



UNIVERSITY  
OF MANITOBA

## University of Manitoba

*Regional Economic Impact Analysis (Fiscal 2004):*



October 2004

PRICEWATERHOUSECOOPERS 

**urbanMetrics inc.**  
market, economic and strategic advisors

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### APPENDIX A: GLOSSARY OF TERMS

## **Executive Summary**

The operation of post-secondary institutions and their varied undertakings result in significant and widespread economic impacts within their respective regions. These impacts result from many different sources including the following:

- The University's effect on total sales, Gross Domestic Product (GDP), employment income, and government revenues as a result of the institution's operating, research and capital expenditures;
- The impact of expenditures made by students and visitors to the University;
- The traditional function of a University in developing human capital through training and education; and
- The impact of the formal and informal transfer of knowledge through personal, institutional, and corporate linkages and relationships.

## **Background**

In September 2004, PricewaterhouseCoopers LLP ("PwC") issued a report entitled "University of Manitoba

Regional Economic Impact Analysis" ("the 2003 report") assessing the economic impact of the University's operations on the City of Winnipeg ("the City") and the Province of Manitoba ("the Province"). The 2003 report incorporated financial data for the fiscal year ended March 31, 2003.

This report is an update to the 2003 report, incorporating financial data for the fiscal year ended March 31, 2004 ("fiscal 2004"). This report identifies the economic benefits associated with the following fiscal 2004 University expenditures:

- General operating expenditures;
- Research and special project spending; and
- Capital expenditures.

The results of the study represent a broad evaluation of the benefits attributed to the economic impact on the City and Province. Some of our summary observations include:

- **The University's \$428 million in fiscal 2004 total initial expenditures generated nearly \$644 million in gross output in the Province. Of this,**

approximately \$556 million was generated by economic activity stimulated in the City.

- The University's \$428 million in fiscal 2004 total initial expenditures generated nearly \$378 million in value added in the Province. Of this, approximately \$327 million was generated by economic activity stimulated in the City.
- The University is directly responsible for sustaining approximately 6,700 full-time, part-time, and casual jobs. In addition, the University's \$428 million in fiscal 2004 total initial expenditures is estimated to realize 4,468 full-time, full year jobs in the Province. Of this, 3,893 full-time, full year jobs are estimated to be realized in the City.
- The University's \$428 million in fiscal 2004 total initial expenditures generated nearly \$164 million in total labour force income in the Province. Of this, approximately \$144 million was generated by economic activity stimulated in the City.
- The University's \$428 million in fiscal 2004 total initial expenditures generated nearly \$93 million

in total taxes income in the Province. Of this, approximately \$80 million was generated by economic activity stimulated in the City.

- In addition to the above 2004 impacts, the 2003 report outlines the estimated economic impact associated with 14 identified spin-off firms, the impact of non-Winnipeg students and casual visitors, and the impact of the planned capital expenditures over the five year period to the end of fiscal 2007. Section 4 of this report includes the summary impacts of the planned capital spending program.
- As outlined in the 2003 report, the gross output impact on the City attributable to the total 2003 operating and research expenditures, the planned capital expenditures, and the non-Winnipeg students and casual visitors is estimated at \$1.0 billion. This increases to approximately \$1.2 billion once economic activity stimulated Province-wide is considered.

## **1 Introduction**

The University of Manitoba (“the University”) is the major knowledge generator and research facility in the Province, providing human capital and research needed to support Manitoba’s diverse economy. It has a major economic impact on the region through significant purchasing and procurement activities, by expanding human capital through education and training, and as a source of innovation which generates economic development. The University has a deep commitment to higher education and the broader community through its diverse program offerings and the relationships it has built with local business, government and community organizations.

The operation of post-secondary institutions and their varied undertakings result in significant and widespread economic impacts within their respective regions. These impacts result from many different sources including the following:

- The University’s effect on total sales, Gross Domestic Product (GDP), employment income, and government revenues as a result of the institution’s operating, research and capital expenditures;

- The impact of expenditures made by students and visitors to the University;
- The traditional function of a University in developing human capital through training and education; and
- The impact of the formal and informal transfer of knowledge through personal, institutional, and corporate linkages and relationships.

### **1.1 The Purpose of this Report**

PricewaterhouseCoopers LLP (“PwC”) issued a report entitled “University of Manitoba Regional Economic Impact Analysis” (“the 2003 report”) assessing the economic impact of the University’s operations on the City of Winnipeg (“the City”) and the Province of Manitoba (“the Province”). The 2003 report incorporated financial data for the fiscal year ended March 31, 2003.

This report is an update to the 2003 report, incorporating financial data for the fiscal year ended March 31, 2004 (“fiscal 2004”). This report identifies the economic benefits associated with the following fiscal 2004 University expenditures:

- General operating expenditures;
- Research and special project spending; and
- Capital expenditures.

This report simply updates the financial data pertaining to general operating, research, and capital expenditures to fiscal 2004. This report does not update the analysis of economic benefits generated from “linked” or “spin-off” businesses attributable to the University from the 2003 report. This report also does not include the University’s social and cultural contributions to the City and the Province as does the 2003 report.

