

**ECONOMIC IMPACT  
OF  
MULTIPLE LISTING SERVICE  
RESIDENTIAL REAL ESTATE SALES  
IN  
BRITISH COLUMBIA**

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# TABLE OF CONTENTS

## EXECUTIVE SUMMARY

<b>1.0</b>	<b>INTRODUCTION</b>	<b>1</b>
1.1	BACKGROUND	1
1.2	OBJECTIVES AND SCOPE	1
1.3	RESEARCH PROCESS	2
<b>2.0</b>	<b>SECONDARY SOURCE REVIEW</b>	<b>3</b>
2.1	REVIEW OF REPORTS AND ARTICLES	3
2.2	INTERNET SEARCH	3
2.3	CONTACT WITH REAL ESTATE ASSOCIATIONS	4
2.4	CONCLUSIONS	4
<b>3.0</b>	<b>BC INPUT-OUTPUT MODEL</b>	<b>5</b>
3.1	DESCRIPTION OF THE MODEL	5
3.2	INFORMATION SOURCES	6
3.3	EXPENDITURES BY CATEGORY	6
<b>4.0</b>	<b>INPUT-OUTPUT MODEL FINDINGS</b>	<b>11</b>
4.1	OUTPUT OR TOTAL EXPENDITURES	11
4.2	GROSS DOMESTIC PRODUCT	13
4.3	TAXES	15
4.4	EMPLOYMENT	16
<b>5.0</b>	<b>SUMMARY AND CONCLUSIONS</b>	<b>17</b>
5.1	SINGLE RESIDENTIAL SALE ECONOMIC IMPACT	17
5.2	TOTAL ECONOMIC IMPACTS	18
5.3	COMPARATIVE ECONOMIC IMPACTS	19

## APPENDIX

BC Input-Output Model Background

## EXECUTIVE SUMMARY

### Background

The overall purpose of this project is to estimate the impact of Multiple Listing Service® (MLS®) residential real estate sales on the British Columbia economy. The specific objective is to estimate the economic impacts created by the sale of a single residential property. Also included in the analysis are estimates of the total economic impacts created by all MLS® sales, in 2003.

Economic impacts are triggered by the transactions surrounding a residential sale. These expenditure items include sales commissions, legal fees, property appraisals, moving expenses, utility connections, home renovations and furniture/appliance purchases. A number of receipts to government also occur, including the Property Transfer Tax, Provincial Sales Tax and the Goods and Services Tax. The average expenditure was estimated at approximately \$19,000 per residential dwelling sale.

### Economic Impacts of a Single Home Sale

The total amount of money spent in connection with a home sale was estimated at just under \$28,000, including nearly \$15,000 in direct expenditures, \$10,300 in indirect expenditures, and nearly \$2,700 in induced expenditures.

Gross domestic product (GDP) measures the actual impacts on the economy and GDP effects were estimated at nearly \$12,500 per home sale. This figure is comprised of \$7,200 in direct impacts, nearly \$3,900 in indirect effects, and nearly \$1,500 in induced effects.

Each residential sale produces nearly one-quarter of a job (0.234). This figure is based on 0.136 direct jobs, 0.072 indirect jobs, and 0.027 induced jobs. Total tax revenue generated by a home sale is estimated at \$5,400. This is comprised of nearly \$4,400 in direct taxes, \$580 in indirect taxes, and \$450 in induced taxes. Provincial taxes represent \$3,300 (76%) of the total, followed by federal taxes at \$1,100 (25%) in federal taxes, and \$150 in municipal taxes.

### Economic Impact Summary of a Single Residential Sale

Single Real Estate Transaction Summary	Direct	Indirect	Induced	Total
Output (\$)	\$14,963	\$10,255	\$2,698	\$27,915
Gross Domestic Product (\$)	\$7,182	\$3,859	\$1,473	\$12,515
Employment (#)	0.136	0.072	0.027	0.234
Tax revenue (\$)	\$4,369	\$577	\$454	\$5,401
Federal (\$)	\$1,105	\$203	\$176	\$1,484
Provincial (\$)	\$3,264	\$279	\$223	\$3,766
Municipal (\$)		\$96	\$56	\$152

Source: BC Input-Output Model, November 19, 2004 Note: Figures may not add due to rounding.

### Economic Impacts of Total MLS® Home Sales

The total amount of spending associated with all residential MLS® sales transactions in the province (93,211 in 2003) is estimated to be \$2.602 billion. This includes \$1.394 billion in direct transactions, \$956 million in indirect activity, and \$251 million in induced effects.

The GDP impact of all the MLS® home sales in 2003 was \$1.167 billion. This figure is based on a direct GDP of \$669 million, an indirect impact of \$360 million, and an induced impact of \$137 million.

The total employment (full-time equivalent jobs) created by the annual MLS® sales is estimated at just over 21,800. This figure is based on 12,600 direct jobs, approximately 6,700 indirect jobs, and 2,500 induced jobs. Total tax revenue generated by MLS® home sales is estimated at just over \$500 million. This is comprised of more than \$400 million in direct taxes, nearly \$55 million in indirect taxes, and more than \$40 million in induced taxes. Provincial taxes represent \$351 million (70%) of the total, followed by federal taxes at \$138 million (27%) in federal taxes, and \$14 million (3%) in municipal taxes.

