spin-off provincial tax revenue
- $23.2 million in direct and spin-off federal tax revenue

[3] Thinking of the cumulative project spending as one single project, the following defines the types of impacts discussed in this report:

- **Direct Impacts** are production, income, employment, taxes, and spending on goods and services associated with the direct spending on those contractors, designers, engineers, etc. who are directly involved in the associated project. This would include wages and salaries paid to construction workers, building suppliers and engineers in activities from site preparation to commissioning of the facilities;
- **Indirect Effects** are production, income, employment, tax, resource or environmental changes in backward linked industries. For example, these are the impacts associated with the suppliers to the building contractors, and in turn, suppliers of these suppliers. Examples of indirect effects would be the impacts associated with the transactions between the an excavation/site preparation contractor and an a company that services this contractor's heavy equipment during the course of the Project; and,
- **Induced Effects** are the changes in household spending caused by changes in household income. These are the impact from contractor employees and/or their supplier employees spending their wages and salaries on goods and services. As an example, it is the engineer who spends the wages they earned during their project work on the personal operation of their household.

[4] Spinoff impacts are sum of the **indirect** (e.g., university contractors buying from their suppliers) and **induced** impacts (e.g., direct contract staff and employees of supplier companies spending their wages and salaries).

As discussed, the decision to move forward with these infrastructure projects would have an immediate and positive employment impact in the non-residential construction sectors and supporting sectors. It should also be noted that many of these infrastructure projects offer building improvements that need to be considered in terms of the reduction of energy consumption and greenhouse gas emissions that will result, as several of these projects will update now outdated heating and building mechanical systems.

Investment and reinvesting in university infrastructure supports R&D, innovation and commercialization, and the development of human capital, and a host of related industries. While the immediate employment effects from university infrastructure investment are important and should be considered, it is through this broader lens that the true value of the university infrastructure investment should be examined.

Thank you for the opportunity to work for the Association of Atlantic Universities. Please contact me if you have any questions about this report.

Sincerely,

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