## **1.2 Report Outline**

This report builds on the 2003 report. In order to gain a more complete understanding of the assessment of the economic impact the University has had on the City and the Province, this report should be read in conjunction with the 2003 report. The 2003 report also includes a more complete discussion of the University profile, the University as a Community Resource, the University as a Catalyst for Economic Growth, and the University as a Knowledge Generator.

This report is structured as follows:

- Section 1: Introduction
- Section 2: General Operating Expenditures
- Section 3: Research Expenditures
- Section 4: Capital Expenditures
- Section 5: Fiscal 2004 Combined Economic Impacts

## **1.3 Assumptions**

Some of the assumptions and limitations imposed on our approach and findings include the following:

- We relied on information and assumptions received from various sources which we did not audit or otherwise verify. Some of these sources include:
  - Data provided by the University;
  - Statistics Canada;
  - Council of Ontario Universities;
  - Media publications and academic literature; and

- Prior post-secondary institution economic impact studies.
- Estimates of the economic impacts in the report are generally conservative to avoid overstating the results of the study.
- All figures are presented in 2004 Canadian dollars unless otherwise indicated.

#### **1.4 Measuring Economic Impact**

The fundamental principle underlying economic impact analysis is that each dollar spent on goods and services circulates and re-circulates within the economy. This results in the multiplication of the effects of the initial expenditure. This circulation and re-circulation is commonly referred to as the *economic multiplier effect*.

For purposes of this report, we employed econometric modeling to estimate the economic benefits attributable to the University's general operating, research and capital expenditures. The econometric model is a local/provincial Input-Output model based

on a refined version of Statistics Canada Inter-provincial Input-Output tables. The integrated framework of the model enables the assessment of economic interdependence between sectors and industries of the economy.

Measures typically used for the assessment of economic impacts include gross output (sales or turnover), value added (Gross Provincial Income), employment created, tax revenues (by type and level of government), and economic multipliers. Throughout our discussion, we use these and other related terms which are defined in *Appendix A: Glossary of Terms*.

Economic impacts attributed to the University's fiscal 2004 expenditures have been assessed for both the City and the Province.

Expenditures on goods and services purchased outside of Manitoba were considered a 'leakage' from the local economy and were not included as a component in the model.

## 2 General Operating Expenditures

Based on the financial data provided by the University, expenditures related to its general operations for fiscal 2004 totalled nearly \$323 million. Of this amount, almost \$290 million was spent within the Province. From these \$290 million, we have isolated approximately \$287 million or 99% of general operating expenditures incurred in Manitoba.<sup>1</sup> Leakage out of the Manitoba economy approached \$33 million.

Table 2-1 summarizes the University's fiscal 2004 general operating expenditures and leakages.

Table 2-1: Summary of 2003-2004 General Operating Expenditures Incurred by the University of Manitoba (2004 \$)

	within Manitoba \$	Leakage \$	Total \$	% of Total \$
Wages & Salaries	\$238,465,565	--	\$238,465,565	100
Purchase of Goods/Services	\$23,845,385	\$15,250,905	\$39,096,290	61
Utilities	\$12,341,801	\$600,391	\$12,942,192	95
Renovations & Alterations	\$3,131,432	\$2,322,405	\$5,453,837	57
Capital Spending	\$2,615,194	\$2,594,941	\$5,210,135	50
Property Tax	\$6,899,821	--	\$6,899,821	100
Cost of Goods Sold	\$2,646,222	\$11,995,758	\$14,641,980	18
<b>TOTAL</b>	<b>\$289,945,420</b>	<b>\$32,764,400</b>	<b>\$322,709,820</b>	<b>90</b>

### 2.1 Gross Output Impacts

As summarized in Table 2-2, the fiscal 2004 general operating expenditures of \$287 million multiplied 1.39 times through the Provincial economy into over \$399 million in total sales. Nearly \$344 million of these sales were realized within the Winnipeg economy, representing a multiplier of 1.20.

<sup>1</sup> Because of aggregation of the fiscal 2004 general operating, research and capital expenditures incurred by the University, economic impacts attributable to the University's spending represent a best estimate. For instance, at the level of aggregation provided, some expenditure categories could be allocated to multiple industry sectors. Due to data limitations, assumptions had to be made as to which industry sector a particular expenditure should be allocated. Where no satisfactory determination could be made as to expenditure allocation, that expenditure was not included in the Input-Output model calculations.