#### **Economic Impact Summary of Total Residential Sales**

<b>Total Real Estate Transaction Summary</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Output (\$000,000)	\$1,394	\$956	\$251	\$2,602
GDP (\$000,000)	\$707	\$360	\$137	\$1,204
Employment (#)	12,677	6,711	2,517	21,811
Income (\$000,000)	\$449	\$252	\$89	\$790
Tax revenue (\$000,000)	\$407	\$54	\$42	\$503
Federal (\$000,000)	\$103	\$19	\$16	\$138
Provincial (\$000,000)	\$304	\$26	\$21	\$351
Municipal (\$000,000)		\$9	\$5	\$14

Source: BC Input-Output Model, November 19, 2004 Note: Figures may not add due to rounding.

#### **Comparative Impacts**

The total goods and services produced by the province in 2003 was \$123 billion. The direct GDP produced by home sales activities was over \$700 million, representing approximately 0.6% of the provincial economy. The sum of all related activities (direct, indirect and induced effects) totals nearly \$1.2 billion, representing approximately 1.0% of the provincial economy.

The direct residential real estate GDP figure of over \$700 million compares favourably to other sectors of the economy. It represents about 70% of the total contributed by the farming sector (crop and animal production), about 50% as much as the arts/entertainment/recreation sector, and about 45% of the pulp and paper manufacturing sector.

The total employment in the province in 2003 was 2.023 million full-time-equivalent jobs. Direct employment attributable to MLS® residential real estate sales activities is approximately 12,700. This figure also represents approximately 0.6% of the provincial total. The sum of all related activities is responsible for over 21,800 jobs, which represents approximately 1.1% of total provincial employment.

Direct employment created by residential real estate sales is similar to a number of sectors of the provincial economy. It employs a similar number of persons to the mining sector, transportation equipment manufacturing, and electronics and appliance retail stores.

# 1.0 INTRODUCTION

## 1.1 BACKGROUND

The British Columbia Real Estate Association (BCREA) represents 12 regional boards and approximately 14,000 REALTORS throughout the province. Based on national numbers, the real estate sector is deemed to be a significant component of the economy. However, specific figures are not available for the province of British Columbia.

BCREA is interested in documenting the provincial economic effects created by residential real estate sales. The results of the research are intended to provide the association with statistical evidence of the impact of home selling activities on the economy.

## 1.2 OBJECTIVES AND SCOPE

The overall purpose of the project is to estimate the impact of residential real estate sales on the British Columbia economy. This impact assessment process is to include documentation of the direct, indirect and induced effects. Information is also to be tabulated on other related effects of real estate sales, including job creation and taxation.

The specific tasks to be undertaken, as documented in the proposal call of August 27, 2004, are as follows:

1. Conduct a literature review of existing research available in secondary sources
2. Conduct an analysis of the direct, indirect and induced economic impact of a single residential sale in BC.

The following assumptions have been used in the analysis:

- Residential real estate, for the purposes of this analysis, is defined as including all residential real estate (detached, semi-detached, condominiums), up to and including six-unit buildings.
- No differentiation has been made about the type of residential real estate being sold, as detached, semi-detached and condominiums have been considered as single units for the purposes of analysis.
- All information is provincial in scope (i.e., no regional breakdowns have been provided).
- The economic analysis presented herein is a snapshot of the residential real estate sales sector as of the end of 2003.

## 1.3 RESEARCH PROCESS

The research has been conducted in two phases, as described below:

### **Phase I: Secondary Source Review**

This phase involved three separate research tactics. One was the review of existing sources, including research reports and journal articles. These reports were obtained from the BCREA library.

A second aspect of this phase of the research included an Internet search. This tactic included accessing specific sites, such as Canada Mortgage and Housing Corporation, Statistics Canada and Strategis. An Internet search on a variety of relevant topics such as “real estate sales / economic impact” was also conducted.

Input was also solicited from other real estate associations to determine whether similar work had been done elsewhere. These queries included nine provincial/territorial associations and ten BC regional real estate associations.

### **Phase II: BC Input-Output Model**

BC Stats, a department of the provincial Ministry of Management Services, operates the BC Input-Output Model (BCIOM). This model is a database of information descriptive of the provincial economy categorized into several hundred commodities. The model is used to trace the impacts of a particular economic activity on other sectors of the economy and to provide statistical economic measures.

Information on commodities consumed and produced by each industry is combined into a single model of the economy. The model can be queried to determine how much additional production is generated by a change in the demand for one or more commodities or by a change in the output of an industry. The known relationship between goods and services in the economy is used to generate an estimate of the economic impact of such a change.

The model was used to estimate the economic impact of a single residential sale. This figure was based on statistics for the calendar year 2003 provided by BCREA. The value of a single real estate property was obtained by dividing the total value of Multiple Listing Service (MLS®) residential sales by the total number of residential MLS® transactions. Estimates were produced on the impacts to various sectors of the economy, on gross domestic product (GDP) effects, on employment generation, and on taxes paid.

## 2.0 SECONDARY SOURCE REVIEW

As noted above, a review of secondary sources was conducted to determine the state of residential economic impact analysis in Canada. The analysis involved three separate steps.

### 2.1 REVIEW OF REPORTS AND ARTICLES

This was a review of reports, articles and journals located in the BCREA library. A few articles of relevance were uncovered, but most information was anecdotal and did not provide statistical analysis of economic impact.

The one exception was the work done by Clayton Research Associates Limited for The Canadian Real Estate Association. The analysis, entitled *Economic Impacts of MLS® Home Sales and Purchases*, published in January 2003, was done at the national level and estimated the total impact of residential real estate sales on the Canadian economy. This brief report estimated that \$19,760 in consumer spending was generated by each housing sale.

### 2.2 INTERNET SEARCH

Several specific sites were searched, of which the following were the most informative:

- Canada Mortgage and Housing Corporation (CMHC): ([www.cmhc.com](http://www.cmhc.com))

CMHC maintains the Canadian Housing Information Centre, a repository of statistics, reports and articles about the Canadian housing sector. We conducted various searches dealing with the economic impact of residential housing sales. No directly relevant reports were found, although reports on the economic impact of the Canadian Home Ownership Program and the Canada Home Renovation Plan, were found. An old (1989) paper by the BC Home Builders Association on the economic impact of residential construction was also accessed and reviewed.

Other reports were reviewed, including recent editions of the CMHC Housing Outlook and the Canadian Housing Observer.

- Statistics Canada: ([www.statcan.ca](http://www.statcan.ca))

We obtained information on the statistical classification for real estate as part of the Canadian Industry Statistics data series. It is classed as “Real Estate and Rental and Leasing”, under the North American Industry Classification System (NAICS). The real

estate sub-group is itemized as group 531. No specific research information was obtained.

- Strategis: ([www.strategis.ic.gov.ca](http://www.strategis.ic.gov.ca))

Strategis is the federal government repository for a variety of statistical reports and publications. A variety of sites were accessed and reviewed, but no specifically comparable economic impact information was found.

- Web Searches:

Internet searches were also conducted on the topics of “Economic Impact / Residential Real Estate” and a number of variations. We were attempting to determine whether the topic of real estate transaction economic impact had been documented in any other jurisdictions. It appears that this is not a well documented topic as, although some marginally useful sites emerged, no directly relevant information was obtained.

## **2.3 CONTACT WITH REAL ESTATE ASSOCIATIONS**

On the assumption that another real estate association could have conducted a similar economic impact analysis, contact was made with most provincial associations and with most local member boards of BCREA. A total of nine provincial/territorial agencies and ten BC regional boards were contacted.

Responses were obtained from most of these agencies. None of the associations contacted had conducted a similar research project; however, several agencies expressed interest in seeing the results of this analysis.

## **2.4 CONCLUSIONS**

Other than the national survey conducted by Clayton Research, there does not appear to have been any other directly comparable studies. This Clayton Research study, entitled *Economic Impacts of MLS® Home Sales and Purchases*, published in January 2003, referred to the period January 2000 to November 2002.



## 3.0 BC INPUT-OUTPUT MODEL

### 3.1 DESCRIPTION OF THE MODEL

The BCIOM is a statistical replication of the provincial economy. By inputting expenditure data (the expenditures associated with the sale of a residential dwelling), the model produces outputs describing the impact on the economy. The impact on the economy is made up of the following three components:

- **Direct effect** measures the change in provincial output resulting from the initial expenditure. This includes the actual expenditures and the employment directly generated by the residential real estate sale, as depicted in Table 1 below.
- **Indirect effect** measures the change in provincial output generated by the activity of sectors that supply goods and services used in the direct activities. This includes companies that supply goods and services to the real estate companies, the moving companies, real estate law firms, etc.
- **Induced effect** measures the overall impact of more income accruing to the household sector. It reflects the spending of salaries paid to persons who were involved in the home sale. (The BCIOM assumes that BC residents spend 75% of their gross earned income on goods and services.)

Economic impacts take a number of forms, as described below:

- **Output** is the simple sum of all expenditures in the BC economy that result from the residential real estate sale. However, this figure exaggerates the actual impacts on the economy because it double counts the purchase of products at each stage of the overall transaction process.
- **GDP** is a measure of the value added or the unduplicated value of goods and services purchased in the home sale. It is typically used to represent the actual value of a transaction to the provincial economy.
- **Employment** is the number of full-time-equivalent jobs that are created by the residential real estate sale.
- **Tax revenues** are estimates made up of the provincial and federal shares of personal income taxes and commodity taxes (i.e., Provincial Sales Tax, Property Transfer Tax and the Goods and Services Tax), as well as other taxes, such as gas taxes or air transportation taxes. Municipal taxes include such items as property and school taxes.

*See Appendix for additional background information on the input-output model process.*

## **3.2 INFORMATION SOURCES**

Information to run the model has been obtained from two categories of sources. One source was interviews with representatives of agencies or organizations that receive revenue due to actions triggered by home sales. The other source was the Statistics Canada survey entitled *Survey of Household Spending*, conducted in 2002. This biennial survey tabulates household expenditures grouped into many categories, including several that relate to changing one's place of residence.

Using this Statistics Canada source, three separate figures are quoted, namely:

- average expenditure per household (i.e., all households)
- number of households reporting expenditures in the category, and
- expenditures per reporting household (i.e., only those households incurring costs)

It is the latter figure that has been used in the analysis, as it reflects the costs incurred by those households that actually spent money on a given item.

The Statistics Canada survey was conducted in 2002, while information on the average MLS® house price reflects 2003 values. Consequently, the survey findings have been increased and rounded to reflect the 1.8% consumer price index increase that occurred between 2002 and 2003. The figures quoted relate specifically to British Columbia residents.

## **3.3 EXPENDITURES BY CATEGORY**

The sale of residential real estate triggers a number of related transactions. These include transactions generated by the sale itself, plus post-sale purchases. The categories of expenditures are described in Table 1. The table lists the type of expenditure; provides a description of the expenditure, including the source; and lists the amount.