## University of Manitoba Regional Economic Impact Analysis

Table 2-2: Gross Output Impacts of 2003-2004 General Operating Expenditures Incurred by the University within the Province of Manitoba (2004 \$)

IMPACT: GROSS OUTPUT	WINNIPEG	MANITOBA
Initial Expenditure - \$287,455,931		
<b>Total Gross Output</b>	<b>\$343,903,863</b>	<b>\$399,496,320</b>
<i>Direct</i>	\$287,455,931	\$287,455,931
<i>Indirect and Induced</i>	\$56,447,932	\$112,040,389
<i>Multiplier</i>	<b>1.20</b>	<b>1.39</b>

Table 2-3: Total Value Added Impacts of 2003-2004 General Operating Expenditures Incurred by the University within the Province of Manitoba (2004 \$)

	WINNIPEG	MANITOBA
Initial Expenditure - \$287,455,931		
<b>Total Value Added</b>	<b>\$210,027,982</b>	<b>\$241,969,235</b>
<i>Direct</i>	\$56,799,740	\$56,799,740
<i>Indirect and Induced</i>	\$153,228,242	\$185,169,495
<i>Multiplier</i>	<b>0.73</b>	<b>0.84</b>

## 2.2 Value Added Impacts

Value added, or Gross Provincial Product (GPP) impacts measure the net output by including only the final goods.

As summarized in Table 2-3, the \$287 million initial operating expenditure multiplied 0.84 times through the Manitoba economy generated almost \$242 million in value added to the Provincial economy. Approximately \$210 million of value added impacts resulted from economic activity taking place within the Winnipeg economy.

Generally, Provincial impacts exceed those observed at the municipal level because of economic activity occurring outside of the local economy. Consider, for example, the purchase of goods and services by the University that are made/sourced from suppliers located within the Province, but outside of the City.

## 2.3 Employment Impacts

The estimated employment and labour force income impacts associated with \$287 million in fiscal 2004 general operating expenditures by the University are substantial.

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In addition to approximately 6,700 jobs directly sustained by the University, a further 2,999 full-time, full-year jobs are estimated to be realized within the Manitoba economy. Of these, 2,637 full-time, full-year jobs are realized within the City. Table 2-4 summarizes total employment impacts.

**Table 2-4: Total Employment Impacts of 2003-2004 General Operating Expenditures Incurred by the University within the Province of Manitoba**

IMPACT: EMPLOYMENT	WINNIPEG	MANITOBA
Initial Expenditure - \$287,455,931		
<b>Total Employment</b>	<b>2,637</b>	<b>2,999</b>
<i>Direct</i>	708	708
<i>Indirect and Induced</i>	1,929	2,292
<i>Multiplier</i>	3.73	4.24

The total employment impact of 2,999 full-time, full-year jobs is associated with a total labour force income of almost \$101 million provincially. Economic activity stimulated within Winnipeg accounts for approximately \$88 million in labour force income (Table 2-5).

**Table 2-5: Total Labour Force Impacts of 2003-2004 General Operating Expenditures Incurred by the University within the Province of Manitoba (2004 \$)**

IMPACT: Labour Income	WINNIPEG	MANITOBA
Initial Expenditure - \$287,455,931		
<b>Total Labour Income</b>	<b>\$88,109,262</b>	<b>\$100,744,571</b>
<i>Direct</i>	\$14,559,929	\$14,559,929
<i>Indirect and Induced</i>	\$73,549,332	\$86,184,642

## 2.4 Tax Generation Impacts

In addition to the value added impact, increased government revenues accrue to all three levels of government as a result of the University's general operating expenditures. Total taxes paid as a result of fiscal 2004 general operating expenditures translate into a Province-wide economic impact of over \$60 million. Of this, approximately \$52 million in revenues results from economic activity taking place within Winnipeg. Table 2-6 illustrates the government revenues accruing to the federal, provincial, and local governments.

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Table 2-6: Total Tax Generation Impacts of 2003-2004 General Operating Expenditures Incurred by the University within the Province of Manitoba (2004 \$)

IMPACT: TOTAL TAXES	WINNIPEG	MANITOBA
Initial Expenditure - \$287,455,931		
Total Taxes	\$52,455,988	\$60,456,800
<i>Federal</i>	\$24,677,155	\$28,341,921
<i>Provincial</i>	\$22,927,477	\$26,459,603
<i>Local</i>	\$4,851,355	\$5,655,275

### 2.5 Summary

Significant economic benefits accrue to the City and the Province from the University's annual general operating expenditures. Economic impacts associated with annual University operating expenditures can be summarized as follows:

- The University's \$287 million in fiscal 2004 operating expenditures generated over \$399 million in gross output in the Province. Of this, approximately \$344 million was generated by economic activity stimulated in the City.
- For each \$1 million in the University's general operating spending, approximately \$1.2 million

in gross output is generated within Winnipeg. This increases to approximately \$1.4 million provincially.

- The University's \$287 million in fiscal 2004 operating expenditures generated nearly \$242 million in value added in the Province. Of this, approximately \$210 million was generated by economic activity stimulated in the City.
- Every \$1 million in general operating expenditures translates into a further \$842,000 in value added to the Manitoba economy. Of this, roughly \$731,000 can be attributed to economic activity occurring within the Winnipeg economy.
- The University is directly responsible for sustaining approximately 6,700 full-time, part-time, and casual jobs. In addition, the University's \$287 million in fiscal 2004 operating expenditures is estimated to realize 2,999 full-time, full year jobs in the Province. Of this, 2,637 full-time, full year jobs are estimated to be realized in the City.
- The University's \$287 million in fiscal 2004 operating expenditures generated nearly \$101

million in total labour force income in the Province. Of this, approximately \$88 million was generated by economic activity stimulated in the City.