**Table 1**  
**Residential Real Estate Expenditures by Category**

CATEGORY	DESCRIPTION	AMOUNT
<b>SALES TRANSACTION</b>		
Sales Commissions	<p>Agent sales commissions are negotiated between the seller and the agent. They are not standardized and are subject to federal government Competition Bureau oversight. Commission structures range from a fixed dollar amount to a percentage of the sale price. Commissions may also vary by the portion of the sale price (i.e., first hundred thousand at one rate and the remainder at another rate); the value of the property; and the range of services provided.</p> <p>Because of this range and the difficulty of establishing a single commission “average”, for analytical purposes we have used the Statistics Canada, Survey of Household Spending, 2002. This survey includes an expenditure category <i>Commission on household sale</i>, which provides the following averages:</p> <ul style="list-style-type: none"> <li>-Average commission per household: \$256</li> <li>-Households reporting: 2.3%</li> <li>-Commissions per reporting household: \$11,638</li> </ul> <p>Figure increased to \$11,850 to reflect cost of living change from 2002 to 2003.</p>	\$11,850
Legal Fees	<p>Statistics Canada, Survey of Household Spending, 2002, reports - <i>Legal fees as related to the dwelling</i>:</p> <ul style="list-style-type: none"> <li>-Average legal fees per household: \$52</li> <li>-Households reporting: 6.8%</li> <li>-Legal fees per reporting household: \$768</li> </ul> <p>Figure increased to \$780 to reflect cost of living change from 2002 to 2003.</p>	\$780
Appraisal and Surveying	<p>Statistics Canada, Survey of Household Spending, 2002, reports - <i>Appraisals, surveying and mortgage penalties</i>:</p> <ul style="list-style-type: none"> <li>-Average appraisal/survey per household: \$105</li> <li>-Households reporting: 6.6%</li> <li>-Appraisal fees per reporting household: \$1,588</li> </ul> <p>Figure increased to \$1,620 to reflect cost of living change from 2002 to 2003.</p>	\$1,620
Transfer Taxes	<p>BC Property Transfer Tax is 1% of the first \$200,000 and 2% on the balance. In the average household sale example cited here, the tax payable on the \$260,000 sale price is \$3,200 (\$200,000 @ 1% + \$60,000 @ 2%).</p>	\$3,200

Sales Taxes	GST and PST is payable on the sales commission, appraisal and legal fees.	BCIOM to estimate
<b>POST SALE</b>		
Moving Expenses	<p>Statistics Canada, Survey of Household Spending, 2002, reported - <i>Household moving, storage and delivery services:</i></p> <ul style="list-style-type: none"> <li>-Average moving costs per household: \$47</li> <li>-Households reporting: 8.8%</li> <li>-Moving expenses per reporting household: \$537</li> </ul> <p>Figure increased to \$550 to reflect cost of living change from 2002 to 2003.</p>	\$550
Additions and Renovations	<p>Statistics Canada, Survey of Household Spending, 2002, reported - <i>Additions, renovations, and alterations including contract, labour and material cost:</i></p> <ul style="list-style-type: none"> <li>-Average additions per household: \$1,197</li> <li>-Households reporting: 20.1%</li> <li>-Additions expenses per reporting household: \$5,970</li> </ul> <p>These costs apply to all households, not just those who have moved. The relationship between buying a home and renovating is unknown. For analytical purposes, we have assumed that the statistics apply equally to households that move and those that do not move.</p> <p>Statistics Canada indicates that approximately 15% of residents move each year (Source: Statistics Canada 2001 Census). This figure is comprised of all households, including renters and homeowners. The proportion of homeowners who move annually is likely less than for tenants, and we have assumed a move rate of 10%, or one in ten.</p> <p>For analytical purposes, the moving expense figure has been pro-rated to 10%, or \$597, to reflect the incremental amount incurred by owners of newly-purchased homes. This figure has been increased to \$610 to reflect cost of living increases from 2002 to 2003.</p>	\$610

New Installations	<p>Statistics Canada, Survey of Household Spending, 2002, reported - <i>New installations of equipment and fixtures including contract, labour and material cost:</i></p> <ul style="list-style-type: none"> <li>-Average new installations per household: \$146</li> <li>-Households reporting: 5.0%</li> <li>-New installations expenses per reporting household: \$2,938</li> </ul> <p>These costs also apply to all households, not just those who have moved. As with additions and renovations, the relationship between buying a home and renovating is unknown. For analytical purposes, we have assumed that the statistics apply equally to households that move and those that do not move.</p> <p>Statistics Canada indicates that approximately 15% of residents move each year. As also noted above, the proportion of homeowners who move annually is likely less than for tenants, perhaps 10% or one in ten.</p> <p>For analytical purposes, the new installation expense figure has been pro-rated to 10%, or \$294, to reflect the incremental amount incurred by owners of newly-purchased homes. This figure has been increased to \$300 to reflect cost of living increases from 2002 to 2003.</p>	\$300
Telephone Connection	<p>Telus minimum installation charge is \$45. Minimum deposit on a new installation is \$200.</p> <p>For analytical purposes, we have assumed a \$50 charge given that the majority of MLS® sales are existing homes.</p>	\$50
Electricity Connection	<p>BC Hydro charges \$10 to transfer an account to an existing home. For a new home, the hydro connection is \$372 for a 100 – 200 amp service.</p> <p>For analytical purposes, the \$10 administration charge has been used.</p>	\$10
Natural Gas Connection	<p>There is typically no charge for converting a gas account from the previous homeowner to the new owner. Costs to install a supply line to a new house vary by distance and terrain.</p> <p>For analytical purposes, we have assumed no charge, as the MLS® house sale would not trigger a gas connection.</p>	N/C
Cable Connection	<p>Cable companies charge an administration fee to set up a new account for a house with an existing connection. Connections to new houses in urban lots are typically included in the administration fee. Adding new connections or cable to older homes results in higher costs.</p> <p>An administration fee of \$20 has been used in these calculations.</p>	\$20

<b>TOTAL COSTS</b>		<b>\$18,990</b>
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The table above details home sales related expenditures grouped into twelve separate cost categories. It is anticipated that the list represents the typical expenditure items triggered by a home sale, and for which statistics could be obtained. However, cautions to the reader are advised dealing with two separate issues.

One issue is the possibility of other cost items being incurred that are not captured by the typical real estate sale documented in the list above. Examples of these are any pre-sale expenditures intended to prepare a home for sale. This could include such items as landscape improvements, minor repairs, painting and/or cleaning. To the extent that these improvements involve commercial expenditures, they would add to the total. However, no statistics were available to indicate the proportion of homes that incur these costs nor the actual costs incurred.

Another caution to the reader relates to the assumptions that have been made translating the information from the Statistics Canada Household Expenditures Survey from the sample of all respondents to those who had moved. This process involved estimating the probability or the likelihood that the cost would be incurred. Translating this probability assumption into actual numbers includes both those households that spent money on the item and those that did not. This results in figures for some categories that appear to be low, since they include households that spent nothing on this category. This issue is relevant for the additions and renovations, and new installations expenditure categories.

Consequently, the approximately \$19,000 total provided in the table is expected to be a conservative estimate of move-related household expenditures. Including a portion of homes that incurred pre-sale expenditures would increase the total. Also, making different assumptions about the renovation and new installations categories could also increase the total expenditure figure. However, the \$19,000 figure used here is thought to be a reasonable and defensible figure. Using this figure to run the BCIOM will also produce conservative, but defensible, estimates of economic impact.

## **4.0 INPUT-OUTPUT MODEL FINDINGS**

The figure of \$19,000 per home sale has been used to run the BCIOM. Tables have been prepared providing information on the linkage to various sectors of the economy. Direct, indirect and induced effects have been reported. Estimates have been provided of the impacts on Output (total expenditures), Gross Domestic Product, Taxes and Employment.

### **4.1 OUTPUT, OR TOTAL EXPENDITURES**

The sale of residential real estate affects virtually every sector of the provincial economy to some degree. The total impact of nearly \$28,000 is made up of nearly \$15,000 in direct effects, \$10,000 in indirect effects, and \$2,700 in induced effects. By far the greatest expenditures are in the Finance, Insurance, and Real Estate sector. This sector receives over half of the total revenue (53%) or nearly \$15,000.

Several other sectors receive between \$1,000 and \$2,000. These include the Travel Entertainment and Advertising sector (6%), reflecting revenue to newspapers and other media for real estate advertisements; and Professional and Scientific sector (6%) for legal, accounting, surveying and appraisal services. The Transportation sector (5%) benefits through revenue to moving companies and storage businesses. Administrative Support (4%) includes revenue for the offices of businesses that provide support services, and Construction (4%) for home renovations and additions.

See Table 2 below for a description of the total spending generated by the sale of a residential dwelling on the provincial economy by sector.

**Table 2**  
**Total Expenditures (Output) Economic Linkages of a Single Home Sale**

<b>ECONOMIC SECTORS</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Crop and animal production	\$2	\$11	\$26	\$39
Forestry and logging	12	59	4	75
Fishing, hunting and trapping	0	0	1	2
Support activities for agriculture and forestry	13	8	2	23
Mining and oil and gas extraction	6	96	25	127
Utilities	8	95	52	155
Construction	910	146	38	1,094
Manufacturing	192	602	178	972
Wholesale trade	20	301	90	411
Retail trade	50	258	292	600
Transportation and warehousing	467	685	110	1,261
Information and cultural industries	55	831	109	995
Finance, insurance and real estate	11,743	2,240	926	14,909
Professional, scientific and technical	751	889	72	1,712
Administrative and other support	660	410	46	1,115
Education services	0	8	12	20
Health care and social assistance	0	18	65	83
Arts, entertainment and recreation	3	35	50	87
Accommodation and food services	5	312	195	512
Other services (except public administration)	3	194	77	273
Operating, office and cafeteria	0	1,121	70	1,191
Travel and entertainment and advertising	0	1,680	80	1,759
Transportation margins	0	27	11	39
Non-profit institutions serving housing	0	2	90	93
Government sector	<u>63</u>	<u>229</u>	<u>78</u>	<u>370</u>
<b>Total</b>	<b>\$14,963</b>	<b>\$10,255</b>	<b>\$2,698</b>	<b>\$27,915</b>

Source: BC Input-Output Model, November 19, 2004 Note: Figures may not add due to rounding.



## 4.2 GROSS DOMESTIC PRODUCT

The GDP effects of a residential home sale also impact nearly all sectors of the economy. The total GDP effect is just over \$12,000. This is comprised of a direct impact of just over \$7,000, representing 57% of the total, followed by \$3,900 in indirect effects (31%), and nearly \$1,500 in induced effects (12%).

Finance, Insurance and Real Estate receives over \$7,000 of the \$12,500 total or 57%. This includes real estate sales commissions, home insurance and financing costs. All other sectors are affected to a much smaller degree and include Professional and Scientific (lawyers, appraisers and property surveyors) at 8%, Administrative (businesses supplying services to the real estate sector) at 5%, Transportation and Warehousing (moving companies and storage firms) at 5%, and Construction (renovations, repairs and additions) at 5%.