- The University's \$287 million in fiscal 2004 operating expenditures generated nearly \$60 million in total tax income in the Province. Of this, approximately \$52 million was generated by economic activity stimulated in the City.

### 3 Research Expenditures

Based on the financial data provided by the University, expenditures related to its research and special project spending for fiscal 2004 approached \$105 million<sup>2</sup>. Of this amount, over \$87 million was spent within the Province. Of the \$87 million, we have been able to isolate nearly \$85 million or approximately 97% of research and special project expenditures incurred in Manitoba.<sup>3</sup> Table 3-1 summarizes these expenditures.

Table 3-1: Summary of 2003-2004 Research and Special Project Expenditures Incurred by the University of Manitoba (2004 \$)

	Within Manitoba \$	Leakage \$	Total \$	% of Total \$
Wages & Salaries	\$47,541,546	--	\$47,541,546	100
Purchase of Goods/Services	\$31,290,738	\$16,541,357	\$47,832,095	65
Renovations & Alterations	\$895,645	\$500,713	\$1,396,358	64
Capital Spending	\$226,396	\$562,608	\$789,004	29
Scholarship/Bursaries	\$7,197,993	--	\$7,197,993	100
<b>TOTAL</b>	<b>\$87,152,318</b>	<b>\$17,604,678</b>	<b>\$104,756,996</b>	<b>83</b>

#### 3.1 Gross Output Impacts

As summarized in Table 3-2, fiscal 2004 research and special project expenditures of \$85 million multiplied 1.61 times through the Provincial economy into over \$136 million in total sales. In excess of \$117 million of these sales were realized within the Winnipeg economy.

<sup>2</sup> For the purposes of this report, total research and special project expenditures includes "Sponsored Research, Special Purpose and Trust".

<sup>3</sup> Because of aggregation of the fiscal 2004 general operating, research and special projects, and capital expenditures incurred by the University, economic impacts attributable to the University's spending represent a best estimate. For instance, at the level of aggregation provided, some expenditure categories could be allocated to multiple industry sectors. Due to data limitations, assumptions had to be made as to which industry sector a particular expenditure should be allocated. Where no satisfactory determination could be made as to expenditure allocation, that expenditure was not included in the Input-Output model calculations.

## University of Manitoba Regional Economic Impact Analysis

Table 3-2: Gross Output Impacts of 2003-2004 Research and Special Project Expenditures Incurred by the University within the Province of Manitoba (2004 \$)

IMPACT: GROSS OUTPUT	WINNIPEG	MANITOBA
Initial Expenditure - \$84,812,989		
<b>Total Gross Output</b>	<b>\$117,122,598</b>	<b>\$136,220,381</b>
<i>Direct</i>	\$84,812,989	\$84,812,989
<i>Indirect and Induced</i>	\$32,309,609	\$51,407,392
<i>Multiplier</i>	<b>1.38</b>	<b>1.61</b>

Table 3-3: Value Added Impacts of 2003-2004 Research and Special Project Expenditures Incurred by the University within the Province of Manitoba (2004 \$)

	WINNIPEG	MANITOBA
Initial Expenditure - \$84,812,989		
<b>Total Value Added</b>	<b>\$69,716,619</b>	<b>\$80,824,086</b>
<i>Direct</i>	\$27,389,772	\$27,389,772
<i>Indirect and Induced</i>	\$42,326,847	\$53,434,314
<i>Multiplier</i>	<b>0.82</b>	<b>0.95</b>

### 3.2 Value Added Impacts

As summarized in Table 3-3, the initial research and special project expenditure of \$85 million multiplied 0.95 times through the Manitoba economy and generated almost \$81 million in value added to the Provincial economy. Approximately \$70 million of value added impacts resulted from economic activity taking place within the Winnipeg economy.

### 3.3 Employment Impacts

In addition to jobs directly sustained by the University, a further 936 full-time, full-year jobs are estimated to be realized within the Manitoba economy as a result of the research and special project expenditures. Of these, 612 full-time, full-year jobs are realized within the City (Table 3-4).

Table 3-4: Total Employment Impacts of 2003-2004 Research and Special Project Expenditures Incurred by the University within the Province of Manitoba

IMPACT: EMPLOYMENT	WINNIPEG	MANITOBA
Initial Expenditure - \$84,812,989		
Total Employment	812	936
Direct	309	309
Indirect and Induced	503	628
Multiplier	2.63	3.03

The total employment impact of 936 full-time, full-year jobs is associated with a total labour force income approaching \$37 million. Approximately \$32 million of the Province-wide total labour force income is a result of economic activity in Winnipeg (Table 3-5).