See Table 3 below for a description of the revenue generated by the sale of a residential dwelling on the provincial economy by sector.

**Table 3**  
**Gross Domestic Product Economic Linkages of a Single Home Sale**

<b>ECONOMIC SECTORS</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Crop and animal production	\$1	\$4	\$10	\$15
Forestry and logging	5	22	2	28
Fishing, hunting and trapping	0	0	1	1
Support activities for agriculture and forestry	7	5	1	13
Mining and oil and gas extraction	3	60	16	79
Utilities	6	66	37	109
Construction	495	79	21	594
Manufacturing	58	221	63	342
Wholesale trade	12	172	51	234
Retail trade	30	154	174	358
Transportation and warehousing	212	316	58	586
Information and cultural industries	32	465	59	556
Finance, insurance and real estate	5,438	1,092	580	7,110
Professional, scientific and technical	470	493	39	1,002
Administrative and other support	369	244	27	639
Education services	0	5	8	13
Health care and social assistance	0	13	48	61
Arts, entertainment and recreation	1	17	24	42
Accommodation and food services	2	149	92	243
Other services (except public administration)	2	137	51	190
Operating, office and cafeteria	0	0	0	0
Travel, entertainment and advertising	0	0	0	0
Transportation margins	0	0	0	0
Non-profit institutions serving housing	0	1	59	60
Government sector	<u>40</u>	<u>145</u>	<u>52</u>	<u>237</u>
<b>Total</b>	<b>\$7,182</b>	<b>\$3,859</b>	<b>\$1,473</b>	<b>\$12,515</b>

Source: BC Input-Output Model, November 19, 2004 Note: Figures may not add due to rounding.

### 4.3 TAXES

Total government revenues generated by a home sale are estimated at approximately \$5,400. This tax figure is comprised of nearly \$4,400 in direct effects (85%), nearly \$580 in indirect effects (9%), and about \$450 in induced effects (6%). Provincial taxes represent 70% of total taxes at nearly \$3,800, while federal taxes comprise 27% at nearly \$3,000, and local taxes total just over \$330.

Included in the federal tax category are personal and corporate income taxes, Goods and Services Tax, excise taxes, and gas taxes. Included in the provincial tax category are personal and corporate income taxes, sales taxes, gas taxes, and—by far the largest single tax—the provincial Property Transfer Tax. Local taxes refer to the municipal and regional taxes levied on properties.

**Table 4**  
**Taxes Generated by a Single Home Sale<sup>1</sup>**

<b>TAX CATEGORY</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
<b>Federal</b>	\$1,105	\$203	\$176	\$1,484
<b>Provincial</b>	3,264	279	223	3,766
<b>Local</b>		96	56	152
<b>Total Government Revenues</b>	<b>\$4,369</b>	<b>\$577</b>	<b>\$454</b>	<b>\$5,401</b>

Source: BC Input-Output Model, November 19, 2004 Note: Figures may not add due to rounding.

<sup>1</sup> Taxes related to a residential dwelling unit sale have been imputed from the BC Input-Output Model. The model calculates taxes based on the distribution of expenditures and the taxes that apply. The model is based in linkages among economic sectors as of 2000 (the last date of model calibration), with values updated to 2004.

## 4.4 EMPLOYMENT

Jobs are created by the expenditures associated with residential real estate sales. Examples of persons who generate income as a result of home sales are real estate salespersons, home inspectors, conveyancing lawyers, appraisers, surveyors, movers, carpenters, and furniture salespersons.

Based on the average real estate sale of \$260,000, each residential sale produces nearly one-quarter of a job (0.234). This figure is based on 0.136 direct jobs, 0.072 indirect jobs, and 0.027 induced jobs. It is noted that this employment measure relates to a full-time-equivalent job (FTE), which typically represents 1,800 hours of employment annually.

Although the real estate transaction occurs at a particular time (i.e., the date of possession), expenditures related to the sale occur over time. The act of selling the home can take place over weeks or months. Relocation takes place over a few days or more depending on the distances travelled. Legal advice takes place over a period of weeks, while undertaking repairs or renovations can occur over weeks or months.

## 5.0 SUMMARY AND CONCLUSIONS

The overall objective of this project was to estimate the economic impact of the sale of a single residential dwelling. These calculations were based on the average sale price in the province in 2003 of approximately \$260,000. This figure is the calculated average based on 93,211 MLS® sales for a total of \$24.21 billion in 2003.

Tabulated below are the findings for both a single sale and total residential real estate sales in the province. Included in the summary are direct, indirect and induced impacts for a range of measures including output, gross domestic product, employment and taxation.

### 5.1 SINGLE RESIDENTIAL SALE ECONOMIC IMPACTS

**Output:** Total output (amount of money spent in connection with the home sale) is estimated at just under \$28,000, including nearly \$15,000 in direct expenditures, \$10,300 in indirect expenditures, and nearly \$2,700 in induced expenditures.

**Gross Domestic Product:** Total GDP effects were estimated at nearly \$12,500 per home sale, comprised of \$7,200 in direct impacts, nearly \$3,900 in indirect effects, and nearly \$1,500 in induced effects.

**Employment:** Each residential sale produces nearly one-quarter of a job (0.234). This figure is based on 0.136 direct jobs, 0.072 indirect jobs, and 0.027 induced jobs.

**Tax Revenue:** Total tax revenue generated by a home sale is estimated at \$5,400. This is comprised of nearly \$4,400 in direct taxes, \$580 in indirect taxes, and \$450 in induced taxes. Provincial taxes represent \$3,300 (76%) of the total, followed by federal taxes at \$1,100 (25%) in federal taxes, and \$150 in municipal taxes.

Table 5 tabulates a summary of the economic impacts of a single residential real estate sale.

**Table 5**  
**Economic Impact Summary of a Single Residential Sale**

Single Real Estate Transaction Summary	Direct	Indirect	Induced	Total
Output (\$)	\$14,963	\$10,255	\$2,698	\$27,915
Gross Domestic Product (\$)	\$7,182	\$3,859	\$1,473	\$12,515
Employment (#)	0.136	0.072	0.027	0.234
Tax revenue (\$)	\$4,369	\$577	\$454	\$5,401
Federal (\$)	\$1,105	\$203	\$176	\$1,484
Provincial (\$)	\$3,264	\$279	\$223	\$3,766
Municipal (\$)		\$96	\$56	\$152

Source: BC Input-Output Model, November 19, 2004 Note: Figures may not add due to rounding.

## 5.2 TOTAL RESIDENTIAL SALES ECONOMIC IMPACTS

As noted, the objective of this project was to assess the economic impacts of a single residential real estate transaction. However, to illustrate the overall economic impacts of all home sales in the province, estimates have made of total economic impacts. Total economic impacts have been calculated based on the single home sale figures tabulated above, multiplied by the number of MLS® home sales in 2003 (i.e., 93,211 units). Described below are output or total expenditures, gross domestic product, employment and tax revenue.

**Output:** The total amount of spending (output) associated with all residential sales transactions in the province (93,211 in 2003) is estimated to be \$2.602 billion. This includes \$1.394 billion in direct transactions, \$956 million in indirect activity, and \$251 million in induced effects.

**Gross Domestic Product:** The gross domestic product impact of all the MLS® home sales in 2003 was \$1.167 billion. This figure is based on a direct GDP of \$669 million, an indirect impact of \$360 million, and an induced impact of \$137 million.

**Employment:** The total employment (full-time-equivalent jobs) created by the annual MLS® sales is estimated at just over 21,800. This figure is based on 12,600 direct jobs, approximately 6,700 indirect jobs, and 2,500 induced jobs.

**Tax Revenues:** The total tax revenue generated by MLS® home sales is estimated at just over \$500 million. This figure includes \$138 million in federal taxes, \$351 million in provincial and \$14 million in municipal taxes. The total tax figure is made up of over \$400 million in direct taxes, nearly \$55 million in indirect taxes, and over \$40 million in induced taxes.

Table 6 depicts the economic impacts of residential real estate sales in the province.

**Table 6**  
**Economic Impact Summary of Total Residential Sales**

Total Real Estate Transaction Summary	Direct	Indirect	Induced	Total
Output (\$000,000)	\$1,394	\$956	\$251	\$2,602
GDP (\$000,000)	\$707	\$360	\$137	\$1,204
Employment (#)	12,677	6,711	2,517	21,811
Income (\$000,000)	\$449	\$252	\$89	\$790
Tax revenue (\$000,000)	\$407	\$54	\$42	\$503
Federal (\$000,000)	\$103	\$19	\$16	\$138
Provincial (\$000,000)	\$304	\$26	\$21	\$351
Municipal (\$000,000)		\$9	\$5	\$14

Source: BC Input-Output Model, November 19, 2004 Note: Figures may not add due to rounding.

## 5.3 COMPARATIVE ECONOMIC IMPACTS

The information above depicts the economic impact of all residential real estate sales in the province. For comparative purposes, we have provided information on other sectors of the economy to illustrate the magnitude of residential real estate sales activity.

### **Gross Domestic Product:**

The total goods and services produced by the province in 2003 was \$123 billion<sup>2</sup>. The direct GDP produced by home sales activities was over \$700 million, representing approximately 0.6% of the provincial economy. The sum of all related activities (direct, indirect and induced effects) totals nearly \$1.2 billion, a figure representing 1.0% of the provincial economy.

The direct residential real estate GDP figure of over \$700 million compares favourably to other sectors of the economy. It represents about 70% of the total contributed by the farming sector (crop and animal production), about 50% as much as the arts/entertainment/recreation sector, and about 45% of the pulp and paper manufacturing sector.