Table 3-5: Total Labour Force Impacts of 2003-2004 Research and Special Project Expenditures Incurred by the University within the Province of Manitoba (2004 \$)

IMPACT: Labour Income	WINNIPEG	MANITOBA
Initial Expenditure - \$84,812,989		
Total Labour Income	\$32,299,262	\$36,737,461
Direct	\$12,684,688	\$12,684,688
Indirect and Induced	\$19,614,573	\$24,052,773

### 3.4 Tax Generation Impacts

Fiscal 2004 research and special project expenditures translate into a Province-wide economic impact of over \$18 million in taxes generated. Of this, over \$15 million in revenues results from economic activity taking place within Winnipeg (Table 3-6).

Table 3-6: Total Tax Generation Impacts of 2003-2004 Research and Special Project Expenditures Incurred by the University within the Province of Manitoba (2004 \$)

IMPACT: TOTAL TAXES	WINNIPEG	MANITOBA
Initial Expenditure - \$84,812,989		
Total Taxes	\$15,567,588	\$18,376,883
Federal	\$7,294,977	\$8,585,767
Provincial	\$6,814,522	\$8,053,360
Local	\$1,458,089	\$1,737,755

### 3.5 Summary

Similar to general operating expenditures, the University's annual research and special project spending generates significant economic benefits for the City and the Province. These benefits can be summarized as follows:

## **University of Manitoba Regional Economic Impact Analysis**

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- The University's \$85 million in fiscal 2004 research and special project expenditures generated nearly \$136 million in gross output in the Province. Of this, approximately \$117 million was generated by economic activity stimulated in the City.
- For each \$1 million in the University's research and special project spending, approximately \$1.4 million in gross output is generated within Winnipeg. This increases to roughly \$1.6 million provincially.
- The University's \$85 million in fiscal 2004 research and special project expenditures generated nearly \$81 million in value added in the Province. Of this, approximately \$70 million was generated by economic activity stimulated in the City.
- Every \$1 million in research and special project expenditures generates approximately \$953,000 in value added to the Manitoba economy. Of this, \$822,000 can be attributed to economic activity occurring within the Winnipeg economy.
- The University is directly responsible for sustaining approximately 6,700 full-time, part-time, and casual jobs. In addition, the University's \$85 million in fiscal 2004 research and special project expenditures is estimated to realize 936 full-time, full year jobs in the Province. Of this, 812 full-time, full year jobs are estimated to be realized in the City.
- The University's \$85 million in fiscal 2004 research and special project expenditures generated nearly \$37 million in total labour force income in the Province. Of this, approximately \$32 million was generated by economic activity stimulated in the City.
- The University's \$85 million in fiscal 2004 research and special project expenditures generated nearly \$18 million in total taxes income in the Province. Of this, approximately \$16 million was generated by economic activity stimulated in the City.

## **4 Capital Expenditures**

As discussed in the 2003 report, the University is presently engaged in a budgeting process related to substantial future capital expenditures on new construction and renovation of existing buildings. The University estimates that the capital expenditures for these projects will amount to approximately \$289 million on a cumulative basis from fiscal 2003 to the end of fiscal 2007, of which \$271 million will be incurred in Manitoba. As outlined in the 2003 report, the economic impacts of the planned capital expenditures are as follows:

- The current and future capital spending of \$271 million is estimated to generate nearly \$506 million in gross output Province-wide. Of this, over \$442 million is generated by economic activity stimulated within Winnipeg.
- The planned capital spending program will generate approximately \$215 million in value added economic activity in the City and over \$252 million Province-wide.
- The planned capital expenditures will support approximately 2,374 full-time, full-year jobs in

the Manitoba economy. Economic activity within the City will account for approximately 1,965 full-time, full-year jobs.

- Total labour force income generated by \$271 million in capital expenditures once direct, indirect, and induced impacts are included will approach \$125 million. Activity within the Winnipeg economy accounts for almost \$110 million of total Manitoba labour force income.
- Forecasted capital projects are estimated to generate almost \$64 million in total taxes within the Province. Economic activity within the City is associated with approximately \$54 million in total taxes generated.

The University's capital spending for fiscal 2004 approached \$84 million. Of this, approximately \$56 million was spent within the Province.

Table 4-1 summarizes the University's fiscal 2004 capital expenditures and leakages.

## University of Manitoba Regional Economic Impact Analysis

**Table 4-1: Summary of 2003-2004 Capital Expenditures Incurred by the University of Manitoba (2004 \$)**

	Within Manitoba \$	Leakage \$	Total \$	% of Total \$
Buildings, Land and Site Services	\$37,990,095	--	\$37,990,095	100
Renovations & Alterations	\$2,264,486	\$3,294,411	\$5,558,897	41
Equipment	\$15,654,057	\$9,480,383	\$25,134,440	62
Materials and Supplies	\$467,465	\$14,564,804	\$15,032,269	3
<b>TOTAL</b>	<b>\$56,376,103</b>	<b>\$27,339,598</b>	<b>\$83,715,701</b>	<b>67</b>

### 4.1 Gross Output Impacts

As summarized in Table 4-2, the fiscal 2004 capital expenditures of \$56 million multiplied 1.92 times through the Provincial economy into approximately \$108 million in total sales. Nearly \$95 million of these sales were realized within the Winnipeg economy, representing a multiplier of 1.68.