### **Employment:**

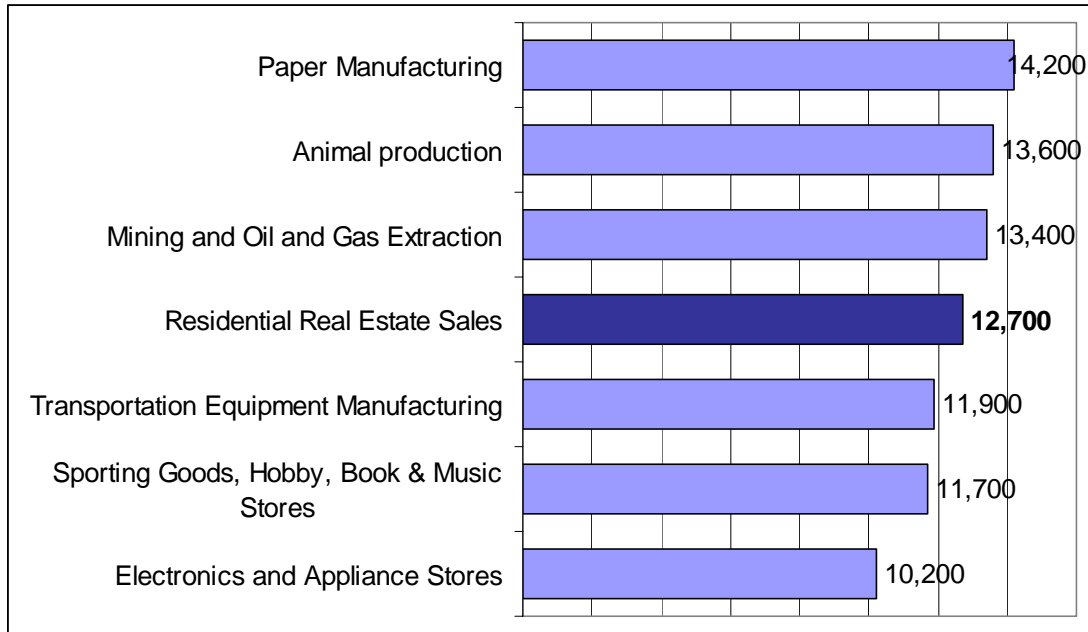
The total employment in the province in 2003 was 2.023 million full-time-equivalent jobs<sup>3</sup>. Direct employment attributable to residential real estate sales activities is approximately 12,700. This also represents approximately 0.6% of the provincial total. The sum of all related activities is responsible for over 21,800 jobs, which represents approximately 1.1% of total provincial employment.

Direct employment created by residential real estate sales is similar to a number of sectors of the provincial economy. Comparable employment figures are as follows:

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<sup>2</sup> Statistics Canada and BC Stats, published by BC Stats as BC GDP by Industry – NAICS Aggregation, 2003.

<sup>3</sup> Statistics Canada, Labour Force Survey, published by BC Stats as Employment by Industry, 1991-2003.



### Property Transfer Tax:

The Property Transfer Tax (PTT) is payable on any real property sale or transfer. In our example for this project, a PTT of \$3,200 was triggered by the sale of a \$260,000 home. Multiplying this figure by the total number of MLS® transactions results in a calculated PTT of approximately \$300 million.

An additional issue is triggered by the variable PTT rate that affects the calculation of an “average” figure. By way of example, a \$1 million home transaction would generate \$18,000 in PTT, while five \$200,000 units would generate only \$10,000 in PTT.

Regardless, this estimate of \$300 million represents about half of the total annual provincial tax revenue from corporate income (\$612 million) and tobacco taxes (\$606 million). It also represents about 50% more than the total corporation capital tax collected (\$198 million).<sup>4</sup>

<sup>4</sup> Province of British Columbia Budget and Fiscal Plan, Table 4.10 - 2003/04, Revenue by Source,



*APPENDIX*

**APPENDIX**

**BACKGROUND ON INPUT-OUTPUT MODELS AND ANALYSIS**

## **BACKGROUND ON INPUT-OUTPUT MODELS AND ANALYSIS**

(Source: BC Stats, Ministry of Management Services)

### **Background**

Input-output analysis is based on statistical information about the flow of goods and services among various sectors of the economy. This information, presented in the form of tables, provides a comprehensive and detailed representation of the economy for a given year. An input-output model is a database showing the relationship between commodity usage and industry output. It consists of three components:

- a table showing which commodities—both goods and services—are consumed by each industry in the process of production (the input matrix)
- a table showing which commodities are produced by each industry (the output matrix)
- a table showing which commodities are available for consumption by final users (the final demand matrix).

This data are combined into a single model of the economy that can be solved to determine how much additional production is generated by a change in the demand for one or more commodities or by a change in the output of an industry. Changing the usage or production of a commodity or group of commodities is often referred to as shocking the model. The known relationship between goods and services in the economy is used to generate an estimate of the economic impact of such a change.

If a change in demand is met by increasing or decreasing imports from other jurisdictions, there is no net effect on domestic production. All of the benefits or costs associated with employment generation or loss, and other economic effects, will occur outside the province. Therefore, it is important to identify whether a change in the demand for a good or service is met inside or outside the province.

### **The British Columbia Input-Output Model**

The BCIOM can be viewed as a snapshot of the BC economy. It is derived from the 2000 Interprovincial Input-Output tables developed by Statistics Canada and includes details on 727 commodities, 300 industries, 170 “final demand” categories, and a set of computer algorithms to do the calculations required for the solution of the model. It can be used to predict how an increase or a decrease in demand for the products of one industry will impact other industries and, therefore, the entire economy.

## APPENDIX

### **Limitations and Caveats Associated With Input-Output Analysis**

Input-output analysis is based on various assumptions about the economy and the inter-relationships among industries. These assumptions are listed below:

- Input-output models are linear. They assume that a given change in the demand for a commodity or for the outputs of a given industry will translate into a proportional change in production.
- Input-output models do not take into account the amount of time required for changes to happen. Economic adjustments resulting from a change in demand are assumed to happen immediately.
- It is assumed that there are no capacity constraints and that an increase in the demand for labour will result in an increase in employment (rather than simply re-deploying workers).
- It is assumed that consumers spend an average of 75% of their personal income on goods and services. The remaining 25% of personal income is consumed by taxes, or goes into savings.
- The BCIOM assumes that relationships among industries are relatively stable over time, so that the 2000 structure of the economy continues to be applicable today. However, it should be noted that employment estimates have been adjusted to reflect wage levels for the year of the expenditures in each case.
- The BCIOM does not distinguish between regional effects. That is, it will not differentiate between the economic impact of an expenditure in one region of the province and a similar expenditure elsewhere in BC.