**Table 4-2: Gross Output Impacts of 2003-2004 Capital Expenditures Incurred by the University within the Province of Manitoba (2004 \$)**

IMPACT: GROSS OUTPUT	WINNIPEG	MANITOBA
<b>Initial Expenditure - \$56,376,103</b>		
<b>Total Gross Output</b>	<b>\$94,668,631</b>	<b>\$108,153,052</b>
<i>Direct</i>	\$56,376,103	\$56,376,103
<i>Indirect and Induced</i>	\$38,292,528	\$51,776,949
<i>Multiplier</i>	<b>1.68</b>	<b>1.92</b>

### 4.2 Value Added Impacts

The \$56 million initial capital expenditure multiplied 0.98 times through the Manitoba economy generated in excess of \$55 million in value added to the Provincial economy (Table 4-3). Approximately \$47 million of value added impacts resulted from economic activity taking place within the Winnipeg economy.

## University of Manitoba Regional Economic Impact Analysis

**Table 4-3: Total Value Added Impacts of 2003-2004 Capital Expenditures Incurred by the University within the Province of Manitoba (2004 \$)**

<b>IMPACT: VALUE ADDED</b>	<b>WINNIPEG</b>	<b>MANITOBA</b>
<b>Initial Expenditure - \$56,376,103</b>		
<b>Total Value Added</b>	<b>\$47,285,265</b>	<b>\$55,191,352</b>
<i>Direct</i>	\$26,430,085	\$26,430,085
<i>Indirect and Induced</i>	\$20,855,179	\$28,761,266
<i>Multiplier</i>	<b>0.84</b>	<b>0.98</b>

### 4.3 Employment Impacts

In addition to jobs directly sustained by the University, a further 532 full-time, full-year jobs are estimated to be realized within the Manitoba economy as a result of the University's capital expenditures (Table 4-4). Of these, 445 full-time, full-year jobs are realized within the City.

**Table 4-4: Total Employment Impacts of 2003-2004 Capital Expenditures Incurred by the University within the Province of Manitoba**

	<b>WINNIPEG</b>	<b>MANITOBA</b>
<b>Initial Expenditure - \$56,376,103</b>		
<b>Total Employment</b>	<b>445</b>	<b>532</b>
<i>Direct</i>	225	225
<i>Indirect and Induced</i>	220	307
<i>Multiplier</i>	<b>1.98</b>	<b>2.36</b>

Province-wide, nearly \$27 million in total labour force income is generated, of which approximately \$24 million is created in Winnipeg as reflected in Table 4-5.

**Table 4-5: Total Labour Force Impacts of 2003-2004 Capital Expenditures Incurred by the University within the Province of Manitoba (2004 \$)**

<b>IMPACT: Labour Income</b>	<b>WINNIPEG</b>	<b>MANITOBA</b>
<b>Initial Expenditure - \$56,376,103</b>		
<b>Total Labour Income</b>	<b>\$23,706,546</b>	<b>\$26,897,449</b>
<i>Direct</i>	\$14,709,813	\$14,709,813
<i>Indirect and Induced</i>	\$8,996,733	\$12,187,636

#### 4.4 Tax Generation Impacts

Fiscal 2004 capital expenditures translate into a Province-wide tax generation impact of almost \$14 million. Of this, approximately \$12 million in revenues results from economic activity taking place within Winnipeg (Table 4-6).

Table 4-6: Total Tax Generation Impacts of 2003-2004 Capital Expenditures Incurred by the University within the Province of Manitoba (2004 \$)

IMPACT: TOTAL TAXES	WINNIPEG	MANITOBA
Initial Expenditure - \$56,376,103		
<b>Total Taxes</b>	<b>\$11,965,795</b>	<b>\$13,977,860</b>
<i>Federal</i>	\$5,756,356	\$6,682,765
<i>Provincial</i>	\$5,182,318	\$6,068,941
<i>Local</i>	\$1,027,120	\$1,226,154

#### 4.5 Summary

The economic benefits associated with the University's capital expenditures can be summarized as follows:

- The University's \$56 million in fiscal 2004 capital expenditures generated nearly \$108 million in gross output in the Province. Of this,

approximately \$95 million was generated by economic activity stimulated in the City.

- For each \$1 million in the University's capital spending, almost \$1.7 million in gross output is generated within Winnipeg and approximately \$1.9 million provincially.
- As discussed in the 2003 report, the planned capital spending of \$271 million for the five-year period to fiscal 2007 is estimated to generate nearly \$506 million in gross output Province-wide. Of this, over \$442 million is generated by economic activity stimulated within Winnipeg.
- The University's \$56 million in fiscal 2004 capital expenditures generated nearly \$55 million in value added in the Province. Of this, approximately \$47 million was generated by economic activity stimulated in the City.
- Every \$1 million in capital expenditures generates approximately \$979,000 in value added to the Manitoba economy. Of this, about \$839,000 can be attributed to economic activity occurring within the Winnipeg economy.

- As discussed in the 2003 report, the planned capital spending of \$271 million for the five year period to fiscal 2007 will generate approximately \$215 million in value added economic activity in the City and over \$252 million Province-wide.
- The University is directly responsible for sustaining approximately 6,700 full-time, part-time, and casual jobs. In addition, the University's \$56 million in fiscal 2004 capital expenditures is estimated to realize 532 full-time, full year jobs in the Province. Of this, 445 full-time, full year jobs are estimated to be realized in the City.
- As discussed in the 2003 report, the \$271 million in planned capital expenditures for the five year period to fiscal 2007 will support approximately 2,374 full-time, full-year jobs in the Manitoba economy. Economic activity within the City will account for approximately 1,965 full-time, full-year jobs.
- The University's \$56 million in fiscal 2004 capital expenditures generated nearly \$27 million in total labour force income in the Province. Of this, approximately \$24 million was generated by economic activity stimulated in the City.
- The University's \$56 million in fiscal 2004 capital expenditures generated nearly \$14 million in total taxes income in the Province. Of this, approximately \$12 million was generated by economic activity stimulated in the City.

## 5 Combined Fiscal 2004 Economic Impacts

This section of the report presents the combined economic impact of the University's fiscal 2004 general operating, research and capital expenditures.

Based on the financial data provided by the University, its fiscal 2004 general operating, research and capital expenditures totalled approximately \$511 million. Of this, approximately \$433 million was allocated within Manitoba. The Input-Output model captures over \$428 million or 99% of the total expenditures incurred in Manitoba.

**Table 5-1: Summary of 2003-2004 Operating, Research and Capital Expenditures Incurred by the University of Manitoba (2004 \$)**

	Within Manitoba \$	Leakage \$	Total \$
General Operating	\$289,945,420	\$32,764,400	\$322,709,820
Research	\$87,152,318	\$17,604,678	\$104,756,996
Capital	\$56,376,103	\$27,339,598	\$83,715,701
<b>Total</b>	<b>\$433,473,841</b>	<b>\$77,708,676</b>	<b>\$511,182,517</b>

### 5.1 Gross Output Impacts

As summarized in Table 5-2, the fiscal 2004 expenditures of approximately \$428 million multiplied 1.50 times through the Provincial economy into almost \$644 million in total sales. Approximately \$556 million of these sales were realized within the Winnipeg economy.

**Table 5-2: Gross Output Impacts of 2003-2004 Total Expenditures Incurred by the University within the Province of Manitoba (2004 \$)**

IMPACT: GROSS OUTPUT	WINNIPEG	MANITOBA
Initial Expenditure - \$428,645,023		
<b>Total Gross Output</b>	<b>\$555,695,092</b>	<b>\$643,869,753</b>
<i>Direct</i>	\$428,645,023	\$428,645,023
<i>Indirect and Induced</i>	\$127,050,069	\$215,224,730
<i>Multiplier</i>	<b>1.30</b>	<b>1.50</b>

### 5.2 Value Added Impacts

Throughout the Manitoba economy, the \$428 million initial expenditure generated approximately \$378 million in value added impacts (Table 5-3). Roughly \$327 million of these impacts can be attributed to economic activity stimulated within the City.

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Table 5-3: Total Value Added Impacts of 2003-2004 Total Expenditures Incurred by the University within the Province of Manitoba (2004 \$)

IMPACT: VALUE ADDED	WINNIPEG	MANITOBA
Initial Expenditure - \$428,645,023		
<b>Total Value Added</b>	<b>\$327,029,866</b>	<b>\$377,984,672</b>
<i>Direct</i>	\$110,619,597	\$110,619,597
<i>Indirect and Induced</i>	\$216,410,269	\$267,365,075
<i>Multiplier</i>	<b>0.76</b>	<b>0.88</b>

### 5.3 Employment Impacts

Within Manitoba, in addition to the 6,700 jobs already sustained by the University, a further 4,468 full-time, full-year jobs are associated with the \$428 million expenditure. Of these jobs, 3,893 are realized within the City.

Table 5-4: Total Employment Impacts of 2003-2004 Total Expenditures Incurred by the University within the Province of Manitoba

	WINNIPEG	MANITOBA
Initial Expenditure - \$428,645,023		
<b>Total Employment</b>	<b>3,893</b>	<b>4,468</b>
<i>Direct</i>	1,241	1,241
<i>Indirect and Induced</i>	2,652	3,226
<i>Multiplier</i>	<b>3.14</b>	<b>3.60</b>

The total employment impact of 4,468 full-time, full-year jobs is associated with a total labour force income of over \$164 million provincially. Economic activity stimulated within Winnipeg accounts for approximately \$144 million in labour force income (Table 5-5).

Table 5-5: Total Labour Force Impacts of 2003-2004 Total Expenditures Incurred by the University within the Province of Manitoba (2004 \$)

IMPACT: Labour Income	WINNIPEG	MANITOBA
Initial Expenditure - \$428,645,023		
<b>Total Labour Income</b>	<b>\$144,115,069</b>	<b>\$164,379,482</b>
<i>Direct</i>	\$41,954,431	\$41,954,431
<i>Indirect and Induced</i>	\$102,160,639	\$122,425,051

## 5.4 Tax Generation Impacts

Fiscal 2004 expenditures translate into a Province-wide tax generation impact approaching \$93 million. Of this, approximately \$80 million in revenues results from economic activity taking place within Winnipeg (Table 5-6).

Table 5-6: Total Tax Generation Impacts of 2003-2004 Total Expenditures Incurred by the University within the Province of Manitoba (2004 \$)

IMPACT: TOTAL TAXES	WINNIPEG	MANITOBA
Initial Expenditure - \$428,645,023		
<b>Total Taxes</b>	<b>\$79,989,371</b>	<b>\$92,811,543</b>
<i>Federal</i>	\$37,728,489	\$43,610,454
<i>Provincial</i>	\$34,924,318	\$40,581,905
<i>Local</i>	\$7,336,564	\$8,619,184

## 5.5 Summary

The economic impacts associated with the University's total fiscal 2004 expenditures can be summarized as follows:

- The University's \$428 million in fiscal 2004 total initial expenditures generated nearly \$644

million in gross output in the Province. Of this, approximately \$556 million was generated by economic activity stimulated in the City.

- For each \$1 million in fiscal 2004 expenditures, approximately \$1.3 million in gross output is generated within Winnipeg. This increases to approximately \$1.5 million provincially.
- The University's \$428 million in fiscal 2004 total initial expenditures generated nearly \$378 million in value added in the Province. Of this, approximately \$327 million was generated by economic activity stimulated in the City.
- Every \$1 million of the University's 2004 expenditures translates into nearly \$882,000 in value added to the Manitoba economy. Of this, roughly \$763,000 can be attributed to economic activity occurring within the Winnipeg economy.
- The University is directly responsible for sustaining approximately 6,700 full-time, part-time, and casual jobs. In addition, the University's \$428 million in fiscal 2004 total initial expenditures is estimated to realize 4,468 full-time, full year jobs in the Province. Of this,

**3,893 full-time, full year jobs are estimated to be realized in the City.**

- **The University's \$428 million in fiscal 2004 total initial expenditures generated nearly \$164 million in total labour force income in the Province. Of this, approximately \$144 million was generated by economic activity stimulated in the City.**
- **The University's \$428 million in fiscal 2004 total initial expenditures generated nearly \$93 million in total taxes income in the Province. Of this, approximately \$80 million was generated by economic activity stimulated in the City.**
- **In addition to the above 2004 impacts, the 2003 report outlines the estimated economic impact associated with 14 identified spin-off firms, the impact of non-Winnipeg students and casual visitors, and the impact of the planned capital expenditures over the five year period to the end of fiscal 2007. Section 4 of this report includes the summary impacts of the planned capital spending program.**
- **As outlined in the 2003 report, the gross output impact on the City attributable to the total 2003 operating and research expenditures, the planned capital expenditures, and the non-Winnipeg students and casual visitors is estimated at \$1.0 billion. This increases to approximately \$1.2 billion once economic activity stimulated Province-wide is considered.**

## **Appendix A: Glossary of Terms**

**Direct impacts** are those that result from initial expenditures in the local economy. An example of a direct impact would be the purchase of stationery by the University from a local supplier.

**Indirect impacts** represent the subsequent purchases by suppliers of goods and services to sustain the original expenditures. For example, salaries paid or jobs created from producing the supplies to be used in the construction or operation of a business are *indirect effects*.

**Induced impacts** occur when workers from the sectors that were stimulated by direct and indirect expenditures spend their income on consumer goods and services. These include job creation because of this additional spending. Circulation and re-circulation of impacts stops if imported goods are purchased because the sourcing of materials is outside of the local economy.

**Gross Output or Gross Sales** are the value of goods and services sold by a business in a year to sustain normal year operations. Gross output indicates the total sales and transactions triggered by university operations. Sales and re-sales of transactions at all rounds of expenditure are combined, thus items are double counted several times. To eliminate the double

counting in the *gross output* measure, *value added* is calculated.

**Value Added, also known as Gross Provincial Income (GPI) or Gross Domestic Product (GDP)** is a measure of net output. *Value Added* includes only final goods to avoid double counting of products sold during an accounting period.

**Labour Force Income** includes the total earned salaries and wages generated in the economy.

**Employment** is expressed as the number of equivalent full time jobs indicated in person years.

**Taxes** in the model are linked with the level of government that is receiving them. For example, taxes on corporate profits are shared between the federal and provincial governments and local (municipal) governments collect business and property taxes.

**Multipliers** are a measurement of economic impact. When, a dollar spent directly on the operation of the University, for example, it circulates and re-circulates within the economy, magnifying the effects of the original expenditure.